

Crime and Place I: Accounting for Crime at Place

Understanding Crime Trajectories at Street Segments: A Retrospective Longitudinal Study

Individuals and communities have traditionally been the focus of criminological research, but recently criminologists have begun to explore the importance of "micro" places (e.g. addresses, street segments, and clusters of street segments) in understanding and controlling crime. Recent research provides strong evidence that crime is strongly clustered at hot spots and that there are important developmental trends of crime at place, but little is known about the specific correlates of crime at this micro level of geography. We report here on a large empirical study that sought to address these gaps in our knowledge of the "criminology of place." Linking 16 years of official crime data on street segments (a street block between two intersections) in Seattle, Washington to a series of data sets examining social and physical characteristics of micro places over time, we develop models to explain developmental trajectories of crime at place. We use two key criminological perspectives, social disorganization theories and opportunity theories, to inform our identification of risk factors in our study. The key finding in our study is that both perspectives have considerable salience in understanding crime at place, and together they allow us to develop a very strong level of prediction of crime.

David Weisburd
George Mason University
Hebrew University

Elizabeth Groff
Temple University

Sue-Ming Yang
Georgia State University

The Causal Effect of Physical Disorder on Crime: An Instrumental Variables Approach

At the core of "broken windows" theory is a simple hypothesis about the relationship between cues of disorder in public space and the likelihood of criminal or uncivil behavior occurring. Despite the tremendous amount of attention given to the theory, we argue that this most basic idea within the theory has not been tested directly. This is true, in part, because the possibilities of confounding and reverse causality make it an extremely difficult idea to test. This study departs from prior approaches to testing broken windows theory and proposes an instrumental variables strategy to identify the causal effect of disorder, in this case physical disorder, on crime. To do so, we exploit exogenous variation in physical disorder arising from weather conditions to estimate the effect of physical signs of disorder on the likelihood of an assault taking place within a given area. Drawing on in-person observations of block faces made by interviewers over six years as part of the Project on Human Development in Chicago neighborhoods (PHDCN), we find that prior weather conditions are associated with physical disorder in the expected directions, suggesting that weather conditions in the period before the measurement of disorder can serve as a valid instrument for the level of physical disorder. Results show that elevated physical disorder attributable to recent weather conditions has a strong, positive effect on the probability of an assault taking place.

Patrick Sharkey
New York University

Andrew Papachristos
University of Massachusetts-Amherst

Robert Sampson
Harvard University

Experimental Research on the Relation Between Formal and Informal Guardians at Place

Research by Reynald (2010) on the willingness of guardians to intervene when crime occurs, identified three dimensions of capable guardianship: the willingness to supervise, the ability to detect potential offenders and the willingness to intervene when necessary. Results showed that of the guardians that do intervene, most choose to do so indirectly by calling the police. Many subjects also mentioned that they felt forced to call the police after previous attempts at intervention failed to deter offenders. Building on this line of research, the presentation will consist of an exploration of informal guardianship activities and how these relate to formal guardians (e.g. police). It is hypothesized that the relation between formal and informal guardians is rather different in different neighborhoods. We propose to use field experiments in various environments. The results will shed new light on how guardianship is exercised in practice and at various places, in particular in relation to formal guardians.

Maud van Bavel
NSCR/VU University Amsterdam

Hank Elffers
NSCR/VU University Amsterdam

Danielle Reynald
Giffith University

Collective Efficacy and Social Disorganization: The Relevance of American Neighborhood Concepts for a Dutch City

In this paper, two well-known criminological explanations of concentrations of crime and offenders, will be empirically investigated using data collected in the city of The Hague in the Netherlands (468,000 residents). The NSCR has collected data in a community survey in 110 neighborhoods among a sample of 3,575 residents in the city of The Hague. Respondents were asked to reflect on their social and physical environment in a small area of about a half mile around their homes. These data have been aggregated to create ecologically reliable and valid neighborhood level measures about the collective efficacy, social disorganization, social cohesion and social disorder. By combining these scales with geo-coded police data on offenses and the number of suspects in several years, we are able to test the relevance of the American concepts of collective efficacy and social disorganization in an European city. Additionally, we also tested the relevance of these concepts by using census data from the local administration at the smallest unit of analysis in the city.

Gerben Bruinsma
NSCR

Lieven Pauwels
University of Ghent

Frank Weerman
NSCR

Crime and Place II: Street Level Guardianship

An Agent Based Modeling Study of Street Network Typology and Spatial Crime Patterns

Crime is spatially clustered at a variety of scales. However, why such patterns form and how pattern formation might be suppressed is the subject of debate. Here, we consider explanations for why burglary clusters at the street segment level. Theoretical work provides (at least) two views as to how the arrangement of the street network should influence crime levels. On the one hand, increasing the flow of people through places is suggested as a way of maximising the supply of capable guardians, thereby reducing crime. On the other, minimising the accessibility of places reduces offender awareness of opportunities they might otherwise not encounter, and hence should reduce risk. Empirical research provides some evidence in support of both accounts, but existing work is not experimental in design, varies in statistical rigor, and data on actual levels of guardianship are not collected or analyzed. In this study, we use an Agent Based computer simulation to conduct a series of experiments to explore spatial crime patterns – generated under conditions that formalise theoretical accounts - and how these might be affected by changes to the street network. The relationships between variation in levels of potential guardianship, street network connectivity and crime are explored.

Peng Chen
Center for Public Safety Research
Tsinghua University

Shane Johnson
UCL Department of Security and Crime Science

Hongyong Yan
Center for Public Safety Research
Tsinghua University,

Preliminary Findings from the Philadelphia CCTV Study

While there are no national estimates on the extent of CCTV across America, newspaper accounts suggest that CCTV cameras are being implemented at a rate never seen before. For all this enthusiasm for video surveillance, there has been a lack of high quality, independent evaluation studies (Eck 1998, Greenberg & Roush 2009). When Farrington and Welsh (2007) conducted a recent meta-analysis of evaluations of CCTV in city and town centers, they could only find a single study from the US that was methodologically and statistically robust enough to warrant inclusion in their report (Mazerolle et al. 2002). This paper reports on the status of a large- scale, multi-method, quasi-experimental research study spatially-tailored to the viewshed of each of 100 cameras in Philadelphia, PA. Unlike traditional spatial approaches that simply measure crime out from a camera to an arbitrarily-selected distance, individually constructed polygons for each camera site have been created from field observations to detect displacement and/or diffusion of benefits to surrounding areas. Preliminary findings are reported.

Jerry H. Ratcliffe
Temple University

Elizabeth R. Groff
Temple University

Identifying Best Places for CCTV Camera Placement: An Analysis of Micro-Level Environmental Features

Recent research suggests the crime prevention capability of CCTV to be dependent upon the environments in which cameras are deployed. While observed effectiveness varies from cases-to-case, CCTV has typically worked best in areas conducive to car crime (specifically “car parks”) while achieving limited results in other settings. Despite this finding, the relationship between CCTV impact and “place” remains relatively uncertain. Commonly employed research designs focusing on macro-level land usage fail to capture the unique characteristics of each camera’s surrounding environment. Grouping all “city center” systems together, for example, ignores micro-level criminogenic features (e.g. crime attractors or generators) that can differ across sites.

This study expands upon previous research by analyzing the specific micro-level attributes comprising the environmental backcloth (Brantingham and Brantingham, 1981) of 141 CCTV camera sites in Newark, NJ. A mixed-method approach utilizing GIS data layers, CCTV video feeds, and the ground-truthing of camera sites measured the prevalence of 12 environmental features within the viewshed of each camera. Linear regression models tested the impact 22 independent variables (the 12 environmental features plus 10 controls) have on changes in viewshed crime levels following camera installation. Findings of this study have particular implications for CCTV use by police. Through identifying the conditions under which CCTV best performs, practitioners can more strategically allocate resources to achieve positive outcomes and redeploy underachieving cameras to places which may allow for greater impact.

Eric L. Piza
Rutgers University
Newark Police Department

Joel M. Caplan
Rutgers University

Leslie W. Kennedy
Rutgers University

Evaluation of Investigative Usefulness of CCTV Cameras

While there has been myriad research reporting on the effectiveness of closed-circuit television (CCTV) cameras, most crime reduction evaluations have yielded inconsistent findings with regards to crime type and crime location. This paper evaluates the effectiveness of CCTV cameras from a different perspective, one which has not yet been explored in the US context. We conducted about 100 interviews with Philadelphia Police Department individuals (mostly police detectives and patrol officers) who had requested CCTV surveillance footage to aid their investigations of specific criminal events. These crimes took place in the possible view-shed of a CCTV camera during 2009 and 2010. We constructed a continuum of usefulness out of the data collected, and report this continuum in the presentation. Many of these police personnel had differing experiences and views on both the specific and overall usefulness of the CCTV footage in their direct investigations.

Aaron Fingerhut
Temple University

Jerry H. Ratcliffe
Temple University

Elizabeth R. Groff
Temple University

Crime and Place III: Non-Residential Facilities and Crime

Street Robbery near Rapid Transit Stations in Chicago: 1991-2009

Research on rapid transit stations and crime has shown that in some circumstances, transit stations reduce crime, in others they have no effect beyond conditions prevailing in the neighborhood, and in other environments, the stations generate crime in the surrounding neighborhood. In this presentation, street robberies in Chicago from 1991 through 2009 near to rapid transit stations will be analyzed. Police data will be combined with information on the changing demography of Chicago neighborhoods and the opening and closing of stations and lines. During this time period, a new transit line was opened, several stations temporarily closed, and one station permanently closed and then reopened. While the population of Chicago declined

slightly (-2.5%), some neighborhoods lost more than half of their population, while other central city neighborhoods dramatically increased. The extended time period of this analysis will help to clarify the relationship between street robbery and community in neighborhoods surrounding rapid transit stations.

Richard Block
Loyola University Chicago

Alcohol Outlets and Assaults in a College Town: Accounting for Social Organization and Land Use

There is growing evidence of an ecological association between alcohol and violence. However, community characteristics like the density of alcohol outlets, social organization, or land use patterns have received less attention, and to date most ecological studies have been of large cities. Using Bloomington, Indiana, block groups as units of analysis and controlling for several structural characteristics associated with violence rates, this study tests spatially lagged regression models to determine if the variation in alcohol outlet density is related to density of simple and aggravated assaults in a college town. Additionally, this study tests whether other community characteristics, such as social organization and land use patterns, moderate the relationship between alcohol outlet density and assault density.

Aleksandra J. Snowden
Indiana University

Analysis of Crime Surrounding Liquor License Outlets in Washington, DC

The current study examines the role of liquor license outlets and their association to crime surrounding these distribution points. Patterns of crime are examined, both spatially and temporally, emphasizing the impact of the introduction of liquor licenses to areas. Washington, DC boasts over fifteen hundred liquor distribution points, with over two-thirds providing for on-site consumption of alcohol. Using city wide data, an examination of the impact of these outlets over time demonstrates the clustering of both crime and availability of alcohol. In addition, time series analysis suggests that the removal of a license has limited impacts on the reduction of crime in these areas.

Brian Lawton
George Mason University

Crime and Business Presence: Disentangling Cause and Effect

Businesses attract offenders, guardians and targets to neighborhoods, and different types of business are expected to attract different ‘mixtures’ of actors. Thus, businesses (indirectly) cause crime and disorder. Conversely, business success (e.g., a grocery store) is dependent on levels of crime and disorder because customers are less likely to visit locations in dirty or unsafe neighborhoods. Thus, neighborhood crime may cause fewer startups, the closure of existing businesses, or businesses moving to another neighborhood. Specific business types (e.g., an internet company) may be less affected by the level of crime and disorder because their dependence on the local setting is not as important. This study is able to disentangle cause and effect in the business-crime relationship using a unique longitudinal dataset between 1995 and 2003 in micro-neighborhoods of the 30 largest cities of the Netherlands. The locations of businesses (various sizes and types) are combined with police data and victimization surveys to estimate cross-lagged path models. Attention is also paid to traditional explanations of neighborhood crime and disorder by social disorganization theory (i.e., poverty, residential mobility, and ethnic heterogeneity) and spatial autocorrelation.

Wouter Steenbeek
Netherlands Institute for the Study of Crime and Law

Frank van Oort
Utrecht University

Crime and Place IV: Space, Time and Crime

Time Use Data: An Important Element of Environmental Criminology

Environmental criminologists have repeatedly shown crime distributes itself unevenly in time and space. The everyday movements of individuals and populations are directly related to this observation as the presence and/or absence of humans drastically alters opportunities for crime at the micro-/macro-level. In theory, collecting information about these movements would only better efforts to explain and predict crime. We match data from the American Time Use Survey (ATUS) and National Crime Victimization Survey (NCVS) to determine the relative danger of different types of place. Using time adjusted rates, it is possible to describe the risk of crime in different locations, “hour-for-hour”. As theory predicts, sharp differences are seen between place categories at the national level. In short, who you are may not be as important as where you go when explaining victimization. Our results lead us to believe time use data is of great value to researchers and is currently underutilized in criminological research. This presentation (1) familiarizes the audience with different ways time use data can be collected and analyzed, (2) shows how ATUS and NCVS data can be matched to calculate time adjusted rates of crime, and (3) suggests avenues of future research that employ time use data.

Marcus Felson
Texas State University

AM Lemieux
Netherlands Institute for the Study of Crime and Law

Spatio-Temporal Crime Series Linkage Analysis

The objective of criminal linkage analysis is to group crime events that share a common offender. We present a new methodology for case linkage that fuses the characteristics and features of the crimes, crime scenes, or offender (such as their site selection behaviors) with spatial and temporal proximity. This approach, using Bayesian models, naturally handles different types of variables (e.g. continuous and categorical), weights variables according to their importance, and accounts for missing data. By considering both the similarity and distinctiveness between all aspects of the crimes, we are able to improve linkage accuracy with interpretable and theoretically based models.

Michael D. Porter
GeoEye Analytics

Brian Reich
North Carolina State University

Spatio-Temporal Aspects of Criminal Target Choice

Previous work on spatial aspects of criminal target choice has confirmed that most predatory offenders, including residential burglars and street robbers, perpetrate crime nearby their anchor points and in other areas that they are familiar with. Within that space, they are specifically attracted to accessible locations where suitable and profitable targets are abundant. However, location choice models have thus far completely neglected temporal variation, and thus have not dealt with the fact that criminal opportunities may vary with time of the day and day of the week. A place attractive for robbery in the morning may be unattractive at night, and one that is suitable on weekends may be useless during the rest of the week. This paper begins to address spatial-temporal aspects of criminal target choice. Using data on 12,000 street robberies, on the offenders involved, and on the nearly 25,000 census blocks in the city of Chicago where they took place, we utilize the discrete choice framework to assess whether the criteria that motivate the offender to select a particular census block (including presence of legal businesses, illegal markets, public transport hubs, schools and other public facilities) vary by time of the day and day of the week.

Stijn Ruiter
NSCR

Wim Bernasco
NSCR

Richard Block
Loyola University Chicago

Spatial-Temporal Patterns in Judicial Case Processing

Place and time are critical considerations in understanding the efficient, effective and equitable operation of the criminal justice system. The temporal characteristics of judicial case processing are important areas of inquiry in the criminal court system. At the micro-level, the time it takes for an individual to progress through the system is critical. For example, in Canada, section 11 of the Charter of Rights and Freedoms guarantees any person charged with an offence to be tried within a reasonable amount of time. At the aggregate level, the amount of time it takes for cases to progress through to conclusion can impact the operational efficiency and fairness of the entire criminal justice system. In this paper we investigate the spatial-temporal patterns of judicial case processing for the adult criminal court system in the province of British Columbia, Canada. Through the use of exploratory spatial data analysis methods we are able to explore the similarities and differences between court jurisdictions with respect to the length of judicial processes and to assess the importance of place for understanding the operation of courts.

Andrew A. Reid
Simon Fraser University

Kathryn Wuschke
Simon Fraser University

Shihong Mu
Simon Fraser University

Amir H. Ghaseminejad
Simon Fraser University

Wolfgang Richter
Simon Fraser University

Paul J. Brantingham
Simon Fraser University

Crime and Place V: Activity Spaces and Crime

Delinquency and Exposure to Crime: An Analysis Using Spatio-Temporal Crime Intensities

This paper explores the relation between adolescents' self-reported delinquency and their exposure to crime, as measured by their presence in crime-intensive areas at crime-intensive times. A sample of 843 adolescents (aged between 13 and 17 and living in The Hague, the Netherlands) completed an extensive questionnaire, including questions on delinquency during the past year. They also participated in a personal interview that recorded in great detail, from hour to hour, their activities and whereabouts during four days in the week before the interview. The information on their whereabouts is combined with time-specific crime density estimates obtained from geocoded and time-coded police records pertaining to 241,000 offences committed in the years 2006-2009. Disentangling discretionary and non-discretionary exposure to crime, the findings demonstrate that delinquent adolescents spend more discretionary time at dangerous places at dangerous times than non-delinquent adolescents.

Wim Bernasco
NSCR

Stijn Ruiter
NSCR

What's Hot and What's Not: Understanding Individual Assessments of Crime and Non-Crime Places

Prior scholarship suggests that crime escalates in disadvantaged and disorderly areas because these areas contain cues that signal individuals to stay away, thus reducing effective guardianship. However, there is very little knowledge on how perceptions of crime places translate into avoidance or withdrawal behaviors. Moreover, there is limited knowledge of how individual characteristics inform and influence these perceptions. The purpose of this study is twofold. First, it tests the accuracy with which people can identify crime hot spots and cool spots within their community. Second, this study examines the influence of individual predictors on respondents' abilities to identify crime and non-crime locations within two small neighborhoods. Implications of how individual demographics inform assessments of both hot and cool crime locations, and thereby avoidance and withdrawal behaviors of crime places will be made.

Julie Hibdon
George Mason University

Hostel crime in Amsterdam

The fluidity of visitor populations represents an interesting problem for criminologists. Unlike residents, visitors are not included in victimization surveys which typically select respondents from a list of addresses. Thus very little is known about the involvement of visitors in local crime. This study overcomes the issue by interviewing guests who stay in Amsterdam's hostels. Hostels are a unique form of accommodation catering to young budget-travelers willing to sacrifice privacy for a lower nightly rate. In essence, this causes guests and their property to come in contact with strangers much more often than if they stayed at a hotel or other type of private room. Using surveys and systematic social observation, the main purpose of this project was to identify what types of crime (if any) hostel guests experience while on vacation in Amsterdam and where these events take place. Time use information was also collected from respondents to determine how non-routine activity patterns like traveling and sightseeing are related to victimization, offending, witnessing violence and fear of crime. Finally, hostel staff members and residents living next to hostels were interviewed to obtain their opinions about the problems (or lack thereof) hostel guests create in and around Amsterdam's hostels.

Henk Elffers

Netherlands Institute for the Study of Crime and Law

Wouter Steenbeek

Netherlands Institute for the Study of Crime and Law

AM Lemieux

Netherlands Institute for the Study of Crime and Law

Measuring Risks to be Assaulted During Daily Activities in Urban Landscapes

Little is known about where adolescents spend time during daily activities, or the varying assault risks they face over time. In response, we conducted a population-based case-control study with 10-24 year-olds in Philadelphia. Cases were assault victims recruited from hospital emergency departments; controls were recruited using random digit dialing. Each subject was interviewed using GIS software to recreate the path of their recent activities over periods of up to 24 hours. Cases referred to the day they were assaulted; controls referred to a recent day designated at random. The point-path record of each subject's activity pattern was overlaid against map layers created through cartographic modeling in order to determine histories of exposure recorded in 10-minute intervals over 9-hour periods. Results of 10 variables are reported here. Of particular interest, for exposures including recreation centers, median household income, per capita unemployed, and violent crimes, cases on average were exposed at higher levels at the time of being assaulted than they were at early 10-minute time segments in the day, and at higher levels than experienced by controls on average. This approach gives new insight into the value of space-time activity pattern data for testing routine activities theory hypotheses.

Douglas Wieb

University of Pennsylvania

Therese Richmond

University of Pennsylvania

Michael Nance

University of Pennsylvania

C. William Schwab

University of Pennsylvania

Charles Branas

University of Pennsylvania

Crime and Place VI: Generators and Attractors of Crime

Criminogenic Features of Apartment Complexes: A Case-Control Study

Eck, Clarke, and Guerette (2007) demonstrated that crime at specific facilities (bars, hotels, shopping malls, etc) is heavily skewed. That is, only a small proportion of the facilities have crime, with most facilities having no crime whatsoever. Wilcox and Eck (2011) call this "The Iron Law of Troublesome Places." We examine one facility type - apartments - and use data gathered at each facility to examine the differences in place management and place context between apartments which are high-crime and apartments that are low-crime.

Troy Payne
University of Alaska

Heidi Scherer
Kennesaw State University

John Eck
University of Cincinnati

Do Housing Choice Vouchers Increase Crime?

Public housing has long been associated with crime. Roncek, Bell, and Francik (1981) found that violent crime was slightly higher in Census blocks with public housing. Such studies were one reason public housing complexes were demolished in favor of Housing Choice Vouchers, also known as Section 8. Yet few studies have examined the relationship between Section 8 and crime rates (see Rephaun, 2009, for an exception). This study replicates Roncek, Bell, and Francik's work at the Census block level in a small midwestern city and discusses the validity of that technique given the highly skewed distribution of crime at facilities (Eck, Clarke, Gurette, 2007; Wilcox and Eck, 2011; Payne, 2010).

Kathleen Gallagher
University of Cincinnati

Troy Payne
University of Anchorage

John Eck
University of Cincinnati

James Frank
University of Cincinnati

Invisible and Visible Crime Places

Numerous studies have shown that crime is highly concentrated at very small geographic locations: places. Though there are strong theoretical reasons for this, most of the focus has been on places empirically identified through crime mapping. Building on Felson's (2003, "The Process of Co-offending"), we propose that there are "invisible" places associated with crime. These places may not be "visible" on crime maps, but nevertheless create facilitating conditions that support crime elsewhere. We discuss two forms of invisible crime places, why they are important for the understanding of crime, and how they can be detected. We conclude with a discussion of the policy and research implications.

Tamara D. Madensen
University of Nevada - Las Vegas

John E. Eck
University of Cincinnati

Kathleen Gallagher
University of Cincinnati

Matt Hammer
Cincinnati Police Department

Identifying Geographies of Opportunity and their Relation to Crime

Identifying geographies of opportunity requires an analysis of multiple factors and characteristics of place at several scales. This is especially true for voucher holders who are looking to escape pervasive neighborhood problems or move to neighborhoods that offer more resources for themselves and their children. An even distribution of these quality of life aspects works to alleviate the stress and other burdens families bear while living in disadvantaged neighborhoods. Absent public safety, though, these aspects can be diminished making it more difficult for a family to not only improve their life chances, but more importantly, their children's chances. Quality of life factors will be analyzed within, between, and across Census Tracts for the entire Baltimore Metropolitan Region for a comprehensive examination of these factors in relation to crime. Data will be used across several dimensions that represent the multiple factors of the quality of life, which includes schools, neighborhood stability, economic vitality, job accessibility and competition, segregation and ethnic diversity, traffic congestion, and affordable housing. Several indexes will be created for each tract (accounting for lower level geographic variation when possible) that depicts the presence/absence levels of related to crime within that tract. Individual variables of specific characteristics will be analyzed as well. In many instances, these indexes and characteristics will likely be clustered or as contiguous patterns that form sub-regions within the metropolitan area. As such, an important extension to this analysis will be the analysis of these indexes and characteristics using spatial statistical techniques to measure the strength of relationships between adjacent tracts. This will allow for the identification of any sub-regional spatial patterns that would be indicative of larger areas that share social, economic, political interactions with crime. Finally, geographic weighted regression (GWR) will be used to explore the simultaneous spatial association between each dimension with crime as the outcome. Output from these models can be mapped to show specific areas that exhibit strength between quality of life dimensions. The results from this work will depict geographies of opportunity that are associated with various levels of crime at multiple scales, which can be used to guide voucher holders looking to move into neighborhoods that offer a

Ron Wilson

U.S. Department of Housing and Urban Development

Crime and Place VII: Displacement, Diffusion and Stability

A Test of Opportunity Theory at the Micro-Place as an Explanation for Spatial Displacement of Crime and Diffusion of Crime Control Benefits from Place-Based Crime Reduction Interventions

Prior research on spatial displacement of crime and diffusion of crime control benefits has focused on the presence of these parallel intervention effects to large geographic area, answering the question “Does crime just move around the corner?” The current study changes the geographic perspective in the exploration of the presence and understanding of intervention spatial effects, by focusing on the micro-place. Drawing from findings in place-based research that the proportion and level of crime varies across micro-places, the current research examines the proportion and variability of displacement and diffusion across micro-places nested within larger geographic areas and proximate to place-based interventions. Using the micro-place, a measure paralleling an offender’s awareness space of a place, this research examines how the opportunity constructs of a micro-place – levels and types of guardianship and targets - predict spatial displacement and diffusion and offender adaption due to nearby interventions. The study answers the questions: “To what extent do crimes or benefits move there?” and “What place based opportunities explain why crimes or benefits move there?” It is hoped the answers to these questions will provide guidance to better harness and control the spatial side effects of focused interventions.

Laura A. Wyckoff
University of Maryland

Examining Whether Spatial Displacement Decays: Further Insights from the Philadelphia Foot Patrol Experiment

Results from the Philadelphia Foot Patrol Experiment suggest that foot patrol officers can significantly reduce crime when deployed in violent crime hotspots. The initial analysis found that the officers successfully prevented 90 crimes within target areas during the summer of 2009. However, this success was offset by an increase of 37 crimes within the buffer zones, resulting in a net reduction of 53 violent crimes after accounting for the spatial displacement. While crime displacement is by no means a certain outcome of place-based interventions, this work examines whether, when it is discovered, it is a lasting or short-term phenomenon. The implications for measuring the success and residual benefits of place-based interventions are discussed.

Evan T. Sorg
Temple University

Cory P. Haberman
Temple University

Jerry H. Ratcliffe
Temple University

Elizabeth R. Groff
Temple University

Determining the Stability of Hot Spots

Research on place-based crime has provided substantial evidence that crime can cluster in micro-geographical units known as hot spots, which are responsible for a disproportionate amount of crime in a given area. However, little is known about the stability of hot spots over time. Using a longitudinal dataset of crime on a university campus, this study seeks to add to the extant research by utilizing multiple crime stability methodologies and then compare results as they pertain to the stability of hot spots. Results will have implications for both policy and future research.

Amy Sariti
University of Maryland

Brad Bartholomew
University of Maryland

David Mazeika
University of Maryland

Crime and Place VIII: Tools for Advancing Research

The Terror of Place: Geoprofiling the Madrid Train Bombings

On March 11, 2004, a series of coordinated bombings killed 191 people and wounded 1,800 on four commuter trains in Madrid, Spain. The attacks were organized by an al Qaeda-inspired terrorist cell, and involved a number of people in various roles, including organizers, recruiters, logistical support personnel, explosive transporters, and bombers. In this study, we identified 40 locations associated with the 11-M bombings by searching and translating Spanish judicial record documents, including Sumario (information report), Auto de Procesamiento (judicial review), and Calificación (court decision) files. These locations were geocoded and mapped. Distance measurements were made between cell sites, and between cell sites and target sites. Inter-site probability distributions were then calculated. Finally, various subsets of the known terrorist cell sites were created in order to measure the ability of geographic profiling techniques to determine the location of the unknown sites. The study builds on, and extends, the research by Rossmo and Harries on the geospatial structure of terrorist cells in Turkey. Our approach is based on the general theories and principles of the environmental criminology perspective, and the specific ideas and concepts developed in Brantingham and Brantingham's Crime Pattern Theory and Rossmo's geographic profiling model.

D. Kim Rossmo
Texas State University - San Marcos

Keith Harries
University of Maryland- Baltimore County

Jonathan Allen
Texas State University - San Marcos

Crime Mapping in Africa: Why free GIS Software Makes the Most Sense

Geographic Information Systems (GIS) are quickly becoming an integral, if not standard part of crime research and prevention. However, the high cost of GIS software is a major obstacle for its legal distribution. In the United States and Europe, students, law enforcement agencies and academic institutions all have trouble paying for the software. The purpose of this presentation is to give an overview of how free GIS software can be used to map crime and calculate spatial statistics. Numerous examples are given to show how the freeware can be used when analyzing data at various levels of aggregation (i.e. street, neighborhood, city, state). Most importantly, fieldwork conducted in Uganda will serve as a case study of how the software can be used to combat wildlife crime and other offenses occurring in national parks. Purchasing legal software is a major, if not impossible, expense for any organization or individual in Uganda; a single user ArcGIS license is roughly the equivalent of what an average person makes in one year. While financial constraints may not be as drastic in other parts of the world, the availability of free GIS software is highly appealing and useful nonetheless.

AM Lemieux
Netherlands Institute for the Study of Crime and Law

Utilizing Geographically Weighted Regression to Examine Spatial Variations in How Community Characteristics Impact the Reaction of Arrest for Misdemeanor Domestic Violence

Global regression modeling is probably the most commonly used statistical technique within the social sciences. Frequently, this methodology is applied to processes which may vary geographically, which is an inadequate approach based on untenable assumptions about the stationarity of the data. The current work examines the utilization of geographically weighted regression as an alternative to global regression models by assessing the impact community characteristics have on the decision to arrest among a randomized sample of misdemeanor domestic violent offenders. Identifying spatial variations of these effects offers promise to improve future model specification.

David Mazeika
The University of Maryland, College Park

The Geometry of Fear: An Environmental Perspective on Fear and the Perception of Crime

In 1997 the Grandview-Woodland Community Policing Centre, with the advice and support of the Institute for Canadian Urban Research Studies at Simon Fraser University conducted a community survey, asking 720 people 30 questions related to crime, public disorder and quality of life issues in the Commercial Drive area in Vancouver, British Columbia. Ten years later, the same survey was replicated in the same locations with 727 respondents. The survey incorporated a mapping component in which people were asked to circle the area they felt had the highest level of crime in the neighbourhood. The difference between the 1997 and 2007 perceptual maps is stark. Crime data is used to explore these maps and a forecasting methodology. The perception of crime is further explored in order to understand the intricate relationship between perception of crime and public disorder.

Valerie Spicer
Simon Fraser University

Jordan Ginther
Institute for Canadian Urban Research Studies

Crime and Place IX: Evaluating Place Based Initiatives

Evaluating Three Policing Strategies: Preliminary Findings from a Randomized Control Trial

Research evidence supports the effectiveness of certain policing strategies at reducing violent crime. The strongest evidence exists for approaches which are proactive, use specific strategies, focus on small places or groups of people in small places, and develop specific solutions using careful analysis of local problems and conditions (Lum, Koper, and Telep 2009). This paper documents the design and implementation of a randomized control trial to test three types of policing strategies: offender-focus, problem-oriented policing, and foot patrol. Eighty-one experimental places were identified from the highest violent crime areas in Philadelphia. From those eighty, sixty places were randomly assigned to treatment (20 per treatment type) and twenty-one places to control. Systematic observations were conducted at each of the places. In addition, post-initiative interviews were conducted with field personnel. Design and implementation issues as well as preliminary findings are reported.

Elizabeth R. Groff
Temple University

Jerry H. Ratcliffe
Temple University

The Effects of Using Variable Lengths of Directed Patrol Deployments in Hot Spots: Evaluating the Houston Enhanced Action Patrol Project

Hot spots policing is considered a promising strategy for responding to geographically concentrated crime problems. A growing body of research supports this strategy. However, deployment dosage and duration questions remain unstudied. The purpose of this evaluation is to examine one of those unanswered questions - the effects of variation in deployment periods. The Houston Enhanced Action Patrol project entailed directed patrols to 13 relatively small, high-crime locations. Two extra patrol units were deployed during evening hours for durations ranging from 4 to 16 weeks in 2010. The analysis evaluated the impact of HEAP deployments on officially-recorded suppressible street crimes. Results do not indicate the deployments had meaningful impacts on crime. Implications for hot spots policing practices and future research are discussed.

William Wells
Sam Houston State University

Yan Zhang
Sam Houston State University

Hoon Lee
Sam Houston State University

Larry Hoover
Sam Houston State University

Pushing the Envelope: New Old Ideas to Evaluate Place-Based Intervention on Crime

Despite a growing number of place-based intervention programs in crime prevention and control, there has been little evaluation research that demonstrates a rigorous approach to estimating the impact of intervention. This study promotes innovative ideas to develop robust impact analysis for place-based intervention in crime prevention and control. The challenges of using experimental and observational data to make a causal claim on program effectiveness are addressed in different models involving conventional estimation strategies.

Kideuk Kim

Urban Institute & George Mason University

Understanding Treatment Effects Over Time: Further Insights from the Philadelphia Foot Patrol

In the summer of 2009, the Philadelphia Police Department deployed the incoming academy class to foot beats drawn around violent crime hot spots across the city. Evaluation of the randomized control experiment determined that violent crime decreased in the 60 treatment areas by 23% when compared to the 60 control areas (Ratcliffe et al., 2011). The present analysis re-visits the Philadelphia Foot Patrol Experiment and examines the residual effect of foot patrols in the treatment areas after the experiment concluded. The results of the study are framed in the context of what future research on place-based policing initiatives should consider.

Cory P. Haberman
Temple University

Evan T. Sorg
Temple University

Jerry H. Ratcliffe
Temple University

Elizabeth R. Groff
Temple University