

International Association of Crime Analysts (IACA)

Crime Pattern Definitions for Tactical Analysis

Standards, Methods, & Technology (SMT) Committee White Paper 2011-01

IACA Standards Subcommittee Chair:

Chris Delaney, Director of Business Intelligence, Rochester Police Department

IACA Standards, Methods, and Technology Committee Chair:

Jason Elder, Crime Analyst, Cincinnati Police Department

Subject Matter Experts:

Christopher Bruce, President, IACA

Dr. Rachel Boba Santos, Associate Professor, Florida Atlantic University

Elizabeth Rodriguez, Crime Analysis Program Manager,

Los Angeles County Sheriff's Department

Edited by Samantha Gwinn, Solutions Consultant, LexisNexis Risk Solutions

August 2011

Suggested Citation:

International Association of Crime Analysts. (2011). *Crime pattern definitions for tactical analysis* (White Paper 2011-01). Overland Park, KS: Author.

About the IACA Standards, Methods, and Technology Committee

Through the Standards, Methods, and Technology Committee (SMT), the International Association of Crime Analysts (IACA) is committed to a continuing process of professionalization through standards and knowledge development. In 2011, the IACA chartered the SMT Committee for the purpose of defining “analytical methodologies, technologies, and core concepts relevant to the profession of crime analysis.”¹ This document represents the first in a series of white papers produced by the SMT committee. The methodology for formulating the positions reflected in the white paper series includes: 1) development of a draft paper through in-depth meetings and discussions of Subject Matter Experts,² 2) review and feedback by the IACA Executive Board, 3) review and feedback from an independent editor with knowledge of crime analysis, and 4) review and feedback by IACA members facilitated through the IACA website (www.iaca.net). Any questions about this process can be directed to the chair of the SMT Committee at SMT@iaca.net.

Introduction

The identification and tactical analysis of crime patterns is a primary responsibility of crime analysts at police agencies around the world. Every day, analysts query and mine data in an effort to link cases by key factors and disseminate information about known and newly-discovered patterns to fellow police personnel. This analysis improves the safety of communities by facilitating police response which can, in turn, prevent and reduce crime. While the pattern identification process is reasonably standardized, there is a diversity of perspective on what constitutes a crime pattern. Unfortunately, the profession lacks a common language, and the terms “crime pattern,” “crime series,” “hot spot,” “crime trend,” and “crime problem” are often used interchangeably. Therefore, the goals of this white paper are to 1) standardize the definition of a crime pattern, 2) differentiate pattern types, and 3) define and illustrate each of the different pattern types. This delineation of standardized and practical definitions will add clarity to the analytical process and improve communication among crime analysts, other police personnel, and the community. In addition, standardized definitions will allow for uniformity in data collection and analysis, which will optimize the manner in which content is relayed via bulletins and other analytical products. Mutually agreed-upon definitions provide consistent analysis, which, in turn, allows for valid and reliable analytical results.

A Crime Pattern Is...

A crime pattern is a group of two or more crimes reported to or discovered by police that are unique because they meet each of the following conditions:

1. They share at least one commonality in the type of crime; behavior of the offenders or victims; characteristics of the offender(s), victims, or targets; property taken; or the locations of occurrence;

2. There is no known relationship between victim(s) and offender(s) (i.e., stranger-on-stranger crime);
3. The shared commonalities make the set of crimes notable and distinct from other criminal activity occurring within the same general date range;
4. The criminal activity is typically of limited duration, ranging from weeks to months in length; and
5. The set of related crimes is treated as one unit of analysis and is addressed through focused police efforts and tactics.

A Crime Pattern Is Not...

A crime pattern is not a crime trend. A trend is a persistent, long-term rise or fall in temporally-based data.³ As a directional indicator, crime trend information can be useful in alerting police to increases and decreases in levels of activity. However, since crime trend analysis does not examine shared similarities between specific crime incidents, a crime trend is not a crime pattern.

A crime pattern is not a chronic problem. The notion of a chronic crime problem has been broadly defined in the literature, which has led to some confusion about its meaning.⁴ The most all-encompassing definition comes from Ron Clarke and John Eck, who define a problem as “a recurring set of related harmful events in a community that members of the public expect the police to address.”⁵

Based on the aforementioned conditions present in a crime pattern and Clarke and Eck’s definition of a crime problem, a crime pattern would technically be classified as a type of crime problem. However, it is important to highlight that a crime pattern differs from a chronic problem in three primary ways:

1. Scope and Length: Whereas a crime problem is chronic in duration and persistent in frequency with occasional acute spikes, a CRIME PATTERN is necessarily acute in frequency and exhibits a shorter duration;
2. Nature of Activity: Whereas a crime problem is related to “harmful events” that may include crime, safety, disorder, or quality of life concerns,⁶ a CRIME PATTERN is limited to a specific set of reported crimes; and
3. Response: Whereas a crime problem requires specialized, strategic responses that often involve multi-agency and community collaboration, a CRIME PATTERN typically requires routine operational tactics carried out primarily by the police agency responsible for that jurisdiction.

A crime pattern is not defined only by statistics. Pattern identification is more than just counting and summarizing crimes that are similar in characteristics and/or location. A crime pattern is not simply a list or count of all crime within a defined date range, nor is it simply a cluster of incidents on a map. A crime pattern is identified through a systematic, deductive analytical process, subsequently communicated to police agencies via some form of bulletin. The bulletin clearly and succinctly describes the critical elements of the pattern and highlights any notable implications for action. More specifically, crime pattern bulletins typically include analytical elements such as a geographic profile, a temporal profile, a

list of potential suspects matching physical and/or *modus operandi* (M.O.) descriptions, or other information of investigative or prescriptive response value.

Crime Pattern Types

There are seven common types of crime patterns which reflect the fundamental requirement of common shared elements necessary to define a set of crimes as a pattern. While these types are independently defined, they are not mutually exclusive and often overlap. Therefore, when examining a crime pattern in which classification ambiguity exists, the crime analyst would categorize the pattern as whichever type is most applicable based on the characteristics of the crimes involved and the nature of the most appropriate potential police response.

The seven primary crime pattern types are:⁷

1. **Series:** A group of similar crimes thought to be committed by the same individual or group of individuals acting in concert.

Examples: Four commercial arsons citywide in which a black male, between the ages of 45-50, wearing yellow sweatpants, a black hooded sweatshirt and a yellow "Yankees" cap, was observed leaving the commercial structures immediately after the fire alarm was triggered; five home invasion-style robberies involving two to three white males in their 20s wearing stockings over their faces, displaying a silver, double-barreled shotgun, and driving a red 1980s Pontiac Trans Am.

2. **Spree:** A specific type of series characterized by high frequency of criminal activity within a remarkably short time frame, to the extent that the activity appears almost continuous.

Examples: A rash of thefts from auto at a parking garage over the course of one hour; multiple apartments in a high-rise building burglarized during daytime hours on a single day.

3. **Hot Prey:** A group of crimes committed by one or more individuals, involving victims who share similar physical characteristics and/or engage in similar behavior.

Examples: Five home invasion robberies of Asian immigrant families occurring throughout the city over six weeks; seven fraudulent check scams targeting elderly victims over one week; ten robberies committed by different offenders of intoxicated persons walking home alone from the bars on the weekend over two months.

4. **Hot Product:** A group of crimes committed by one or more individuals in which a unique type of property is targeted for theft.

Examples: Sixteen thefts of GPS units from vehicles at residential and commercial places in three weeks; 25 burglaries of vacant homes and construction sites for the purpose of taking copper wiring and piping over three months; 20 thefts of laptops and smart phones occurring throughout a college campus the first month of school.

5. **Hot Spot:** A group of similar crimes committed by one or more individuals at locations within close proximity to one another.

Examples: Eight daytime burglaries over the past four weeks at a suburban residential subdivision, with no notable similarities in method of entry or known suspects; ten commercial burglaries over the course of three weeks at businesses located within a half-mile radius during overnight hours.

6. **Hot Place:** A group of similar crimes committed by one or more individuals at the same location.

Examples: A local movie theatre that has experienced 15 thefts from auto, several incidents of graffiti on the building and two strong-arm robberies in the parking lot over the course of one month; an apartment community that has experienced two stranger-on-stranger sexual assaults, several drug-related shootings, and seven residential burglaries within six weeks.

7. **Hot Setting:** A group of similar crimes committed by one or more individuals that are primarily related by type of place where crimes occurred.

Examples: Eleven late night robberies of 24-hour convenience stores throughout the city by different offenders over two weeks; Five burglaries of duplex homes adjacent to abandoned railway beds over one weekend; 14 theft from commercial vans/trucks parked at night in residential neighborhoods over three weeks. Crime Pattern Examples

Clear and consistent definitions for types of crime patterns are important in terms of practical application, in that certain analytical techniques should correspond to each type of pattern. For example, many tactical crime series forecasting methods assume that a single offender is responsible; a hot settings pattern requires the analyst to refine spatial analysis to include location types; analyzing hot prey involves querying data to identify common victim characteristics/behavior; and identifying hot products requires data analysis that focuses on types of stolen property.

In addition, distinguishing the pattern type helps police personnel to determine the best tactical response(s). For example, a hot product pattern may stop if the illicit markets for those goods (e.g., precious metals) are dismantled; a hot spot pattern may be resolved more effectively with directed patrols than a pattern in which the crime locations are spread across the jurisdiction; and crime sprees may allow for no response at all if they do not recur. Finally, consistent definitions help to improve professional communications which makes it easier for analysts to understand and apply literature, conference presentations, case studies, and other professional materials.

To further demonstrate the need for distinguishing pattern types, Table 1 illustrates how different types of patterns manifest across the specific crime types of residential burglary and commercial robbery.

Table 1: Pattern Type Examples

Pattern Type	Residential Burglary	Commercial Robbery
Series	A burglar enters 23 houses over June, July, and August, circumventing alarm systems in the same way each time and stealing jewelry as well as silver items.	Over a three-month period, the same group of teenagers holds up eight convenience store clerks at knifepoint to steal cash.
Spree	On a Tuesday morning, six apartments in the same building have their front doors kicked open and electronics stolen from the living room.	An armed, masked man holds up a grocery store, a drug store, and a department store, all in the same plaza, within a few hours on a Saturday afternoon.
Hot Prey	Seven burglaries occurred in which unidentified suspects entered four single-family homes and two apartments in various locations around the city, taking cash and other small valuables while the elderly victims were asleep.	Over a two-month period, pizza delivery drivers have been robbed at gunpoint by different suspects while delivering fraudulently-placed orders.
Hot Product	In the first week since its release, the latest tablet computer has been stolen during seven residential burglaries and five thefts from coffee shops.	Over the past month, six different gas stations and liquor stores have been robbed by different offenders who specifically demand cartons of cigarettes.
Hot Spot	Ten houses in a new subdivision are burglarized over one month during construction, with copper wire, appliances, piping, and tools stolen. There is no suspect information.	Five individuals have been robbed while walking to their cars at night in downtown parking lots. Different suspects have been described in each case.
Hot Place	Five apartment units in the same complex have been burglarized over two months with two of the units being hit twice (for a total of seven burglaries). The burglaries happen both during the day and evening, and a variety of property is taken (e.g., cash, electronics, and bicycles).	A single liquor store is robbed four separate times in July and August by different suspects looking for cash and alcohol.
Hot Setting	Twelve burglaries from homes with open garage doors occur in the late afternoon and evening hours throughout the city. Property stolen includes bicycles, tools, golf clubs, and other easily portable goods.	Fifteen drug store pharmacies are robbed by different offenders looking for painkillers.

Summary

This document provides the official IACA definition for the term crime pattern, identifies seven unique crime pattern types, and provides definitions and examples for each. A crime pattern is among the most foundational of all concepts in crime analysis. By clarifying and standardizing the core ideas and jargon prevalent within the crime analysis profession, the IACA seeks to promote understanding, enhance communication, and advance knowledge among police practitioners.

References

- Boba, R. (2009). *Crime analysis with crime mapping*. Thousand Oaks, CA: Sage.
- Boba, R., & Crank, J. (2008). Institutionalizing problem-oriented policing: Rethinking problem identification, analysis, and accountability. *Police Practice and Research*, 9 (5), 379-393.
- Clarke, R. (1999). *Hot products: Understanding, anticipating, and reducing demand for stolen goods*. *Police Research Series, Paper 112*. Policing and Reducing Crime Unit. London, UK: Home Office.
- Eck, J., Chainey, S., Cameron, J., Leitner, M., & Wilson, R. (2005). *Mapping crime: Understanding hotspots*. Washington, DC: U.S. Department of Justice, National Institute of Justice.
- Moore, D., & McCabe, G. (1999). *Introduction to the practice of statistics*. New York, NY: W.H. Freeman.

Other Works Consulted

- Gottlieb, S., Arenberg, S., & Singh, R. (1998). *Crime analysis from first report to final arrest*. Montclair, CA: Alpha Publishing, California.
- Bruce, C. (2003). *Identifying crime patterns*. Massachusetts Association of Crime Analysts. Accessed at: www.macrimeanalysts.com/articles/identifyingcrimepatterns.pdf. Date Retrieved August 12, 2011.
- Bruce, C. (2008). *Pattern analysis factors*. Massachusetts Association of Crime Analysts. Accessed at: www.macrimeanalysts.com/articles/patternfactors.pdf. Date Retrieved August 12, 2011.
- Carter, P. (2009). *Law enforcement intelligence: A guide for state, local, and tribal law enforcement agencies, second edition*. Washington DC: U.S. Department of Justice, Office of Community Oriented Policing Services.

International Association of Law Enforcement Intelligence Analysts [IALEIA]. (2004). *Law enforcement analytic standards*. Global Justice Information Sharing Initiative and International Association of Law Enforcement Intelligence Analysts, Inc. Accessed at: http://www.ialeia.org/files/other/law_enforcement_analytic_standards.pdf. Date Retrieved August 12, 2011.

Osborne, D., & Wernicke, S. (2003). *Introduction to crime analysis: basic resources for criminal justice practice*. New York, NY: The Hawthorne Press.

Paulsen, D., Bair, S., & Helms, D. (2010). *Tactical crime analysis: research and investigation*. Boca Raton, FL: CRC Press.

¹ This quote comes from the mission statement as written in the *Standards, Methods, and Technology (SMT) Strategic Plan completed April 2011*.

² Subject Matter Experts (SME) are identified by the Standard, Methods, and Technology Committee based on special knowledge obtained through publications, presentations, and practical experience and their willingness to participate.

³ Moore & McCabe (1999).

⁴ Boba & Crank (2008).

⁵ Clarke & Eck (2005: Step 14).

⁶ Clarke & Eck (2005).

⁷ The definitions for the terms spree, series, hot prey (i.e., repeat victim) and hot setting (i.e., hot target) have been adapted from Boba (2009). The definition of hot product has been adapted from Clarke (1999). The definition of hot spot has been adapted from Eck, Chainey, Cameron, Leitner & Wilson (2005). The term hot spot has applications in various situations, but for the purposes of this white paper applies solely to crime pattern analysis.