

THE EVERYDAY ACTIVITIES THAT BIND FOR CRIME: INVESTIGATING THE
PROCESS OF ROUTINE ACTIVITIES AT SPECIFIC PLACES

by

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DEDICATION

This dissertation is dedicated to my mother, Maria J.P. da Silva

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Dissertation committee members

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ABSTRACT

THE EVERYDAY ACTIVITIES THAT BIND FOR CRIME: INVESTIGATING THE PROCESS OF ROUTINE ACTIVITIES AT SPECIFIC PLACES

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George Mason University, 2015

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This dissertation explores why and how crime events routinely occur at specific places in high crime areas, such as street blocks, addresses, street corners, and intersections. Specifically, this dissertation considers what human activities, behaviors, routines, and situations contribute to crime occurring at these places. Routine activities theory and environmental criminology suggest that crime is a process resulting from the convergence of the daily human routines of offenders, targets, and guardians (or lack thereof). Furthermore, these opportunities for crime are sustained, enhanced, or limited based on surrounding physical and environmental features of where crimes occur.

Many scholars have attempted to test the salience of these theories using spatial data analysis, quantitative data analysis, and computer simulation modeling (Bosse, Elffers, Gerritsen, 2010; Cahill, 2004; Groff, 2007; Groff, 2008; Lum, 2003). However, these methods often fall short because the process of the routines and their link to crime occurrence are not actually observed, but instead estimated from administrative data and

the use of statistical modeling. This dissertation attempts to improve our understanding about the link between routine activities, the environment, and crime using systematic social observation (SSO) of archived closed circuit television (CCTV) footage of crime events in Baltimore City. This approach serves as the best possible and safest approach to explore the salience of routine activities theory and environmental criminology, short of observing routines in real time that unfold into crimes. Given time and resource constraints, I examined 100 crime events from a collection of the Baltimore Police Department's (BPD) archived footage. Systematic observations of each archived crime event were completed using a theoretically informed instrumentation on site at a CCTV monitoring station for six and half months, culminating in over 2,340 hours of data collection of 397 hours of actual footage.

Qualitative and exploratory data analysis produced findings largely about the routines leading up to drug crime events, with some comparison to violent and property crime. Systematic patterns of behavior leading up to crime were observed, and could be categorized into a number of common features. With respect to drug crimes, eight common features emerged that help explain the process of drug crimes unfolding in high crime places. The features varied to the degree in which they emerged, some features having a higher likelihood of occurrence than others. These findings, while exploratory, have implications for routine activities theory and crime pattern theory, and future research.

CHAPTER 1: INTRODUCTION

On a Monday evening a fight breaks out on the corner of Howard Street and West Fayette Street in Baltimore, resulting in a young man being stabbed. The following day, a teenager is fatally shot a block away at the corner of West Baltimore Street and North Howard Street.

How did these crime events occur in such close proximity to one another? How did the people involved get there? What constellation of activities led to the shooting a block away from the stabbing incident as opposed to occurring on another street several blocks away? The questions of why crime occurs at specific places, and why certain places seem to repeatedly attract crime have been a central concern to scholars of crime, perhaps beginning most notably with social disorganization theorists in the 1920s (see Park and Burgess, 1921; Shaw, 1929). Although not focused on explaining crime at very specific places, social disorganization theorists explained general patterns of crime across large urban areas with their correspondence to neighborhood physical disorder (blight, abandoned buildings, etc.), social disorder (loitering, unstructured activities, etc.), and social processes (residential mobility) and how these factors created crime concentrations in a neighborhood. Theorists suggested that these broader social forces impacted both informal social controls as well as propensities and dispositions to offend, leading to some parts of cities to be more crime ridden than others.

Later, a number of scholars questioned the ideas of social disorganization theorists, arguing that not all areas (or people) that were impoverished or that had high residential mobility were crime prone. In particular, scholars of routine activities theory, crime pattern theory, and environmental criminology (e.g., Brantingham & Brantingham, 1993; Bursik, 1988; Cohen and Felson, 1979) distinguished themselves from early social disorganization theorists (as well as other crime theorists) by focusing less upon broader social processes, economic forces, or even individual dispositions potentially influenced by those forces, and more on common micro-level routines, behaviors and immediate environs that explain specific crime situations and occurrences. For example, routine activities theories, developed first by Cohen and Felson (1979) and then later expanded by Felson (1993) and others emphasized crime as a result of opportunities arising from the day-to-day routines of people such as going to work or socializing at a bar. From a different but related perspective, environmental criminologists focused on the patterns and distribution of crime as it related to how people's behavior interacted with aspects of the built environmental landscape. Those studying "hot spots" or crime concentrations at very specific places also have tried to understand characteristics of those places that attract crime to them.

Of particular note was an article by Sherman, Gartin, and Buerger's (1989), which attempted to link the idea of routine activities, environmental criminology, and empirical findings of actual crime patterns. When looking at police calls for service data, they discovered that 50% of crime actually concentrated in only 3% of all addresses in an entire city. Building upon routine activity and crime pattern theories, Sherman et al.

suggested that such specific concentrations of crime might reflect something about that place that attracted the convergence of the routines of motivated offenders, suitable targets, and ineffective guardianship, thus linking empirical crime concentrations with routine activities theory and environmental criminology. However, they also acknowledged the limitations of inferring this from their use of administrative data, admitting that it was difficult to discern from that data “factors affecting the frequency of [motivated offenders, suitable targets, and weak guardianship converging] in space and time” (p. 31), noting a dearth of “ecological data of actual places” to analyze routine activities theory comprehensively. In other words, simply looking at a concentration of crime events says nothing about the activities that led to those events occurring there, and whether they were related in any way. Despite their groundbreaking findings, Sherman et al. (1989) asserted “the more fundamental issue is whether the routine activities of places, given their physical environment, are actually criminogenic” (p. 46). Borrowing from Brantingham and Brantingham (1989), Sherman et al. (1989) left us to ponder why it is the case that crime concentrates at specific places and whether activities in hot spots serve as “generators” of crime, causing a place to become criminogenic or whether activities serve as “receptors” or covariates of crime, attracting crime to places, and transforming them into hot spots.

Since these early theoretical developments and Sherman et al.’s work, efforts to examine the impact of routine activities and the immediate environment on crime occurrence and crime concentrations has grown. Scholars have developed sophisticated spatial modeling techniques to try to understand crime patterns in high crime areas (see

e.g., Andresen & Malleson; Bernasco, 2010; Bowers & Johnson, 2005; 2011; Johnson et al., 2008), as well as examine characteristics of places and their correlations to crime concentrations (Newton and Bowers, 2007; Newton et al., 2004; La Vigne, 1997), and ultimately to inform criminal justice policies based on crime patterns (Andresen & Felson, 2010; Brantingham & Brantingham, 1990; Newman, 1972; Reynald & Elffers, 2009),

Despite these advances, an important gap remains in our understanding about how crime events routinely and repeatedly occur at specific places, leading to concentrations of crime. Like Sherman et al., many studies examine administrative and geographic data, or perceptual/survey-data to estimate or assume specific routines that may lead to crime patterns, but none actually observed them. We need more empirical observations of actual crime events to gain a better understanding about the routines that lead up to crime. While hardly a new contention (Brantingham & Brantingham, 1989; Bursik & Grasmick, 1993; Eck, 1995; Groff, 2007; LaFree & Birkbeck, 1991; Taylor et al., 1998), this idea has yet to be operationalized by examination of crime as it unfolds in “real time” within a specific environmental context.

To address this gap, this dissertation studies crime events, their associated routines, and the actual crimes that result from the routines, as a dynamic process in “real time.” To achieve this, I gathered systematic observations of actual crime incidents and the routine activities processes that led to those incidents, employing actual video footage taken from CCTV cameras in Baltimore City. To do this, I developed a data collection instrument guided by routine activities, crime pattern theory and environmental

criminology theories to inform the observational lens through which selected crime events were examined and coded. By carefully recording the activities prior to, during, and after a crime event occurring, as well as observing the environment in which the crime occurred, I was able to discern common activities—especially for drug events—that characterize the routine activities of crime. In total, due to time constraints as well as restraints set by the Baltimore City Police Department, I was able to observe the routines, processes, and environmental conditions that led up to 100 crime events, culminating in over 2,340 hours of data collection of 397 hours of actual footage. For this study, routines were defined as observations of individual behaviors, interactions, actions or activities that were repeatedly executed. These routines were aggregated, coded, and categorized, which ultimately provided a description about a link between behavior patterns and crime events.

CHAPTER 2: LITERATURE REVIEW

The explanation of how crime occurs at specific places and how individual routines may lead to crime events at places was not part of early criminology and has only developed more recently. Criminology's roots are found more often in the explanation of why an individual commits crime such as because of his or her circumstances, not because of the situation or environment surrounding him or her (Clarke, 1980; Weisburd, 2002). In this chapter, I provide a brief review of the development of routine activities theory, from the early influence of human ecology theory through social disorganization theory, and finally to environmental criminology.

The review then examines Sherman et al. (1989) and Brantingham and Brantingham (1989) and their importance in connecting routine activities theory to empirical findings of crime concentrations and crime patterns. Following this discussion, I then examine other important developments since Sherman et al. and Brantingham and Brantingham's connection of routine activities with crime concentrations and crime patterns. In particular, the review delves into key scholarly contributions that theoretically and empirically attempted to link crime concentrations and patterns to routine activities and environmental criminology. The overall review chronicles the story of the theories that came before routine activities theory and how scholarship attempted to further advance and deconstruct routine activities theory. The goal of this review is to

explain how the literature discussed routine activities theory and helped build a “criminology of places” (Sherman et al., 1989) through concerted efforts to operationalize routine activities theory.

Origins of the routine activities theory: Foundational theories

Routine activities theory can trace its origins to theories of human ecology. The Chicago School scholars Robert Park and Ernest Burgess were the first major contributors to the development of human ecology in 1921, followed several years later by sociologist Amos Hawley in 1950 and psychologist Roger Barker in 1968 and 1978. While not an exhaustive list, these authors were foundational in describing human behavior as a series of moving parts with specific patterns, a premise that would later influence the conceptualization of human habits and behaviors in routine activities theory. Park and Burgess (1921) drew on plant and animal behavior as parallels to human behavior to explain the nature of human behavior, groups, and communities. They explained how human groups in urban areas formed in habitats and evolved like the growth, decay, and death cycles of plants: “Each community thus precedes and prepares the way for its successor. Under such circumstances the succession of the individual communities itself assumes the character of a life process” (p. 201). Using this growth, decay, and death model, they described the distribution of human behavior by a pattern of colonization, imposition, and succession in neighborhoods or the process of one group eventually replacing another group in a neighborhood (Bernard et al., 2010).

Later Burgess expanded on the concept of colonization, imposition, and succession, highlighting that the distribution of human behavior and settlement (“natural areas”) responded to the development of business and industry from the city center or a specific geographic pattern. The established pattern from this distribution was one of “concentric circles” that expanded outward from the city center, which Burgess referred to as “zones” because of the type of “natural areas” established and occurring in each zone (Bernard et al., 2010, p. 135). This framework of studying human behavior in urban communities, namely human groups and the distribution of human behavior, laid the groundwork for social disorganization and future studies to delve deeper into human behavior. Park and Burgess’ notion that routines and human behavior could contribute to geographic patterns of crime based on the location of their crimes was an important influence in the development of routine activities theory.

Social disorganization theorists Shaw and McKay’s (1929) influential study on the distribution of juvenile delinquency, showed juvenile delinquency concentrated at the city center across time. Social disorganization theory was influential in that it examined the relationship between humans and their environment, but was not necessarily focused on explaining how crime happened at specific places. Later, Hawley (1950) developed important concepts that undergird routine activities theory today (Cohen & Felson, 1979), notably the idea about the movement of actors in space and time. Hawley explained that the “ecology” in human ecology is about relating life to the environment in which a person exists over time and space and how a person’s behaviors are distributed over time and space.

Barker (1978) also added to Hawley's (1950) observation when he noted that accomplishing specific behaviors also serves as an important component of relating life to the environment in which people exist. Barker was more specific than Hawley describing the collection of human behavior as "behavior units." According to Barker, behavior units are segments or data points within a single stream of behavior. Barker envisioned behavior as a process comprised of actions or "behavior accomplishments." The overall idea was that behavior has observable patterns in relation to how individuals interact with the environment. Barker (1978) also argued that over time, these patterns of behavior can persist, creating "standing patterns of behavior," no longer unique to individual behavior, but individuals en masse. Barker further explained standing patterns of behavior do not exist in a vacuum, but rather are anchored to particular places, things, and times, "to parts of the nonbehavioral context or milieu" (p. 26). Specifically, the patterns in one context differ from the patterns in another context such as the behavior patterns for a drug store compared to a dance hall. Stated differently, milieu or environments have particular behaviors that are constant in time and space, despite the number of individuals who may move in and out of the environment.

Routine activities theory was conceived of as interplay between habitual behavior and crime as a way to explain the rise in crime rates in the 1970s. As founders of routine activities theory, Lawrence Cohen and Marcus Felson counted Barker (1972) as a direct and major influence of their theory (Cohen & Felson, 1993). Cohen and Felson's (1979) routine activities study correlated macro-level analysis of crime rates with micro-level social trends such as employment, marital status, and family activities. Their findings

indicated routine activities theory explained a significant amount of variation in the crime rate. The central premise of routine activities theory held that the activities of our daily lives create opportunities for criminal activity by influencing the patterns of how a (1) motivated offender, (2) suitable target, and (3) ineffective guardianship converge together in time and space during each actor's daily routine.

Felson and Cohen (1980) later offered insights that future research would build upon. First, Felson and Cohen (1980) conceded an additional "important analytical task is to learn *how* [emphasis added] illegal activities carve their niche within the larger system of activities" (p. 395). The idea of discovering the niche of illegal activities within a larger system accurately forecasted Sherman et al.'s (1989) study on the concentration of crime at specific places. Felson and Cohen (1980) held illegal activities stem from opportunities created through the convergence of legal routine activities. In other words, illegal activities depend on legal activities and arguably other illegal activities. Therefore, changes to routine activities could "alter the likelihood of convergence in space and time, creating more opportunities" or reducing opportunities (Cohen & Felson, 1989, p. 589). As such, routine activities theory is predominantly a theory about seizing opportunities that manifest criminality.

Felson and Cohen (1980) also fashioned the notion that crime is a given, a fact of life, and has a defined value (p. 390). They rejected the idea of criminality and crime as separate from natural human lives, but instead as a part of life in that individuals take advantage of natural opportunities that arise from situations. It should be noted that Felson and Cohen (1980) were not arguing that criminality is a natural part of life in the

sense that criminality is inherent, but a matter of criminal entrepreneurship, reaction, or action given the proper circumstances or alignment of motivated offenders, suitable targets, and ineffective guardianship at the same time and place. What is not given is the manner in which routine activities or simply, activities “help people translate criminal motivations into actions” at specific places (p. 589). Two things must be considered to understand how events occur at specific places: first, the manner of activities, meaning behaviors, styles, or approaches, and second, which activities in particular matter in the translation of criminality to crime.

Felson and Cohen (1980) tended to these considerations, conceiving of crime as events that happen at specific times, locations, and involve specific people or things. Namely, Felson and Cohen (1980) sought to highlight the “theoretical structure” of crime events. They noted individuals are already criminally inclined and motivated offenders alone cannot account for changes in the crime rate. Instead, the real issue concerns how criminal inclinations are translated into action. Felson and Cohen (1980) reiterated criminal inclinations are translated into crime because of the presence and convergence of three elements: motivated offender, suitable target, and ineffective guardianship. There mere presence of these elements in a place is not enough, however—these elements must be present at the same time and place. If any of these elements were missing from the convergence process, Felson and Cohen (1980) argued this is enough to prevent criminal inclinations from manifesting into a crime event (p. 392). Felson (1998) also introduced the idea that “crimes have a common chemistry,” a science model this current dissertation builds upon. Felson’s (1998) outline of his chemistry model included (1) determining

who or what must be present or absent for crime to occur; (2) determining the place and time that increases the likelihood of occurrence; and (3) specifying how people move in and out of a setting as a crime event occurs. This chemistry model presented a way to begin to glean an understanding of how opportunities come about as mechanisms for the manifestation of criminal inclinations.

Meanwhile, Paul Brantingham and Patricia Brantingham became the foremost scholars on environmental criminology, advocating for criminological theory to emphasize the actual environments or landscapes and physical features of where crimes occurred in order to understand the distribution of crime and the retention of crime at places (Brantingham & Brantingham, 1984). Brantingham and Brantingham (1993) argued criminality at specific places is typically associated with sociological explanations, which deter interdisciplinary explanations, particularly in explaining “crime as etiologically complex patterns of behavior” (p. 260). Brantingham and Brantingham (1993) stressed a diversity of approaches or what they termed an “alternative theoretical movement” to sociological explanations. The two central theories that fell under the alternative model were routine activities theory and environmental criminology. These two theories built the alternative theoretical movement to explain crime, called pattern theory. Under pattern theory, Brantingham and Brantingham (1993) argued “crimes are patterned and the decision to commit a crime is patterned” (p. 264). Accordingly, explanations of crime must focus on the process, not the static features of crime events (demographic variables, type of crime) and criminal behavior, to tease out the patterns (p. 264). The authors noted any examination of criminal behavior and patterns must consider

the “actual process of committing a crime, the activities of offenders at the moment of a crime, the readiness of offenders to commit a crime, and the interaction of readiness and willingness to commit a crime and the offender’s activities at the moment of a crime (p. 266).

Brantingham and Brantingham (1995) also argued crime emerges from an urban “back cloth” we create through the social environments we build in an urban setting. The urban backcloth serves as a platform for targets and offenders to come together, and thus it’s important to understand the construction of the back cloth. They argued paths, defined as directions, in where people go and what is learned about a city serve as important governors of routine activities, everyday life and special events. Understanding paths is critical to examining the “movement patterns of potential offenders and victims” to peer into how crime events unfold and second, understand the concentration of crime patterns (p. 12). Similarly, Rengert (1980) called for a greater focus on understanding the criminal environment for the development of theoretical constructs that could help explain the criminal environment. Rengert (1980) asserted “We need to go beyond purely descriptive ecological studies and formulate some theoretical constructs which may lead to explanations of the criminal spatial structure” (p. 47).

Together through their intersecting premises, these theories helped redefine the theoretical landscape of criminological thought, namely that crime may be explained as a matter of structural and situational opportunity, everyday individual routines, and environmental context. This development, as Clarke (1980) and Weisburd (2002) emphasized and as displayed in Figure 1, forged a new perspective among predominant offender-based theories, subsequently laying the groundwork for the development of a criminology of place and also place-based criminal justice interventions.

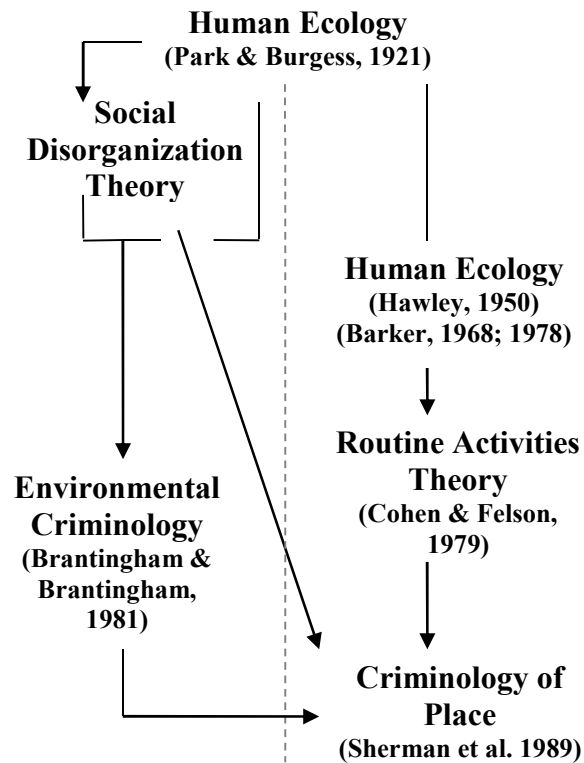


Figure 1. Roots of Criminology of Place

Linking crime concentrations to routine activities theory

Sherman et al. (1989) and Brantingham and Brantingham (1989), among several others (Bursik & Grasmick, 1993; Eck, 1995; LaFree & Birkbeck, 1981; Lum, 2003; Miethe, 1987; Rengert, 1980; Weisburd, 1997) acknowledged in different ways gaps in our understanding between an instance of a crime and its connection to larger, external activities surrounding crime. Specifically, Eck (1995) identified a critical gap in routine activities theory, in that routine activities theory does not provide any information beyond an offender and victim needing to be at the same place and time for a crime event to occur. Eck (1995) noted the components of routine activities are interactive, and I add, process-based, but the characteristics of this process remain undefined, both by activities involved and sequences of action. As such, Eck (1995) called for data that can delineate times, places, and the various interactions among offenders, targets, handlers, guardians, and managers. Eck (1995) argued we cannot assume we can test the routine activities convergence in a linear fashion:

Linear models cannot capture the intrinsic nonlinearities implied by routine activity theory. By "intrinsically nonlinear" I mean that the model is nonlinear with respect to the parameters. In such cases, simple transformation (such as taking the natural logarithm) cannot convert the equation to a linear form that can be estimated with ordinary least squares regression (Kmenta 1971:461). (p. 795)

Additionally, Sherman et al. (1989) and Brantingham and Brantingham (1989) each discussed the need for different approaches or analytic techniques to (1) understand the link between routine activities and places, and patterns of crime within an

environment (Brantingham & Brantingham, 1989; Sherman et al., 1989); and (2) operationalizing routine activities theory with similar place-based or event-based criminological theories to study crime patterns and crime as a dynamic process (Brantingham & Brantingham, 1989).

For example, Sherman et al. (1989) wrote “The major limitation of the evidence for the theory [routine activities theory], however, is the lack of testing with ecological data on actual places where offenders, targets, and weak guardians converge” (p. 31). They argued for greater systematic attention on linking the individual risks of victimization in various places Cohen and Felson (1979) observed, to variation in time spent in different places (p. 31). Stated differently, Sherman et al. (1989) pinpointed:

Most lacking is quantitative analysis of the causal relationships among various social and physical characteristics of place, such as the relationship of alcohol sales to vandalism controlling for the intensity of lighting, density of place population, price of alcohol, and the socioeconomic status of the patrons. (p. 33)

Furthermore, Brantingham and Brantingham (1989) were primarily concerned with the theoretical limitations of criminological theories and existing models that attempted to account for systematic characteristics of crime, or what they termed patterns.

Brantingham and Brantingham (1989) argued:

Crimes are patterned; decisions to commit crimes are patterned; and the process of committing a crime is patterned. These patterns are nontrivial, though opaque, when crime is being explained by some unicausal model, but become more clear

when crimes are viewed as etiologically complex and as occurring within and as a result of a complex surrounding environment. (p. 264)

Brantingham and Brantingham (1989) emphasized the importance of understanding crimes as patterns, but also as patterns deeply connected to an individual's daily activities. They noted: "While forming patterns in the foreground, the event process rests on a general backcloth formed by routine activities ... These activity routines form a patterned backcloth on which criminal events are played out and against which crime may be studied" (p. 268).

Sherman et al. (1989), Brantingham and Brantingham (1989), and Eck (1995) struck a common chord in analyzing and explaining crime in action based on routine activities theory (see Figure 2). Sherman et al. (1989) focused on the unit of analysis or attempting to examine ecological data at a micro-level and Brantingham and Brantingham (1989) and later Eck (1995), focused on studying crime as a process while also advocating for micro-level analyses:

Future advancements in this field of research may require more reliance on alternative analytic tools...or nonlinear systems models and fractal constructs as well as a continual expansion into alternative methodologies to gain a better understanding of crime occurrence...within a more objectively defined environment. (p. 286)

Together, Sherman et al. (1989) and Brantingham and Brantingham (1989) highlighted an overall gap in the state of research and the approach of research in advancing our understanding of crime concentrations. They revealed a dilemma for future

scholarship to address, notably the lack of empirical research linking routine activities to crime concentrations (Sherman et al., 1989) and using different methodological approaches to investigate patterns underlying crime processes (Brantingham and Brantingham, 1989).

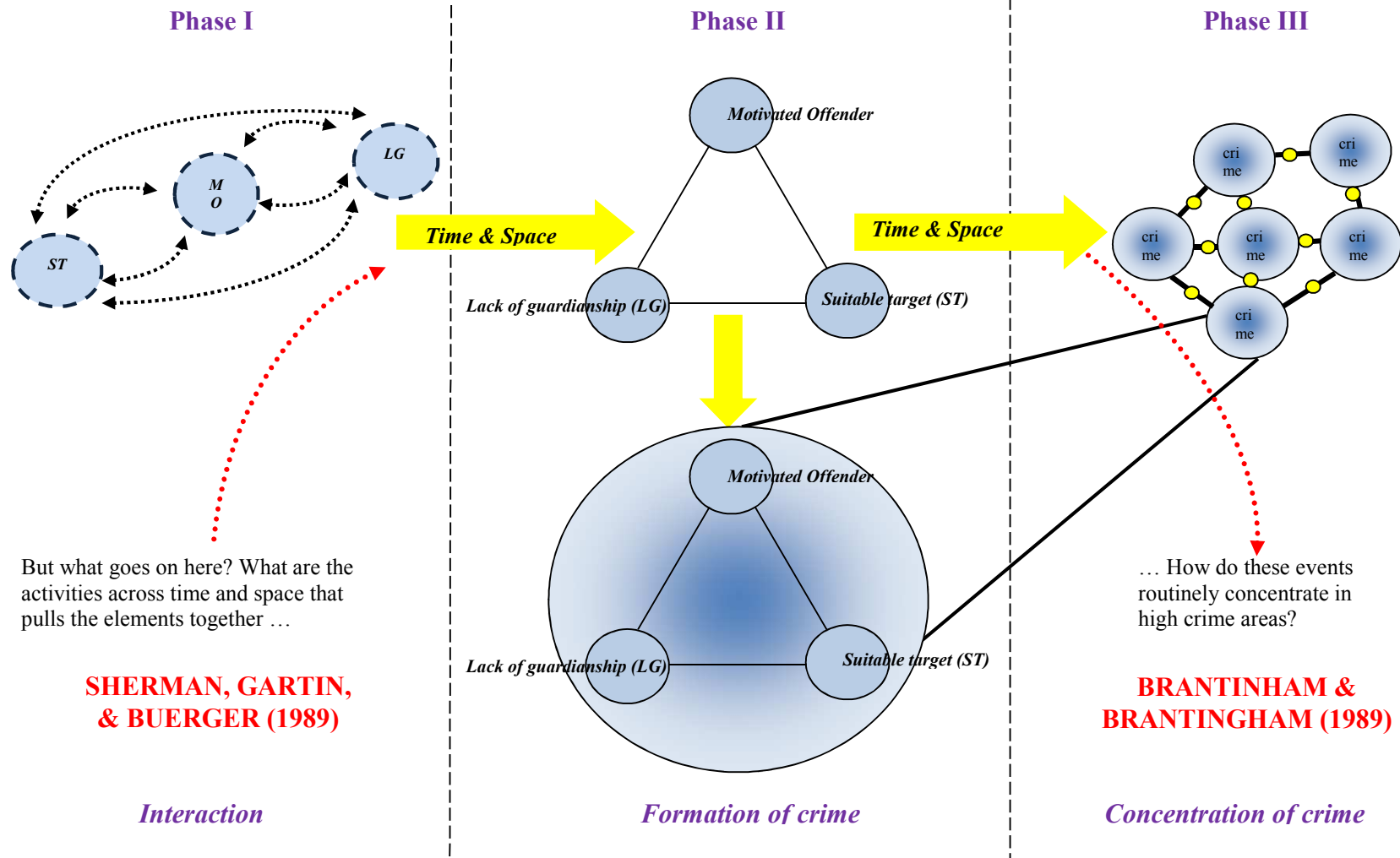


Figure 2. Routine Activities Process Model: Crime Event

Resolving a dilemma: Making the connection between routine activities and places

Sherman et al. (1989) and Brantingham and Brantingham (1989) tried to connect empirical evidence on concentrations of crime with routine activities and environmental theories, to ultimately develop a better understanding of routine activities and crime patterns at places. However, as discussed above, Sherman et al. (1989) were only able to hypothesize—not resolve—this connection based on their empirical analysis. They left future scholarship to consider an important question: why crime concentrates at specific places and whether activities in hot spots serve as “generators” of crime, causing a place to become criminogenic, or whether activities serve as covariates of crime, attracting crime to places and transforming them into hot spots. Since the early theoretical developments of routine activities theory, crime pattern theory, and Sherman et al.’s empirical work, scholars have tried to both theoretically and empirically develop this theoretical work in various ways that tried to link crime concentrations and patterns to routine activities and environmental criminology.

A number of scholars have tried to further advance routine activities theory in an attempt to answer the question of why crime may occur at a specific place. For example, Kennedy and Forde (1990) used routine activities theory to investigate how “the social context of urban environments influences the relationship between activities and certain types of criminal activity” (p. 137). Similar to Sherman et al. (1989), Kennedy and Forde noted the convergence of a motivated offender, suitable target, and ineffective guardianship increases the probability of a crime event occurring, “but does not suffice as an explanation of criminal violence” (p. 138). This observation begged the question of

what—process, element, activities, behaviors, etc.—leads to the actual occurrence of crime events given the convergence of the three elements? Kennedy and Forde (1990) found that routine activities theory could explain crime at the individual level. However, their analysis did not go further in examining the frequency and activities unfolding at places prone to conflict and how such proneness exists. Additionally, Lum (2003) reached the same conclusion as Sherman et al. (1989) using exploratory spatial data analysis. Lum (2003) examined the hypothesis that violence and drug markets are connected, but could not link violent offenses to drug market activity. While Lum (2003) did detect a high correlation and observed some phenomena going on, she ultimately concluded that some drug markets are not violent; that is, some variation exists. Similar to previous insights, the question of linking routine activities theory to crime concentrations and patterns of criminal offending persisted.

On the other hand, Groff (2007) was among the first to use the sophisticated technique of computer simulation to model actual interactions and convergences at specific places. Groff (2007) contended that research over relied on indirect measures of routine activities theory and scholars “have struggled with measuring the construct of routine activities as isolated from other constructs being measured” (p. 78). And along with Eck (1995), Groff (2007) also agreed that routine activities theory and micro-level interactions involved cannot be modeled in a linear fashion. Groff (2007) found positive results for an increase in the number of convergences in space and time and an increase in the number of street robberies as people spend more time away from home. Still, this did not address the gap between routine activities theory and crime concentration at places.

Street robberies occurred at places where agents routinely converged, but Groff (2007) conceded there are other factors that contributed to their concentration for which the structure of the street network could not account. In other words, there were some specified variables missing in the simulation. Groff (2007) also noted clustering at the intersection or street block may depend on the characteristics of the agents involved and the type of situations and activities indicative of certain crimes.

Meanwhile, others focused on the roles of the individual actors within those routines that then led to convergence and opportunities for crime, ushering in conceptual analysis about the dynamics and interplay of the routine activities categories. But there was no corresponding attempt to link this importance of dynamics to crime concentrations at specific places. For example, Fattah (1993) helped expand the conceptualization of roles, explicitly pointing to the roles of offender and victim as not mutually exclusive. Fattah (1993) highlighted the false dichotomy between victim and offender behavior, noting prior research by Lauritsen, Sampson, and Laub (1991), Singer (1981), and Thornberry and Figlio (1972) to support this claim. Similarly, Osgood et al. (1996) made an enlightening point about the nature of offender categories: “People vary widely in their susceptibility to deviance, that this variation is continuous and not discrete (Rowe, Osgood, & Nicewander 1990 as quoted in Osgood et al. 1996) and that most people have the potential for at least occasionally succumbing to an opportunity for deviant behavior” (p. 639). Osgood et al. (1996) viewed opportunity as a matter of situational advantage, arguing the motivation of an offender is within the deviant behavior itself and the influence of prominent situational factors where a deviant act is

promising and rewarding, (e.g. the opportunity for deviance arises in pursuit of other activities).

Likewise, Felson (1998) pointed out the nuance of the offender category. Felson (1998) made a distinction between “likely offender” and “offender,” arguing that many people fall into the category of likely offenders and need the opportunity to implement criminal inclinations (p. 54). Also, the lacking specification of activities that transition a person from “likely offender” to offender added to this debate. Overall, Fattah (1993), Felson (1998), and Osgood et al. (1996) teach us that the roles of offender, victim, and guardian are fluid and interchangeable roles. And if this interplay of fluid roles can be observed at specific places, then we may begin to understand what activities are crime attracters and generators of crime at specific places.

But understanding the nuance of the routine activities categories was not the sole issue. How variables were operationalized and modeled was another empirical issue that prompted the need for further research. For example, Burisk and Grasmick (1993) rightfully pointed out that the routine activities framework has difficulty specifying the dynamics related to the convergence of offenders and victims in space and time (p. 71). Similarly, LaFree and Birkbeck (1991) argued that there was no systematic examination of situation, which LaFree and Birkbeck (1991) noted included three steps, (1) definition of situation, (2) model development that shows the interaction between actors and situations in the creation of a crime event or criminal behavior, and (3) “empirical research on the relationship between situations and behavior” (p. 74). The authors articulated a need for accurate models to show the interaction between offenders, victims,

and situations. The most specification as provided by Cohen and Felson (1979) concerned time, meaning the time spent in activities such as schooling, work, leisure, and time away from home. Still, this mere mention of time spent does not provide a complete script of activities, behaviors, or interactions, or behavioral accomplishments that define activities such as schooling or work or the time spent participating in these activities.

Mustaine and Tewksbury (1998) also made note of the measurement limitations of routine activities theory. Specifically, the authors noted that proxy measures dominated as measures of lifestyles, which included demographic variables such as marital status, age, and race/ethnicity. The authors emphasized the dependence on indirect measures presents a major weakness for the theory since the measures do not speak to the actual activities involved in crime events. And like Eck (1995) and Groff (2007), the authors underscored that routine activities theory is not a linear theory. Mustaine and Tewksbury (1998) continued that most models rely on an inappropriate combination of indirect, proxy measures, linear modeling, and aggregated data.

Miethe et al. (1987) created direct measures of routine activity theory to capture the quantity of activities, the nature of activities, and the relative risk to criminal victimization to provide a more comprehensive picture of criminal victimization as defined by routine activities and lifestyle theories. The two overarching measures developed included 1) the type of work or school activity and 2) exposure to potential criminality or the amount of time spent outside the home. However, the task of connecting these direct measures with actual crime events at specific places with high crime concentrations remained.

Taylor et al. (1998) argued we may have more empirical success with relying on constructs developed from human ecology, a tradition which tries to explain how places work. Taylor et al. (1998) specifically singled out behavior setting theory as an appropriate guide to begin examining how places work in relation to crime generation. The authors were keen to note “to solve the crime problem in a location, we need to ‘unpack’ the dynamics of the site” (p. 12). Taylor et al. (1998) also pointed out relying on behavior setting theory requires consideration of temporality or that “standing patterns of behavior [recurring patterns of behavior] are timebound” (p. 12).

Another attempt to operationalize routine activities was notably done by Groff (2008) with her examination of whether the main argument of routine activities holds true under different versions of activity spaces, namely, random, temporal constraints and spatio-temporal constraints. Groff’s (2008) study revealed temporal constraints or activities that structure time such as work or commuting and spatial-temporal constraints or routine activities, influenced the incidence of street robberies in different and separate ways—that behaviors defined by certain spaces and at certain times, essentially, routinized behavior, are more likely to lead to the crime convergence. Still, Groff (2008) maintained the methods used to provide insight into the dynamic interplay of routine activities elements remain limited.

Likewise, Bosse, Elffers, and Gerritsen (2010) also discerned that attempts to specify, estimate, and analyze the process of crime events occurring in real life situations were problematic because of the tendency to hold “constant as many parameters in the process as is feasible” (p. 51). The authors used an agent-based simulation method to

model an artificial society of offenders, targets, and guardians to examine the interaction of these roles when offenders, targets, and guardians' preferences and direction of movement at the local level were directly manipulated. The authors clarified their study was not a test of routine activities theory, but rather was an exploration of routine activities theory's local level implications. Furthermore, Bosse et al. (2010) pointed out the limitations of simulation modeling, explaining the gross simplification of reality and that such models do not fit reality.

Previous research had been limited by indirect measures of routine activities theory, with a lack of "ecological data of actual places" to properly examine routine activities theory and validate its premise (Sherman et al., 1989). Scholars such as Bosse et al. (2010) and Groff (2007) would later use computer simulation models to model dynamics. Yet, computer simulation models were limited because they represented an artificial reality, but the computer simulation agent-based models Bosse et al. (2010) and Groff (2007) completed, to date, stand as the best attempts to directly assess routine activities theory. Still, the gap in understanding crime attractors and generators remained. Despite sophisticated modeling and continued theoretical development, crime events were still not connected with specific routines.

The existing knowledge base reveals it is more than evident that direct measures of routine activities theory are missing. Furthermore, previous methods used to link routine activities with crime patterns in areas of high crime concentration have fallen short of this goal. Event-based models as completed by Bosse et al. (2010) and Groff (2007) and advocated by Sampson, Morenoff, and Gannon-Rowley (2002) are not

enough because scholarship has yet to look at the behaviors associated with crime events in action as they happen and not theoretical constructs of them. With routine activities theory figuring into evaluation and theoretical discussions so prominently, we have yet to understand first, how crime events occur and what this process looks like and second, scholarship has not attempted to show which routines of daily life are linked to crime concentrations.

The Current Study

Since Sherman et al. (1989) and Brantingham and Brantingham (1989), we know that crime concentrates at specific places, is not random, and is patterned. Many scholars have tried to empirically link routine activities theory with crime concentrations in order to illuminate the very patterns that underline criminal processes. However, despite advances in theory and research, resolving the empirical and methodological dilemma remains (Bosse et al., 2010; Brantingham & Brantingham, 1989; Bursik & Grasmick, 1993; Eck, 1995; Lum, 2003; Groff, 2007; Sherman et al., 1989).

To date, St. Jean's (2007) work can be considered one of the only studies that closely mirrors the current study in that St. Jean (2007) used criminology of place and systematic social observation to understand the link between crime concentrations and routine activities, albeit from the perspective of the offender. St. Jean (2007) used systematic social observation and interviews with offenders to empirically test broken windows theory and collective efficacy in extending our understanding of how and why crime concentrates at specific places. St. Jean's (2007) unit of analysis was smaller than

that of a street block, but a pocketed area of a street block. The crux of St. Jean's (2007) study focused on offenders' interpretations of physical neighborhood disorder, which eventually lead to his theory of ecological advantage. Ecological advantage holds that the reputation of a location can be exploited and maintained for criminal purposes.

Ecological advantage also refers to the amount of activity in a spot; the choice of a location depends on the movements (or activities) within the spot and how the spot is situated physically, not physical/neighborhood disorder:

...What matters most about place is not its appearance, but where is it situated and what sorts of activities occur within ... knowledge about how the space functions is much more important than its appearance," which includes knowledge of a place's reputation for criminal opportunities with plausible deniability. (St. Jean, 2007, p. 200)

St. Jean's (2007) approach provides a more useful way to highlight the dynamics of crime events, particularly his use of systematic social observation. Also, St. Jean (2007) as well as few others, Sampson, Morenoff, and Gannon-Rowley (2002), Taylor (1997), and Taylor et al. (1998), have advocated for localized examination of crime events. The sentiment and theoretical and empirical guidance from scholarship exists, but gaps remain not only in adequately addressing the dilemma of linking routine activities theory to crime concentrations, but also in the methodological approaches used.

This study attempts to fill an important gap in the empirical exploration of routine activities theory, by examining, at places where crime concentrates, the process of how crime events unfold. The key operational problem in understanding the link between

routine activities theory and where crime occurs has been the lack of research that observes crime happening in “real time.” The approach will also be considerate of treating crime events as activities-based processes, to help specify the nuance of how the activities of a motivated offender, suitable target, and ineffective guardianship convergence at the same time and place to create a crime event. In particular, two research questions will be explored:

1. What types of routines lead to crimes occurring at high-crime places?
2. What does the process of crime occurring look like at these specific places? Are there any distinctive features?

This dissertation integrates routine activities theory and environmental criminology to complete a case study analysis, which is an in depth examination of specific phenomena and its context. A descriptive case study provides an in-depth examination to show examples of what is happening with a particular crime event and show the circumstances or conditions for a particular crime event. This dissertation used systematic social observation (SSO) using closed circuit television (CCTV) as a means to complete observations of specific places on a street block. The objective was to specify the activities that bring about the process of motivated offenders, suitable targets, and ineffective guardianship coming together at the same time and place at specific places.

CHAPTER 3: DESIGN AND METHODS

To examine the research questions above, this study focused on specific crime events and the routines leading up to those events in a large, urban American city (Baltimore, Maryland). In order to do this, I examined a collection of archived video footage of specific crime events from CCTV cameras using systematic social observation using a descriptive case study methodology. Unlike an exploratory case study, a descriptive case study does not allow for generating hypotheses, measures, or analytical strategies for future studies. Instead, descriptive case studies function to avoid oversimplifying reality and familiarize the reader with the unknown or taken-for-granted experiences (Yin, 1993). The current study serves as a case study of crime events in Baltimore, Maryland.

Researcher Position

For this dissertation, I took a post-positivist approach, whereby I assumed “research consists of rigorous methods and systematic forms of inquiry” (Creswell & Miller, 2000, p. 125). Much like Creswell (2007) my perspective undulates between “social justice to realist accounts,” but concerning crime, criminality, and crime policy with an eye toward using rigorous and systematic approaches in qualitative research. My approach was to present a rigorous and systematic description of how crime events

unfold as a process of routines, and how they unfold at places where crime concentrates. As such, I did not set out to test specific hypotheses per se, but rather to describe phenomena. Although I did not rule out the possibility of assumptions and hypotheses arising during the process of investigation, explicit development of hypotheses would require additional research beyond the scope of this project. Instead, in this study, a descriptive case study methodology (Yin, 1993) was used to systematically observe crime events at specific places, individually, monitored by closed circuit television cameras (CCTV) in Baltimore City for a period of 6.5 months to see how crime occurs at specific places. This dissertation used a purposive sample because of the exploratory nature of the study. This case study was guided by the two research questions: (1) what types of routines lead to crimes occurring at high-crime places? (2) What does the process of crime occurring look like at these specific places? Are there any distinctive features?

Location of Study: Baltimore City, Maryland

Fourteen years ago, Baltimore was the most violent city in the United States (Baltimore City Planning Commission [BCPC], 2006, p. 40). Today, Baltimore is a city undergoing revitalization against the backdrop of increased unemployment and poverty, a shift that started in the 1970s (Taylor, 2001, p. 34). According the 2010 U.S. Census, Baltimore's population was 620,961, making Baltimore the largest city in Maryland and the 26th largest city in the United States. It is a mid-Atlantic city and is 92.28 square miles and divided into nine geographic regions: northern, northwestern, western, central, eastern, southern, southwestern, and southeastern. These regions also correspond with

Baltimore Police Department’s police districts. Demographically, Baltimore has a high proportion of African Americans, a slightly higher proportion of females to males, and well distributed age population (Table 1). The majority of Baltimore’s residents are between the ages of 25 – 44 (30%), female (52.9%), and African American (63.7%) (Table 2). In 2011, vacant lots and vacant buildings were the most prominent features of Baltimore’s urban landscape, each accounting for a large portion of environmental space per 10,000 residents, respectively (Table 3).

Table 1. Baltimore City Demographics, 2010

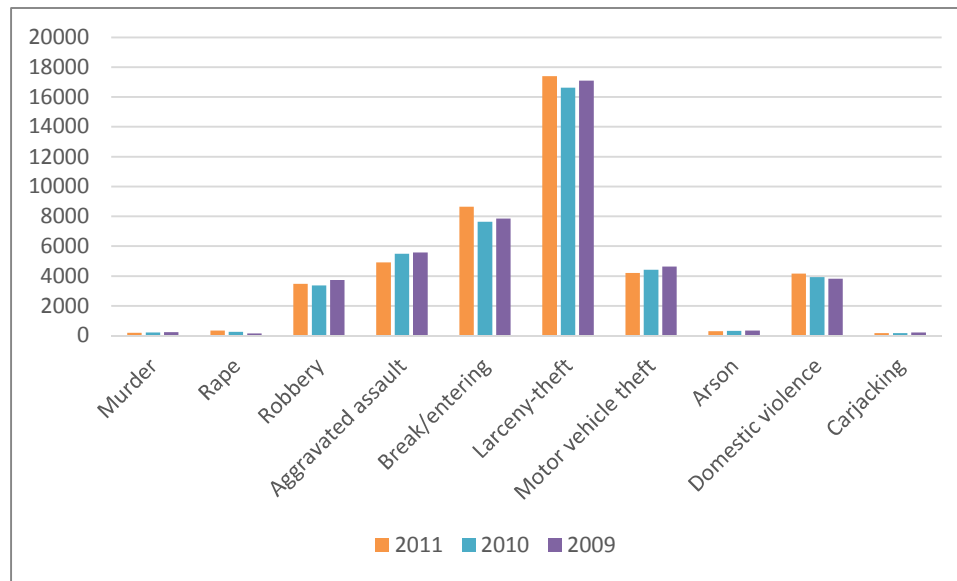
Age	
Under 18	21.5%
20 -24	0.1%
25-34	16.6%
35-49	19.3%
50-64	18.1%
65 & older	0.1%
Gender	
% Male	47.1%
% Female	52.9%
Race/Ethnicity	
White	31.5%
Black	63.6%
American Indian and Alaska Native	0.4%
Asian	2.5%
Native Hawaiian and Other Pacific Islander	0.1%
Two or more races	1.9%
Hispanic or Latino origin	4.3%
White person not Hispanic	28.4%

Source: 2010 Census Interactive Population Search, U.S. Census Bureau

With regard to crime, Baltimore has a high juvenile arrest rate, 145.1 per 1,000 residents between the ages of 10-17. Non-fatal shootings and homicides were 46.5 per

10,000 residents and 20.9 per 10,000 residents, respectively (Table 3). In 2011, Baltimore City experienced gradual declines in all UCR index crimes. However, there were slight upticks in rape, robbery, larceny-theft, and domestic violence (Figure 3). Also, there was a sharper increase in reported incidents for breaking and enterings. Aside from these figures, Baltimore City's crime rate also increased 5.1% from 2010 to 2011. And according to BCPC (2006), "Baltimore remains near the bottom in the rankings for the incidents of violent crime, indicating crime and public safety remain challenges in the region and specifically in the City of Baltimore" (p. 58). Prior to these latest crime statistics and a part of the city's 2007 – 2012 Master Plan, city government vowed to take proactive approaches to addressing public safety challenges as city revitalization unfolds:

The City will implement CPTED design standards to create safer public spaces by reducing opportunities for crime. By creating 'defensible spaces' [(Newman, 1972)] through measures such as galley gating, improved lighting and pedestrian areas, the City will create public spaces that are safer and more utilized (BCPC, 2006, p. 76).



Source: Crime In Maryland. 2011 Uniform Crime Report. Maryland State Police:
<http://www.mdsp.org/LinkClick.aspx?fileticket=com9uHaD9Sg%3D&tabid=429&mid=10>

Figure 3. UCR Index Crimes in Baltimore City, 2011

Table 2. The distribution of Baltimore City

Population total	622,140
Age	
0-17	21.5%
18-24	11.3%
25-44	30%
45-64	25.5%
65+	12%
Gender	
% Male	47.1%
% Female	52.9%
Race/Ethnicity	
African American	63.7%
White	29.6%
American Indian	0.4%
Asian	2.3%
Two or more Races	2.1%
Hispanic or Latino	4.2%

Source: 2013 Quick Facts data; American FactFinder; census.gov

Table 3. Social Environment - Density & Rates

Density (per 10,000 residents)	Baltimore City
Alcohol	4.6
Tobacco Stores	21.8
Fast Food	2.4
Carryout	12.7
Corner Store	9
Vacant Building	567.2
Vacant Lot	593.1
Rates	
<i>Per 1,000 residents</i>	
Juvenile Arrest	145.1
Domestic Violence	40.6
<i>Per 10,000 residents</i>	
Non-Fatal Shooting	46.5
Homicide Incidence	20.9

Source: Baltimore City 2011 Neighborhood Health Profile: Downtown/Seton Hill, Baltimore City Health Department, December 2011

Data, Unit of Analysis and Sample

The data used is video footage of crime events using systematic social observation (SSO). The observations were completed on-site (per requirements set forth by the Baltimore City Police Department) at the Lexington Market CitiWatch Center. The CitiWatch program is a unit within the Baltimore Police Department (BPD) that uses CCTV as a crime deterrent strategy through direct, real-time observation of criminal activity. CitiWatch operates 24 hours a day, seven days a week throughout the year with the support of veteran police officers who actively monitor streams of footage. Cameras capture live footage and constantly move, rotate, and change direction.

Unit of Analysis

The unit of analysis of this study is the crime event observed through CCTV footage. By analyzing the crime events I was able to make note of and describe the routines and activities leading up to the crime event and the crime event itself, including the presence of suitable targets, motivated offenders, and guardianship (or lack thereof). This level of analysis helped in collecting specific information about the activities of each element that converged in space and time at specific places.

Throughout this dissertation the terms “activities,” “behaviors,” “interactions,” and “routines” are used to specify the phenomena that characterize each crime event. They were also used to inform systematic social observation and coding. Cohen and Felson (1979) and other scholars relied on macro-level examples to define routine activities, overlooking micro-level definitions needed to clarify conceptually what is meant by routine activities. One probable exception to this was Brantingham and

Brantingham (1989) who defined routines as “a set of repetitive processes that organize most of life’s actions” (p. 268). Still, without comprehensive clarity, it was difficult to envision how observations of crime and describing activities would proceed. As such, I relied on the following definitions¹: activities refer to the condition in which things are happening or being done. Behaviors refer to the way in which one acts or conducts oneself, especially toward others. Interaction refers to reciprocal action or the mutual give-and-take between two or more people. Routine refers to a sequence of actions regularly followed. Based on these definitions, behaviors, interactions, and routines were aggregated to describe or refer to an activity or the happenings at a specific place, which would encompass individual or group behaviors and any interactions and routines there within.

Sampling strategy

At the outset of this study, I initially sought to sample and code a targeted sample of 200 crime events. Given the time and resources for this project, I anticipated that a targeted sample of 200 would be adequate to understand the routines surrounding various crime events. The sample came from archived footage of arrests stored at BPD headquarters. The archived footage collected by BPD consisted of what the agency labels as “camera arrests,” which is an arrest initiated by a CCTV monitor. Archived footage also included recorded camera replays for crime, and camera-assisted arrests whereby an officer on the street initiates the arrest with the assistance of a CCTV monitor. The sample was restricted to the years 2010 and 2011 to ensure that crime event was still

¹ Development of these definitions relied on current lexicon.

relatively new at the time of data collection and would reflect current environmental conditions.

The method of sampling was based on a “criterion sampling method” (Creswell, 2007, p. 127), in which camera arrests selected met the following criteria: arrests were (1) archived, (2) have been adjudicated, and (3) were captured by as few CCTV cameras as possible, at most four, to keep observations within a single known specific place (Figure 4). The first and second criterion reflected BPD policy, as footage of crime still open for investigation was confidential and inaccessible. To draw a sample using these criteria, first non-adjudicated footage was excluded. This was done by cross-referencing BPD arrest data with court adjudication data from the Maryland Case Search database. Cases were also excluded on the basis of no location information provided in the arrest record, no statement of charges, expunged records, juvenile cases, and “stet” cases.²

² “Stet” cases are cases defined as those with “an indefinite postponement. No guilty verdict is entered, but the defendant may be asked to accept conditions set down by the court. The defendant must waive his/her right to a speedy trial. A case on the stet docket may be re-opened at any time within one year if the conditions of the stet are violated” (Baltimore County Maryland State’s Attorney’s Office, 2009).

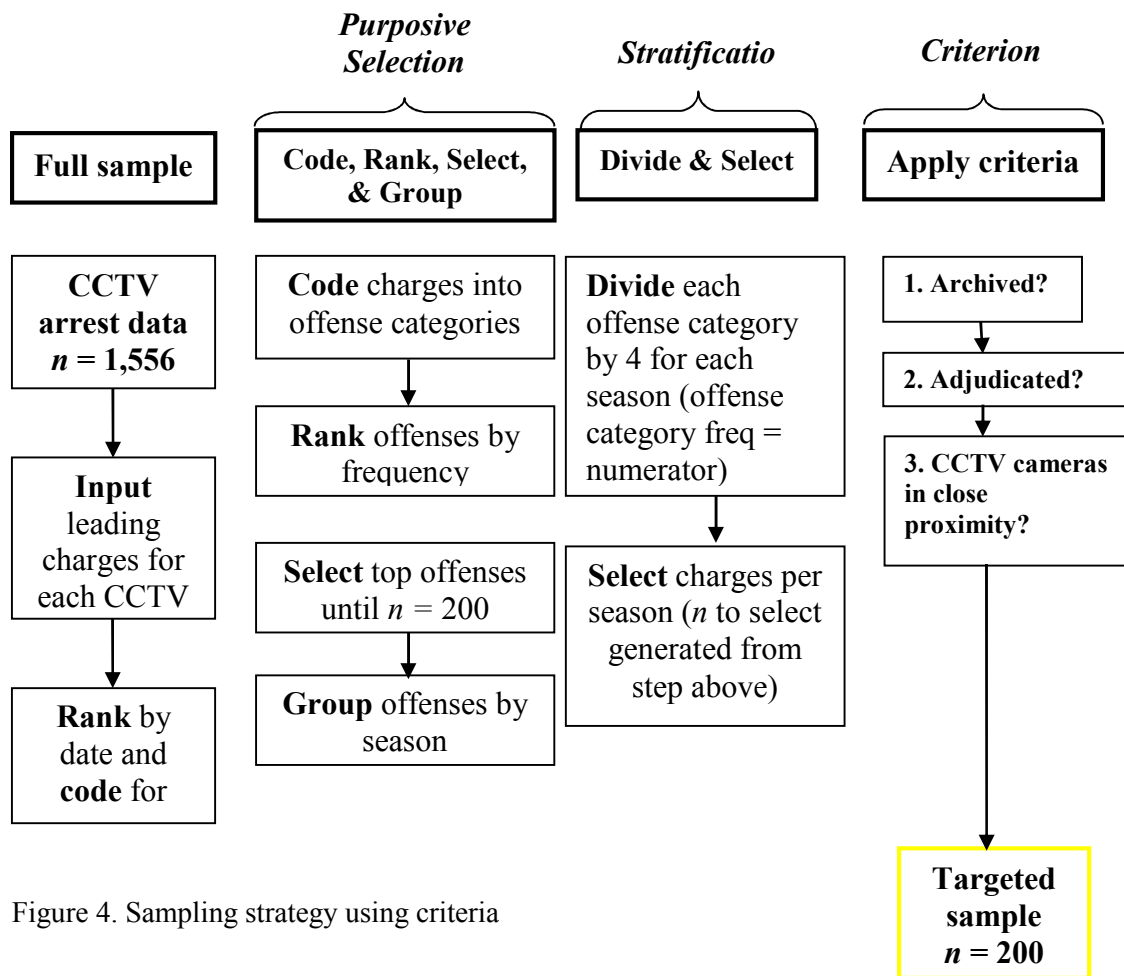


Figure 4. Sampling strategy using criteria

The purposeful selection of crime events started with coding 2010 and 2011 criminal charge data from CCTV arrest data into offense categories. These offenses were then ranked by frequency and from there, arrests from the highest ranked offense categories were chosen with an attempt to select an equal number of arrests per offense category until the sample reached 200 CCTV arrests. CCTV arrests were selected based on the leading charge for those arrests that included more than one charge. All of the offenses, except drug offenses, were distributed across more than one charge for cases

with multiple charges. For these cases, in order to reach the sampling quota for each offense category, cases were selected using the second, third, and any other subsequent charge. For cases drawn using this method, I doubled checked to see if it had already been selected based on examining the prior charge (e.g., I examined second charges, found a suitable case to include, but then checked to see if the case had already been included based on examining the first charge).

Appendix C includes a table of cases that were eligible for inclusion based on subsequent charges to reach the quota, but were ultimately excluded because the case was already included based on a different, leading charge. I also used stratification to select cases to achieve a diverse sample of CCTV arrests by crime type and season. Most arrests captured were drug related (of the 1,556 arrests during 2010 and 2011, between 800-1,200 were drug arrests). Thus, by stratifying the population of cases across crime types, I could achieve a more diverse sample of events by crime type. CCTV arrests from 2011 were used for oversampling in anticipation of any missing or unusable footage and only 100 CCTV arrests from 2011 were collected as supplemental data. To achieve this, 251 CCTV arrests were selected. The 251 CCTV arrests accounted for the targeted sample of 200, plus an additional 51 CCTV arrests as the oversample. However, for 2011, there was an insufficient number of firearm, assault (first and second degree), and murder charges (as a leading charge), so drug charges were used to supplement.

CCTV arrests often reflect the same crime “event” (e.g., when more than one person was arrested). Thus, to build a sample of 200 crime events from the 251 CCTV arrests drawn, the criteria established above guided this selection. For example, CCTV

arrest files for 2010 and 2011 included the total number of charges associated with an arrest and a corresponding code, called a CCN that linked the CCTV arrest to CCTV footage. If more than one CCTV arrest was associated with the same CCN, for example three CCTV arrests, all three arrests were interpreted as one crime event. Not all CCTV arrests had unique CCN's, indicating that some of the arrests were related to each other, hence a part of the same crime event. In more specific terms, from 2010 – 2011, the 251 CCTV arrests purposively selected translated to 235 crime events. As such, the original targeted sample of 200 was still included, but the new oversample amount was reduced to 35 crime events.

Yet, due to time and resource constraints³, I was only able to examine and code the first 105 crime events that I collected (which were in chronological order, beginning with the first in 2010). Of these 105 events, only 100 were eligible for full coding and analysis. Five were excluded on the basis of insufficient visual data or inconclusive footage (e.g., the sequence or flow of interaction could not be observed or determined). The majority of these 100 events were drug-related. Table 4 shows the breakdown of the types of arrests in the initial sample, and the types of crime events in the final sample.

³ Per departmental policy, I was not allowed to retrieve archived footage, which was housed at a separate location from where I observed and coded footage on sight. I was at the mercy of full-time officers and staff that graciously pulled the footage I needed when they could. When I originally drew my sample, I provided a full list of footage I needed to code, which helped staff manage my requests with their usual work load. However, I felt making additional requests to achieve 200 crime events would have been burdensome and overstaying my welcome.

Table 4. Sample distribution of selected offenses

<i>Offense</i>	<i>n (arrest)</i> →	<i>n (crime events)</i>
Assault	29	11
Burglary	6	2
Drugs	161	74
Firearm	9	5
Murder	6	2
Property Destruction	1	0
Robbery	9	2
Theft	30	4
Total	251	100

Systematic Social Observations

Systematic social observation (SSO) was used to observe and code observations to ensure standardized coding of various phenomena within an observation. The most recognizable form of systematic social observation is a structured protocol, which is like a questionnaire with close-ended or open-ended answer options and detailed instructions to guide careful selection of answers that are independent of the observer (Mastrofski, Parks, & McCluskey, 2010). Such an approach, as Reiss (1971) has suggested, allows for replication in observing events.

Using a SSO coding protocol, I described and measured CCTV-recorded crime events by coding activities and proxies for activities at specific places as they occurred over time, rather than a cross-sectional observation. This allowed me to “investigate...social processes in truly dynamic interactive fashion” (Sampson et al., 2002, p. 472). I developed a multi-item, structured protocol based on theory and prior

research, described in the review of literature above. In particular, the protocol reflected concepts within routine activities theory, social disorganization theory, and environmental criminology. A majority of the questions were close-ended or required a fixed response. The open-ended items or questions asking for a narrative account of the activities and interactions occurring provided all qualitative data. These items required thick descriptions of the routines, behaviors, and interactions observed for offenders, targets, and guardians, which translated into multi-page narratives for each actor that could be coded qualitatively. The protocol included the following sections (see appendix A for the full version of the protocol):

- Background information about the specific place (where the crime event occurred). This section captured information about nature of the specific place such as whether it was a street or intersection, or within a commercial district.
- Temporal characteristics of the crime event. This section captured the time, date, season, temperature, and the geographic coordinates of each crime event, among other temporal related factors.
- Environmental characteristics of the crime event. This section captured information related to physical disorder (litter, abandoned buildings, etc.) and lighting.
- Offender, target, and guardian characteristics. These were three separate sections, which captured information about the behavior and movements of potential offenders, potential targets, and potential guardians (formal and informal), respectively.

- Activities characteristics. This section captured information about activities occurring which were external to the crime event, but happening either before or during the crime event.

The protocol also included information from prior research. For example, the protocol captured Reynald's (2009) construction of guardianship intensity levels such as invisible, available, capable, and intervening. As such, part of the activities that were specified at specific places characterized guardian activity as invisible, available, etc. Furthermore, the protocol was also created with sensitivity to observations made by Osgood et al. (1996) and Sampson and Lauritsen (1990) about looking at victim, offender, and weak guardianship simultaneously and as not mutually exclusive. The development of a structured protocol ensured systematic observations of activities across specific places and the creation of direct measures with respect to routine activities theory.

The finalized protocol was piloted twice to make sure the fields created were relevant, to determine if the protocol needed additional fields, and guard against classification error (Reiss, 1971). Piloting involved using a different set of archived footage and completing the protocol in its entirety. The footage used to pilot the protocol was archived "highlights" footage CitiWatch created to demonstrate the utility of the CCTV cameras. The "highlights" reel consisted of a series of crime events captured by the CCTV cameras, and ranged in length of time, type of crime, and situation. The second pilot involved watching live footage from the CCTV camera as it completed a preset 360 degree tour of a specific place to get a sense of the range and detail a camera

could capture. After pilot coding, the following fields were removed from the SSO protocol: (1) number of activities per second after crime event and (2) length of activities per second after the crime event. In addition, every iteration of “after the crime event” question in the offender, target, and guardian sections was removed from the SSO codebook. Finally, the word “seconds” was removed from the following questions: (1) number of activities per second during crime event and (2) number of activities per second during crime event.

Using systematic social observation to watch actual crimes unfold is a good way to examine data to answer the research questions for this study. However, this approach also has its limitations. First, gathering the data were limited by purposive sampling, instead of the ideal method, random sampling. However, random sampling enables generalization of results or an estimate of the population parameter (all crimes in this case), both of which are beyond the goals of the current study and aims of qualitative research. In fact, “The purpose of purposeful sampling is to select information-rich cases whose study will illuminate the questions under study” (Patton, 1990, p. 169). “Even if random sampling were possible and goal of the methodology, drug offenses would likely continue to account for a majority of the offenses drawn in Baltimore City. The data are also limited to Baltimore City with no data from a comparable city, which would also need to have CCTV cameras in use. The data are also limited to outdoor crimes or at least those crimes most likely to take place outside or begin outside.

Furthermore, the vantage point of the observations was only from CCTV cameras mounted high above the street level in certain places; I could not observe from every

vantage point possible. Another technological disadvantage – the CCTV cameras had preset camera rotations, which limited viewing of a crime event in progress if it was not controlled by a monitor. For crime events captured by rotating cameras, only snippets of a crime could be seen every four to five seconds.

SSO was completed on-site at CitiWatch two – seven days a week, 10-12 hours each day from the beginning of October 2013 through mid-March 2014 for a total of 2,340 hours. A database for SSO was created using FileMaker Pro 11 Software. Archived CCTV footage was coded by month, starting with arrests in January 2010 through December 2011. Two separate researcher journals were kept throughout coding to (1) keep a written record of information or insights on specific crime events not captured by SSO and (2) to keep a record of observations separate from the SSO protocol and about the research project to capture impressions of the research process and emerging themes, potential answers, or additional questions in response to the research questions. Entries from one journal, the one that supplemented the SSO protocol, were also entered into the database for later analysis. Coding conventions were used when the fields created in the database were insufficient (Appendix D). Fields were kept at a minimum so as not to compromise coding efficiency, manage coder fatigue, and keep the database structure as parsimonious as possible.

Using the SSO protocol as guidance, footage of crime events and specific places were observed systematically to observe behaviors leading up to, during, and after a crime event for each actor within routine activities theory: offender, target, and guardian. This was done to ensure representative observation and coding of behaviors associated

with the three elements or as Barker (1978) argued, depictions of “behavior streams” need to be representative: “...the isolation of a single behavior unit, class of unit, or unit attribute from the whole pattern can, in effect, distort reality of behavior as surely as can direct interference with the behavior stream.” The length of a behavior stream is highly relevant, meaning, the longer the record of a behavior stream, the reduced likelihood of biased selection of behavior units to analyze. This is essential because it reduces the tendency for misinterpretation of the meaning of a person’s behavior units since “they are placed in the context of behavior long enough to clarify the relation of analyzed behavior units to the other included behavior units captured during observation” (p. 15).

As I systematically observed archived footage, I coded until the protocol was complete, taking notes in my research journal as I completed the form. Additionally, I completed intra-coder reliability tests to ensure consistent coding. To establish intra-coder reliability, a subsample of coded footage was selected from each quarter of data (100 crime events coded) and was coded again without reference to the original coding and the results were then compared item by item. These subsamples of video footage for recoding were drawn after a sufficient amount of time had passed so that video footage was no longer fresh in mind (Lipsey & Wilson, 2001). Single-coder reliability was completed throughout the data collection period and calculated five times (Table 5). The kappa scores for each quarter indicate substantial agreement between the initial coding of a crime event and the second time I coded the same crime event. My recoding of crime events was consistent over time, even with the second quarter of data, which had a lower kappa score compared to the others, but still indicated substantial agreement between the

first and second instance of coding. Furthermore, there is a slim likelihood that the substantial agreement between my first coding and second coding is due to chance ($p < .01$). These recoded protocols were entered into the same database and were distinguished by a unique identifier. A few items were exempted from this calculation because they did not require guesswork or judgment and were items meant to capture written, qualitative data. These included the following items: GoogleEarth Image, image date, description of the specific place, description of physical aspects of specific place, latitude and longitudinal coordinates, offender, target routines; and routine, behavior, and interaction descriptions.

Table 5. Intra-coder reliability calculations per quarter of coded data

Quarter of data	Agreement	Expected Agreement	Kappa	Std. Err.	Z	Prob>Z
1	83.89%	31.58%	0.7645	0.0370	20.66	< 0.01
1	93.17%	22.40%	0.9120	0.0325	28.05	< 0.01
2	67.92%	12.53%	0.6333	0.0238	26.56	< 0.01
3	85.26%	15.52%	0.8255	0.0312	26.47	< 0.01
4	76.47%	13.11%	0.7292	0.0295	24.76	< 0.01

Naturally, interpretation and coding of such materials required some guesswork and reliance on inference, introducing the possibility of systematic bias. I documented any vital information coded on the basis of inference, guess work, or inexplicit information in a research journal.

For every archived crime event drawn, I viewed the archived footage rewinding and fast-forwarding until all fields in the coding protocol were completed and all

activities and behaviors related to aspects of routine activities theory and environmental criminology (motivated offender, suitable target, and ineffective guardianship) were accounted for. A crime event was considered to begin once any of the actors entered the specific place on camera and ended once any of the actors left or formal guardianship entered the specific place and physically intervened. Supplemental data such as arrest records and police reports were available and accessible to help verify the reliability of the SSO coding, specifically the nature of the crime event and in some cases, the number of offenders involved. However, police reports were not consistently available and not always complete with comprehensive information.

Case Recording

Prior to analysis, I developed a case record by organizing systematic social observation (SSO) data and research journal data into topics. Developing a case record involved editing, sorting, fitting together, and organizing all data into a single file, an essential step to “[assist the researcher in understanding the depth and complexity of the data” (Yin, 1993, p. 447). The case record included several documents created during the systematic social observations. The bulk of these documents were narratives or written accounts of what I observed for each crime event. Five types of narrative data were collected:

- 1) Activity narratives, which included systematic social observations (SSO) of activities external to, but surrounding the crime event, before and after its occurrence;

- 2) Behavior narratives, which are rich, in depth or thick descriptions of the observed crime event, and written from the lens of observing the behaviors of the offender, target, and guardian individually within an event;
- 3) Convergence activities, which are brief descriptions of the behaviors coming together to form a crime event. These narratives are an attempt to describe what happens among people just before a crime event occurs;
- 4) Specific place narratives, which followed the tradition of Brantingham and Brantingham (1995) in describing the environmental conditions or the “backcloth” of where the crime event occurred; and
- 5) Research journal notes, which captured additional information outside of the SSO protocol such as anything unusual or perceived patterns.

Overall, the case record included these narratives, research journal notes, hermeneutic units (HU), the data file for Atlas.ti, and a coding paradigm, which was a spreadsheet of codes, categories developed from these codes, and supporting quotes, that added insight about conditions, interactions, strategies, and the consequences of the categories developed.

Peer Debriefing and External Auditor

The research design and data collection procedures outlined thus far have implications for the integrity of this dissertation. The researcher as the data collection instrument and interpreter of data presents a trustworthiness issue given the subjective nature of data collection. As the data collection instrument, it was important for me to

assume the responsibility of attaining reliability and validity for the study. It was a process of active attainment and not solely the responsibility of evaluators to determine reliability and validity, but assess it based on what's given (Morse et al., 2002, p. 15). This dissertation attempted to establish and maintain validity and reliability throughout the duration of the entire study. I used several validity and reliability procedures, namely thick description, prolonged engagement in the field, intra-coder reliability testing, and investigator responsiveness⁴ (research journal and research diary), but also two substantive procedures, peer debriefing and external auditing.

Similar to inter-rater reliability in quantitative research, peer debriefing involves engaging with an unaffiliated individual who asks the researcher “hard questions about methods, meanings, and interpretations; provides the researcher with the opportunity for catharsis by sympathetically listening to the researcher’s feelings” (Lincoln & Guba, 1985 as cited in Creswell, 2007, p. 208). Written accounts of these interactions are kept by both parties. For this dissertation, Dr. Laura Wyckoff, a senior faculty researcher at the University of Maryland’s Institute for Governmental Service and Research (IGSR) at the time of data collection, served as my peer debriefer. We met regularly and I maintained a log of our debriefing sessions (Appendix E). Peer debriefing sessions helped serve as a check on the concurrent process of data collection and analysis, but also established an audit trail, which documents all research activities and decisions. The components of an audit trail may include journaling or memoing, keeping a log of all

⁴ Remaining open, use sensitivity, creativity and insight, and relinquish any ideas that are poorly supported regardless of the excitement about the idea (Morse et al., 2002, p. 18).

activities, developing a data collection chronology, and recording data analysis procedures clearly. The audit trail was another procedure used for establishing reliability and validity and is closely related to the second substantive procedure, the use of an external auditor.

Like my peer debriefer, my external auditor was unaffiliated with the project and served to “[examine] whether or not the findings, interpretations, and conclusions are supported by the data” (Creswell, 2007, p. 209). The auditor evaluated this dissertation in its entirety based on standards and criteria for enhancing reliability and validity as established in scholarship on qualitative research methodology. For this dissertation, Dr. Shawn Flower, a principal researcher at Choice Research Associates, served as the external auditor. Dr. Flower served in her role at the completion of writing this study at which time, Dr. Flower may have asked questions such as “Are the findings grounded in data? Are inferences logical? Is the category structure appropriate? Can inquiry decision and methodological shifts be justified? What is the degree of researcher bias? What strategies were used for increasing credibility?” (Creswell, 2007, p. 209). To aid in her review of the dissertation, Dr. Flower was given an audit checklist to complete (Appendix F). The results of the audit were treated as a grade of the overall project and not used to make any modifications. The checklist was created using a variety of resources including some from the Cochrane Collaboration Qualitative Methods Group and several qualitative research methods books.

CHAPTER 4: ANALYSIS

Two types of analyses were completed for this study. The first analysis involved an in depth qualitative analysis of 74 drug crime events, a subset of the 100 observed crime events. These were analyzed using cross case and within case analysis over two cycles of coding. The second analysis was an exploratory data analysis (EDA) of all 100 systematic social observations of crime events. The first analysis was limited to drug crimes because these types of crimes are more predictable in their occurrence and they show routines before, during, and after that allow for observation and learning about routine activities well (Goldstein, 1985; Lum, 2003; MacCoun, Kilmer, & Reuter, 2003).

In-depth qualitative analysis

The qualitative analysis used a hybrid of within-case and cross-case analysis. Within case analysis is a blended examination of “configurations, associations, causes, and effects within case.” For cross case analysis, “The purpose is to see processes and outcomes across many cases, to understand how they are qualified by local conditions, and thus to develop more sophisticated descriptions...” (Miles, Huberman, & Saldana, 2014, p. 101-102). The initial step, coding within cases, was informed by the two research questions guiding the study and took place within the first cycle of coding. The first cycle of coding was a multi-step process.

The first step involved provisional coding of the offender behavior narratives or coding with a list of researcher-generated codes. These codes are a priori and were modified to include new codes. Using notes from my research journal and the research questions as guidance, 48 a priori codes were developed (see Appendix G for table list of codes and definitions). As expected, an additional 35 codes were also developed as a priori codes were applied. In total, 73 codes were developed.

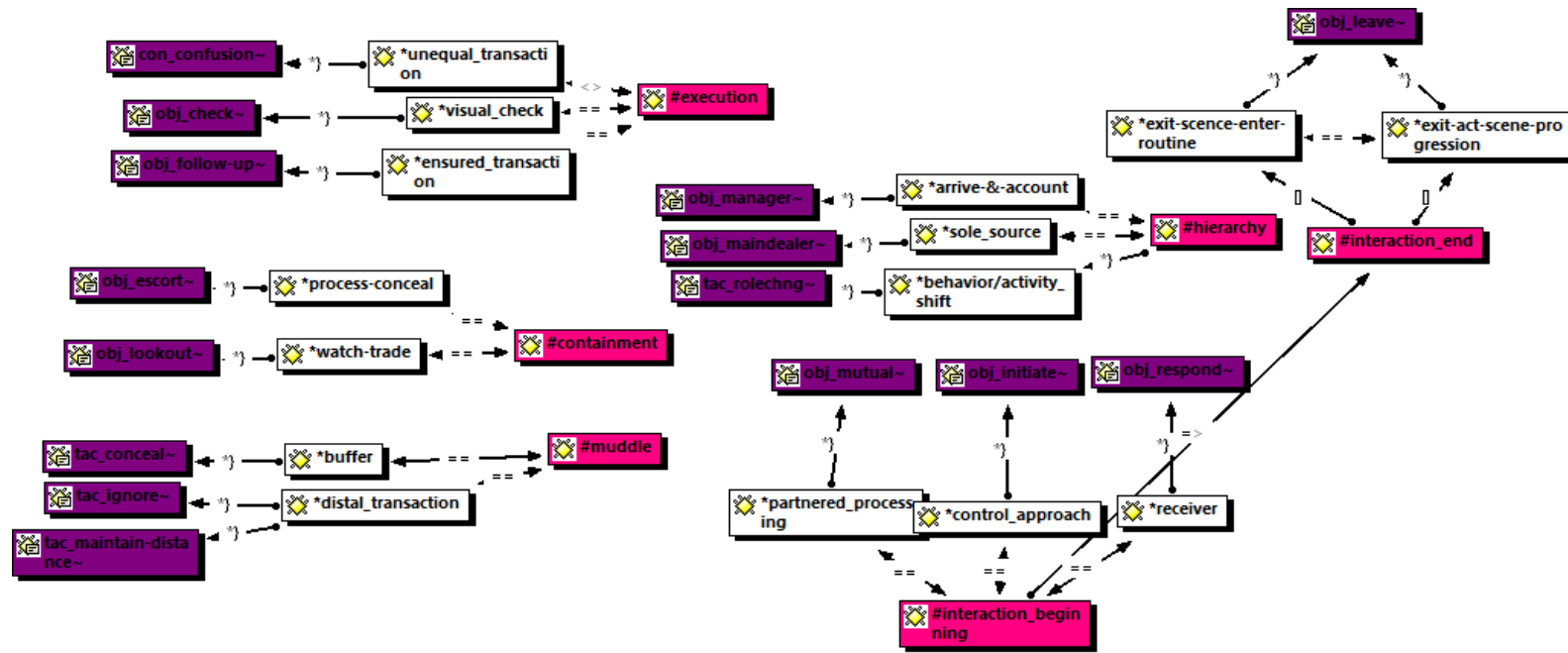
Next, definitions for all of the a priori codes were developed and tweaked based on the application of codes to narrative text. The application of codes involved applying the provisional codes to sentences and chunks of sentences related to a single theme and I started with the behavior narratives, the largest type of narrative data. All types of narrative data were coded, except for research journal notes, convergence narratives, and activity narratives because they did not yield useful information. In Atlas.ti, codes were color coded to signify the type of code such as an activity code, process code, or setting/context code. This helped with easy identification and efficient application of a priori codes depending on the type needed for the data read. This procedure also helped with the development of new codes. In other words, I could easily identify if I needed a new process code by quickly scanning the existing color coded list of process codes. There were no “empty” codes or codes that did not have textual quotes associated.

At this stage, the application of codes also involved developing process codes and dramaturgical codes from textual data and then immediately applying these codes. Process codes “uses gerunds to connote observable and conceptual action in the data” (Miles, Huberman, & Saldana, 2014, p. 75). Words ending with the suffix, “-ing” are

process codes and were used to code sequences and actions that are strategically implemented such as “alleying,” “cornering,” or “looking.” Dramaturgical codes are codes that refer to specific observed experiences, actions, and relationships by a participant (Miles et al., 2014, p. 76). Three dramaturgical codes, conflicts, tactics, and participant objectives, were used to denote any conflicts among or between and tactics used by motivated offenders, suitable targets, and if applicable, guardians. Furthermore, the participant objective code was applied inferentially based on the perceived objective of actors given the offense and observed behaviors coded as processes (-ing codes) or the context of the situation. During this step of analysis, I contemplated “What does it mean to be an ‘x’ and what was the point of ‘x’ doing ‘x’ behavior?” as I applied dramaturgical codes related to observed conflicts, tactics, and objectives.

Next, subcodes were added, but only to the behavior narratives. This involved going over existing codes and attaching a subcode to add detail. A total of 44 subcodes were created. Recoding only involved codes affiliated with offender behaviors primarily and then target behaviors. Codes associated with guardian behaviors were excluded because the goal was to describe the activities that contribute to the creation of crime in the absence of guardianship. Subcodes were created as answers to questions such as when, where, why, who, how, and with what consequences for each code. In Atlas.ti this involved selecting each code, then reviewing at least one quote associated with the code, and then hypothesizing and generating answers to the “when, where, why, who, how, and with what consequences” questions. Subcodes were then created by combining and simplifying the answers to “how,” “why,” and “with what consequences.” Strauss and

Corbin (1998) note by answering these questions through subcoding, the analysis process can “begin to relate structure with process...and structure or conditions set the stage, that is, create the circumstances in which problems, issues, happenings, or events pertaining to a phenomenon are situated or arise” (p. 127). Recoding served as an important analytic step because it helped specify the codes, which would later undergo categorization for development of core categories (Figure 5).



Note: the placement of codes is arbitrary, but should be read from left to right, per grouping. Codes on the far left or with letters followed by an underscore (e.g., tac_) represent *a priori* codes or codes developed during first cycle coding (purple). Codes with an asterisk (*) are subcodes (white) and codes with a number sign (#) are categories (pink). The arrows with attached symbols between each code delineate the relationship between each level of codes. For example:

- *) indicates a subjective relationship where one code is the property of another code
- == indicates a relationship of association
- <> indicates a contradictory relationship
- [] indicates a dependent relationship where one code is a part of another code

Figure 5. Network of category development

The development of categories followed recoding and involved asking the question “what category does this incident indicate?” (Strauss, 1987, p. 30) for codes already developed (Appendix H). Categories were created based on themes represented by the codes type, e.g., process codes and dramaturgical codes. Categories were constructed using the network builder in Atlas.ti, starting with grouping similar codes, linking them to their subcodes, and then aggregating the subcodes into a higher, general category. The network nodes or links flowed such that subcodes were linked as “properties” to the primary codes and categories were linked to subcodes as “associated with” the subcodes. Where appropriate, links were labeled as “contradictory” if irrelevant to the overall category (see figure 5; remaining figures are in appendix I). As categories were developed they were checked for a) internal homogeneity or “the extent to which the data belong in the category” and b) external heterogeneity or “the extent to which differences among the categories are bold and clear” (Patton, 2002, p. 465). To aid in this process, categories were reviewed for consistency within to make sure codes within a category did not diverge from each other, but held together. Secondly, external heterogeneity was examined by the absence of unassigned codes and overlapping codes or just codes that could fit into more than one category. Only those codes with subcoding information were categorized since categorization was based on the subcodes and the themes highlighted from the development of the subcodes (answering the questions to who, what, when, how, why, and with what consequences). If a single code did not contribute to the overall internal homogeneity of a category, it was marked as such and the reason noted why (see Appendix J for the list of categories and corresponding internal

homogeneity and external heterogeneity rating). Overall, all codes were aggregated into categories by type of code, producing three networks of code categorization, which illustrate the development of categories (Figure 5).

Axial coding or coding to relate categories to the phenomena occurring was the next analytical step. This meant relating categories developed to their conditions, consequences, strategies, and interactions within each crime event (Table 6). This relation of categories to these specific factors is also known as the coding paradigm (Strauss, 1987). Using this paradigm, categories were related to the codes and research questions. The categories were then related to the questions listed for each dimension in the table below. The results were statements generated from this exercise accompanied with quotations from field notes (see Appendix K for a sample of categories developed along with findings). The statements from this step informed the results for within case analysis.

The next analytical step involved developing preliminary explanations or assertions about patterns established through relating the categories for cross case analysis. The coding paradigm, as with all coding after a priori and first cycle coding, was completed with the dealer/offender in mind, with the exception of a few categories. This step of developing preliminary explanations or assertions concerning patterns captured by the categories, led right into the second cycle coding where I worked with the categories from first cycle coding and grouped the categories into smaller, but more general core categories and worked across cases, which marked the beginning of second cycle coding—analyzing across cases.

Table 6. Coding paradigm

Dimension	Definition	Action used to relate category
Conditions	Justifications, rationale, basis for something	<ul style="list-style-type: none"> ▪ Ask: what happens if? ▪ Under what circumstances and in what other setting is a <i>condition</i> likely to occur.
Interaction	Interaction occurring between/among the actors	<ul style="list-style-type: none"> ▪ When, where, and how interactions occur and how long interactions last.
Strategies & tactics	Methodical and deliberate action	<ul style="list-style-type: none"> ▪ When, where, and how strategies/tactics are implemented.
Consequences	Result; effect	<ul style="list-style-type: none"> ▪ Ask: what happens when ...? ▪ Under what circumstances and in what other setting is a <i>consequence</i> likely to occur.

Pattern coding informed the second cycle of coding. This process involved aggregating codes across common behaviors, actions, routines, and relationships and creating core categories that explained these dimensions in relation to the research questions. Pattern codes pull together a lot of material from first cycle coding into more meaningful and parsimonious units of analysis. They are meta-codes (Miles, Huberman, & Saldana, 2014, p. 86). The first step in pattern coding was to map the meta-codes, defined here as core categories, to the research questions. Three types of network mappings of the categories were created: thematic, relationships among people, and theoretical constructs in response to the study’s research questions. The thematic core codes focused on properties such as nature, type, duration, form, outcomes, and magnitude. The network maps were constructed by grouping the categories as appropriate answers to each research question. For example, the category “authorizing” was grouped under the research question, “What types of routines lead to crimes occurring?”: in this case, the focus was on drug crimes occurring. The definition or behavior implicated by

“authorizing” was considered in determining which question to map this category onto. Once all categories were grouped under a particular question, core categories were created from memoing answers to the research questions based on the themes, relationships implicated, and theoretical construct implications. A total of eight core categories were developed in relation to the research questions and included the following: (in) conspicuous adaptation, timing, behavior resetting, procedural, tight knit, structured, geoforn, and disguised dynamic.

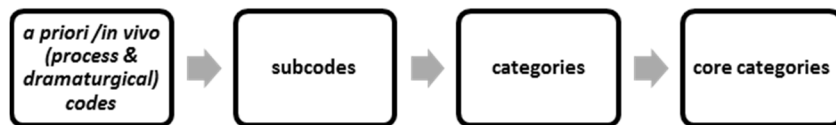


Figure 6. Coding + analysis process

Next, I related these core categories to their conditions, consequences, strategies, and interactions (the coding paradigm). As the core categories were related, analytic memos were written to expand on the significance and meaning of “the conditions under which [the core codes] held” (Miles, Huberman, & Saldana, 2014, p. 88) (see Appendix L to see coding paradigm results for each core category). During this stage of the analytical process, memoing, was critical for lending some explanatory insight about routine activities theory in action at specific places using drug crimes. While the majority of memoing occurred during second cycle coding, memoing was completed throughout the coding process, beginning with first cycle coding, which was more characteristic of

quick memoing as I coded, than reflective of deeper thinking, which occurred during second cycle coding. The deeper thinking during memoing involved analyzing the meaning of core codes and the words and phrases they were connected to and then “listing all possible meanings that come to mind, then [turning] to the document and looking for incidents or words that will [pointed] to meaning” (Corbin & Strauss, 1998, p. 93). During memoing, I also analyzed for process as suggested by Strauss and Corbin (1998) by “looking at action/interaction and [noting] movement, sequence, and change as well as how it evolves in response to changes in context or condition” (p. 167). These memos were then converted into assertions or statements which tied back to the research questions, and also constituted the findings of the in depth qualitative analyses from first and second cycle coding.

Exploratory data analysis of all 100 SSO crime events

The second analysis involved taking all of the systematic observations for all 100 crime events and comparing them across three general crime categories: drug crime, property crime, and violent crime (Table 7 and Table 8). Perhaps the observed routines identified in drug events are distinct from the routines of violence or property crime events? Disaggregated, some of the various crimes did not have a sufficient number of cases and would therefore be unsuitable for any descriptive analyses (Table 7). Moreover, collapsing the data also allowed for linking the qualitative findings related to routines leading to and within drug crimes to numerical data generated from SSO. The numerical data from SSO also served as the basis for exploratory data analysis (EDA) of factors

related to the backcloth or environmental context in which all crimes were observed. Although not as richly descriptive as the qualitative analysis described above, the use of EDA was important to tell a succinct, but descriptive story about the overall trend of numerical data related to offense characteristics, the environmental context, and temporal characteristics for each of the collapsed crime types. For example, descriptive analyses such as frequencies and summary statistics were performed to both tabulate and visualize in the form of graphs, contexts such as the residential or commercial location of crimes or the distribution of guardians per crime event by crime type or the distribution of routines per crime event by crime type. EDA was completed using the statistical software package called JMP statistical discovery software. The comparisons were made based on descriptive analyses such as the average number of offenders, targets, and guardians; the frequency of temporal characteristics of offenses by crime type, the frequency of environmental characteristics by crime type, and the percentage of activities surrounding crime events, to name a few.

Table 7. Frequency of all offenses

Offense	Count
armed burglary	1
armed robbery	1
assault (all degrees)	11
burglary	1
distribution of illegal drugs (conspir)	9
conspiracy to murder	1
distribution of illegal drugs	29
illegal firearm possession	3
inflicted death	1
possession of illegal substance	36
robbery	1
shooting	2
theft	4
Total	100

Table 8. Frequency of collapsed offenses

Offense	Count
Drug crimes	74
Violent crimes	18
Property crimes	8
Total	100

CHAPTER 5: RESULTS

The two analyses conducted for this study – the qualitative analysis and the exploratory data analysis (EDA) – together reveal the routines that lead up to crime and then subsequently how crimes unfold, in particularly drug crimes (which were the great majority of the events in the sample). For the first analysis, the qualitative analysis, I explored the routines that lead up to drug crimes and then the actual crime activities. In the second analysis, the EDA, I looked at the systematic observations of 100 crime events, which were collapsed into three categories of crime and compared against each other: drug crime, violent crime, and property crime. The results should be read and interpreted with caution and treated as exploratory and as an attempt to explain and shed light on emerging patterns. The results do not claim any statistical significance nor imply causality, but rather are highly descriptive.

Routines of drug crime events

Recall the first two questions of this study: What types of routines lead to crimes occurring in high-crime places? And, what does the process of crime occurring look like at these specific places and are there any distinctive features? To explore these two questions with these data, I used a large subset of the original sample – drug crime events. Drug crime events are pervasive in Baltimore City and reflect a large portion of

the calls to the police for service. After reviewing the footage in my sample, it was clear these were regularly occurring events, and discussing the routine activities within these 74 crime events would allow for a systematic discussion of routine activities of crimes. For example, assaults and shootings have routines which are much harder to observe in great quantity and as a result do not lend themselves to systematic detection of a pattern of routines and behaviors that contribute to their creation. Also, prior research indicates drug crimes are systematic events, embedded within and highly dependent on complex market dynamics that play out in the public arena (parks, train or bus stations, street corners, or schoolyards) (Goldstein, 1985; Lum, 2003; MacCoun, Kilmer, & Reuter, 2003). As such, an observer is highly capable of detecting patterns that underlie the systematic nature of drug crimes because of the social context in which it occurs—drug crimes are “etioloical factors in a wide range of other social phenomena” (Goldstein, 1985, p. 143). Ultimately, honing in on drug crimes is more amenable to seeing routines better and addressing the research questions for this project.

Eight core features were discovered about the nature of drug crimes: (1) (in)conspicuous adaptation, (2) procedural (linear), (3) structured, (4) timing, (5) behavior resetting, (6) disguised dynamic, (7), tight knit, and (8) geoform.

Table 9. Summary: Prevalence of core features in drug crime events

Core feature	Prevalence (%)
(in)conspicuous adaptation	100 (100%)
Procedural (linear)	69 (93%)
Structured	66 (89%)
Timing	62 (84%)
Behavior resetting	62 (84%)
Disguised dynamic	48 (65%)
Tight knit	41 (55%)
Geoform	16 (22%)

These reflect the core categories created during the second cycle of coding described in the analysis chapter. They are now referred to as core features because they represent findings related to routines and processes of drug crimes. These core features primarily unfold in residential areas (74%), at a specific address (36%), and usually in the PM hours (69%) during the week day (51%). Additionally, corner stores (18%), signs with rules (23%), litter (24%), abandoned homes (15%), and MTA bus stops (31%) define the backcloth of where drug crimes unfold, but limitedly.

Definitions, conditions, explanations, and examples for each core feature are detailed below in order of their prevalence. Each example includes a citation that corresponds to its location and associated coding in Atlas.ti.⁵ The list of conditions or when each core feature is likely to occur was developed using the coding paradigm (see table 6 above). This exercise could create a range of conditions for each core feature and not a standardized number of conditions for each core feature.

⁵ For example, the citation (1:23, line 24) refers to a specific location within the actual data which is available upon request.

Core feature#1: (In) conspicuous adaptation

The first core feature is called (in)conspicuous adaptation and refers to the routine of perpetuating the inherent contradiction that drug dealing has to thrive upon. The process of drug crimes occurring is a mix of “conspicuous adaptation” because “conspicuous behaviors” captures the need for dealers to be noted, observed, and seen by a target client, old and new. However, the adaptation reflects the need for dealers to become better suited to their environment and the behavioral mores or behavior setting of an environment, so they’re blending in and in essence obscuring their detection, tempering or preventing themselves from having an overt presence, but just enough for the sake of completing transactions with interested parties.

As a routine, (in)conspicuous adaptation is likely to occur (1) outside, near a public utility or transportation utility; (2) moments before or after a transaction; (3) on or near a street intersection or corner, (4) when accomplishing normal behavior such as checking a cell phone, talking/socializing, eating, standing with someone, or simply walking; (5) with a single target client (but not always the case); and (6) before entering a space such as a street, building, empty space, or turning a corner. For example: “In between the first target client and the next two target clients, a couple, the dealers remained standing with their backs facing the row houses and stood apart from each other, almost evenly spaced from each other” (1:23, line 686). Dealers “establish” their presence at a specific place, “controlling” their presence and the dynamics of interaction with target clients at the specific place either through direct leadership or indirect leadership (e.g., following from behind, but still directing), while simultaneously

“scoping” the physical and social surroundings for possible threats to the completion of a drug crime (Figure 7). In practical terms, this means dealers who consistently occupy a specific place and do not change specific places, are highly likely or almost guaranteed to be at the same specific place, day-in and day-out. This also means their behavior or their routine is typical and synonymous with hanging out in a public space, visible from more than one vantage point of varying distances (from up/down the street block, from inside a corner store, or across the street), such as a corner or in front of a row house, and this permeates the culture of the specific place occupied and the surrounding environment with more than one dealer participating in the same routines, as they typically do to set themselves apart from ordinary citizens passing by and hanging out. This core feature emerged in all 74 drug crime events (100%)

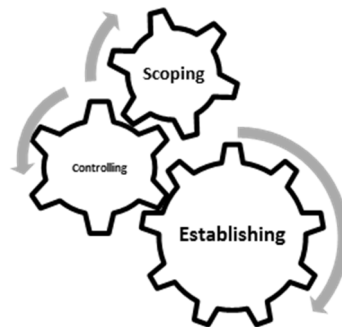


Figure 7. Core feature: (In)conspicuous adaptation

Core feature #2: Procedural (linear)

Drug crimes also have an observed procedural and linear nature, meaning there are behaviors that mark the beginning and end of each transaction. A drug crime may

appear procedural under the following conditions: (1) There are at least two dealers; (2) the main/sole function is looking around; (3) occurs on an established perimeter of a specific place; (4) the target client is waiting for the dealer, either for the dealer's arrival or readiness; (5) the target client⁶ is following guidance, instructions, cues; (6) the target client is temporarily leading; and (7) the target client is cooperating. The beginning of an interaction is triggered by one person walking up to another or a mutual initiation, whereby the dealer and the target client walk together. The beginning stage of an interaction is continued by way of some response from either the dealer or target once approached. For example, this may be a hand extension, a hand off, a dealer reaching inside his or her pants to retrieve drugs, or with the presentation of money. Procedurally, the next phase of a drug crime occurring may involve “containment” and then “merging” (Figure 12). First, with “containment,” the relationship between the dealer and the target client is one where target clients are escorted from one point or person to another; target clients are contained within a realm of movement. For example:

“The dealers acted more as directional agents, processing targets quickly, starting with the first dealer. The first dealer motioned with his hand for the target to hurry and cross the street” (1:21, line 851).

⁶ This is the target in routine activities theory. However, the observation of drug crimes unfolding called into question whether there is a “suitable target” within the routine activities framework and not just offenders and guardians. I conceived of and coded the targets in drug crimes as suitable customers and not as targets of victimization, hence the term target client. This observation also reinforces Fattah (1993), Osgood et al. (1996), and Felson (1998) point that the roles of offender, target, and guardian are interchangeable.

“Dealer #2: merely escorted the target to dealer #1, but did not gesture with his arm, he simply turned around once dealer #1 and the targets were in the close proximity with the dealer” (1:17, line 641).

Second, “merging” behavior reflects a cooperative relationship between a dealer and a target client, but more so based on the actions of the target client. This relationship in the process of drug crime occurring plays out as a target client acquiescing to a dealer, but also helping facilitate or aligning his/her behavior to complete the drug transaction by taking the initiative to start or complete the transaction. A target client’s behavior begins to merge with the objective of the drug dealer, that of a co-dealer readily demonstrating helping behaviors to complete the transaction:

“One target client greeted the dealers and then followed the main dealer to the specific place and helped conceal the transaction for the main dealer” (1:24, line 1041).

“The first target client took his guidance from the dealers, even the second dealer who held the door open for him to go ahead of him behind the first dealer inside the corner store” (1:2, line 55).

Finally, lack of acknowledgment (usually from the dealer), walking away, or stepping away in a different direction signals the end of a drug crime. This core featured appeared in 93% of the drug crimes.

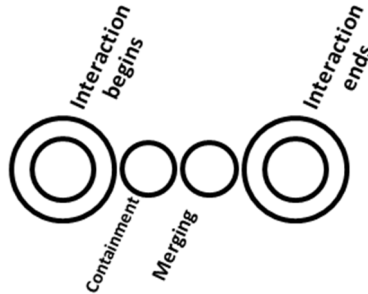


Figure 8. Core feature: procedural (linear)

Core feature #3: Structured

Drug crimes also look structured, meaning there is a visible hierarchy of dealers distinguished based on the handling of drugs and money for transactional purposes. Different dealers serve in different roles and act in certain ways that indicates a hierarchy. This structure and hierarchy is active and present at the specific place at all times, especially with more than one dealer present. It's activated whenever a target client is known or the transaction begins, or in other cases when another layer of the structure becomes present, as in the case of a managing dealer appearing whose role is to supervise and often collect all earned money at certain periods. The primary role involves a main dealer who serves as the focal point of activity. The manager exists on the outside of the main activity of dealing and the roles of any surrounding co-dealers can change based on the exigencies of dealing or the dynamics of the situation pre-during-and post-transactions. For example, during one transaction:

He [a dealer] turned the corner and stopped and stood in between the manager dealer who stood with his back against the corner store wall, facing West North Avenue and a target client. As he stopped, he looked ahead, came to a stop and then looked left then right, then left again and then finally down in the target client's hands (whose back was to the camera). The manager dealer remained in his position against the brick wall, relaxed, right leg crossed over the left and continued to smoke a cigarette as he looked on. (1:4, line 80)

This feature summarizes how one person assumes responsibility for escorting target clients (if applicable), another assumes responsibility for serving as a look out, and another assumes responsibility for collecting and counting money, and another assumes responsibility for completing transactions. This core featured emerged in 89% of the drug crimes.

Core feature #4: Timing

Another core feature, timing, refers to the dealer or the person responsible for distributing drugs, determining the timing and length of the transaction between him/herself and the target client. This is a one-to-one relationship or one dealer to one target. Several targets can be readily available at which time a dealer must adjust to demand, but it remains a one-to-one transactional relationship, just one right after the other. Key timing is likely to occur (1) at or near a corner; in front of a corner store; using a corner store; (2) when others are around, particularly a target client; (3) with two or more dealers and at least one target client is present or known; (4) in the presence of a

pre-existing geoform (core feature explained below); other nearby dealers not a part of the geoform; (5) as an dealer moves away from the specific place; (6) from a distance; and (7) when instructions of some sort are involved. The act of “timing” as a routine that leads to a drug crime comes from the facilitation of quick, anonymous transactions between dealers and target clients:

The first dealer walked up to the target client standing by the specific place coming from the north. He walked up the target client and as he passed him and the target client walked around the dealer, the dealer passed the target client something and then continued to walk ahead of the target client heading south through the courtyard. (1:1, line 20)

There is the demand, both target client oriented and business oriented that a dealer must “adjust” their behavior to, and set the tone to in executing and meeting those demands, and in the presence of co-dealers and expectations based on “authority” (Figure 8).

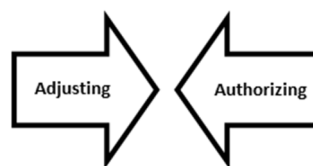


Figure 9. Core feature: timing

Consider the case of two dealers working together and using the stairs to a row house as their base:

The dealer kept a distance from the targets, never speaking directly face to face or making direct contact. Instead, the first dealer followed the targets after the initial contact and then lead them back to the second dealer where money was left on the top stair, which the second dealer collected. (1:3, line 76).

The routine of “timing” behavior to start, facilitate, or complete a transaction contributes to the creation of a drug crime in this way. Transactional relationships such as those associated with drug crimes, exist around key timing because the judgment of when an action should be taken is of the essence; dealing is not done leisurely, but with specific timing. This core feature emerged in 84% of the 74 drug crimes.

Core feature #5: Behavior resetting

A third core feature, behavior resetting, refers to a dealer repeating specific behaviors such as rejoining a group or walking the same path of travel from one spot to another. This routine is likely to emerge when there is an existing or unchanged group norm and there is an easy, unencumbered route to walk. Such was the case when “The two dealers from the corner store rejoined the main dealer and the other dealer on the raised sidewalk and they continued a conversation” (1:6, line 320). And during a different time: “The third dealer walked back in the direction in which he came and the first dealer stood in place looking in the direction in which the third dealer walked back” (1:18, line 1233). Dealers, as motivated dealers, routinely reset their behavior to establish new opportunities or probabilities for the crime triangle to take effect or to complete a drug transaction (Figure 9).

Each probable instance of a drug deal occurring comes as a result of an instant “reset” so that the behavior appears continuous and streamlined when in reality dealers are going back and forth between opportunities. For drug crimes, the opportunity, the resetting behavior, is about accumulation, not continuation. Resetting is like going back to an initial behavior, which could be standing on the corner, for example, and then accomplishing the behaviors that would necessarily follow, and then repeating, starting with the initial behavior after each successful transaction. The idea is to accumulate with increased opportunities, as opposed to increased time, especially when considering how the presence of a guardian or intervention from a guardian can disrupt time spans of drug dealing activity. Efficacy of routines that lead to drug crimes occurring is rooted in a dealer’s ability to accumulate opportunities through resetting their behavior on the street block for each new interaction more so than the routine of spending time or hanging out on the street block. This core featured emerged in 84% of the drug crimes.



Figure 10. Core feature: behavior resetting

Core feature #6: Disguised dynamic

Finally, the process of drug crimes occurring at specific places looks like behaviors that conceal interactions and create a buffer between the dealer and the target client. This is referred to as a disguised dynamic—as the degree of interaction between a dealer and a target client is prolonged, it is more likely a dealer will attempt to conceal his/her behavior and association with the target client (Figure 15). This dynamic is likely to emerge when (1) there is a presence of trees or plants; (2) initiated by an dealer; (3) some nearby infrastructure (fire escape, utility pole, etc.); (4) presence of an alley, abandoned building, or vacant property or empty space. For example:

“The dealer was obscured from view by the trees which the dealer was underneath dealing from” (1:2, line 38).

“The fifth dealer, the main dealer responsible for dispensing drugs to target at the specific place would emerge in and out of view of the wall between the row house and another row house that created a crack of space for a single person to move in and out from” (1:22, line 702).

Additionally, this tactic takes the form of distant interaction where the dealer walks by the target client without any verbal or sensory contact, looking straight ahead and past a target client firmly in the dealer’s presence, or moving behind or underneath something:

“There was no contact or direct communication from the dealer to the target client group; he maintained distance from them and only was close when he handed off a cell phone. He spoke to them from a distance and moved quickly around them as they walked slowly and waited for him. They stood in the specific place as he stood away from them and waited for the other dealers. The two other dealers did not interact with the target clients” (1:4, line 67)

The objective is to maintain distance between the dealer and the target client and the possibility of unwanted detection; in other words, decreasing the likelihood of a guardianship intervention. As a result, the relationship between the dealer and the target client is muddled so that any interaction that ensues between the two is lost and obscured in a “disguised dynamic.” It’s a form of protection from identification for dealers to appear unattached, but also a method to blend in with the surrounding environment and perhaps reconnaissance prior to the start of a transaction. This core feature appeared in 65% of the drug crimes.

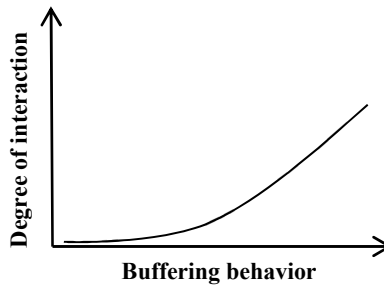


Figure 11. Core feature:
disguised dynamic

Core feature #7: Tight knit

Drug crimes look like a series of tight knit activities, tight knit meaning closely aligned behaviors displayed to control the process of a drug crime unfolding with behaviors to avoid detection that would disrupt the crime process or bring in external confusion and attention. Tight knit operations are likely (1) whenever there is a street corner or an alley; (2) at least two dealers; and (3) the target client may be leading the interaction. For example, “One dealer would follow a target client into the corner store who followed the leading dealer into the store, so the target client was lead and followed by dealers” (1:1, line 57). In other instances, dealers would take advantage of corners and open spaces:

Once they walked just past the second townhouse on the block, the dealer turned right into an open space in between two townhouses and looked at the target client as he continued to walk west on the block. The dealer disappeared in between the two town houses. (1:8, line 42)

The process looks like the appropriate dealer taking the lead in completing the drug transaction defined here as “execution,” while avoiding detection defined here as “averting,” with the use of a building, open space, or vacant property or turning into an alley (Figure 10). This involved the “execution” of a strategically controlled transaction and averting exposure to unwanted attention and possible observation.

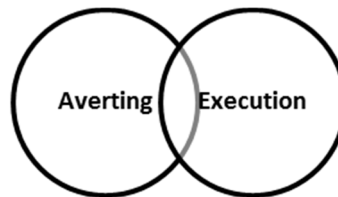


Figure 12. Core feature: tight knit

The tight knit process also alludes to an inherent structure in action during transactions that require the creation of a safe space to complete transactions. These actions do not take long as execution and averting behaviors usually take no longer than 4-5 seconds and requires one or two dealers at most for the sake of ensuring a tight knit process whereby a single main dealer completes transactions. Additionally, the average number of drug crime dealers present in a crime was between three and four ($m=3.48$, $SD=3.06$) (Figure 11). The first three drug crime dealers to be observed during a crime event, if three were to be observed, were more likely to be male, of a medium to dark skin hue, and more likely to be youthful in the case of the first dealer, with some, but

fewer middle aged dealers (See Appendix L for scatterplot matrix of demographic information). This core featured appeared in 55% of the drug crimes.

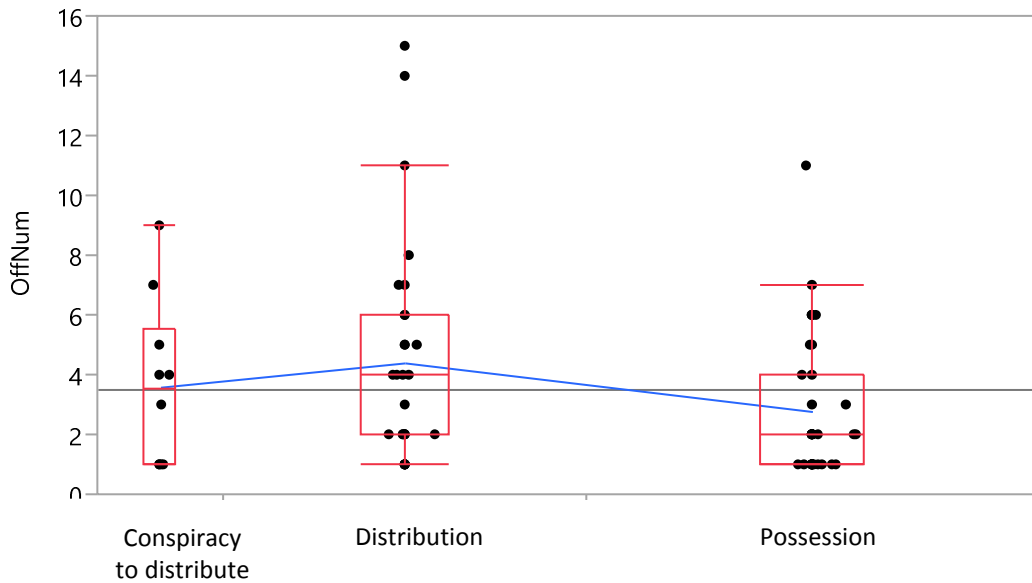


Figure 13. One-way Analysis of number of offenders by type of drug crime

Core feature #8: Geoform

Yet, there is a distinctive feature to what certain drug crimes look like when certain conditions are met or at least present. Specifically, when there are three or more dealers at a specific place, their occupation of a specific place, usually a corner or in front of corner store, may produce a “standing pattern” of behavior that resembles geometric formations or shapes, e.g., triangle, square, rectangle, etc. These are defined here as “geoforms.” These geoforms can be created in seconds, last for seconds, and expand and

contract with the addition and withdrawal of dealers. The geoforms can also change shape with the same expansion and contraction processes. For example:

At the next rotation, the dealers were walking south in a quadrilateral formation toward Clendenin. At the next rotation, their formation changed to a rectangle. (1:30, line 335)

They stood in a square formation and then transitioned into a pentagon and then they slowly broke away one by one, each dealer walking away, creating a different formation of the remaining dealers as a result. The pentagon shifted to a square and then a triangle and then to an upside down "Y." (1:34, line 370)

Geoforms can take on the shape of various geometric shapes such as a triangle, the most common, to a square, pentagon, trapezoid, or rhombus to name a few (Table 10).

Table 10. Frequency of geoforms

Geoform	Associated CCN's			Frequency
Triangle	112F10871	109E00437	107F12354	12
	118G02282	103E01208	109H02703	
	108B04353	103E03167	109A03744	
	115B00161	111C09396	107L00902	
			117E0805	
Trapezoid	108B04353			1
Rhombus	108B04353	109A03744		2
Rectangle	108C01731			1
Trapezium	107C02808			1
Square	107F12354	107L00902		2
Quadrilateral	107L00902			1
Right triangle	107L00902			1
Pentagon	111C09396			1

The geoforms represent a standing pattern of drug dealing that distinguishes dealers from citizens, who may occupy or patronize the same specific place. The extent of the geoform depends on the number of dealers present for the drug enterprise at the specific place (e.g., one person or multi-person job) and the suitability of specific space in terms of size to accommodate a standing pattern of behavior (large corner, sidewalk, etc.). However, a standing pattern of behavior is not a given in every drug crime scenario, but a distinctive feature of what drug crime may look like at specific places (Figure 13 and Figure 14), this is especially the case given that geoforms appeared in 22% of the drug crimes. Compared to the prevalence of the other core features, geoforms are relatively rare. As such, it is more important to conceive of geoforms, including the previously mentioned core features, as what Brantingham and Brantingham (1989) call a discernable pattern and one that is obvious to see when present.

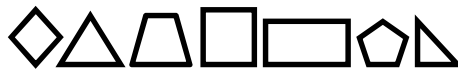


Figure 14. Core feature: geoform



Time code of geoform: 5:09:45 PM (acute triangle), 5:09:57 (transition: square), 5:10:03 (transition: trapezoid)

Figure 15. Example of observed geoforms

In the case of Baltimore City, drug dealers were usually observed standing in this way. People observed to be external the crime event (drug dealing), did not linger, but passed by to take care of business and leave the scene. The activities external to dealing are transient and the stationary activities related to drug crimes are driven by dealers and target clients.⁷ However, the geoforms should not be assumed as unique to drug dealing. The geoform represents what Barker (1968) called a standing pattern of behavior, a norm of human behavior. The contradiction of drug dealing is that it blends in with daily life of people going places;⁸ it is highly likely people *not* involved in dealing could stand in the

⁷ Research journal notes from November 22, 2013; December 18, 2013

⁸ Research journal note from December 13, 2013

same way. Yet, for the particular behavior setting of street corners and corner stores, this behavioral norm evolved into a norm of drug dealing on the corner.

Drug dealers are organized in that they stand on the block or corner a certain way and compared to a group of young men observed in one video (CCN101C01487, observation #21), drug dealers are highly organized when they stand, congregate, and wait on the block. The comparison group of young men were loosely organized and huddled in a circle. This links back to “different crimes [occurring] in different behavior settings (Barker, 1968 as quoted in Brantingham & Brantingham, 1989, p. 272) and [unfolding] in different patterns of actions” (p. 272). To clarify:

What is suitable for one crime or crime site or situation is not necessarily suitable for another. Patterned behavior sets appear that define the usual or expected or “normal” actions associated with particular types of crimes and also define abnormal or unexpected actions for that type of crime in that behavior setting. (Brantingham & Brantingham, 1989, p. 272).

Furthermore, in their chosen spots, drug dealers must be consistently observant of the comings and goings on the street. They are constantly looking and searching, maintaining their ground, as one CCTV monitor remarked, “on the corner, they watch everything.”⁹

However, there are instances where non-geoforms are created, but have the same elements in common as geoforms, except on the basis of type and form. Non-geoforms

⁹ Research journal notes from December 4, 2013 and January 16, 2014; CCTV monitor quote from research journal notes from October 23, 2013.

are typically non-geometric and a straight line usually serves as the standing pattern of behavior (Table 11). During one observation, dealers could be seen standing "...close to 180 degree angle across the sidewalk at the corner with the third dealer at the curb, the first dealer standing in the middle of the sidewalk, and the second dealer still standing up against the wall. They all faced west as they stood" (1:2, line 27). Additionally, at a later point, the dealers "...stood in the a line of three from the curb to the wall of the corner store and another row of dealer stood from the curb to the wall of the corner, their formation similar to that of two hash lines and a square" (1:6, line 84). Non-geoforms were equally likely to emerge in drug crimes geoforms were (22%).

Table 11. Frequency of non-geoforms

Non-geoform	Associated CCN's			Frequency
angle	112F10871			1
arrow head	107K00708			1
crooked line (walking)	101H00463			1
face to face	115B00161	111C09396		2
hash lines	109D01403			1
huddle	107J02746			1
in a pair	109E00437			1
semi-circle	107K00708			1
side by side	106C09213	109I09324	115B00161	3
straight line (standing)	103F01485			1
straight line (walking)	112F10871	109C01892	107C02808	7
	106C09213	109D01403	101I10415	
	107L00902			
unorganized group	109D00800			2

Results from Exploratory Data Analysis (EDA) comparing all crimes

In addition to developing core features for the majority of the sample, which were drug crimes, I also conducted exploratory data analysis of the systematic social observations of all 100 observed crimes. All 100 crime events observed were collapsed into three categories: property crime, violent crime, and drug crime to make substantive comparisons between the systematic observations of routines of each category of crime. Specifically, each are compared with respect to numbers of offenders, targets and guardians, temporal characteristics (time of day, period of week), environmental backcloth of crime (physical disorder, street block type), and the types of activities that surround and are external to the crime events.

Offenders, Targets and Guardians

Figure 16 shows the breakdown for each crime category in the number of offenders, targets and guardians that could be seen and counted in each crime incident. One violent incident, a shooting, was removed from the analysis because of the dramatically high number of guardians that responded ($n=57$), which would have inflated the average number of guardians present during a violent crime. Note guardian refers to both formal or official guardians such as a police officer, and informal guardians such as a concerned citizen or bystander. With the exception of one crime event, an assault, all observed guardians were formal guardians.

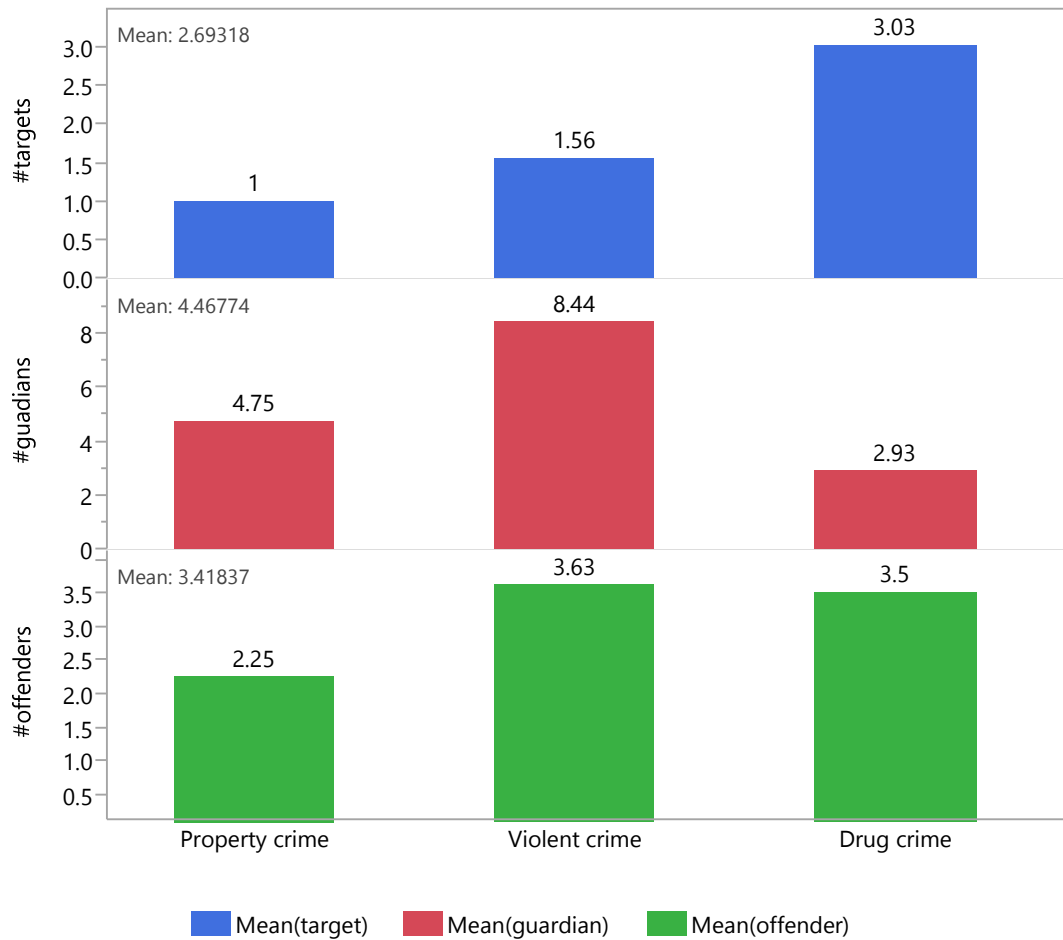


Figure 16. Average number of targets/guardians by crime type

The average number of offenders present in drug crimes and violent crimes was between three and four. However, for property crimes on average, there were two offenders. The greater number of offenders in violent crime and drug crime could reflect a greater tendency for these crimes to occur with the involvement groups of motivated offenders, at least three or more, as opposed to a single individual. This may also mean

these particular crimes are prone to emerge from group-based dynamics and routines converging.

With regard to targets, across all crimes, the mean number of target clients was between two and three ($m=2.69$, $SD=2.85$). However, the number of targets differed between property, violent and drug crimes, with drug crimes having the most potential crime targets observed. This is likely because targets are mutual facilitators of a drug crime, their behaviors a representation of what Brantingham and Brantingham (1989) called attractors of crime, meaning that targets are drawn to specific places where they converge with dealers. The higher average of targets in drug crimes also keeps pace with the average number of drug dealers. As such, it's plausible to conclude for every transaction, on average, there is one available and motivated dealer for every willing and suitable target.

Finally, for guardians, the mean number observed (recall that one outlier was removed) was five ($m=4.46$, $SD=5.12$). Compared to property and violent crime, drug crimes had nearly the same number of target clients and guardians present during some point of the crime event. Still, an average of 8.4 guardians per violent crime is moderately high compared to property crime and drug crime. But these were not considered outliers since there are three additional violent crime cases where, there were more than ten guardians who responded to the incident, but no more than 23, in each case. Instead, this high number of formal guardians responding may reflect emergency response policy and practice in using an "all hands on deck" approach to respond to violent crimes. The efficacy of a formal guardian's presence as an intervention for crime

varied by the type of crime: for drug crimes, formal guardians were more likely to intervene at some point, bringing dealing to a halt at the specific place. In contrast, formal guardians tended to appear at the conclusion or after property and violent crime events. Across all crimes, guardians played a responsive role, except for drug crimes where formal guardians both responded and intervened. This highlights that formal guardians can serve as effective guardians when responding to crime events, but may not know how to intervene as a crime event unfolds, rendering their role muted or absent, which is an underlying component of routines activities theory. There is an increased probability of crime occurring with absent guardianship.

Temporal characteristics of crime

With the exception of property crime, which was equally likely to have happened during the AM and PM hours, violent and drug crime occurred during the PM hours (Table 12). AM and PM hours are defined as 12 hour increments, PM hours starting from 12:00 PM to 11:59 PM and AM hours starting at 12:00 AM to 11:59 AM. For violent crime, incidents occurred twice as many times in the PM hours than during the AM hours. In the case of drug crimes, the same trend applies, but on a larger scale. Overall, drug crimes occurred the most during the PM hours compared to property and violent crime.

Table 12. Timing of offenses by crime type

Crime type	Time of day		All
	am	pm	
Property crime	4	4	8
Violent crime	6	12	18
Drug crime	24	50	74
All	34	66	100

Furthermore, all crimes revealed greater variance in incidents from the weekday to the weekend night. The weekday was defined as Monday through Friday afternoon at 4:00 PM. The weekend night started on Friday evening at 5:00 PM through Sunday night at 11:59 PM. However, drug crimes occurred more during the PM hours during the week, day and night, and dropped dramatically during the weekend day hours, but picked up again during the weekend night hours (Figure 17).

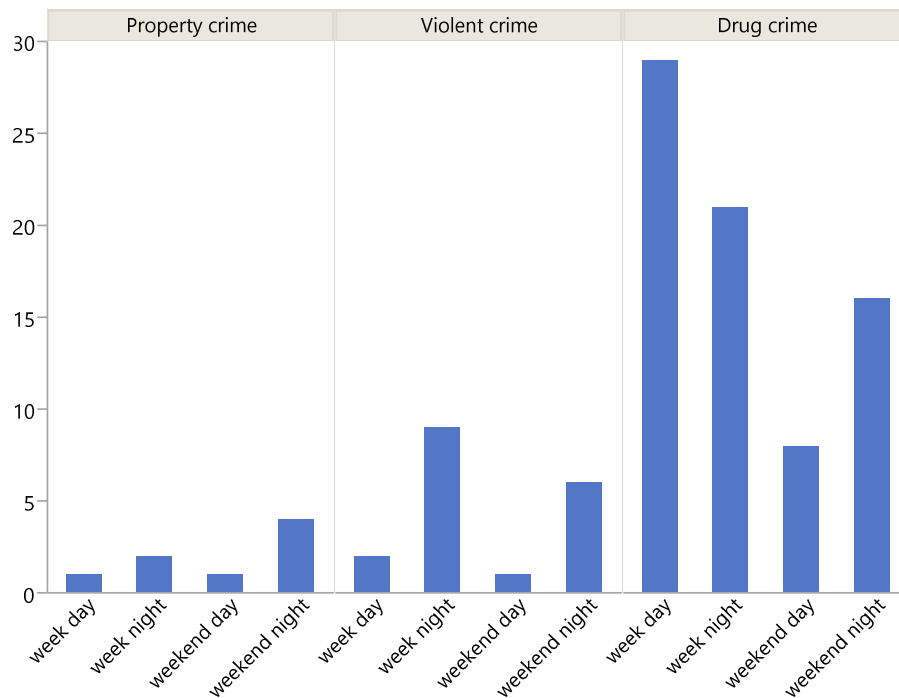


Figure 17. Crime type by period of week

This trend may be an artifact of selection bias based on the sampling procedure as described in chapter three. This trend may also reflect a CCTV monitor’s ability to capture more drug crimes during the day than at night when fatigue and visibility is less of an issue. Additionally, all crimes took place during a range of temperatures, but the average temperature for each crime was in the high sixties (Figure 18).

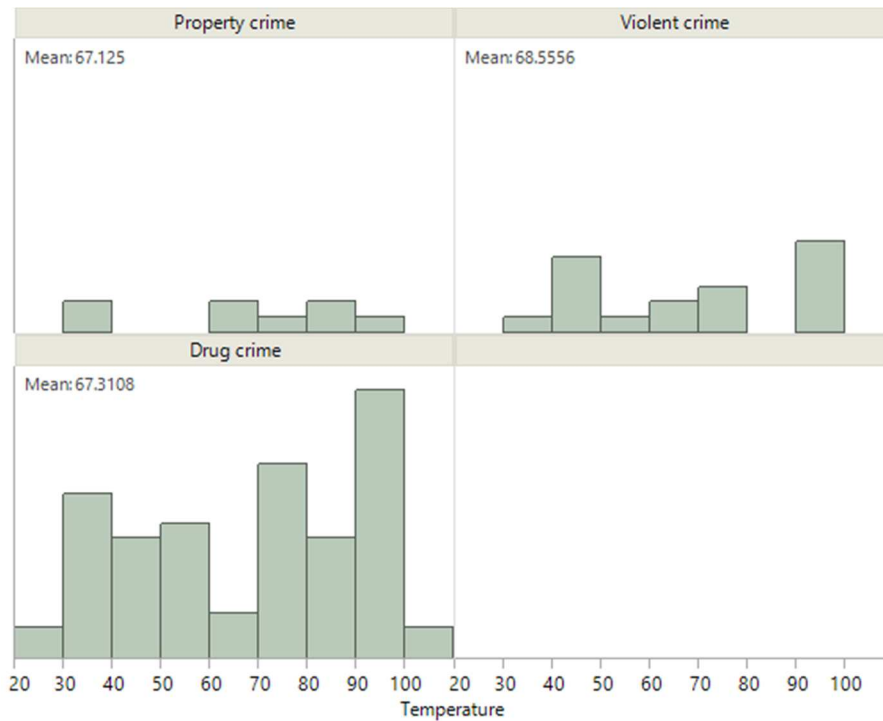


Figure 18. Temperature by crime type

Environmental backcloth of crime

Compared to property crime and violent crime, drug crimes predominantly occurred in residential areas, followed by commercial areas, and then mixed-use areas

(Table 13). Property crime and violent crime together were less likely to occur in a mixed-use area. The dominance of drug crimes in residential areas lends some insight into how crime events from high crime areas concentrate in such areas. All crime events, and particularly drug crimes, are more likely to occur in residential areas and may do so along abandoned/buildings and homes and potentially with surrounding litter (Table 14).

Table 13. Street block character by crime type

Street block	Property crime	Violent crime	Drug crime
commercial	3	6	11
residential	4	7	55
mixed-use	1	3	8
public service	0	1	0

Table 14. Physical disorder by crime type

Physical disorder	Property crime	Violent crime	Drug crime
dilapidation	0	0	4
abandoned buildings/homes	2	0	10
junk-filled/vacant lots	0	1	0
litter	0	4	18
alcohol/tobacco adverts	0	0	1
unobserved*	6	11	30
boarded up windows	0	0	1
vacant lot	0	0	1

*Unable to be seen and confirmed because of the vantage point of the CCTV video

The environmental and physical features of crime are particularly important, especially in the case of drug crimes. For two crime events, CCN 107C02808 (observation #23) and CCN 107K00708 (observation #75), the use of litter, an empty beverage bottle in the case of CCN 107C0808, and unkempt grass in the other CCN, were

ecological advantages (St. Jean, 2007) dealers in each event used to stash drugs from plain view, but also not to have drugs on their person. Similarly, alleys and some observations of abandoned buildings/homes were important physical features of the backcloth of drug crimes because dealers would use these physical features to conceal rendezvous with target clients and transactions. However, a majority of these observations fell under the “unobserved” category of physical features because their existence within GoogleEarth could not be verified by the vantage point of the CCTV footage. Finally, tables 15 and 16 show across all observed crimes, surrounding environmental features predominantly included MTA bus stops, signs with rules, and corner stores. These features were more likely to be within the backdrop of a drug crime compared to property and violent crime. This could mean that drug crimes thrive in specific places that are accessible to foot traffic. Such a specific place could be a corner store because of the 360 degree vantage point standing outside a corner store offers to a dealer. The signs with rules (e.g., no loitering, no littering, permit parking only, etc.) may go hand-in-hand with the presence of corner stores, in that they are an attempt by corner store owners or concerned neighbors to deter too much unstructured activity outside the store. The backdrop of a drug crime was also more likely to include a bar/liquor store and bars on windows. Still, unlike violent crime, drug crimes and property crimes were likeliest to occur in specific places where none of these environmental features were observable.

Table 15. Public transit facilities by crime type

Public transit	Property crime	Violent crime	Drug crime
MTA bus stop	3	8	23
MTA metro station	0	0	2
Charm City Circulator	1	0	0

Table 16. Environmental features by crime type

Built environmental features	Property crime	Violent crime	Drug crime	
none		5	5	26
bar/liquor store		0	2	7
bars on windows		0	0	5
signs w/rules		1	5	17
corner store		2	4	12
all of the above		0	1	0

Activities surrounding crime

Table 17 below shows walking and/or jaywalking was the likeliest activity surrounding each crime event, followed by hanging out and congregating, and then sitting or standing idle. For drug crimes, hanging out was also a common activity along with standing idle. The number of people involved in each activity accounts for the difference between hanging out and standing idle. Hanging out was defined as involving two or more people. Standing idle was defined as one person standing or sitting idle. Additionally, Table 18 shows the two most prevalent activities that occurred in the background of crime events were observed more so during the PM hours than AM hours. In the fact, the activity of walking and hanging out, increased from the AM hours to the PM hours. While the common activities of walking, hanging out, and sitting/standing idle are all tied to all crime categories and increase in frequency from AM to PM, they all

contribute to the production of the three different crime types. This is reminiscent of Brantingham and Brantingham's (1989) point that "There are common elements in the processes involved in all...crimes, common elements that produce discernible patterns for each type of crime" (p. 268). These activities may also be features of what Brantingham and Brantingham refer to as "triggering events," which help shape the desire or motivation to commit a crime.

Table 17. Activity type by crime type

Activity	Property crime	Violent crime	Drug crime
Drinking/eating	0	0	3
drug activity	0	1	0
gambling	0	0	1
hanging	0	7	14
out/congregating			
homeless person	1	1	0
police patrol	0	0	3
Sitting/standing idle	0	3	10
talking	0	1	4
Walking/jaywalking	5	4	37

Table 18. Environmental & temporal context of activities: Time of day

Activity Type	am	pm	All
Drinking/eating	1	2	3
drug activity	0	1	1
gambling	0	1	1
hanging	6	15	21
out/congregating			
homeless person	0	2	2
police patrol	1	2	3
Sitting/standing idle	2	11	13
talking	1	4	5
walking	18	28	46
All	29	66	95

Table 19 displays the percentage of total activities that occurred before and during a crime event by crime type. For property crime, there was a lower percentage of activities occurring during these types of offenses than when the offense actually began and was underway. With respect to violent crime and drug crime, prior to these offenses, the amount of activity increased 4% for violent crime and decreased 2% for drug crimes. The 4% increase of activities in violent crime may allude to how people gravitate toward violent crime scenes to spectate or this may implicate escalation. In the case of drug crimes, the amount of activities before and during a drug crime is relatively stable. This lends some credence to the core feature of drug crimes as (in)conspicuous adaptation because dealers must blend in with the surrounding activities prior to a transaction, but also take advantage of the many opportunities presented by the multitude of surrounding activities to actually execute a transaction. This also affirms St. Jean’s (2007) observation that drug dealers in hot spots prefer spots teeming with activity. The stability of activities before and during a drug crime event is essential to their creation. In other words, drug crimes are activity dependent.

Table 19. Percentage of activities prior to and during a crime event by offense

Crime type	Activities prior	Activities during
	% of Total	% of Total
Property crime	2.99%	0.89%
Violent crime	14.94%	19.08%
Drug crime	82.08%	80.02%

Finally, as expected, Figure 19 shows drug crimes have the greatest number and variety of activities surrounding these events. In particular, a variety of activities during drug crimes are likely to occur at an address (complemented by Table 9 above), a corner and/or a section of a sidewalk. Across all crimes, however, activities were likely to occur at a specific address.

	Property crime					Violent crime					Drug crime					
walking	+		+	+		+	+		+		+	+		+	+	+
talking on phone														+		
talking						+								+		
standing idle														+	+	
sitting idle						+	+							+		
public drinking														+		
police patrol														+		
jaywalking	+													+	+	+
homeless person														+		
hanging out						+								+	+	+
gambling																
eating														+		
drug activity																
drinking														+		
congregating														+	+	+

Figure 19. Activities by crime type by specific location

Findings from the in depth qualitative analysis and exploratory data analysis shed light on key routines associated with drug crimes and the environmental context in which these crimes may occur. Results revealed there are a distinct routines or core features of drug crimes that explain their existence at specific places in high crime areas. Results also revealed the unique ways in which these routines unfold, or what they look like at

specific places, namely the findings related to geofoms and non-geofoms and disguised dynamics and behavior resetting.

CHAPTER 6: DISCUSSION

Using systematic social observations of actual crime events, this study reveals the routine activities and environmental background of crimes that occur in high-crime places. More specifically, given the nature of the study location (Baltimore City), this study provides particular insight into drug related crimes and activities. This process of drug dealing is a one laden with specific micro-level routines, anywhere between five and six, which are not extraordinary behaviors, but common and ordinary. These routines can be defined by core features such as (1) (in)conspicuous adaptation, where dealers blend in within their surroundings, but stand out to target clients; (2) timing or the idea that the initiation of drug crime is completed with specific timing, triggered by certain behaviors; (3) behavior resetting, where drug dealing occurs as a result of constant resetting of positions and routines between transaction opportunities; (4) tight knitting of behaviors displayed to control the unfolding crime to avoid detection and complete transactions quickly; (5) procedural because there is a beginning and end and a process within that; (6) hierarchical whereby certain offenders take on specific roles related to the execution of the drug deal; (7) disguised dynamic, which similar to (in)conspicuous adaptation, dealers maintain a distance between themselves and target clients to reduce overall detection and increase efficiency; and (8) as a geoform, where three or more dealers standing on the corner, may assume a standing position that resembles a geometric shape.

This study also shows through systematic social observation how routines and environmental backgrounds of drug, violent and property crimes might differ. Each type of crime has different levels of potential offenders, targets and guardians, various environmental backcloths and routines, which according to Brantingham and Brantingham (1989), Cohen and Felson (1979), and Felson (1987) are expected because of the different nature of each crime type. Overall, the findings about drug crime in this study help shed some light on possible activities that link routine activities with high concentrations of crime. Clear routines could be observed in the crime events from this study's sample taken from hot spots in Baltimore City. Below I discuss these findings in the context of their implications for routine activities theory and crime pattern theory, future research, and criminal justice practices.

Implications for linking crime in high-crime areas to routine activities theory

The results from this study have four main implications for routine activities theory and future scholarship. These implications tie back to the noted dilemmas of prior scholars' attempts to link activities to crime in high crime places using routine activities theory. As discussed in chapter two, both Brantingham and Brantingham (1989) and Sherman et al. (1989) pointed to an empirical dilemma, specifically a gap in our understanding about the connection between places with high crime concentrations and routine activities. They and many others (most notably Weisburd and his colleagues) have questioned whether places tend to have high crime because of broader social or

demographic characteristics or more specific aspects of the environment which attract routines to those locations.

The findings do offer some resolution to the various dilemmas prior research attempted to resolve in connecting routine activities to high crime places, but only in the context of drug crimes. Recall, prior scholarship pointed to various dilemmas encountered in trying to connect routine activities to high crime places. Briefly, these included (1) the need to define what process, elements, activities, etc. lead to the occurrence of a crime; (2) operationalizing routine activities theory in a nonlinear fashion; (3) similarly, examining situation and moving away from an overreliance on proxy measures; and (4) taking into account the fluidity of offender, target, and guardian roles. The results and methods used in this study addressed each of these theoretical and methodological issues, but only in an exploratory fashion and ultimately limited to drug crimes.

In the case of the first issue, this study redefined routine activities as activities, routines, behaviors, and interactions, which during operationalization, emerged as micro-routines or examples of what is meant by routine activities such as hanging out or walking. This study re-conceptualized what is meant by routines from Cohen and Felson's (1979) original conceptualization. In doing so, the current study also addressed the methodological issue of using macro-level data, by richly describing routines at a micro-level. This study demonstrated that routine activities theory, as a micro-level theory, also requires micro-level data beyond macro-level examples of routines to examine its theoretical assumptions.

Second, Eck (1995) and to some extent, Brantingham and Brantingham (1989) pointed out the need for alternative methods to capture the nonlinear nature of aspects of routine activities, particularly the variation and feedback loops in actions, roles, and interactions. This study is the first of its kind to observe crimes unfold in the real world to reconcile this dilemma. In turn, eight core features were developed that implicate the process of drug crime. With their current state of development, some of these core features can be considered suitable for linear modeling, setting the stage to use mathematical functions or linear estimations to examine the variation in the link between appropriate core features and crime. Furthermore, this study helped lay the groundwork for “Simulations ... [to] be conducted to determine whether the crime patterns created match those observed in the real world” (Eck, 1995, p. 796).

With respect to the third issue of using inappropriate measures of routine activities theory, this study did not use proxy measures to examine routine activities nor were proxy measures featured in the systematic social observation protocol or coded for during observations. Instead, similar to reconciling the first dilemma, this study developed potential measures of routines related to drug crimes, the eight core features, departing from the issue of overreliance on proxy measures.

The findings for this study calls into question the utility of routine activities theory in explaining the link between activities and crime in high crime places in two ways. First, the role of guardians, especially informal guardians, does not deter the creation of crime nor disrupt the repeated behaviors that establish behavioral patterns. Rather, guardians become de facto elements in the backcloth of crime unfolding, rarely

emerging to disrupt the likelihood of the criminal event. Second, the link between activities and crime in high crime places is not about the presence or non-presence of specific actors as routine activities theory holds, but behavioral patterns and the environmental context in where these patterns unfold: “The likelihood of a criminal event transpiring depends on the backcloth, the site, the situation, an individual’s criminal readiness, routine activity patterns, and the distribution of targets” (Brantingham & Brantingham, 1989, p. 266).

Additionally, this study presents limited evidence at best for the fluidity of the offender, target, and guardian roles in routine activities theory. In the case of drug crimes, this fluidity is nonexistent or at least needs to be re-conceptualized to account for targets that operate as *willing* targets or rather, clients and facilitators of a drug crime. Drug crime eliminates the concept of a target in the routine activities framework. This conceptualization issue also follows for dealers whom may be both victim and guardian and all at once; however, from a legal standpoint, dealers and targets are categorized as offenders, rendering the nuance of their roles doubtful. Yet, for crimes such as assaults or theft, the interchangeable nature of the roles is more likely in the case of self-defense. From a theoretical standpoint, routine activities theory does not hold well for certain types of crimes. In the case of this study, the process of drug crimes occurring challenges the central assertions of routine activities theory and falls more in line with crime pattern theory.

For detailed micro-level examination of crime, crime pattern theory is a more appropriate theory to operationalize to watch crimes unfold and link activities to crimes:

[Crime] pattern theory Pattern theory is derived from the multidisciplinary approaches to understanding crime and criminality found in rational choice theory, routine activities theory, environmental criminology, strategic analysis, life-style theory, crime prevention through environmental design, situational crime prevention, hot spot analysis, and opportunity theory. It explores patterns of crime and criminal behavior. (p. 284).

Turning to crime pattern theory also involves a greater consideration of the theoretical underpinnings of human ecology, reinforcing Taylor et al.'s (1998) point that more empirical success may come from relying on Barker's (1968) behavior setting theory as an appropriate guide to begin examining how places work in relation to crime generation. The authors were keen to note "to solve the crime problem in a location, we need to 'unpack' the dynamics of the site" (Taylor et al., 1998, p. 12).

Findings also related to Barker's (1978) notions of standing patterns of behavior and the behavior of individuals en masse and crime pattern theory by highlighting a unique way in which offenders use places through their own routine activities instead of how places come to the attention of motivated offenders. This sets fertile ground for building a better understanding of what behavioral patterns may correspond with specific crimes based on place and the environmental backcloth (e.g., street corners, corner stores, PM hours, etc.), and that may create ideal conditions for certain types of crimes. The development of such a knowledge base can complement macro-level explanations of crime (social disadvantage, etc.) highlighting behaviors matter as well, for those crimes that have underlying systematic behavioral patterns. Additionally, the core features of

drug crimes and their surrounding backcloth, also provide some insight into how places can be crime generators, tying back to both the Brantingham and Brantingham's (1989) and Sherman et al.'s (1989) idea of places as crime generators or crime attractors.

The findings also help address Sherman et al.'s (1989) critique about the dearth of ecological variables connected to routine activities theory, which based on this study, we can conceive of as group behavioral patterns in high-crime areas. For example, some ecological variables may include the eight core features of drug crimes when trying to apply Sherman et al.'s (1989) point to understanding the link between routines and crime concentrations. Specifically, the "structured" core feature of drug crime, which was the visible hierarchy of dealers and was observed in 89% of all drug cases, could be considered one routine linked to high crime places, or at least where drug crimes are pervasive.

Additionally, the findings reinforce Felson (1994) in that criminal activity within a drug crime is plain and pedestrian, and blends in with the routine, legal activities of daily life. Such was the case in discussing the core features of drug crimes as a matter of "(in)conspicuous behavior," a "disguised dynamic," and a matter of "behavior resetting" or moving back and forth between established routines at a specific place. The behaviors that informed these core features were normal, noncriminal behaviors. This underscores what Felson (1994) argued was the normal, everyday nature in which illegal activities exist. In other words, illegal and legal activities coexist. There is nothing fancy or grand that will alert you to the presence of drug crime at a particular place, especially as drug

dealers attempted to blend in at specific places. We should not overestimate the nature of street level drug crime and that it is simple, plain, and ordinary.

On a different note, based on the activities of the particular place, it may be possible to conceive of routine activities theory and crime pattern theory as guidance to distinguish between specific places within hotspots, but also places that may have symptoms of hot spots (disorder and crime), but may not necessarily be hot spots, criminogenic, or “bad” places. For example, a neighborhood characterized as “bad” does not mean every person or activity at corners, for example, is indicative of crime. Why? (1) Legal activities blend in with illegal activities as we know from Felson (1994) and as revealed in some of the behavioral patterns observed with drug dealers (e.g., (in)conspicuous adaptation; disguised dynamic); and (2) the core features show us what to look for in order to begin understanding how this blending occurs as well as the process of crime unfolding. The core features of drug crimes vary in the likelihood of emergence because they “Are not all equally important in every crime ... or to every group of potential offenders, but even when they have relatively less importance in a particular crime [such as the case of those core features with low prevalence], they do not disappear” (Brantingham & Brantingham, 1989, p. 277) because they are a part of the behavior setting of a specific place. In other words, “Only a subset of ... [the core features] are likely to dominate the formation of a pattern for ... [drug crime] and therefore to be critical to understanding that crime. The other ... [core features] are part of the backcloth and shape the appearance of the crime pattern as it presents to researches, practitioners, and the public at large” (p. 278).

Furthermore, the eight core features and findings from EDA help pinpoint actual routines that can be considered either crime generators or crime attractors to specific places with high crime such as presence of physical disorder (abandoned property, etc.) for completing transactions undetected, ecological advantages (litter, alleys, etc.) available for stashing drugs, or the ease of access to physical buildings such as corner stores that offer a convenient path of travel between the corner to inside a store to complete transactions inside beyond the view of CCTV cameras.. However, what's still missing in addressing this angle of the dilemma (connecting routines to crime concentrations) is a distinct understanding of which of the eight core features are crime generators or crime attractors, if any. Specifically, it may be the case that the majority of the core features speak more to defining the process of drug crime, but do not speak to “triggering events” (Brantingham & Brantingham, 1989). The eight core features for one type of crime are hardly a comprehensive set of variables that can begin to connect routines of all crimes to crime concentration. Critical gaps still remain in specifying activities, elements, or features that contribute to the creation of a crime in a high crime area.

Methodological contribution

This study was an attempt to address what many scholars have pointed out about operationalizing routine activities theory and what Eck and Weisburd (1995) noted as the “... [the lack of] studies that have systematically examined the social structure and crime levels of a large sample of places to determine the link crime and the social structure of

places” (p. 12-13). This study’s use of systematic social observation to watch actual crime events helps resolve this methodological dilemma not only pointed about by Eck and Weisburd (1995), but as originally conceived of by Brantingham and Brantingham (1989) and Sherman et al. (1989).

This study makes a methodological contribution in which routine activities theory and environmental criminology informed the use of systematic social observation to see crime events unfolded in real time (archived) using CCTV. This was advantageous for two reasons. First, systematic social observation is “well-suited to situations and events where all of the relevant actors and events to the phenomenon of interest can be observed from start to finish in a limited, well-defined time period” (Mastrofski et al., 2010, p. 228). The use of CCTV technology was foundational to the execution of this study; CCTV was an instrumental component to watching crimes unfold over time and repeatedly. This relates to the second advantage of the methods used whereby “recording events electronically and then encoding these records late for analysis ... not only [eliminates] recall problems ... [but leads to] more detailed and accurate observations ... and the testing of inter-observer reliability (Mastrofski et al., 2010, p. 233). Long-term storage of CCTV footage and access to archived CCTV footage enabled intra-observer reliability calculations (Table 5), an important step to establish the reliability of coding across multiple crime events.

The methods used in this study were an important building block to develop actual ecological variables that Brantingham and Brantingham (1989), Eck (1995), Groff (2007), Mustaine and Tewksbury (1998), Sherman et al. (1989), and so many others

noted were missing or improperly conceived. The systematic observation of social phenomena and the ethnographic technique of being immersed in the field, helped identify the eight core features of a crime that computer simulation and quantitative examination of administrative data could not produce for crime in general. Specifically, we can see in the case of drug crimes, there are at least eight core features that contribute to their creation and describe what drug crimes look like or what Brantingham and Brantingham would call “discernable patterns.” The findings are also not just a mere reflection of operationalizing routine activities theory, but also speak to the prevalence of routines within high crime areas. For example, we now know in the case of drug crimes, a range of routines affiliated with this crime (the eight core features) and the saturation with which these elements dominate the process involved in the creation of a drug crime.

Systematic social observation “affords greater precision in capturing details of the phenomenon and its context, such as the sequencing of what happens before, during, and after those events. In many cases, it may be the least problematic method for acquiring information” (Mastrofski et al., 2010, p. 244). While there are some drawbacks to prolonged engagement in the field, namely time and resource constraints, this can be adjusted by narrowing the scope of the investigation with a priori assumptions or ideas about what data to collect. Systematic social observation helps with this focused and narrowed investigation because the instrument used defines the parameters of what data will be collected and how. However, using systematic social observation based on a priori assumptions and only with defined parameters runs the risk of eliminating rich,

descriptive data that can yield pertinent findings. Rather, a balance between the two should be achieved.

Additionally, the methods used are not only important foundationally, but should be used to complement subsequent quantitative examination of routine activities theory. Specifically, the prevalence of the eight core features related to drug crimes, could be quantitatively operationalized in a regression analysis to understand 1) if these core features are empirically valid and 2) determine how much variation each and all of the core features account for in the instance of a drug crime event. This examination can be repeated with core features of crimes other than drug related crimes, as long as it is preceded by SSO to identify the core features first.

Still, there are some methodological limitations to this study worth highlighting. First, the most obvious limitation concerns a lacking of a comparison site of specific places located in “cool spots” or street blocks that have only a few incidents of crime events, which would essentially serve as a baseline for normal activity to compare against the activities associated with the drug crime events in this study. Additionally, the analysis and the results suffer from lacking in depth coding of all observed crimes, not just drug crimes, and a lack of built-in variation or comparison points, with the exception of the “geoform” and “non-geoform” findings. The lacking variation is an artifact of the sampling methodology used, but also a reflection of drug crime events being easier to consistently capture through CCTV footage compared to other crimes such as assault, theft, robbery, etc. Second, viewing archived footage excluded any residual data that could be useful for on-the-spot coding such as audible dispatcher codes or conversations

about crime events captured by CCTV, which CCTV cannot capture since there is no audio component. Furthermore, the vantage point of the observations were from CCTV cameras mounted high above the street level, so findings related to discernible patterns such as the geoforms, may be hard to observe at the street level without the help of a CCTV monitor.

Implications for criminal justice practice

With regard to practice, the findings from this study applies most to the world of policing. However, the following implications are preliminary and should be considered with caution and not prescriptive, given the exploratory nature of the study and lacking validation of the core features. Rather, these implications speak to potential utility and a chance to muse about the importance of focusing on human behaviors in police work. First, understanding the core features of drug crimes can be useful for patrol officers on the street level to develop a “detailed micro-perspective” (Clarke, 1992; Jeffery, 1990 as cited in Brantingham & Brantingham, 1979, p. 286) to better inform their observations, and therefore their discretion to intervene and rely upon behavioral justifications for intervening. But this is not a comprehensive advancement: issues like police legitimacy and establishing trust within racial/ethnic communities historically at odds with law enforcement will remain important issues to address. However, grasping the idea of behavioral patterns linked to crime may be useful for line officers to help them not only move away from practices laden with biases such as racial profiling, that traditionally misalign them from the community and weaken their legitimacy, but also help line

officers sharpen their ability to reasonably suspect¹⁰ a person. For example, during a conversation with a CCTV monitor on August 30, 2013, I learned the following about what informs a monitor's decision-making about where to look and what to look for:

“Variance. Migratory patterns of people. Commerce. If you watch long enough you’ll begin to notice patterns – hand things, leaving quickly – we know because we used to work the streets; [we] recognize the patterns. If there is violent crime in the area, you can surmise there will be more trouble; anticipate it. In some instances, it is random, [we’ll have] no idea, [but] we’ll see it. [I] watch Hollins and Carrollton because there are a lot of drugs ... [something felt wrong, so he zoomed in] ... [if] you do any job for two – three decades, you’ll develop ‘work intuition,’ you develop a feel for it. Behaviors are so subtle, but they serve as triggers. A lot of times [you] can just follow junkies ... [otherwise you can] recognize offenders – [I] worked certain areas for many years, South Baltimore, [and I] arrested offenders and people on the street.

The idea would be akin to taking this monitor's 20 to 30 years of experience and distilling it down to a more sophisticated “work intuition” predicated on validated discernible patterns. Still, using behavioral cues should not be a mere tool, at risk of becoming a perfunctory form of protection for police officers. Discernible behavior patterns that are the most prevalent in crime events can help officers develop an outlook about what to look for at specific places to sharpen their perspective or “work intuition.”

¹⁰ Synonymous with a “hunch,” to search the outer clothing of a person, not to be confused with probable cause, which provides a legal basis to arrest a person.

This is especially important in the context of community policing and policing neighborhoods of a dominant ethnicity and/or a predominant mix of various racial/ethnic groups, so that police interventions at places do not become a matter of targeted or racial profiling (as in every young, black, white, Asian, or Latino male is a suspect because of the neighborhood, street block, or vague description. How officers intervene matters significantly and if behavioral cues can provide officers with information about a situation other than a person's, race/ethnicity, age, or gender, and establish a greater focus on the routine activities of specific places, then we may begin to realize what Mustaine and Tewksbury (1998) concluded: "As lifestyle behaviors are analyzed, demographic indicators will become a less informative predictor" and allow us to remove the demography and crime link (p. 851). Still, some caution must still be applied in highlighting behavioral cues or indicators as tools; we would not want to shift to a "behavioral zero-tolerance" or criminalize behaviors that are ultimately benign because of their implication in a behavioral pattern related to crime.

The findings also imply the aid of technology such as CCTV in police work cannot be a total replacement or automation of important police functions such as having a presence in the community and patrolling in a certain way. CCTV enabled the detection of a pattern of behavior associated with drug crimes, but this camera detection, and on a broader level, surveillance alone does not suffice for preventing crime and enhancing police legitimacy. CCTV is a tool to closely observe and understand behaviors in which to intervene, but the task of building and sustaining police legitimacy remains a task of traditional policing, which does not require CCTV technology.

Future research

Future research should improve upon the sampling methods used here to replicate the findings based on a larger sample and include a vantage point of observation that includes the street level, which most likely could be retrieved from body cameras and/or amateur video. Observations from this vantage point and these sources of footage could provide a lens to observe informal and formal guardian routines to help develop this aspect of routine activities theory, especially around issues concerning efficacy and legitimacy during interactions. Depending on the scenario, the combination of body worn cameras and amateur footage in one scenario could provide a comprehensive view of guardian routines and interactions at the street-level than that of a CCTV camera, which are restricted to a certain height above the street and limited by random rotation when not controlled by a monitor.

While sampling from only adjudicated cases may remain an administrative limitation because the number of potential cases would be limited and incidents of crime excluded, the sampling procedure can expand beyond the inclusion of two years of data, to include several years of data, including the current year. This will necessarily guard against biased results and provide a more accurate picture about the environmental backcloth surrounding various crime events (e.g., time of day, day of week, etc.).

Future research should also include comparison points, whether it is of other crimes, specific locations, or comparing specific locations across different cities. There are multiple levels for comparison, but the most obvious should be comparing a

collection of routines between two different cities or police jurisdictions. For example, Washington, D.C. compared to Baltimore, Maryland to see if routines are unique to the urban landscape of one city or both cities, meaning would the routines observed in Baltimore City also hold for similar crimes in Washington, D.C.? Variation should also be built into or at least accounted for within actual findings. An example of this from the current study is the geofrom compared to the non-geofrom within the findings related to routines for drug crime events. This should be done for all features to provide a balanced perspective and better understanding of the conditions and circumstances in which routines of various crimes may emerge.

Another important agenda for future research should be replication and additional examination of the core features. Specifically, geofroms are particularly interesting and important to address whether certain shapes are consistent across specific places or in the case of crime pattern theory, whether the “nodes” or points of geofroms are dynamic or static for each dealer that creates a geofrom. For example, future research could investigate if dealers occupy the same spot within a geofrom or if they rotate with the arrival and departure of dealers. In doing so, future research should continue use of systematic social observation, which remains sparse in criminology (Mastrofski et al., 2010) and combine it with existing technologies to continue to build a better and more diverse understanding of the link between crime concentrations and the activities linked to them.

Finally future research should aim to interview an adequate sample of veteran police officers or retired police officers, especially those who have experience operating

CCTV cameras, but not exclusive to this group. For the current study, two retired officers who are CCTV monitors were briefly consulted to understand what factors informed their decision to observe a particular specific place or observe and follow via the CCTV camera, a particular person at a specific place. The responses from these brief conversations yielded insightful information about how officers themselves recognize patterns at the street level and use these patterns to make determinations about the presence of criminal activity at a specific place.

Conclusion

From this study I learned that “individuals display routine activity patterns” (Brantingham & Brantingham, 1989) that are normal, non-threatening behaviors in the commission of a drug crime and that there is a process to how these activity patterns unfold. This exploratory study merely scratches the surface of understanding how routine activities contribute to the creation of crime events. Generalization is not a goal of qualitative research, but rather qualitative research aims to provide a rich, contextualized account of some aspect of human behavior or some phenomena. As such, addressing the generalization of the core features to other crimes would be inappropriate. However, there are other crimes such as property crime (car theft or pick pocketing) or organized youth crime that may lend themselves to the same systematic, rich, and contextualized inquiry, which can then lead to the development of core features for these types of crimes.

This research and its limitations have generated more research questions about this issue than insights into resolving it. One thing remains clear, however, future

research has a better defined path in how to better operationalize and investigate the complexity of unpacking routine activities theory and crime pattern theory. This dissertation was primarily about the systematic social observation of crime, which was informed by routine activities theory, but ultimately produced findings relevant to crime pattern theory. This study reveals crime pattern theory is the outcome of routine activities theory when operationalized by systematic social observation. Routine activities theory stands as a useful framework to *narrow* our theoretical understanding of crime as related to a motivated offender, suitable target, and weak guardianship. On the other hand, crime pattern theory *tailors* our theoretical understanding to that of micro-routines and behavioral patterns. Considered together, these theories exist on the same theoretical spectrum along with social disorganization theory in explaining crime at specific places, moving from macro-level approaches to micro-level approaches.

Ultimately, the outcomes of this study serve as an example of what Brantingham and Brantingham (1989) outlined as useful for understanding criminal behavior and crimes:

Consider (1) the actual process of committing a crime; (2) the general crime templates and activities of offenders at the moment of crime commission; (3) offenders' readiness or willingness to commit a crime; and (4) the interaction of process, template, activity, and readiness as they are arrayed on the environmental backcloth. (p. 266).

Once guarded with this information our approaches to addressing systematic behavior linked to crime must evolve because interventions to address crime will no longer be a

matter of focusing on a static, criminal event, but the components of that process, which may reveal an offender as more than just an offender, especially as criminal justice policies and approaches change.

APPENDIX A: SSO Protocol

Dissertation project CCTV & SSO Coding Protocol

Coder Information

1. FileMaker record #:
2. Date of observation:
3. SSO & coding start (military time):
4. SSO & coding end (military time):
5. Date modified:

CCTV Information

1. CCN:
2. CCTV cam #:
3. Recording start time (hr/min/sec/millisecond):
4. Recording end time (hr/min/sec/millisecond):
5. Total recording time (seconds) (QCCTV4 – QCCTV3):
6. BPD Arrest Viewer record #:
7. Date of CCTV recording (mm/dd/yyyy):
8. Period of week¹¹:
 - 1 = Week day
 - 2 = Week night
 - 3 = Weekend day
 - 4 = Weekend night
9. Rotating footage:
 - 1 = Yes
 - 0 = No
10. Monitored footage:
 - 1 = Yes
 - 0 = No
11. CCTV arrest immediate (on location) * :
 - 1 = Yes (skip to question 16)
 - 0 = No
12. Describe the location of the arrest if CCTV arrest not at incident location:
 - 99 = Not applicable
13. CCTV initiated arrest:

¹¹ Weisburd et al. (October 2005). Does crime just move around the corner? A study of displacement and diffusion in Jersey City, NJ. NCJRS 211679.

- 1 = Yes (skip to question 16)
- 0 = No
- 99 = Cannot tell (skip to question 16)
- 14. CCTV assisted arrest (arrest or event in progress captured by CCTV):
 - 1 = Yes
 - 0 = No
 - 99 = Cannot tell
- 15. CCTV replay for crime:
 - 1 = Yes
 - 0 = No
 - 99 = Cannot tell
- 16. Is there an arrest narrative?
 - 1 = Yes
 - 0 = No (skip to question 18)
- 17. Was the arrest narrative written by a CCTV monitor or an officer on the street?
 - 1 = CCTV monitor
 - 2 = Officer on street
 - 99 = Cannot tell
- 18. Legitimate unit of analysis:
 - 1 = Yes skip to question Background information for specific place)
 - 0 = No (exclude case)
- 19. Explain why unit of analysis = 0:

Background information for specific place (from CCTV)

- 1. Street block name (in which specific place is located):
- 2. Any cross-street(s)?
 - 1 = Yes
 - 0 = No
- 3. Number of cross streets:
- 4. Name(s) of cross streets:
- 5. Describe physical aspects of specific place (text field):

Describe public and private properties, transportation facilities, lighting fixtures, signs, on a corner etc. (specific to the place)

- 6. Length of street block (feet):
- 7. Type of street block:
 - 1 = Alley (a narrow back street; a passage as if through a row of houses)
 - 2 = Arterial street block (high capacity urban road; traffic artery)
 - 3 = Lane (accommodates one vehicle to create a single line of cars)
 - 4 = Street (paved thoroughfare w/adjacent buildings; sidewalks; pedestrian friendly; with access only for residents)
 - 99 = Cannot tell, describe:
- 8. Characterization of street block
 - 1 = Commercial
 - 2 = Residential

- 3 = Mixed-used (commercial and residential)
 - 4 = Public service (government buildings)
 - 99 = Cannot tell, describe:
9. Traffic direction
- 1 = One-way (**skip to question 11**)
 - 2 = Two-way
 - 99 = Cannot tell, describe (**skip to question 11**):
10. If two-way, how many traffic lanes:
11. Does the street block include intersections (connections to other streets)?
- 1 = Yes
 - 0 = No (**skip to question 14**)
12. How many intersections (connections to other streets):
13. Type of intersection:
- 1 = Four-way intersection
 - 2 = T-intersection
 - 3 = both
 - 99 = Cannot tell, describe:
14. Does the specific place include corners?
- 1 = Yes
 - 0 = No (**skip to question 16**)
15. How many corners (“0” not meaningful):
16. Number of public transit facilities nearby (include “0”) (**if “0” skip to question 18**):
17. Type of public transit facility:
- 1 = MTA bus stop
 - 2 = MTA metro station
 - 3 = Charm City circulator
 - 4 = All of the above
 - 5 = MTA light rail
18. Built environment features¹² (select all that apply):
- 0 = None
 - 1 = Bar/liquor store
 - 2 = Bars on windows
 - 3 = Signs with rules
 - 4 = Corner store (grocery, market, fast food: chicken/lake trout, etc.)
 - 5 = All of the above
 - 77 = Other, describe:
19. Total number of CCTV cameras associated with specific place of crime event:

Temporal characteristics of crime events

1. Latitude:
2. Longitude:
3. Date of crime event (mm/dd/yyyy):
4. Season:

¹² Wyckoff, L. A. (2011). Moving social disorder around *which* corner? A case study of spatial displacement and diffusion of benefits. Doctoral Dissertation. Department of Criminology and Criminal Justice, University of Maryland, College Park

- 1 = Fall
 - 2 = Winter
 - 3 = Spring
 - 4 = Summer
5. Period of week¹³:
- 1 = Week day
 - 2 = Week night
 - 3 = Weekend day
 - 4 = Weekend night
6. Is it AM or PM?
- 1 = AM
 - 2 = PM
7. Is it rush hour?
- 1 = Yes (7:30am – 9:30am; 4:30pm – 6:00pm)
 - 0 = No
8. Temperature (use NOAA: <http://www.ncdc.noaa.gov/data-access/land-based-station-data/land-based-datasets/quality-controlled-local-climatological-data-qclcd>):
9. Describe the weather conditions (select all that apply):
- 1 = Clear/sunny
 - 2 = clear/nighttime
 - 3 = Partly clear
 - 4 = Overcast
 - 5 = Light rain
 - 6 = Moderate rain
 - 7 = Heavy rain
 - 8 = Snow
 - 9 = Windy
10. Time leading to crime event (seconds; start when offender first enters the place; note hr/min/sec/millisecond):
11. Time after the crime event (seconds, start recording time when offender or target exits the place, or a guardian intervenes; note hr/min/sec/millisecond):
12. Duration of crime event (seconds):

Environmental characteristics of crime events at specific places

1. Type of specific place¹⁴ (select all that apply):
- 1 = Address
 - 2 = Corner
 - 3 = Crosswalk
 - 4 = Entire street block
 - 5 = Intersection
 - 6 = Section of street block
 - 7 = Section of sidewalk

¹³ Weisburd et al. (October 2005). Does crime just move around the corner? A study of displacement and diffusion in Jersey City, NJ. NCJRS 211679.

¹⁴ Identify specific place within the socio-circulatory system of streets, Felson 1987, p. 917

- 8 = alley
- 77 = other
- 99 = Cannot tell, describe:

Description of specific place of crime event:

Describe public and private properties, transportation facilities, lighting fixtures, signs, etc. (specific to crime event)

2. Did the crime event happen at more than one specific place?
 - 1 = Yes
 - 0 = No (skip to question 4)
3. How many specific places (make sure consistent with question #2):
4. If the crime event occurred at night, is there lighting in the area? (make this question null for daytime answers from temporal section above)
 - 1 = Yes
 - 0 = No (skip to question 7)
5. Describe the lighting¹⁵:
 - 0 = Day time
 - 1 = Whole area lit well
 - 2 = Mostly lit well
 - 3 = Mostly lit poorly
 - 4 = Whole area lit poorly
6. Type of lighting (select all that apply):
 - 1 = Street light
 - 2 = Traffic lights
 - 3 = Building light
 - 4 = House/apartment light
 - 77 = Other (describe):
7. Type of physical disorder present¹⁶ (observed; select all that apply):
 - 1 = dilapidation
 - 2 = abandoned buildings/homes (including boarded up)
 - 3 = stripped and burned out cars
 - 4 = broken streetlights
 - 5 = junk-filled and unmoved vacant lots
 - 6 = litter
 - 7 = garbage-sewn alleys
 - 8 = alcohol and tobacco advertising
 - 9 = graffiti
 - 10 = none
 - 11 = boarded up windows
 - 12 = vacant lot

¹⁵ Weisburd et al. (October 2005). Does crime just move around the corner? A study of displacement and diffusion in Jersey City, NJ. NCJRS 211679.

¹⁶ Wyckoff, L. A. (2011). Moving social disorder around *which* corner? A case study of spatial displacement and diffusion of benefits. Doctoral Dissertation. Department of Criminology and Criminal Justice, University of Maryland, College Park.

-77 = other

-99 = Cannot tell, describe:

8. Reported level of physical disorder (sum all police calls for service, 311 calls, online reports):

9. Google Earth screen shot of specific place where crime event occurred

10. Address of crime event available:

1 = Yes (skip to question 11)

0 = No, describe specific place:

11. Address of crime event* :

Offender characteristics

1. How many offenders are present? (if more than one, complete table below)*

2. If more than one offender, complete the following (null if Q1 = 1):

	Approximate skin hue			Total
	Light	Medium	Dark	
Male youths (0 > 18)				
Male young adults (18 > 30)				
Male midlife (31 > 64)				
Male old (65 > 74)				
Male elderly (75 > 100)				
Female youths (0 > 18)				
Female young adults (18 > 30)				
Female midlife (31 > 64)				
Female old (65 > 74)				
Female elderly (75 > 100)				
Total (offenders):				

3. What is the approximate skin hue of the offender (null if Q2 completed):

1 = Light skin

2 = Medium skin

3 = Dark skin

-99 = Cannot tell, describe:

4. What is the offender's gender (null if Q2 completed):

1 = Male

2 = Female

-99 = Cannot tell, describe:

5. What is the offender's approximate age (null if Q2 completed):

- 1 = Youthful (0 – 29)
- 2 = Middle-aged (30 – 64)
- 3 = Old (65 – 74)
- 4 = Elderly (75 – 100)
- 99 = Cannot tell, describe:

6. Time offender(s) entered the specific place (hr/min/sec/millisecond):

7. Time the offender(s) exited the specific place (hr/min/sec/millisecond):

Offender routines (a sequence of actions regularly followed)

8. What is the method of movement (check all that apply):

- 1 = Concealed/Hidden
- 2 = Confrontation/confronting
- 3 = Driving
- 4 = Following
- 5 = Running

1 = Fast (sprint)

2 = Slow (jog)

6 = Scoping (looking around in different directions; over shoulder, etc.)

7 = Still/standing in place (loitering; hanging out)

8 = Walking

1= How many steps did the offender travel? (null field if walking = 0)

9 = bicycle

10 = sitting down

-77 = Other:

-99 = Cannot tell, describe:

9. If the method of movement was walking, what was the pace? (null field if walking = 0)

1 = Leisurely

2 = Medium pace

3 = Quickly, fast, urgent

4 = Picked up the pace (slow start→quicker, fast movement)

5 = Slowed down the pace (quicker, faster movement→slower pace)

10. If the method of movement was walking, did the offender walk side by side with the target? (null field if walking = 0)

1 = Yes

0 = No

11. Describe routines:

Repetitive or routine method of movement? At what intervals—every x seconds?

12. Did the offender change his/her method of movement before, during, or after (if applicable) the crime event?

- 1 = Yes
- 0 = No (skip to question 18)
- 99 = Cannot tell

13. How many times?

14. What was the new method of movement (check all that apply):

- 1 = Concealed/Hidden
- 2 = Confrontation/confronting
- 3 = Driving
- 4 = Following
- 5 = Running
 - 1 = Fast (sprint)
 - 2 = Slow (jog)

6 = Scoping (looking around in different directions; over shoulder, etc.)

7 = Still/standing in place (loitering; hanging out)

8 = Walking

1= How many steps did the offender travel? (null field if walking = 0)

-77 = Other:

-99 = Cannot tell, describe:

15. If walking was the new method of movement, what was the pace? (null field if walking = 0)

- 1 = Leisurely
- 2 = Medium pace
- 3 = Quickly, fast, urgent
- 4 = Picked up the pace (slow start→quicker, fast movement)
- 5 = Slowed down the pace (quicker, faster movement→slower pace)

16. If walking was the new method of movement, did the offender walk side by side with the target? (null field if walking = 0)

1 = Yes

0 = No

17. Describe the new method of movement:

Repetitive or routine method of movement? At what intervals—every x seconds? (describe the difference between the latter routines and the earlier routines)

Offender behaviors (the way in which one acts or conducts oneself, especially toward others)

18. Is the offender(s) following or behind?

1 = Yes (skip to question 20)

0 = No

19. Is the offender(s) in front or ahead?

1 = Yes

0 = No

20. Did the offender(s) have a weapon* ?

1 = Yes

0 = No (skip to question 22)

21. Weapon type* (list all):

- 1 = Handgun/firearm
- 2 = Hands
- 3 = Fists
- 4 = Walking apparatus (cane, etc.)
- 5 = Object
- 6 = Foot
- 7 = Arm

	Type of behavior				Total
	Audience	Onlooker	Active	Joint	
Offender 1					
Offender 2					
Offender 3					
Offender 4					
Offender 5 ... n					
Total (behavior types):					

22. Type of behavior(s)

¹⁷ (select all that apply): (if more than one offender, complete behavior type table instead; for multiple offenders, select multiples types, if applicable—behaviors are not mutually exclusive during the crime event):

- 1 = Audience (co-offender; peripheral participation; marginal active part) (null if Q1 = 1)
- 2 = Onlooker (co-offender; defined place in setting, but has little power) (null if Q1 = 1)
- 3 = Active (co-offender; power over a part of the behavior and situation, but does not lead; direct power over a limited part of the overall behavior and situation) (null if Q1 = 1)
- 4 = Joint behavior (offender and co-offender; immediate power over the situation, but shared power) (null if Q1 = 1)
- 5 = Single behavior (offender; immediate and sole authority over behavior and entire situation) (null if Q1 = >1)

(Table to auto-populate the number of offender rows to complete behavior types based on Q1; table hidden if Q1 = 1).

¹⁷ Barker 1968, p. 49-51

23. Describe behavior:

Offender interactions (reciprocal action)

24. How much time (seconds) passed until the offender encountered a suitable target (total distance to offense)¹⁸:

25. Describe the interaction:

Totals

26. Total number of routines (SUM Q8:Q19; coded and counted from Q11 and Q17):

27. Total number of behaviors (Q22; coded and counted from Q23 & official offense narrative) * :

28. Total perpetration time (seconds; difference between Q7 and Q6):

29. Confirmatory data available?

1 = Yes

0 = No

30. Describe confirmatory documents available:

Describe whether able to retrieve official data or supplemental data to triangulate for fields such as "offender skin hue," "offender gender," "offender age," "presence of weapon," "type of crime," etc.

Suitable Target Characteristics

1. Is the target a piece of property?

1 = Yes

0 = No (skip to question 4)

2. What type of property?

1 = Building (skip to question 1 under "Guardian Routines")

2 = Vehicle (skip to question 1 under "Guardian Routines")

3 = Public utility (skip to question 1 under "Guardian Routines")

4 = Personal property (skip to question 3)

77 = Other, describe:

¹⁸ Lersch & Hart, 2011: distance can be measured as a time value

3. Is the target also a human being?

1 = Yes

0 = No (skip to question 1 under “Guardian Routines”)

4. How many targets are present * ?

-99 = not applicable (close out form)

5. If more than one target, complete the following table (null if Q4 = 1):

	Approximate skin hue			Total
	Light	Medium	Dark	
Male youths (0 > 18)				
Male young adults (18 > 30)				
Male midlife (31 > 64)				
Male old (65 > 74)				
Male elderly (75 > 100)				
Female youths (0 > 18)				
Female young adults (18 > 30)				
Female midlife (31 > 64)				
Female old (65 > 74)				
Female elderly (75 > 100)				
Total (targets):				

6. What is the approximate skin hue of the target? (null if Q5 completed):

1 = Light skin

2 = Medium skin

3 = Dark skin

-99 = Cannot tell, describe:

7. What is the target’s gender (null if Q5 completed):

1 = Male

2 = Female

-99 = Cannot tell, describe:

8. What is the target’s approximate age (null if Q5 completed):

1 = Youthful (0 – 29)

2 = Middle-aged (30 – 64)

3 = Old (65 – 74)

4 = Elderly (75 – 100)

-99 = Cannot tell, describe:

9. Time target(s) entered the specific place (hr/min/sec/millisecond) (null if Q4 = -99):

10. Time target(s) exited the specific place (hr/min/sec/millisecond) (null if Q4 = -99):

Target routines (a sequence of actions regularly followed)

11. What is the method of movement (check all that apply):

1 = Concealed/Hidden

2 = Confrontation/confronting

3 = Driving

4 = Following

5 = Running

1 = Fast (sprint)

2 = Slow (jog)

6 = Scoping (looking around in different directions; over shoulder, etc.)

7 = Still/standing in place (loitering; hanging out)

8 = Walking

1= How many steps did the target travel? (null field if walking = 0)

9 = Sitting down

10 = Lying on the ground

-99 = Cannot tell, describe:

12. If the method of movement was walking, what was the pace? (null field if walking = 0)

1 = Leisurely

2 = Medium pace

3 = Quickly, fast, urgent

4 = Picked up the pace (slow start→quicker, fast movement)

5 = Slowed down the pace (quicker, faster movement→slower pace)

13. Describe routines:

Repetitive or routine method of movement? At what intervals—every x seconds?

14. Did the target change his/her method of movement before, during, or after the crime event?

1 = Yes

0 = No (skip to question 19)

-99 = Cannot tell

15. How many times?

16. What was the new method of movement (check all that apply):

1 = Concealed/Hidden

2 = Confrontation/confronting

3 = Driving

4 = Following

5 = Running

1 = Fast (sprint)

2 = Slow (jog)

6 = Scoping (looking around in different directions; over shoulder, etc.)

7 = Still/standing in place (loitering; hanging out)

8 = Walking

1 = How many steps did the target travel? (null field if walking = 0)

-99 = Cannot tell, describe:

17. If walking was the new method of movement, what was the pace? (null field if walking = 0)

1 = Leisurely

2 = Medium pace

3 = Quickly, fast, urgent

4 = Picked up the pace (slow start → quicker, fast movement)

5 = Slowed down the pace (quicker, faster movement → slower pace)

18. Describe the new method of movement:

Repetitive or routine method of movement? At what intervals—every x seconds? (describe difference between the latter routines and the earlier routines)

Target behaviors (the way in which one acts or conducts oneself, especially toward others)

19. Is the target(s) following or behind?

1 = Yes (skip to question 21)

0 = No

20. Is the target(s) in front or ahead?

1 = Yes

0 = No

21. Did the target(s) have a weapon* ?

1 = Yes

0 = No (skip to question 23)

22. Weapon type (list all) * :

1 = Knife

2 = Fist

3 = Bat

4 = Stick/pole

23. Type of behavior(s)¹⁹ (select all that apply): (if more than one target, complete behavior type table instead; for multiple targets, select multiples types, if applicable—behaviors are not mutually exclusive during the crime event):

1 = Onlooker (co-target with a defined place in setting, but has little power) (null if Q4 = 1)

¹⁹ Barker 1968, p. 49-51

2 = Joint behavior (can be offender and target simultaneously; struggles to maintain immediate power over the situation, but shared power over outcome)

Describe behavior:

*Offender and target? Offender, target, and guardian?
Offender and guardian?*

3 = Single behavior (immediate and only target) (null if Q4 > 1)

(Table to auto-populate the number of target rows to complete behavior types based on Q4; table hidden if Q4 = 1).

	Type of behavior			Total
	Onlooker	Joint	Single	
Target 1				
Target 2				
Target 3 ... n				
Total (behavior types):				

24.

Describe behavior:

Target interactions (reciprocal action)

25. How much time (seconds) passed until the target was encountered by the offender (total distance to victimization (seconds)²⁰ (auto-populate from OI24)

26. Any instance of self-defense?

1 = Yes

0 = No (skip to question 28)

27. How many instances of self-defense (each movement observed):

28. Describe interaction:

Totals

²⁰ Lersch & Hart, 2011: distance can be measured as a time value

29. Total number of routines (SUM Q11:Q18; coded and counted from Q13 and Q18):

30. Total number of behaviors (Q23; coded and counted from Q23, Q24, Q28 and

official offense narrative) * :

31. Total victimization exposure time (auto-populate from OT28):

32. Confirmatory data available?

1 = Yes

0 = No

33. Describe confirmatory documents available:

Describe whether able to retrieve official data or supplemental data to triangulate for fields such as "target skin hue," "target gender," "target age," "target of weapon," "type of crime," etc.

Guardian Characteristics

1. Did a guardian intervene?

1 = Yes

0 = No (skip to next section: "Activities Characteristics")

2. How many guardians were present * ?

	Approximate skin hue				Type of guardian			
	Light	Med	Dark	Total	Formal	Informal	Formal & Informal	Total
Male youths (0 > 18)								
Male young adults (18 > 30)								
Male midlife (31 > 64)								
Male old (65 > 74)								
Male elderly (75 > 100)								
Female youths (0 > 18)								
Female young adults (18 > 30)								
Female midlife (31 > 64)								
Female old (65 > 74)								
Female elderly (75 > 100)								
Total (guardians):								

3. If more than one guardian, complete the following (null if Q2 = 1):

4. Guardian type (null if Q3 completed):

1 = Official (formal)

2 = Unofficial (informal)

3 = Both (formal and informal)

-99 = Cannot tell, describe:

5. What is the approximate skin hue of the guardian (null if Q3 completed):

1 = Light skin

2 = Medium skin

3 = Dark skin

-99 = Cannot tell, describe:

6. What is the guardian gender (null if Q3 completed):

1 = Male

2 = Female

-99 = Cannot tell, describe:

7. What is the guardian approximate age (null if Q3 completed):

1 = Youthful (0 – 29)

2 = Middle-aged (30 – 64)

3 = Old (65 – 74)

4 = Elderly (75 – 100)

-99 = Cannot tell, describe:

8. Time guardian(s) entered the specific place (hr/min/sec/millisecond):

9. Time guardian(s) exited the specific place (hr/min/sec/millisecond):

Guardian routines (a sequence of actions regularly followed)

10. What was the guardian intensity level²¹?

- 1 = Invisible
- 2 = Available
- 3 = Capable
- 4 = Intervening
- 99 = Cannot tell, describe:

11. What is the method of movement (check all that apply):

- 1 = Concealed/Hidden
- 2 = Confrontation/confronting
- 3 = Driving
- 4 = Following
- 5 = Running
 - 1 = Fast (sprint)
 - 2 = Slow (jog)
- 6 = Scoping (looking around in different directions; over shoulder, etc.)
- 7 = Still/standing in place (loitering; hanging out)
- 8 = Walking
 - 1 = How many steps did the guardian travel? (null field if walking = 0)
- 9 = Arresting/detaining
- 10 = on a horse
- 11 = bicycle
- 99 = Cannot tell, describe:

12. If the method of movement was walking, what was the pace? (null field if walking = 0)

- 1 = Leisurely
- 2 = Medium pace
- 3 = Quickly, fast, urgent
- 4 = Picked up the pace (slow start→quicker, fast movement)
- 5 = Slowed down the pace (quicker, faster movement→slower pace)

13. Describe routines:

Repetitive or routine method of movement? At what intervals—every x seconds? For formal guardians, is there a specific type of patrol: foot, motor, bike, scooter, or more than one type of patrol

14. Did the guardian change his/her method of movement before, during, or after the crime event?

- 1 = Yes
- 0 = No (skip to question 18)
- 99 = Cannot tell

²¹ Reynald (2009)

15. How many times?

16. What was the new method of movement (check all that apply):

1 = Concealed/Hidden

2 = Confrontation/confronting

3 = Driving

4 = Following

5 = Running

1 = Fast (sprint)

2 = Slow (jog)

6 = Scoping (looking around in different directions; over shoulder, etc.)

7 = Still/standing in place (loitering; hanging out)

8 = Walking

1= How many steps did the guardian travel? (null field if walking = 0)

9 = Arresting/detaining

-99 = Cannot tell, describe:

17. If walking was the new method of movement, what was the pace? (null field if walking = 0)

1 = Leisurely

2 = Medium pace

3 = Quickly, fast, urgent

4 = Picked up the pace (slow start→quicker, fast movement)

5 = Slowed down the pace (quicker, faster movement→slower pace)

18. Describe routines:

Repetitive or routine method of movement? At what intervals—every x seconds? (describe difference between the latter routines and the earlier routines. For formal guardians, is there a specific type of patrol: foot, motor, bike, scooter, or more than one type of patrol

Guardian behaviors (the way in which one acts or conducts oneself, especially toward others)

19. Guardian called to the specific place where crime event occurred?

1 = Yes

0 = No (skip to question 21)

-99 = Cannot tell, describe:

20. Describe:

Triangulation: police report, news paper articles, if available

21. Guardian arrive/happen upon the specific place where crime event occurred? (null if Q19 = 1)

1 = Yes

0 = No (skip to question 23)

-99 = Cannot tell, describe:

22. Describe:

Triangulation: police report, news paper articles, if available

23. Is the guardian following or behind?

1 = Yes (skip to question 25)

0 = No

24. Is the guardian in front or ahead?

1 = Yes

0 = No

25. Did the guardian(s) use a weapon * ?

1 = Yes

0 = No (skip to question 27)

26. Weapon type (list all) * :

1 = Firearm

2 = Taser

3 = Fist

4 = Foot

5 = Purse

27. Type of behavior²² (select all that apply): (if more than one guardian, complete behavior type table instead; for multiple guardians, select multiples types, if applicable—behaviors are not mutually exclusive during the crime event):

1 = Onlooker (informal guardian; peripheral participation; no active part; available) (null if Q2 > 1)

2 = Active (informal guardian; power over a part of the behavior and situation, but does not lead; direct power over a limited part of the overall behavior and situation; capable) (null if Q2 > 1)

3 = Joint behavior (formal guardians; informal guardians; immediate power over the situation, but shared power), describe (null if Q2 = 1):

Two formal guardians? One formal and one informal guardian? Mix of formal and informal guardians

4 = Single behavior (formal guardian; immediate authority over behavior and entire situation; intervening) (null if Q2 > 1)

²² Barker 1968, p. 49-51

(Table to auto-populate the number of guardian rows to complete; behavior types based on Q4; table hidden if Q4 = 1).

	Type of behavior				Total
	Onlooker	Active	Joint	Single	
Guardian 1					
Guardian 2					
Guardian 3 ... n					
Total (behavior types):					

28. Describe behavior:

Guardian interactions (reciprocal action)

29. How much time (seconds) passed until the guardian encountered the offender (total distance to intervention)?

30. Total Time lapse until intervention (OC6 – GI29):

-99 = Cannot tell, describe: (cases where guardian is following up on a warrant, intervention happens on different day than offense, etc.)

31. Describe interaction:

Totals

32. Total number of routines (SUM Q10:Q18; coded and counted from Q13 and Q18)

33. Total number of behaviors (Q23: Q28; coded and counted from Q20 and Q22 & official offense narrative) * :

34. Total distance to intervention (seconds; auto-populate answer from QGI29)²³:

35. Confirmatory data available?

1 = Yes

0 = No

36. Describe confirmatory documents available:

Describe whether able to retrieve official data or supplemental data to triangulate for fields such as “guardian skin hue,” “guardian gender,” “guardian age,” “Guardian arrival/happening upon specific place of crime event,” “Guardian called to specific place of crime event.” etc.

²³ Lersch & Hart, 2011: distance can be measured as a time value

Activities characteristics (condition in which things are happening or being done; the aggregated scene and coding of everything going on prior and during the crime event)

1. Number of people present:

2. Rate the volume of pedestrian traffic²⁴:

- 1 = None
- 2 = Light
- 3 = Moderate
- 4 = Heavy

3. Rate the volume of automobile traffic²⁵:

- 1 = None
- 2 = Light
- 3 = Moderate
- 4 = Heavy
- 99 = Cannot tell, describe:

4. What type of activities are going on (check all that apply) * :

- | | | |
|--|-------------------------|-------------------------------|
| 1 = Car accident | 11 = Homeless person | 21 = Sitting idle (1 person) |
| 2 = Car/building break-in | 12 = Jaywalking | 22 = Smoking |
| 3 = Congregating (assembling into a group) | 13 = Loud dispute | 23 = Solicitation |
| 4 = Dancing | 14 = Loud noise/music | 24 = Standing idle (1 person) |
| 5 = Drinking | 15 = Panhandling | 25 = Talking |
| 6 = Drug activity | 16 = Person down | 26 = Talking on the phone |
| 7 = Drunk/high on drugs | 17 = Physical assault | 27 = Unattended dogs |
| 8 = Eating | 18 = Police interaction | 28 = Vandalism |
| 9 = Gambling | 19 = Police patrol | 29 = Verbal disorder |
| 10 = Hanging out (2 or more people) | 20 = public drinking | 30 = Walking |

5. Describe the activities:

6. Describe the activities that set off the “convergence”:

-99 = Cannot tell, describe:

²⁴ Weisburd et al. (October 2005). Does crime just move around the corner? A study of displacement and diffusion in Jersey City, NJ. NCJRS 211679.

²⁵ ibid

7. Are there any passerby's or witnesses (passive role)?

- 1 = Yes
- 0 = No (skip to question 10)
- 99 = Not applicable

8. Are there more than two passerby's or witnesses²⁶?

- 1 = Yes
- 0 = No (skip to question 10)
- 99 = Not applicable

9. How many passerby's or witnesses:

10. Number of activities prior to crime event (include "0"):

- 99 = Cannot tell, describe:

11. Length of time of activities prior to crime event (seconds) (null if Q10 = 0):

- 99 = Cannot tell, describe:

12. Number of activities during crime event (include "0"):

- 99 = Cannot tell, describe:

13. Length of time of activities during crime event (null if Q12 = 0):

- 99 = Cannot tell, describe:

14. Confirmatory data available?

- 1 = Yes
- 0 = No

15. Describe confirmatory documents available:

Describe whether able to retrieve official data or supplemental data to triangulate for fields such as "type of activity or activities"

Offense characteristics

1. Is there an official classification for this crime event (arrest charges)?

- 1 = Yes
- 0 = No (skip to question 3)

2. What type of crime occurred?

- | | |
|--|---|
| 1 = Armed burglary | 13 = Inflicted death |
| 2 = Armed robbery | 14 = Larceny |
| 3 = Assault (all degrees) | 15 = Obstruction of justice |
| 4 = Automobile theft | 16 = Possession of an illegal substance |
| 5 = Breaking and entering | 17 = Property damage/crime |
| 6 = Burglary | 18 = Rape |
| 7 = Conspiracy to distribute illegal drugs | 19 = Robbery |

²⁶ Bosse et al. 2010

- | | |
|------------------------------------|------------------------------------|
| 8 = Conspiracy to murder | 20 = Shooting (firearm discharged) |
| 9 = Criminal sexual misconduct | 21 = Stabbing |
| 10 = Distribution of illegal drugs | 22 = Theft |
| 11 = Disturbing the peace | 23 = Trespassing |
| 12 = Illegal firearm possession | 24 = Unlicensed pharmacy |

3. Was any weapon used?

- 1 = Yes
- 0 = No (skip to question 5)

4. Weapon quality:

- 1 = Real
- 2 = Manufactured
- 3 = Corporeal
- 4 = Other, specify:
- 5 = all of the above

5. Time at which the offender encountered the target (hr/min/sec/millisecond) (auto-populate to “-99” if number of targets/guardians =-99):

6. Time at which the guardian encountered the offender (hr/min/sec/millisecond) (auto-populate to “-99” if number of targets/guardians =-99):

7. Total offense time (seconds) (QOffC5 – QOC7 or QOffC5 – QOffC6):

8. Other relevant information from offense narrative:

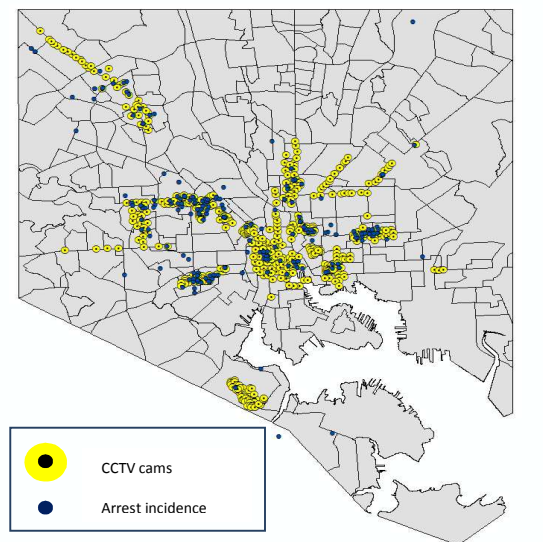
- 1 = heroin
- 2 = marijuana
- 3 = cocaine
- 4 = prescription drugs
- 5 = crack cocaine
- 6 = timeout called out as a warning about formal guardian presence
- 7 = stemming from altercation at the Velvet Rope Night Club
- 8 = under cover/off-duty police officer assaulted, the target.

Research journal notes



APPENDIX B: CCTV arrest and CCTV camera GIS mapping

For each CCTV arrest, I confirmed the full address using Google Maps. For those arrests whose address could not be definitively determined by Google Maps, I went back to the BPD arrest viewer to record the right address based on the official record. For example, using Google Maps and entering "3103 North Ave" as indicated by the arrest data, the location was ambiguous because I did not have enough information to distinguish between 3103 West North Avenue or 3103 East North Avenue, both of which are separate locations in Baltimore. The zip code of the arrest location entered in the BPD arrest viewer determines whether the arrest location was on East North Ave or West North Avenue. Once the proper addresses for all the arrests were identified, I then geocoded the street addresses to map their location in the City to then be able to overlay the location of the CCTV cameras. Zip codes for geocoding were pulled from the BPD arrest viewer arrest information. Where zip code information was missing, the statement of charges were read to retrieve more information about any cross streets or geographical information, which could later be cross referenced to figure out if the street was in East or West Baltimore, e.g. West North Avenue. as opposed to East North Avenue. This was especially necessary for streets that run in different directions, north, south, west, and east.



CCTV camera location & CCTV arrests

APPENDIX C: Number of offenses combined with other included offenses (excluded from sample since already included)

Offense considered	Charge #	Leading charge offense combined with	Charge #	Date
Theft (30)	4	Assault (1 st)	1	1/7/10
Theft (29)	3	Theft (29)	1	12/27/10
Theft (29)	3	Theft (30)	2	12/27/10
Theft (29)	4	Theft (29)	1	12/27/10
Theft (29)	4	Theft (30)	2	12/27/10
Theft (30)	5	Robbery (38)	1	12/20/10
Theft (29)	6	Robbery (37)	1	10/6/10
Theft (30)	4	Assault (1 st)	1	7/29/10
Murder (24)	2	Murder (24)	1	10/19/10
Murder (24)	2	Murder (24)	1	10/19/10
Murder (24)	2	Murder (24)	1	10/19/10
Murder (24)	2	Murder (24)	1	10/19/10
Murder (24)	2	Murder (24)	1	8/19/10
Murder (24)	2	Murder (24)	1	7/9/10
Murder (24)	2	Murder (24)	1	4/21/10
Murder (24)	2	Murder (24)	1	1/24/10
Murder (24)	3	Murder (24)	1	7/9/10
Murder (24)	4	Murder (24)	1	7/9/10
Murder (24)	5	Murder (24)	1	7/9/10
Murder (24)	6	Murder (24)	1	7/9/10
Murder (24)	4	Assault (1 st)	1	5/29/10
Murder (24)	7	Murder (24)	1	3/4/10
Assault (1)	2	Murder (24)	1	3/4/10
Assault (1)	3	Robbery (38)	1	12/20/10
Assault (1)	3	Murder (24)	1	10/19/10
Assault (1)	4	Murder (24)	1	10/19/10
Assault (1)	3	Murder (24)	1	10/19/10
Assault (1)	3	Murder (24)	1	10/19/10
Assault (1)	3	Murder (24)	1	10/19/10
Assault (1)	4	Murder (24)	1	10/19/10
Assault (1)	4	Murder (24)	1	10/19/10
Assault (1)	4	Murder (24)	1	10/19/10

Assault (1)	3	Murder (24)	1	8/19/10
Assault (1)	3	Murder (24)	1	4/21/10
Assault (1)	4	Murder (24)	1	3/4/10
Assault (1)	3	Murder (24)	1	1/24/10
Assault (2)	2	Assault (1)	1	10/3/10
Assault (2)	2	Assault (1)	1	8/29/10
Assault (2)	2	Assault (1)	1	8/6/10
Assault (2)	2	Assault (1)	1	8/6/10
Assault (2)	2	Assault (1)	1	7/29/10
Assault (2)	2	Assault (1)	1	5/29/10
Assault (2)	2	Assault (1)	1	1/7/10
Assault (2)	4	Robbery (38)	1	12/20/10
Assault (2)	4	Assault (3)	1	10/23/10
Assault (2)	4	Firearm	12	8/23/10
Assault (2)	5	Firearm	12	8/23/10
Assault (2)	4	Murder	24	8/19/10
Assault (2)	4	Murder (24)	1	4/21/10
Assault (2)	6	Murder (24)	1	3/4/10
Assault (2)	5	Murder (24)	1	3/4/10
Assault (2)	5	Murder (24)	1	1/24/10
Assault (2)	7	Murder (24)	1	10/19/10
Assault (2)	7	Murder (24)	1	10/19/10
Assault (2)	7	Murder (24)	1	10/19/10
Assault (2)	7	Murder (24)	1	10/19/10
Assault (2)	8	Murder (24)	1	10/19/10
Assault (2)	8	Murder (24)	1	10/19/10
Assault (2)	8	Murder (24)	1	10/19/10
Assault (2)	8	Murder (24)	1	10/19/10
Robbery(38)	2	Robbery (38)	1	12/20/10
Robbery (38)	3	Robbery (37)	1	10/6/10
Robbery (38)	3	Assault (1)	1	7/29/10
Robbery (38)	3	Assault (1)	1	8/29/10
Robbery (38)	6	Murder (24)	1	10/19/10
Robbery (38)	6	Murder (24)	1	10/19/10
Robbery (38)	6	Murder (24)	1	10/19/10
Robbery (38)	6	Murder (24)	1	10/19/10
Robbery (38)	6	Assault (1)	1	7/29/10
Robbery (38)	10	Assault (1)	1	1/7/10
Robbery (38)	11	Assault (1)	1	1/7/10
Robbery (38)	19	Assault (1)	1	1/7/10
Firearm (12)	6	Robbery (38)	1	12/20/10
Firearm (12)	7	Robbery (38)	1	12/20/10

Firearm (12)	9	Robbery (38)	1	12/20/10
Firearm (12)	10	Robbery (38)	1	12/20/10
Firearm (12)	2	Firearm (1)	1	8/23/10
Firearm (12)	3	Firearm (1)	1	8/23/10
Firearm (12)	5	Murder (24)	1	8/19/10
Firearm (12)	6	Murder (24)	1	8/19/10
Firearm (12)	7	Murder (24)	1	8/19/10
Firearm (12)	8	Murder (24)	1	8/19/10
Firearm (12)	16	Murder (24)	1	7/9/10
Firearm (12)	17	Murder (24)	1	7/9/10
Firearm (12)	18	Murder (24)	1	7/9/10
Firearm (12)	19	Murder (24)	1	7/9/10
Firearm (12)	20	Murder (24)	1	7/9/10
Firearm (12)	21	Murder (24)	1	7/9/10
Firearm (12)	2	Firearm (1)	1	6/29/10
Firearm (12)	3	Firearm (1)	1	6/29/10
Firearm (12)	8	Firearm (1)	1	6/29/10
Firearm (12)	9	Firearm (1)	1	6/29/10
Firearm (12)	2	Firearm (1)	1	6/14/10
Firearm (12)	5	Firearm (1)	2	5/29/10
Firearm (12)	6	Firearm (1)	2	5/29/10
Firearm (12)	3	Firearm (1)	1	5/26/10
Firearm (12)	5	Murder (24)	1	4/21/10
Firearm (12)	6	Murder (24)	1	4/21/10
Firearm (12)	7	Murder (24)	1	4/21/10
Firearm (12)	8	Murder (24)	1	4/21/10
Firearm (12)	3	Murder (24)	1	3/4/10
Firearm (12)	4	Murder (24)	1	3/4/10
Firearm (12)	5	Murder (24)	1	3/4/10
Firearm (12)	8	Murder (24)	1	3/4/10
Firearm (12)	10	Murder (24)	1	3/4/10
Firearm (12)	11	Murder (24)	1	3/4/10
Firearm (12)	2	Murder (24)	1	3/4/10
Firearm (12)	3	Murder (24)	1	3/4/10
Firearm (12)	6	Murder (24)	1	3/4/10
Firearm (12)	7	Murder (24)	1	3/4/10
Firearm (12)	3	Assault (1)	1	1/7/10
Firearm (12)	5	Assault (1)	1	1/7/10
Firearm (12)	6	Assault (1)	1	1/7/10
Firearm (12)	15	Assault (1)	1	1/7/10
Firearm (12)	16	Assault (1)	1	1/7/10
Firearm (12)	17	Assault (1)	1	1/7/10
Firearm (12)	23	Assault (1)	1	1/7/10

Firearm (12)	24	Assault (1)	1	1/7/10
Firearm (12)	25	Assault (1)	1	1/7/10

APPENDIX D: Coding conventions

Coding issue	Action taken	Justification
Multiple offenders, targets, guardians present (n > 6)	Only coded up to six agents	This was done in the interest of saving time. In the coding protocol and database, there is a field to indicate the total number of agents present beyond what was coded for.
Counting steps of multiple offenders, targets, or guardians	Focus on one agent and whomever's feet can be seen in the footage	Since offenders, targets, and guardians have distinct roles in the crime event, counting observable footsteps of each type of agent represented was the more efficient and doable choice; steps are also aggregated into a single count for steps counted from one more than one agent.
Coding initial presence/exit of offender, target, or guardian (1 st to enter the frame)	Count the entry of an agent when they are observed on camera for the first time and then no longer visible on recorded footage.	Cannot observe any of the agents beyond what is captured by the CCTV footage and therefore cannot code for more information. However, this does not account for the fact that these agents can still be on the scene or in the vicinity, but are just not on camera.
Use of Google Earth image	Created an additional field (after pilot coding) to note the imagery date from Google Earth	The insertion of the additional field beyond the pilot coding was okay since the Google Earth image is a field that needed to be populated post coding and the imagery date is a fixed date and would not vary. The image of the specific place is not necessarily what it looked like the date of the recorded crime event.
Length of activities before and during the crime event	Count the number of activities over time; not the time span of each individual activity counted	The count is not based on how long each activity lasts, but the time span of all activities between the offenders first encounter with a target and the end of a crime event (during) and the time span of all activities prior to the start of the offense
#of activities before and during crime event	Counted each instance of activity observed w/ea movement of the camera and if actors	Helps determine if some activities are constant or change shape, direction, and position in the case of congregating in a group or loitering or sitting down. If the camera shows one instance

involved in activities
shifted positions

in one shot, that's counted; if in another
camera shot the same activity is observed, that
is counted as well.

APPENDIX E: Peer debriefing session materials

Date	Task(s)	Outcome(s)	Action Items
June			
6/11/13	<p>Update (Ajima): --Coding protocol --Sampling methodology</p> <p>Discuss (Laura & Ajima): --Initial thoughts/feedback about proposal --Debriefing schedule (day/times)</p>	<ul style="list-style-type: none"> • Will meet/contact to debrief as needed • Sampling methodology refined: <ul style="list-style-type: none"> ○ Look at 1-2 years of adjudicated data ○ Check for seasonality • SSO protocol <ul style="list-style-type: none"> ○ Consider time segments of interaction 	<ol style="list-style-type: none"> a. Create Dropbox account for peer-debriefing files (Ajima) b. Send Laura SSO protocol (Ajima) c. Send Ajima dissertation SSO protocol (Laura) d. We agreed to digitally record our meetings in lieu of journaling. e. Compare calls for service codes
July			
7/15/13	<p>Update (Ajima): --data collection progress --Protocol development progress --Coding book progress</p> <p>Discuss (Laura & Ajima): --Selecting purposive sample --Methodology for single-coder reliability --Pilot coding</p>	<ul style="list-style-type: none"> • Rank arrest data by street and examine types of crimes occurring • Selective sampling: start with cases from 2010 (scratch random sampling) 	<ol style="list-style-type: none"> a. Obtain incident data to match with arrest data b. Update sampling graphic c. Plan pilot coding (see meeting notes) d. Consult other sources for establishing reliability and for coding protocols (see meeting notes)
August			
8/12/13	<p>Update (Ajima): --Work on action items or ideas from previous meeting</p>	<ul style="list-style-type: none"> • Methodology evolved – need to note this. • Need to have some documentation to 	<ol style="list-style-type: none"> a. Finalize sampling graphic <ol style="list-style-type: none"> a. Also create flow chart

	<p>Discuss (Laura & Ajima): --Final sample and oversampling (methodology) --Including acquitted cases --Verification of hot spots</p>	<p>verify hot spots</p> <ul style="list-style-type: none"> • Map streets in study sample 	<p>b. Select events for pilot coding (see meeting notes) c. Consult other sources for establishing reliability and for coding protocols (see meeting notes) d. Complete codebook and build database (1st iteration) e. Verify 2010 and 2011 arrests from CCTV (entire population?)</p>
September			
No meeting	<p>Update (Ajima, via phone): --Briefly discussed completion of codebook; Laura will provide some feedback. --Meeting 2x in October for debriefing and meeting w/Dr. David Wilson to discuss single-coder reliability.</p>	<ul style="list-style-type: none"> • Ajima continued to work on list of action items • Ajima send Laura completed codebook 	<ul style="list-style-type: none"> • Complete all action items above • Build database • Begin pilot coding • Set date to discuss single-coder reliability with Laura and Dr. Wilson
October			
No meeting	<p>Update (Ajima): --Finished database --Began coding and journaling --Completed pilot coding</p>	n/a	<ul style="list-style-type: none"> • Coordinate meeting with Dr. Wilson on intra-coder reliability
November			
11/15/13	<p>Update (Ajima): --Completed pilot coding --Explain hiccup in access to data Discuss (Laura, Dave, Ajima): --Establishing intra-</p>	<ul style="list-style-type: none"> • Continue with data collection and reinforce role as objective researcher and ethical standards associated with this role. 	<ul style="list-style-type: none"> • Create a separate variable in database to indicate if the case is a duplicate coding of a previous video— will use for establishing reliability • Will eventually use

	coder reliability → 2 videos only starting in mid-December, which will be 2 months from start of data collection.		the reshape file command in Stata
December			
No meeting	Currently at n = 43 --created separate variable in database --establishing intra-coder reliability while waiting for new batch of archived footage	• Continued with data collection	

Peer-debriefing Agenda: Session 1
Tuesday, June 11, 2013
4:30 PM

2. Discuss

- a. Initial thoughts/feedback on dissertation proposal
- b. Aims of peer-debriefing sessions: focus on decisions around methods and analysis
- c. Debriefing schedule (day/times) during data collection period

3. Updates

- a. Coding protocol
- b. Sampling methodology

4. Action Items

Ajima & Laura:

- a. ~~Begin journaling (Ajima + Laura)~~ → We agreed to digitally record our meetings in lieu of journaling.

Ajima

- b. Create Dropbox account for peer-debriefing files
- c. Send Laura SSO protocol
- d. Get a list of adjudicated crimes that happened at 300 Light Street
- e. Update SSO protocol to include time segments of interaction

Laura

- f. Send Ajima dissertation SSO protocol
- g. Police codes for calls for service (Ajima will then need to compare with BPD's; use as proxy measure for disorder)

Meeting notes:

- Check out Laura’s dissertation (UMD) for SSO protocol
- With the GPS approach: may be able to use a mapping program (GoogleEarth, etc.) and compare with field approach → try this during the pilot phase with sample of 10 archived crime event footage
- To refine sampling methodology:
 - Get a list of crimes that happened on 300 Light Street –start from older data (2010, 2011—1990’s too late) to newer. The older data is more likely to yield more information: look at date, time, and crime. Want footage of crimes where people were arrested
 - Can obtain one year list of adjudications:
 - Need to figure out what months to sample and will want to check for seasonality; check in with Laura
 - Or can look at two years of adjudicated data. See how many there are and then figure out an *n*. Start as early as 2010, 2011 and decide which year to focus
 - Then will need to check for structural changes from then to now
 - If a list is unavailable, ask for a list of crimes or adjudications by year and then check off whether those adjudicated crimes are on the disks and then document if any are not usable; do this in general (damaged camera, etc.).
 - ***Always substantiate decisions: inclusions and exclusions or if you choose to focus on a certain season, (e.g. fall, winter, spring, summer).***
- SSO Protocol
 - Check out Laura’s SSO instrument →tracked everything by crime and timing of activities→time segments of interaction, behaviors
 - **Coding: pilot methodology with sample of 10 archived crime events—from the year before or the year of, but should be separate from study sample. The logic is that you’ll pilot enough, so you’ll know what you are doing when you start the actual coding.**
 - Include notes about the angle and zooming level of the camera the captured the crime event. Describe what I was able to see given the vantage point provided by the camera.
- BPD
 - What training do BPD monitors have for recording footage and zooming in/zooming out on suspicious activity and eventual crimes – support? Proactive?
 - **Ask.**
 - **Training?**
 - **Do they have a protocol?**

2/13/2015

Gmail - RE: How are you?



Ajima Olaghere [REDACTED]

RE: How are you?

Laura Ann Wyckoff [REDACTED]

Fri, Feb 7, 2014 at 6:33 PM

To: Ajima Olaghere [REDACTED]

You too!

From: Ajima Olaghere [REDACTED]

Sent: Friday, February 07, 2014 6:32 PM

To: Laura Ann Wyckoff

Subject: Re: How are you?

Really comforting! Thank you for pushing me! Hope you have a wonderful weekend!

On Wed, Feb 5, 2014 at 2:46 PM, Laura Ann Wyckoff <lwyckoff@umd.edu> wrote:

I think that would be fine... wait till you are done, especially since you feel like you are being consistent. I am happy it worked out....that is comforting

From: Ajima Olaghere [REDACTED]

Sent: Wednesday, February 05, 2014 2:32 PM

To: Laura Ann Wyckoff

Subject: Re: How are you?

We said two initially because of the time it takes, but I agree with doing another pair of videos. Those two were #7 and #8 from my pilot coding, so I could do a pair from the next three quartiles?

Would the timing matter? Say if I wanted to run the remaining reliability scores once I was done coding since I did the one to show that my coding since starting and two months later is okay. So the remaining scores would be to show how consistent I was over time, as you mentioned?

On Wed, Feb 5, 2014 at 2:23 PM, Laura Ann Wyckoff [REDACTED] wrote:

That sounds great!

I can't remember, how many videos were you going to do for the check? For some reason I thought it was

<https://mail.google.com/mail/u/0/?ui=2&ik=935712150&view=pt&search=inbox&msg=1440eb3077efe9ad&dsq=1&siml=1440eb3077efe9ad>

1/5

2/13/2015

Gmail - RE: How are you?

more.

I think doing a couple more when you are all done is a fine idea, since it will just make your work stand up better to criticism. What number in your 100 were those 2? You could try to do one within each of the 25, to show that you had reliability through the entire process.

From: Ajima Olaghery [REDACTED]
Sent: Wednesday, February 05, 2014 2:18 PM

To: Laura Ann Wyckoff
Subject: Re: How are you?

Stata says: kappa = .77 for one video and 1.00 for second video (in all fairness the "perfect" correlation is misleading because the video was so simple: 1 offender, 1 target--pretty hard to screw that up).

Whew. I feel like i should do another, perhaps at the end of coding? Perhaps the first video I coded and the last one I code? Or is that just overkill?

Ajima

On Tue, Feb 4, 2014 at 10:23 PM, Laura Ann Wyckoff [REDACTED] wrote:

You're very welcome....I just want to make sure your work stands up to a strong hurricane :-)

On Feb 4, 2014, at 10:05 PM, "Ajima Olaghery" [REDACTED] wrote:

Thanks so much, Laura! And especially for the push to get the reliability score done -- it will be my priority tomorrow!

My eyes are peeking through the top of my coat now :)

On Tue, Feb 4, 2014 at 2:48 PM, Laura Ann Wyckoff [REDACTED] wrote:

Ok, please take your coat off of your head :-)

This is a lot of work and there are a lot of things to do, so I get it.

As long as the scores turn out ok, it will be ok....you eyeballed them, so that is good, but try to do them soon, because if they come up bad that would be not good...although I am optimistic they will be ok. So don't stress too much, but I suggest figuring them out.

<https://mail.google.com/mail/u/0/?ui=2&ik=93f57f216c&view=pt&search=inbox&msg=1440eb3077efe9ad&dsqf=1&siml=1440eb3077efe9ad>

2/5

2/13/2015

Gmail - RE: How are you?

You are so close!

From: Ajima Olaghere [REDACTED]
Sent: Tuesday, February 04, 2014 2:36 PM

To: Laura Ann Wyckoff
Subject: Re: How are you?

P.S. And I know I'll have to make a note in the dissertation about the delay in the calculating the reliability score.

On Tue, Feb 4, 2014 at 2:35 PM, Ajima Olaghere [REDACTED] wrote:

Errr...I have yet to calculate my reliability score :(I AM HORRIBLE. I KNOW. Imagine me covering my head with my coat because I'm so ashamed! The coding has gotten the better of me because it's so much work.

I have to rearrange the data file by hand because I'm assuming I had too few cases for Stata to sort it accordingly, even with the proper command. But from what I could see, I think I'm on point except for the time calculations (I remember the switch in how I did it), the offender roles, and the number of steps traveled (which I knew would be a crapshoot in trying to produce similar results).

I will calculate my score tomorrow for sure. I finally have an "off" day to take the time to do it.

Sooo ashamed!!!!

Thank you for your address!

Ajima

On Tue, Feb 4, 2014 at 2:24 PM, Laura Ann Wyckoff [REDACTED] wrote:

Ajima,

It sounds like you are so close. You can do it!

How did you relabilty analysis turn out? Everything ok?

<https://mail.google.com/mail/u/0/?ui=2&ik=93f57f216c&view=pt&search=inbox&msg=1440eb3077efe9ad&dsqf=1&siml=1440eb3077efe9ad>

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2/13/2015

Gmail - RE: How are you?

My address is:

[REDACTED]
[REDACTED]

Best,

Laura

From: Ajima Olaghere [REDACTED]
Sent: Tuesday, February 04, 2014 7:54 AM
To: Laura Ann Wyckoff
Subject: Re: How are you?

Hi Laura!

I am well -- hanging in there. This is my last month of data collection, whether I code 100 videos or not, so I'll leave you alone this month :) I need to move on to data analysis and writing in March. I'm hoping to finish in time, but I'm not holding my breath on that!

How are you? Enjoying the weather? :)

By the way, could you forward me your mailing address?

Thank you!!

Ajima

On Tue, Feb 4, 2014 at 7:02 AM, Laura Ann Wyckoff [REDACTED] wrote:

Hi Ajima,

I'm
Just checking in. How are you? How is everything?

Best,
Laura

APPENDIX F: Completed audit trail checklist

External Auditor Checklist²⁷

Evaluator: Shawn M. Flower, Ph.D.

Date of evaluation: 4/27/2015

Relationship to study author: Formerly served on Board of Directors of MCIW College Degree Program with Author, and engage study Author as subcontractor on Research Projects

Declaration of conflict of interest: I have no conflict of interest.

1. Was there a clear statement of the aims of the research

Consider: what was the goal of the research? Why it was thought important? It's relevance.

Yes

No

Can't tell

Comments: I thought the author clearly justified the relevance of this study.

Importantly, the research filled an important gap in the literature with an innovative data source.

2. Question and study design specified and defined?

Yes

if e.g., "a case study approach was used because . . .", "interviews were used because . . ."

Yes

Enter relevant text

The author was very specific in how the study was designed and defined. I also felt that the author's use of illustrative graphics was particularly effective in relaying the theory, the design, and the findings.

No

If paper does not specify question and study design

No

Unclear if unsure

Unclear

²⁷ Informed by ©Critical Appraisal Skills Programme (CASP) Qualitative Research Checklist 31.05.13; Carnes (2008); Kuper et al. (2008). Qualitative Research: Critically Appraising Qualitative Research. British Medical Journal, Vol. 337, No. 7671, p. 687-689

3. Was the research design appropriate to address the aims of the research?

Consider if the researcher has justified the research design (e.g. have they discussed how they decided which method to use)?

- Yes
- No
- Can't tell

Comments:

The use of systemic social observation *Vis-à-vis video footage of crime events in Baltimore City resulting in a descriptive case study was a new and creative way to explore this area of study.*

4. Selection of data

Yes

If the selection of participants is described in full or explicitly as e.g., purposive, convenience, theoretical and so forth.

Yes

Enter relevant text

The author took pains to clearly describe the unit of analysis, the limitations of pool available from which to sample was drawn, and the method used. The author also included a detailed figure which effectively illustrated the criterion sampling strategy.

No

If only details of participants are given, e.g. age, gender, number

No

Unclear if unsure

Unclear

5. Was the data selected in a way that addresses the research issue?

Consider if the setting for data collection was justified; if it is clear how data were collected; if the researcher has justified the methods chosen; if the researcher has made methods explicit; if methods were modified during the study. If so, has the researcher explained how and why; if the form of data is clear; if the researcher has discussed saturation of data.

- Yes
- No
- Can't tell

Comments:

The selection of CCTV video footage as the data source, and the methods used to extract both qualitative and quantitative observations were very strong aspects of this project.

6. Method of data collection

Yes

If details of the data collection method are given e.g., piloting; topic guides for interviews; number of items in a survey; use of open or closed items; validation, and so forth.

Yes

Enter relevant text

The author designed a coding protocol which described the types of variables, a code book, and discussed the piloting of the coding instrument. In addition, the author discussed the use of research journals for the identification of themes and insights.

No

If only states “focus group”, “interviews were used” or “questionnaire was used”

No

In addition to piloting the coding instrument, the author conducted intra-coder reliability analysis to ensure the data were consistently collected.

Unclear if unsure

Unclear

7. Was the data analysis sufficiently rigorous?

Consider if there is an in depth description of the analysis process; if thematic analysis is used; whether the researcher explains how the data presented were selected from the original sample to demonstrate the analysis process; if sufficient data are presented to support the findings; to what extent contradictory data are taken into account; whether the researcher critically examined their own role, potential bias and influence during analysis and selection of data for presentation.

Yes

No

Can't tell

Comments:

The Author's discussion of the analysis was detailed to the extent that I understood the process and intent of the analytic strategy. While there were sufficient drug related offenses (N=74) to support the findings, I felt that the study would have been bolstered by additional property (N=8) and violent (N=18) offenses. Nonetheless, given resource constraints, I believe that the analysis was sufficiently rigorous. Further, the Author carefully considered and discussed limitations and explored bias (e.g., see reference to intra-coder reliability testing mentioned above).

8. Methods of data analysis

Yes

If full details of analysis method are given, e.g., transcription and form of analysis (with reference or full description of method), validation tests, and so forth.

Yes

Enter relevant text

The Author provided a comprehensive description of the analytical technique.

No

If only states "content analysis" or that "data were analyzed"

No

Unclear if unsure

Unclear

9. Is there a clear statement of findings?

Consider if the findings are explicit; if there is adequate discussion of the evidence both for and against the researchers arguments; if the researcher has discussed the credibility of their findings; if the findings are discussed in relation to the original research question.

Yes

No

Can't tell

Comments:

Consistent throughout this work, the Author was precise in her discussion, including the use of graphical figures to assist the leader in the visualizing the findings. This was particularly salient given the descriptive nature of the research effort. The findings directly speak to the overall research question – *what human activities, behaviors, routines, and situations contribute to crime occurring at these places?* - through the identification and specification of "core features" of behavior.

10. How valuable is the research?

Consider if the researcher discusses the contribution of the study; if researcher identifies new areas where research is necessary; if the researcher has discussed whether or how the findings can be transferred to other populations or considered other ways the research may be used

Yes

No

Can't tell

Comments:

This work is valuable because it has both theoretical and policy implications. From a theoretical basis, the use of systemic social observation with video footage as the data source allows for a contextual view into routine activities and crime pattern theories. I felt one of the most important contributions is the Author's statement that "*way in which offender use places through their own routine activities instead of how places come to the attention of motivated offenders*" (p. 96). This implies greater agency or level of thoughtful choice for the offender in the location of their day-to-day criminal practice, rather than momentary confluence of a suitable target, motivated offender, and lack of guardians. From a policy perspective, the recognition that "*places that may have symptoms of hot spots (disorder and crime) but may not necessarily be hot spots*" (p. 97) opens the door to more carefully observe the behaviors of individuals through patterns identified this Author's work, thereby "*distinguishing between the legal and the illegal*" (p. 97) within these types of environments. The Author also provides insight into the types of variables that should be included in future research efforts.

APPENDIX G: List of codes developed

	CODE	DEFINITION	TYPE
<i>Activity (code for actions/interactions – how persons handle situations; deliberate actions)</i>			
	Available	Guardian intensity level as defined by Reynald (2009)	Deductive (a priori)
	Capable	Guardian intensity level as defined by Reynald (2009)	Deductive (a priori)
	De-escalation	Instances where actions and interactions calm or de-escalate from becoming crime or spirited guardian intervention; safety-valve that prevents the crime process or allows for a smooth intervention	Inductive (cycle 1)
	Escalation	Instances where actions and interactions escalate or rise to the level of crime; trigger the start of the crime process	Inductive (a priori)
	Geoform	Groups of 3 or more actors standing in a geometric formation	Inductive (a priori)
	Intervening	Guardian intensity level as defined by Reynald (2009)	Deductive (a priori)
	Invisible	Guardian intensity level as defined by Reynald (2009)	Deductive (a priori)
	Quicktransact	Quick transactions between offenders and targets that last between 1-4 seconds	Inductive (a priori)
<i>Event occurrence (dramaturgical)</i>			
	Con_confusion	Instance where target clients or offenders are questioning part of the transaction or products.	Deductive (a priori)
	Obj_check	Instance of checking items received from an offender	Inductive (cycle 1)
	Obj_confront	Perceived role of a guardian to confront or engage a person or situation.	Inductive (cycle 1)
	Con_resist	Instance of resistance from one agent with another	Inductive (cycle 1)
	Obj_detain	Instances where an actor is detained physically by another actor, such as a guardian and an offender	Inductive (cycle 1)
	Obj_escort	Perceived role of an offender to escort a target to an offender	Inductive (a priori)

	Obj_follow-up	Perceived objective of the target to follow-up and receive from the offender to complete the transaction.	Inductive (a priori)
	Obj_guard	Perceived objective of the guardian to supervise a specific place, scene, situation, offender, target, or another guardian	Inductive (cycle 1)
	Obj_initiate	Perceived objective of the target or offender to initiate the transaction	Inductive (a priori)
	Obj_leave	Perceived objective of the target or offender to leave a specific place	Inductive (cycle 1)
	Obj_lookout	Perceived role of an offender to lookout for threatening activities outside of the crime event	Inductive (a priori)
	Obj_maindealer	Perceived role of a the main drug dealer among a group of co-offenders	Inductive (a priori)
	Obj_manager	Perceived role of a higher up, a manager, within the drug dealing network.	Inductive (a priori)
	Obj_mutual	Perceived mutual engagement between the target and the offender(s) as in the case of an assault, but not exclusive to assault cases.	Inductive (a priori)
	Obj_respond	Perceived objective of the offender or target to respond to the target's or offender's initiation of a transaction	Inductive (a priori)
	Obj_search	Perceived objective of the guardian to search a scene, target, or offender	Inductive (cycle 1)
	Rolechng	Role change of an actor; changing roles from an offender to a target, or a target to a guardian, etc.	Inductive (a priori)
	Tac_conceal	Instance of any concealing tactic used by any of the actors: offenders, targets, or guardians.	Deductive (a priori)
	Tac_ignore	Instance of an offender ignoring a target client during a crime event, especially during the initial meet.	Inductive (a priori)
	Tac_maintain-distance	Instances where an actor, usually between a target and an offender keeps their distance from one another	Inductive (cycle 1)
Setting/context codes			
	Abandonedprop	Instances where an offender uses the surrounding physical environment and environmental conditions (abandoned property) to conceal stash. Based on the work of St. Jean (2007)	Inductive (a priori)
	Alley	Description of or a reference to an alley; Location of a crime event either inside or in front of an entrance to an alley	Deductive (a priori)

Cornerstore	Location of a crime event either in front of or inside a corner store	Inductive (a priori)
Corner	Location of a crime event or space used during the crime event	Inductive (cycle 1)
Inside	Location of a crime event or space used during the crime event that is inside or indoors (not to be confused with “concealed” or “hidden”)	Inductive (cycle 1)
Litter	Instances were an offender uses the surrounding physical environment and environmental conditions (litter, trash filled areas) to conceal stash. Based on the work of St. Jean (2007)	Inductive (a priori)
Pgoing/coming	People external to the crime event who are going and coming through the specific place of the crime event.	Inductive (a priori)
Phanging	People external to the crime event hanging out by or near the specific place of the crime event.	Inductive (a priori)
Pwalk	People external to the crime event who are walking near or by the specific place of the crime event.	Inductive (a priori)
Rendezvous_point	A place where an offender and a target or an offender and another offender(s) meet or stop before going to another specific place such as an alley; this would proceed activity such as “alleying”	Inductive (a priori)
Rowhouse	Location of a crime event in front of a row house or on the stoop of a row house	Inductive (a priori)
Sidewlk/inter	Location of a crime event on a sidewalk and near an intersection	Inductive (a priori)
Space=abandoned	Opportunity space that is abandoned or considered blight such as an abandoned property.	Deductive (a priori)
Space=concealed	Opportunity space hidden from the view of the camera.	Deductive (a priori)
Stairs	Location of a crime event, rendezvous point, or hangout	Inductive (cycle 1)
Street	Location of a crime event, rendezvous point, or hangout	Inductive (cycle 1)
Tallgrass	Instances were an offender uses the surrounding physical environment and environmental conditions (tall grass) to conceal stash. Based on the work of St. Jean (2007)	Inductive (a priori)
<i>Process codes</i>		
Alleying	Instances were an actor, usually a target and/or an offender go into an alley, away from the original meeting point (a rendezvous point)	Inductive (a priori)

BreakingOff	Opposite of maintaining where an offender is not standing stationary, but breaks away to meet the target and then breaks away to move away from the target.	Inductive (a priori)
Cornering	Going around the corner or going around/away from direct sight of a rendezvous point usually to adapt to the presence of a guardian, primarily in the form of CCTV	Inductive (a priori)
CountingMoney	Instances where an offender, whether a main dealer, manager, or a role in between counts money.	Inductive (cycle 1)
Following	Instances where an actor is following another, as in walking behind, following directions or another actor's lead.	Inductive (cycle 1)
Going_in/out	Movement that is "in" and "out" of an establishment such as a corner store.	Inductive (cycle 1)
Guarding	Looking over/supervising a person, specific place, property/object, or situation.	Inductive (cycle 1)
Hanging_out	Synonymous to loitering	Deductive (a priori)
Leading	Instances where an actor is leading another actor such as walking ahead or guiding a situation	Inductive (cycle 1)
Loitering	Instances where offenders either make target clients wait and loiter in place or where offenders wait and loitering for target client to arrive.	Inductive (a priori)
Looking	Instances where offenders look down the street or out in front of them/out into the street or at someone; looking in any direction.	Inductive (cycle 1)
Maintaining	Instances where actors maintain their ground or position as at specific place as opposed to traveling to/from.	Inductive (a priori)
Reconvening	Instances where actors reposition or return to a specific place to gather where they were once before.	Inductive (a priori)
Retrace	Instances where targets leave the scene, the same way/route in which they entered it. Can apply to a solitary offender.	Inductive (cycle 1)
Rotating_position	Instances where an actor rotates their physical position at a specific place.	Inductive (a priori)
Rotating_role	Instances where an actor, usually, an offender, changes his/her role in the crime event with another offender.	Inductive (a priori)
Searching	Instances where the guardian, most likely, is searching the scene, target, or offender for	Inductive (cycle 1)

	evidence	
Shoulder_peek	Instance where a person is looking over his/her shoulder; looking back behind oneself	Deductive (a priori)
Standing_inplace	Synonymous to loitering	Deductive (a priori)
Stashing	Instances where the offender goes to/from a stash hidden from either a rendezvous point or loitering point. Also includes instances when an offender uses his/her person or personal article to stash	Inductive (a priori)
Waiting	Waiting on an actor, either a target waiting on an offender or an offender waiting on another offender or target; or a guardian waiting for additional guardians or feedback	Inductive (cycle 1)
Walking	Walking in any direction or in any style, straight path, southwest, slow, fast, etc.	Inductive (cycle 1)
Walking_back/forth	Walking to and from or back and forth from a specific place without leaving the specific place entirely. Synonymous to pacing.	Deductive (a priori)
Negative case codes		
Ngeoform	Instances where there are three or more offenders in a group and they are not standing in a geometric formation	Inductive (a priori)
Ntac_ignore	Instances where the offender does not ignore the target during the initial meeting	
Nquicktransact	Instances where there is a transaction between an offender and target(s) and the transaction lasts longer than 4 seconds.	Inductive (a priori)
Ntac_maintain-distance	Instances where an actor, usually between a target and an offender <i>does not</i> keep their distance from one another	Inductive (cycle 1)

APPENDIX H: Subcodes and categories

Subcode	Category: What category does this indicate? Create based on themes	Internal homogeneity? Extent to which data belong within category	External homogeneity? Differences among categories are bold and clear
<p>Code: a_available Created: 08/25/14 08:11:24 AM by Super Modified: 11/26/14 11:04:46 AM Families (1): Activity Quotations: 22</p> <p>"When: Where: different sides of the street; intersection Why: establishing a presence without loitering; a moving , but anchored presence Who: offender How: moving back and forth between points With what consequences: attachment to the specific place</p> <p>Sub-code: bounded presence</p>	<p>Dealing activity</p>	<p>Yes, based (a) this is derived from an activity code and (b) the behavior(s) accomplished</p>	<p>Somewhat, some overlap with "Execution" category, but there is enough difference in that "dealing activity" concerns the overall enterprise and "execution" pertains to individual transactions.</p>
<p>Code: a_escalation Created: 08/25/14 08:12:15 AM by Super Modified: 11/26/14 11:47:26 AM Families (1): Activity Quotations: 12</p> <p>"When: Where: outside Why: addressing a</p>	<p>Dealing activity</p>	<p>No, while an activity code, it does not fit with dealing – behaviors are not escalated to accomplish dealing; it complicates dealing and makes it less insulated, efficient, and available.</p>	<p>UNASSIGNED</p>

<p>perceived wrongdoing or error Who: target How: speaking at a distance and then moving closer With what consequences: shift in behavior and hence a new activity; now a dispute Sub-code: graduated correction"</p>			
<p>Code: a_geoform Created: 08/25/14 08:12:15 AM by Super Modified: 11/26/14 12:38:52 PM Families (1): Activity Quotations: 41</p> <p>"When: Where: outside; corner or on a sidewalk Why: insulating to blend in, but standing out to be obvious and detectable to targets Who: offender How: standing at the margins of a specific place; corners With what consequences: oxymoronic behavior; detectable only to the trained eye Sub-code: borderline insulation"</p>	<p>Dealing activity</p>	<p>Yes, based (a) this is derived from an activity code and (b) the behavior(s) accomplished</p>	<p>Somewhat, some overlap with "Execution" category, but there is enough difference in that "dealing activity" concerns the overall enterprise and "execution" pertains to individual transactions.</p>
<p>Code: a_quickTransact Created: 08/25/14 08:12:15 AM by Super Modified: 11/26/14 10:13:46 AM Families (1): Activity Quotations: 65</p> <p>"When:</p>	<p>Dealing activity</p>	<p>Yes, based (a) this is derived from an activity code and (b) the behavior(s) accomplished</p>	<p>Somewhat, some overlap with "Execution" category, but there is enough difference in that "dealing activity" concerns the overall enterprise</p>

<p>Where: outside; courtyard Why: continue on with respective routines (behavior accomplishment); no affiliation; quick cover Who: offender How: hand-off, pass With what consequences: efficiency, productivity Sub-code: routine efficiency"</p>			<p>and "execution" pertains to individual transactions.</p>
<p>Code: con_confusion Created: 08/25/14 08:24:20 AM by Super Modified: 11/26/14 05:12:59 PM Families (1): Event occurrence Quotations: 12</p> <p>"When: Where: outside, alley entrance Why: not satisfied with transaction, process (lacks clarity, transparency) Who: target How: lingering look between looking at the offender and an item or something else With what consequences: solidifies role through creating dependency; disempowering Sub-code: unequal transaction"</p>	<p>Execution (of transaction)</p>	<p>No, this is counterproductive to the execution of a transaction, more so a challenge to its completion.</p>	<p>UNASSIGNED</p>
<p>Code: Ngeoform Created: 08/25/14 08:59:38 AM by Super Modified: 11/26/14 10:13:16 PM Families (1): Negative cases Quotations: 27</p> <p>"When: Where: outside; corner or on a sidewalk</p>	<p>Negative case (variation)</p>		

<p>Why: insulating to blend in, but standing out to be obvious and detectable to targets and without pattern Who: offender How: standing at the margins of a specific place; corners With what consequences: oxymoronic behavior without a pattern; detectable only to the trained eye Sub-code: borderline insulation (nonpatterned) "</p>	
<p>Code: Nquicktransact Created: 08/25/14 08:59:38 AM by Super Modified: 11/28/14 12:56:41 PM Families (1): Negative cases Quotations: 67</p> <p>"When: Where: outside; sidewalk Why: unpreparedness; no sense of urgency; concealment Who: offender How: close proximity of some sort-walking side by side With what consequences: delayed action; process Sub-code: deferred action</p>	<p>Negative case (variation)</p>
<p>Code: Ntac_ignore Created: 08/26/14 09:02:45 AM by Super Modified: 11/28/14 02:41:20 PM Quotations: 73</p> <p>"When: Where: outside; on the street Why: easier management and locus of control; smaller area of control</p>	<p>Negative case (variation)</p>

<p>Who: offender How: walking or in physical proximity With what consequences: obvious Sub-code: proximal transaction</p>			
<p>Code: Ntac_maintain-distance Created: 08/28/14 03:43:11 PM by Super Modified: 11/28/14 02:41:23 PM Families (1): Negative cases Quotations: 72</p> <p>"When: Where: outside; on the street Why: easier management and locus of control; smaller area of control Who: offender How: walking or in physical proximity With what consequences: obvious Sub-code: proximal transaction</p>	<p>Negative case (variation)</p>		
<p>Code: obj_check Created: 09/08/14 12:26:19 PM by Super Modified: 11/28/14 03:35:45 PM Families (1): Event occurrence Quotations: 14</p> <p>"When: leaving a transaction Where: outside; sidewalk Why: reassurance; certainty Who: target How: look down at hand, sometimes more than once With what consequences: quality control Sub-code: visual check</p>	<p>Execution (of transaction)</p>	<p>Yes, an event or objective that a part of accomplishment of an event. In this case, the actual transaction.</p>	<p>Somewhat, some overlap with "Drug dealing" category, but there is enough difference in that "dealing activity" concerns the overall enterprise and "execution" pertains to individual transactions.</p>

<p>Code: obj_escort Created: 08/25/14 08:24:20 AM by Super Modified: 11/28/14 04:28:34 PM Families (1): Event occurrence Quotations: 86</p> <p>"When: prior to transaction Where: outside or inside; generally outside on the sidewalk or in front of store Why: to process targets through the transaction points of a transaction and then conceal it at the same time. Who: offender How: leading by walking, pointing, or driving either into a place or away from a place toward another point With what consequences: hierarchy in dealing or adaptation to CCTV</p> <p>Sub-code: process-conceal (the process-the actions/activities-is to conceal drug dealing behavior and this happens by processing (escorting) targets from one point or person to another in order to conceal the drug dealing behavior)"</p>	<p>Containment</p>	<p>Yes, an event or occurrence within an overall scheme, phenomena</p>	<p>YES</p>
<p>Code: obj_follow-up Created: 08/25/14 08:24:20 AM by Super Modified: 11/28/14 06:57:18 PM Families (1): Event occurrence Quotations: 7</p> <p>"When: beginning, during,</p>	<p>Execution (of transaction)</p>	<p>Yes, an event or objective that a part of accomplishment of an event. In this case, the actual transaction.</p>	<p>Somewhat, some overlap with "Drug dealing" category, but there is enough difference in that "dealing activity" concerns the overall enterprise and "execution" pertains to</p>

<p>or after a transaction Where: outside or inside Why: ensure completion or succession Who: offender How: taking over a position, going behind a transaction or target or another offender. In the latter, either to take over or check in With what consequences: tight knit process, transaction, accountability Sub-code: ensured transaction</p>			<p>individual transactions.</p>
<p>Code: obj_initiate Created: 08/25/14 08:24:20 AM by Super Modified: 11/26/14 10:13:51 AM Families (1): Event occurrence Quotations: 145 "When: Where: outside; courtyard Why: control; transact on one's terms; set the dynamic Who: offender How: walking up, approach, watching With what consequences: crime event begins Sub-code: control approach</p>	<p>Interaction begins</p>	<p>Yes, marks the beginning of the event or objective or at least within a collection preliminary activities/events that occur</p>	<p>YES</p>
<p>Code: obj_leave Created: 08/26/14 09:52:27 AM by Super Modified: 11/28/14 07:50:08 PM Families (1): Event occurrence Quotations: 112 "When: leaving a completed transaction Where: outside; on the sidewalk</p>	<p>Interaction ends</p>	<p>Yes, marks the end of the event or objective or at least within a collection preliminary activities/events that occur</p>	<p>YES, only category of its kind.</p>

<p>Why: completed the transaction Who: offender How: turning away or going in a separate direction than the target With what consequences: readily available to engage in the next transaction; still in the moment of dealing Sub-code: exit-act-scene-progression (to counter balance target sub-code below)</p> <p>When: leaving a completed transaction Where: outside; on the sidewalk Why: exiting the scene Who: target How: walking away or moving in the opposite direction; moving to proceed with daily routine With what consequences: reentering legal realm of activities; blending back into the legal realm of activities Sub-code: exit-scene-enter-routine"</p>			
<p>Code: obj_lookout Created: 08/25/14 08:24:20 AM by Super Modified: 11/28/14 08:21:29 PM Families (1): Event occurrence Quotations: 74</p> <p>"When: prior and during a transaction Where: outside Why: watch, observe for guardianship or a possible threat to successful completion of</p>	<p>Containment</p>	<p>Yes, an event or occurrence within an overall scheme, phenomena</p>	<p>YES</p>

<p>transaction(s). Who: offender How: looking around, looking right and left; glancing up and down and around, looking at surroundings. With what consequences: security of transaction; the coast is clear Sub-code: watch-trade (double entendre - watching the trade itself of dealing, externally, looking out for personal interest and stakes, but also watching, as in looking around, and then excuting a trade)."</p>			
<p>Code: obj_maindealer Created: 08/25/14 08:24:20 AM by Super Modified: 12/03/14 12:03:21 AM Families (1): Event occurrence Quotations: 72</p> <p>"When: in the presence of a target Where: outside/inside Why: solely responsible Who: offender How: alone With what consequences: the source, the focal point of activity; the person with which activities and the elements convergence Sub-code: sole-source</p>	<p>Hierarchy</p>	<p>Yes, the objective in question is to occupy a specific place within a hierarchical system of operations</p>	<p>YES</p>
<p>Code: obj_manager Created: 08/25/14 08:24:20 AM by Super Modified: 12/03/14 12:53:56 AM Families (1): Event occurrence</p>	<p>Hierarchy</p>	<p>Yes, the objective in question is to occupy a specific place within a hierarchical system of operations</p>	<p>YES</p>

<p>Quotations: 26</p> <p>"When: Where: outside Why: oversee other dealers; to take an accounting; collect money Who: offender How: arriving on the scene by walking, stopping, and engaging With what consequences: change the tenor of the surrounding behaviors; dealers have a heightened sense of duty/obligation Sub-code: arrive and account</p>			
<p>Code: obj_mutual Created: 08/25/14 08:24:20 AM by Super Modified: 12/03/14 01:25:09 AM Families (1): Event occurrence Quotations: 31</p> <p>"When: Where: outside; sidewalk Why: familiarity, established level of comfort Who: offender, target How: walking side by side With what consequences: partnered transaction; each party has equitable footing Sub-code: partnered processing</p>	<p>Interaction begins</p>	<p>Yes, marks the beginning of the event or objective or at least within a collection preliminary activities/events that occur</p>	<p>YES</p>
<p>Code: obj_respond Created: 08/25/14 08:24:20 AM by Super Modified: 12/03/14 02:12:58 AM Families (1): Event occurrence Quotations: 152</p>	<p>Interaction begins</p>	<p>Yes, marks the beginning of the event or objective or at least within a collection preliminary activities/events that occur</p>	<p>YES</p>

<p>"When: Where: outside; sidewalk Why: in order to receive something Who: target How: walking; waiting; some action in relation or response to the offender With what consequences: Following guidance; engendering a state of receipt and dependency. Sub-code: receiver (respond to receive)</p>			
<p>Code: p_(re)convening Created: 08/25/14 08:58:59 AM by Super Modified: 12/03/14 10:40:55 AM Families (1): Process Quotations: 72</p> <p>"When: before/after transaction or departure from group or specific place Where: outside; sidewalk Why: restructure/reconstitute dealing dynamic, process, routine Who: offender How: walking and then grouping together With what consequences: re-establish presence and availability; readily available; ready to act Sub-code: Routine reset</p>	<p>Resetting</p>	<p>Yes, this code contributes to the process of how "resetting" is accomplished as a behavior</p>	<p>YES</p>
<p>Code: p_alleying Created: 08/25/14 08:58:59 AM by Super Modified: 12/03/14 11:22:11 AM Families (1): Process Quotations: 25</p> <p>When:</p>	<p>Averting</p>	<p>Yes, describing the process of behaviors associated with preventing, warding off, or removing attention</p>	<p>YES</p>

<p>Where: leading to an alley; inside an alley Why: avoid visual detection, for privacy, concealment Who: offender, target How: walking around the corner; walking to an alley; walking directly into an alley With what consequences: adaptation, displacement, increasing the complexity of transacting Sub-code: alley cover</p>			
<p>Code: p_breakingOff Created: 08/25/14 08:58:59 AM by Super Modified: 12/03/14 01:08:45 PM Families (1): Process Quotations: 76 When: Where: outside Why: drawn by some other need or routine to fulfill; divert Who: offender How: leave, turn the corner, step away, walk away With what consequences: disbanding; changing predictability of dealing dynamic Sub-code: routine pull</p>	Adjusting	Yes, process of changing behavior in the moment to meet/fulfill the needs of another routine or issue	YES
<p>Code: p_cornering Created: 08/25/14 08:58:59 AM by Super Modified: 12/03/14 01:53:08 PM Families (1): Process Quotations: 76 "When: Where: outside Why: in route somewhere via a corner Who: offender How: turning by walking</p>	Averting	Yes, but unlike "alleying" this pattern is associated with turning away attention from one direction to another direction or routine; in this case, physical space.	YES

<p>With what consequences: change in vantage, shift dynamic and specific place Sub-code: turning route</p>			
<p>Code: p_countingMoney Created: 08/28/14 05:59:39 AM by Super Modified: 12/03/14 02:26:10 PM Families (1): Process Quotations: 35</p> <p>"When: Where: outside; sidewalk Why: take an accounting; earnings check; Who: offender How: with hands and fingers With what consequences: significant responsibility; draws attention Sub-code: financial accounting</p>	Managing	Yes, this process is indicative of behavior to create accountability.	Somewhat, some overlap of "managing" with "controlling," but there is enough difference in that "managing" applies to tangible products of a deal—money and product. "Controlling" as a category refers to the dynamics of an interaction. "Managing" is long- term and constant, while "controlling" is short-term and temporal.
<p>Code: p_following Created: 08/26/14 06:03:56 AM by Super Modified: 11/26/14 10:14:30 AM Families (1): Process Quotations: 185</p> <p>"When: morning Where: sidewalk; outside Why: control; upperhand/advantage Who: offender How: walk behind a few paces With what consequences: increased or sole vantage point Sub-code: control vantage</p>	Controlling	Yes, indicative of the process to control the interaction and/or transaction from a different angle	Somewhat, some overlap of "controlling" with "managing" and "authorizing," but there is enough difference in that "controlling" as a category refers to the dynamics of an interaction (series of actions). "Authorizing" refers to legitimizing specific acts or actions.
<p>Why: acquiescence; willing, facilitate Who: target How: walk behind; follow with eyes, head, hand</p>	Merging	Yes, reflects the process of behavior that acquiesces, but then facilitates or merges with the process of	YES

<p>With what consequences: increased likelihood of transaction; Sub-code: follow-facilitate</p>		<p>starting/completing a transaction.</p>	
<p>Code: p_going_in/out Created: 08/26/14 05:53:19 AM by Super Modified: 11/26/14 10:14:45 AM Families (1): Process Quotations: 82</p> <p>"When: morning Where: corner store Why: conceal, transact, and observe; use the space in some way (patron space); patron function because the space is being used in some way, even if not a commercial property. Who: offender How: walking; rotating With what consequence: pseudo patronage Sub-code: shifting patronage</p>	<p>Adjusting</p>	<p>Yes, process of changing behavior in the moment to meet/fulfill the needs of another routine or issue</p>	<p>YES</p>
<p>Code: p_hanging_out Created: 08/25/14 08:58:59 AM by Super Modified: 11/26/14 10:14:52 AM Families (1): Process Quotations: 117</p> <p>"Where: in public near a public utility How: standing at public bus shelter Why: blend in with others With what consequences: waiting for; integration Sub-code: public blending</p>	<p>Establishing</p>	<p>Yes, indicative of the process of establishing or securing a presence; ensconcing a presence</p>	<p>YES</p>
<p>Code: p_leading Created: 08/26/14 06:03:56 AM by Super Modified: 12/04/14</p>	<p>Authorizing</p>	<p>Yes, indicative of a process of behaviors that allow an action to proceed to the next</p>	<p>Somewhat, some overlap of "authorizing" with "controlling," but</p>

<p>11:46:13 PM Families (1): Process Quotations: 111</p> <p>"When: Where: outside; sidewalk Why: control dynamic, assert authority over the dynamic, comfortable in that space, so capable of leading; confident Who: offender How: walking by; walking in front of With what consequence: assume responsibility; focal point of transaction; Sub-code: asserted leadership</p>		stage	there is enough difference in that "controlling" as a category refers to the dynamics of an interaction (series of actions). "Authorizing" refers to legitimizing specific acts or actions.
<p>Code: p_loitering Created: 08/25/14 08:58:59 AM by Super Modified: 11/26/14 10:15:12 AM Families (1): Process Quotations: 55</p> <p>"When: morning; outside Where: bus shelter (public), street Why: to wait; to have a presence; to be present; to await (an opportunity or action to be taken) Who: offender How: standing, walking With what consequences: seemingly no consequences; indefinite time Sub-code: indefinite presence</p>	Establishing	Yes, indicative of the process of establishing or securing a presence; ensconcing a presence	YES
<p>Code: p_looking Created: 08/25/14 10:19:24 AM by Super Modified: 11/26/14 10:15:56 AM Families (1): Process Quotations: 386</p>	Scoping	Yes, a process of scanning for information; assessing or examining; also indicative of behavior to look carefully at something or with	YES

<p>"When: morning Where: bus shelter (public); outside Why: to see, view, observe, check, search Who: offender How: away and down (examine) With what consequences: knowledge, information gain (informed), connect (no physical, observable or public consequence) sub-code: s.e.i. (see, examine, info)</p>		<p>sensitivity</p>	
<p>Code: p_maintaining Created: 08/25/14 08:58:59 AM by Super Modified: 12/05/14 12:23:06 AM Families (1): Process Quotations: 38</p> <p>"When: Where: outside; on the sidewalk Why: occupy space, position, and about resolve to "work" and stay alert Who: offender How: standing in place, walking about in a specific place, not moving from a place or position, drastically. With what consequence: bounded in a position or specific place Sub-code: occupancy</p>	<p>Establishing</p>	<p>Yes, indicative of the process of establishing or securing a presence; ensconcing a presence</p>	<p>YES</p>
<p>Code: p_retracing Created: 09/08/14 09:39:11 AM by Super Modified: 12/05/14 01:25:18 AM Quotations: 42</p> <p>"When: Where: outside; sidewalk,</p>	<p>Resetting</p>	<p>Yes, this code contributes to the process of how "resetting" is accomplished as a behavior</p>	<p>YES</p>

<p>street block Why: return to point of origin; comfort zone; center space of routine, where the routine behavior begins Who: offender How: walking forth and back With what consequence: display a predictable path of travel for dealing</p> <p>Sub-code: oscillate</p>			
<p>Code: p_rotating_position Created: 08/25/14 08:58:59 AM by Super Modified: 12/05/14 01:42:03 AM Families (1): Process Quotations: 14</p> <p>"When: Where: outside; at corner store entrance,; on sidewalk. Why: accommodation Who: offender How: move out and away or "widen the circle" With what consequence: increase/decrease capacity; increase complexity of behaviors/routines</p> <p>Sub-code: accommodation</p>	<p>Adjusting</p>	<p>Yes, process of changing behavior in the moment to meet/fulfill the needs of another routine or issue</p>	<p>YES</p>
<p>Code: p_shoulder_overlook Created: 08/25/14 08:58:59 AM by Super Modified: 12/05/14 01:45:43 AM Families (1): Process Quotations: 175</p> <p>"When: while walkin in progress, before entering an intersection or another space Where: outside; sidewalk Why: visual check; take an</p>	<p>Scoping</p>	<p>Yes, a process of scanning for information; assessing or examining; also indicative of behavior to look carefully at something or with sensitivity</p>	<p>YES</p>

<p>accounting of surroundings Who: offender How: look over shoulder, turning head to look behind or over shoulder With what consequence: remain alert and present Sub-code: surrounding check</p>			
<p>Code: p_standing_inplace Created: 08/25/14 08:58:59 AM by Super Modified: 11/26/14 10:16:05 AM Families (1): Process Quotations: 260</p> <p>"When: Where: Why: to serve predictability; easily noticed and identified Who: How: stationary With what consequence: waiting in place Sub-code: stationary predictability "</p>	<p>Establishing</p>	<p>Yes, indicative of the process of establishing or securing a presence; ensconcing a presence</p>	<p>YES</p>
<p>Code: p_stashing Created: 08/25/14 08:58:59 AM by Super Modified: 12/05/14 11:35:21 AM Families (1): Process Quotations: 43</p> <p>"When: Where: outside; various places, crevices, on the ground Why: to separate drugs from being found on a person; minimize, if not eliminate culpability Who: offender How: walking to the stash, looking around, bending or reaching to retrieve the</p>	<p>Managing</p>	<p>Yes, this process is indicative of behavior to create accountability.</p>	<p>Somewhat, some overlap of "managing" with "controlling," but there is enough difference in that "managing" applies to tangible products of a deal—money and product. "Controlling" as a category refers to the dynamics of an interaction. "Managing" is long-term and constant, while "controlling" is short-term and temporal.</p>

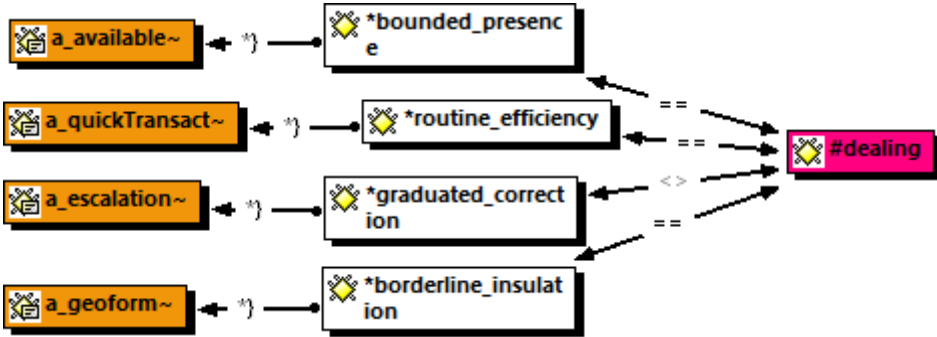
<p>stash, replacing the stash and walking away. With what consequence: watch/secure the stash from a distance when not in use; Sub-code: ecological advantage (St. Jean)</p>			
<p>Code: p_waiting Created: 08/26/14 08:48:03 AM by Super Modified: 12/05/14 12:14:51 PM Families (1): Process Quotations: 144</p> <p>"When: before a transaction Where: outside; on the sidewalk Why: dependent on the circumstances of the situation; cannot progress or continue, so wait for progression or continuation Who: target How: standing in place; watching; on stand by With what consequence: in limbo; dependency Sub-code: event delay</p>	<p>Establishing</p>	<p>Yes, indicative of the process of establishing or securing a presence; ensconcing a presence</p>	<p>YES</p>
<p>Code: p_walking Created: 08/26/14 09:29:35 AM by Super Modified: 12/05/14 01:03:25 PM Families (1): Process Quotations: 237</p> <p>"When: Where: outside; sidewalk, street Why: main mode and method of transportation; movement Who: offender, target</p>	<p>Resetting</p>	<p>No, this process speaks to a basic method of movement that is constant, not "resetting," so basically this code is contradictory to the overall category of "resetting."</p>	<p>UNASSIGNED</p>

<p>How: alone, together, side by side; from different points; straight line; diagonally; jwalking With what consequence: out in the open; heighten suitability as a target; availability as an offender Sub-code: transportation rudiment (the basics, not sophisticated nor complex)</p>			
<p>Code: p_walking_back/forth Created: 08/25/14 08:58:59 AM by Super Modified: 11/26/14 10:16:23 AM Families (1): Process Quotations: 148</p> <p>"This should be linked to loitering; included within the same family/taxonomy. Walking and back and forth like a "repeated presence"</p> <p>When: morning Where: curb-bus shelter (public); outside Why: presence, to await, reset/re-establish presence Who: offender How: walking, stepping, pacing With what consequences: greater visibility; anchored to the specific place. Sub-code: repeated presence</p>	<p>Resetting</p>	<p>Yes, this code contributes to the process of how "resetting" is accomplished as a behavior</p>	<p>YES</p>
<p>Code: tac_conceal Created: 08/25/14 08:24:20 AM by Super Modified: 12/05/14 03:16:58 PM Families (1): Event occurrence Quotations: 74</p>	<p>Muddle</p>	<p>Yes, the objective is to remain hidden, but in plain sight and act/behave in a similar manner.</p>	<p>YES</p>

<p>"When: Where: outside; on the sidewalk, street Why: maintain secrecy; cover behavior; Who: offender How: stand behind, move behind something; move underneath something With what consequence: protection; buffer from oversight and guardianship; Sub-code: buffer</p>			
<p>Code: tac_ignore Created: 08/26/14 09:01:19 AM by Super Modified: 11/28/14 02:40:34 PM Families (1): Event occurrence Quotations: 27</p> <p>"When: Where: outside; sidewalk/street Why: alienate and maintain distance Who: offender How: looking straight ahead, looking or walking away, walking past or walking behind With what consequences: showing no attachment or extended relationship beyond the transaction itself Sub-code: distal transaction</p>	Muddle	Yes, the objective is to remain hidden, but in plain sight and act/ behave in a similar manner.	YES
<p>Code: tac_maintain-distance Created: 08/28/14 03:35:03 PM by Super Modified: 11/28/14 02:40:52 PM Families (1): Event occurrence Quotations: 48</p>	Muddle	Yes, the objective is to remain hidden, but in plain sight and act/ behave in a similar manner.	YES

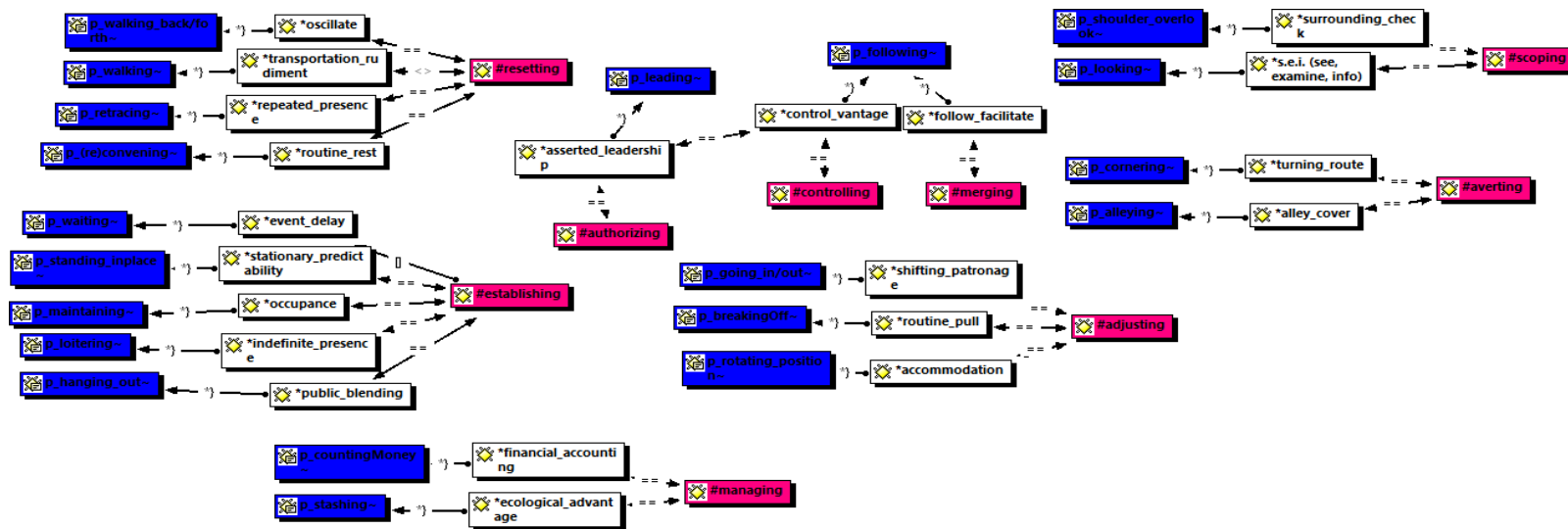
<p>"When: Where: outside; sidewalk/street Why: alienate and maintain distance Who: offender How: looking straight ahead, looking or walking away, walking past or walking behind With what consequences: showing no attachment or extended relationship beyond the transaction itself Sub-code: distal transaction</p>			
<p>Code: tac_rolechng Created: 08/25/14 08:24:20 AM by Super Modified: 12/05/14 03:46:55 PM Families (1): Event occurrence Quotations: 4</p> <p>"When: Where: outside on the sidewalk Why: a shift in goal, priority of an activity currently engaged in Who: offender How: in the moment, change body gestures or physical location at a specific place and assume different repsonsibility With what consequences: change in responsibility and activities; behavior shift Sub-code: behavior/activity shift"</p>	<p>Hierarchy</p>	<p>Yes, the objective in question is to occupy a specific place within a hierarchichal system of operations</p>	<p>YES</p>

APPENDIX I: Network of category development



Note: the placement of codes is arbitrary, but should be read from left to right, per grouping. Codes on the far left or with a letter followed by an underscore (e.g., a_) represent *a priori* codes or codes developed during first cycle coding (orange). Codes with an asterisk (*) are subcodes (white) and codes with a number sign (#) are categories (pink). The arrows with attached symbols between each code delineate the relationship between each level of codes. For example:

- *) indicates a subjective relationship where one code is the property of another code
- == indicates a relationship of association
- <> indicates a contradictory relationship
- [] indicates a dependent relationship where one code is a part of another code



Note: the placement of codes is arbitrary, but should be read from left to right, per grouping. Codes on the far left or with a letter followed by an underscore (e.g., p_) represent *a priori* codes or codes developed during first cycle coding (blue). Codes with an asterisk (*) are subcodes (white) and codes with a number sign (#) are categories (pink). The arrows with attached symbols between each code delineate the relationship between each level of codes. For example:

- *) indicates a subjective relationship where one code is the property of another code
- == indicates a relationship of association
- <> indicates a contradictory relationship
- [] indicates a dependent relationship where one code is a part of another code

APPENDIX J: List of categories and homogeneity/heterogeneity ratings

Category	Subcodes	Internal homogeneity	External heterogeneity
Adjusting	Routine pull Shifting patronage Accommodation	Yes , process of changing behavior in the moment to meet/fulfill the needs of another routine or issue	Yes
Authorizing	Asserted leadership	Yes , indicative of a process of behaviors that allow an action to proceed to the next stage	Somewhat , some overlap of “authorizing” with “controlling,” but there is enough difference in that “controlling” as a category refers to the dynamics of an interaction (series of actions). “Authorizing” refers to legitimizing specific acts or actions.
Averting	Alley cover Turning route	Yes , describing the process of behaviors associated with preventing, warding off, or removing attention	Yes
Containment	Process-conceal Watch-trade	Yes , an event or occurrence within an overall scheme, phenomena	Yes
Controlling	Control vantage	Yes , indicative of the process to control the interaction and/or transaction from a different angle	Somewhat , some overlap of “controlling” with “managing” and “authorizing,” but there is enough difference in that “controlling” as a category refers to the dynamics of an

			interaction (series of actions). “Authorizing” refers to legitimizing specific acts or actions.
Dealing activity	Bounded presence Borderline insulation Routine efficiency (graduated correction)	Yes , based (a) this is derived from an activity code and (b) the behavior(s) accomplished	Somewhat , some overlap with “Execution” category, but there is enough difference in that “dealing activity” concerns the overall enterprise and “execution” pertains to individual transactions.
Establishing	Public blending Indefinite presence Occupancy Stationary predictability Event delay	Yes , indicative of the process of establishing or securing a presence; ensconcing a presence	Yes
Execution	Visual check Ensured transaction (unequal transaction)	Yes , an event or objective that a part of accomplishment of an event. In this case, the actual transaction.	Somewhat , some overlap with “Drug dealing” category, but there is enough difference in that “dealing activity” concerns the overall enterprise and “execution” pertains to individual transactions.
Hierarchy	Sole source Arrive & account Behavior/activity shift	Yes , the objective in question is to occupy a specific place within a hierarchical system of operations	Yes
Interaction begins	Control approach Partnered processing Receiver	Yes , marks the beginning of the event or objective or at least within a collection preliminary activities/events that occur	Yes
Interaction ends	Exit-scene-progression Exit-scene-enter-routine	Yes , marks the end of the event or objective or at least within a collection preliminary activities/events that occur	Yes , only category of its kind.
Managing	Financial accounting “Ecological advantage”	Yes , this process is indicative of behavior to create accountability.	Somewhat , some overlap of “managing” w/ “controlling,” but enough difference

			in that “managing” applies to tangibles of a deal: money and product. “Controlling” refers to the dynamics of an interaction. “Managing” is long-term and constant; “controlling” is short-term and temporal.
Merging	Follow-facilitate	Yes , reflects the process of behavior that acquiesces, but then facilitates or merges with the process of starting/completing a transaction.	Yes
Muddle	Buffer Distal transaction	Yes , the objective is to remain hidden, but in plain sight and act/ behave in a similar manner.	Yes
Resetting	Routine reset Oscillate Repeated presence (transportation rudiment)	Yes , this code contributes to the process of how “resetting” is accomplished as a behavior	Yes
Scoping	See, examine, info(s.e.i.) Surrounding check	Yes , a process of scanning for information; assessing or examining; also indicative of behavior to look carefully at something or with sensitivity	Yes
Overall Score (count)		16* or 100% internal homogeneity	11/16 or 68% external heterogeneity
*Subcodes in parentheses represent those codes that did not contribute to internal homogeneity and where therefore dropped from categorization.			

APPENDIX K: Sample of coding paradigm results

Conditions for CDS crimes			
Category	justifications, rationale, basis for something likely to occur when ...	# quotes	citation (primary document# : quotation #, line #)
adjusting	1. at or near a corner; in front of a corner store; using a corner store	3/165	The third offender stepped to the side, closer to the wall of the store and walked inside the store. The second offender turned to follow, but then jogged and did a lay-up in the air underneath an awning as the target client was walking west toward the store (1:28, line 850).
	2. when others are around, particularly a target client	4/165	The die group broke apart as one offender in a black and red jacket jogged from his position, passing the corner store entrance to a target client approaching the sidewalk on Riggs Avenue (1:13, line 258).
	3. two or more offenders and at least one target client	1/165	The one offender then went back inside the corner store, followed by the target client, and then the first offender observed on camera. A minute and 16 seconds after the offenders went back inside the corner store, they appeared at the door, but still remained inside the corner store. One offender then opened the door and peered out, but then went back inside the corner liquor store (1:16, line 74).

4. presence of a pre-existing geoform; other nearby offenders not a part of the geoform	6/165	Two new offenders joined the group of offenders hanging out in front of the second row house. One of the two new offenders showed up first, standing opposite of the main offender, on the other side of the stairs, creating a square formation, and then the second new offender arrived, transforming the formation to a pentagon (1:30, line 934). Once one offender left the formation, the main offender walked along the raised sidewalk, walking past the other two offenders in front of the adjacent row house attached to the corner store. He then walked back, walking north on North Monroe, and walked back to his original spot, but then walked back down the raised sidewalk, stepped down onto the sidewalk, walked to the corner store door, looked in briefly and then walked back stepped up onto the raised sidewalk and stood at the edge for 3-4 seconds before walking further north on it (1:19, line 374).
5. moving away from the specific place, a single offender, alone	5/165	

APPENDIX L: Core category coding paradigm

	Conditions	Interaction	Strategies & tactics	Consequences
Core category	likely to occur when ...	occurs during interactions ...	is implemented when ...	can lead to ...
(In)conspicuous adaptation	(1) Outside, near public utility or transportation; (2) <i>moments</i> before or after a transaction; (3) On or near a street intersection or corner, (4) when accomplishing normal behavior such as checking a cell phone, talking/socializing, eating, standing with someone, or simply walking; (5) involves a dealer, a single target client (but not always the case); and (6) before entering a space such as a street, building, empty	--	Before or after a transaction, on the corner or in front or by a corner store or food carry out store, and plays out as a dealer (1) returning to the specific place; or using the same place in establishing and re-establishing his/her presence, or backing up toward the wall of an establishment; (2) walking directly behind or behind a target client; and (3) looking left and then right or right and then left, or looking in both directions successively, looking over or looking behind repeatedly, or peering around the corner or from behind	--

space, or turning a corner.

something

Timing

(1) At or near a corner; in front of a corner store; using a corner store; (2) When others are around, particularly a target client; (3) Two or more offenders and at least one target client is present or known; (4) Presence of a pre-existing geoform; other nearby offenders not a part of the geoform; (5) Moving away from the specific place, a single offender, alone; (6) From a distance; (7) Instructions of some sort is involved

When: in pursuit of a dealer and during a transaction
Where: in front of or inside a corner store or carryout or on the street block
How: following target clients inside corner store and then leading the way by passing the target client and walking ahead in silence with no communication. The target client walking after the offender
Length: seconds

When: prior to a transaction; one offender leaves and another comes in to take the place or remains in place; to fill the space.
Where: on the street, corner of an intersection, in front of a row house, carryout
How: (1) dealers each go in different directions, with one person, one offender remaining in the original meeting place; splitting into two or more groups; (2) succession of dealers going into or leaving the corner store, one filing in one after the other. Also, a dealer is the first to enter and another dealer is the last to enter; and (3) looking in more than one direction before completing transaction, which influences

Creation of a geoform

target client.

Behavior resetting	(1) There is an existing and unchanged group or norm; (2) There is an easy, unencumbered route	--	<i>When:</i> before or after a transaction <i>Where:</i> at the specific place or near it <i>How implemented:</i> walking, stepping	--
Procedural	(1) There are at least two offenders; (2) main/sole function is looking around; (3) on an established perimeter of a specific place; (4) The target client is waiting for the offender, either the offender's arrival or readiness; (5) the target client is following guidance,	<i>When:</i> prior to the start of the transaction; in between transactions <i>Where:</i> on the street block, corner, etc. <i>How:</i> walking to or walking toward; between offenders, interacting while	<i>When:</i> any time before or at the start of, during, or after the transaction <i>Where:</i> on the street block; at the specific place <i>How:</i> (1) remaining observant to contain and protect status quo flow of transaction; (2) meeting with the target client separately and then ushering over; (3) hand extension; (4) hand off; (5) reaching into dip or straddling	Clarification: e.g. the absence of confusion, but a smooth transition, processing that maximizes the completion of a transaction (efficiency-->routinization) and does not delay it

instructions, cues; **(6)** the target client is temporarily leading; **(7)** the target client is cooperating.

looking out

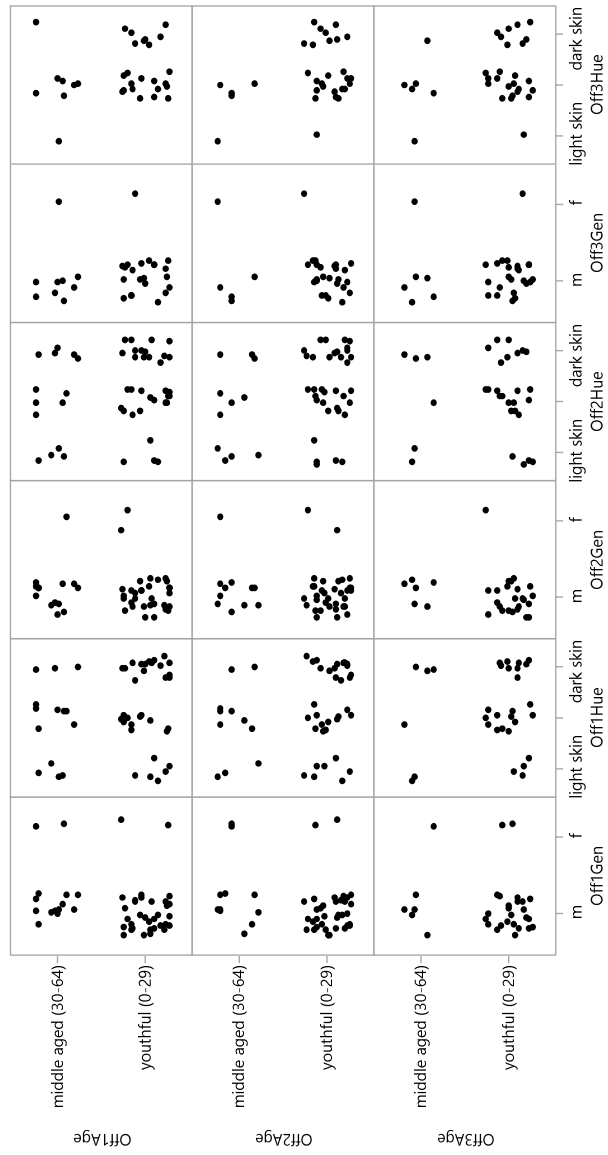
legs to prepare to remove from dip; **(6)** presenting money or drugs; **(7)** turning away, walking away in a separate direction; **(8)** there is no acknowledgment; **(9)** there is a hack

Tight knit	<p>(1) Whenever there is a street corner or an alley; (2) Fully averted; not an incomplete thing were you can still have a partial observation; (3) At least two offenders; (4) Target client may lead interaction</p>	<p>When: before/after a transaction Where: at the specific place or in proximity How: checking hands repeatedly; examining product more than once</p>	<p>When: prior to transaction Where: alley How: separate entrance; entering from separate locations and possibly exiting as well. Looking left and right or around before entering an alley or turning a corner; peering out from the corner</p>	Concealed behavior
Structured	<p>(1) Both the offender and target client are prepared in advance; (2) There is a count, hold, fold, shuffle, sort, flip of money; or (3) Pulling out money</p>	<p>When: preceding transaction, on the lookout, and during transaction Where: at the specific place How: (1) 4 seconds or less; (2) brief and impersonal and in passing; (3) focused; stoic in</p>	<p>When: at intermittent times, prior to transaction and during the transaction Where: on the street corner/sidewalk; at the specific place How: (1) standing in a geometric formation (geofom); (2) assembly line distribution/transaction; (3) on site, observing from a distance; (4) arriving and collecting; (5)</p>	<p>1. Counting/handling money 2. Executing/completing transactions 3. Dispensing</p>

	relation to other offenders, if applicable	using surrounding environment; plants, litter, building crevice; and (6) using their own "dip"
Standing pattern	(1) on or the corner, in front of or by corner store or carry out; a corner; in front of a row house; (2) at least three or more offenders; (3) consumes a certain percentage of the corner, depending on size of group at the corner. The smaller the group (minimum 3), the smaller the percentage of space, the larger the group (maximum, unknown)	<p><i>Where:</i> at the specific place, usually a corner</p> <p><i>When:</i> the time in between transactions</p> <p><i>How strategy/tactic implemented:</i> (1) natural rotation or transition to a different geometric shape; (2) fluid movements, the formers separate and come back together, either original shape or new, based on external people walking in, out, or through the corner space where the geoforms occur.</p>
Disguised dynamic	(1) presence there is a presence of trees or plants; (2) initiated by an offender; (3) some nearby infrastructure (fire escape, utility pole, etc.); (4) presence of an alley, abandoned	<p>1. Blending in</p> <p>2. Impersonal and transactional interaction</p>

building, or vacant
property or empty space

APPENDIX L: Average number of dealers in a drug crime by age, gender, skin hue



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