Crime Mapping News

A Quarterly Newsletter for GIS, Crime Mapping, and Policing

POLICE FOUNDATION

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The topic of this issue of the *Crime Mapping News* is problem analysis—bringing together crime analysis and problem solving. The articles in this issue cover topics including 1) a summary of the Problem Analysis Forum 2002, held in Washington, DC, in February 2002, 2) an excerpt from an article that addresses the importance of primary data collection through discussion and examples, and 3) a summary of the Advanced Crime Mapping & Analysis Symposium, held in Denver, CO, in June 2001. We have also included announcements for a variety of new publications. Lastly, we present truncated answers to the "Crime Analysis Challenge," composed of nine questions designed to stimulate thought and discussion.

Summary: Problem Analysis Forum 2002 February 7 - 8, 2002

By Rachel Boba, PhD, Director
Crime Mapping Laboratory, Police Foundation

In a recent report funded by the Office of Community Oriented Policing Services (COPS) that evaluates the last twenty years of problem oriented policing, author Mike Scott discusses how, although problem solving and problem oriented policing have blossomed in both concept and practice, analysis and evaluation within law enforcement agencies have been the slowest areas to develop: "Problem analysis remains the aspect of the concept [problem oriented

Problem Analysis Forum 2002 Attendees: (Front Row) Debra Stoe, Gloria Laycock, Matthew Scheider; (Middle Row) Herman Goldstein, Karin Schmerler, John Eck; (Back Row) Bob Heimberger, Ron Glensor, Mike Scott, Rachel Boba, Pat Drummy. Not pictured: Veh Bezdikian, Ron Clarke, Ed Flynn, Erin Lane, Nancy Leach, Mary Velasco, and Linda Yoskowitz.

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policing] most in need of improvement" (2000:7). In light of this finding, the Police Foundation's Crime Mapping Laboratory has begun the first steps in the development and promotion of problem analysis by conducting a Problem Analysis Forum in which academics and practitioners gathered to discuss the implementation of problem analysis into law enforcement agencies.

From left to right: John Eck, Pat Drummy, Mike Scott, Ron Clarke, and Gloria Laycock.

On February 7th and 8th, 2002, the Crime Mapping Laboratory hosted the "Problem Analysis Forum 2002." The purpose of the two-day forum was to discuss how problem analysis/ action research can best be implemented and institutionalized into everyday police problem solving. The goal of the discussion was to provide definitions, suggestions, and recommendations about problem analysis in law enforcement.

Eleven individuals, including academics, police managers, officers, and civilian analysts, were invited to participate in the forum. Interestingly, when the list of potential participants was developed, a primary and secondary list were created in case individuals could not attend. It is a testament to the importance of this topic that all of the individuals on the primary list agreed to attend the forum. The following are those who were invited:

- Dr. Herman Goldstein, University of Wisconsin, Madison
- Dr. Ron Clarke, Rutgers University
- Dr. John Eck, University of Cincinnati
- Dr. Gloria Laycock, The Jill Dando Institute, London, UK
- Ed Flynn, Arlington County, VA, Police Department
- Bob Heimberger, St. Louis, MO, Police Department
- Pat Drummy, San Diego, CA, Police Department
- Dr. Ron Glensor, Reno, NV, Police Department
- Karin Schmerler, Chula Vista, CA, Police Department
- Dr. David Kennedy, Harvard University (unable to attend)
- Dr. Gary Cordner, Eastern Kentucky University (unable to attend)

President Hubert Williams of the Police Foundation and Deputy Director Dr. Ellen Scrivner of the COPS Office introduced the forum and participated the first morning. In attendance representing the Police Foundation, the COPS Office, and the National Institute of Justice were:

- Dr. Rachel Boba, Police Foundation
- Mary Velasco, Police Foundation
- Mike Scott, Police Foundation Consultant
- Erin Lane, Police Foundation
- Linda Yoskowitz, Police Foundation
- Dr. Matthew Scheider, COPS Office
- Veh Bezdikian, COPS Office
- Nancy Leach, COPS Office
- Debra Stoe, National Institute of Justice

The group spent two days discussing many topics surrounding implementing problem analysis into a single law enforcement agency and institutionalizing problem analysis throughout the nation. Specifically, the participants discussed:

- Definition of problem analysis
- Problem analysis vs. crime analysis
- Job description and qualifications of an individual conducting problem analysis
- Education and training of an individual conducting problem analysis
- Implementation/institutionalization of a problem analysis function
- The role of academia
- The role of the Federal government
- Suggestions for the future

The forum is seen as a success by all who attended. The proceedings of the meeting have been transcribed, and two publications will be created from the discussion. The first will be a fairly complete summary of the discussion and debate that took place during the two days, and the second will be a succinct three to four page summary of the definitions, suggestions, and recommendations made by the group. The release of these publications will be announced by the Crime Mapping Laboratory and the COPS Office in the coming months.

Reference

Scott, M. 2000. *Problem-Oriented Policing: Reflections on the First 20 Years.* Washington DC: US Department of Justice, Office of Community Oriented Policing Services.

Dr. Rachel Boba is the Director of the Crime Mapping Laboratory. She can be contacted via e-mail at rboba@policefoundation.org.

Announcing a New Publication from the COPS Office: The Problem-Oriented Guide for Police Series

The Problem-Oriented Guide for Police Series consists of 19 problem-oriented guidebooks and a companion guidebook to assessing and measuring response strategies. The problem-oriented guide for police series provides law enforcement with problem-specific questions to assist in identifying potential factors and underlying causes of specific problems, identifies known responses to each problem, and provides potential measures to assess the effectiveness of problem-solving efforts. The following problem-oriented guidebooks are now available:

- Assaults in and around Bars
- Street Prostitution
- Speeding in Residential Areas
- Drug Dealing in Privately Owned Apartment Complexes
- False Burglar Alarms
- Robbery at ATM Machines
- Disorderly Youth in Public Places
- Loud Car Stereos

Additional guidebooks in this series that are expected to be released early next calendar year include:

- Acquaintance Rape of College Students
- Clandestine Drug Labs
- Burglary of Retail Establishments
- Graffiti
- Panhandling
- Rave Parties
- Residential Burglary
- Bullying in Schools
- Shoplifting
- Theft of and from Cars in Parking Facilities

The guidebooks are available on the COPS Office Web site at www.cops.usdoj.gov and can be accessed by clicking on the guidebook title. If you wish to have a hard copy sent to you, call the COPS Office Response Center at (800) 421-6770; or send a request to ask.cops@usdoj.gov with the following information: name, address, phone, fax, e-mail address, and the name of the publication requested.

Primary Data Collection: A Problem-Solving Necessity

by Karin Schmerler, Research Analyst, Chula Vista, CA, Police Department
and Mary Velasco, Research Associate, Crime Mapping Laboratory, Police Foundation

The following is an excerpt of an article prepared as a result of the authors' participation in the Advanced Crime Mapping & Analysis Symposium in June 2001 (for details of the symposium, see the summary on page 9 of this newsletter). This excerpt from "Primary Data Collection: A Problem-Solving Necessity," has been included with this issue as it pertains to our current discussion of problem analysis.

In order to answer the "who, what, when, where, how, why, and why not" questions raised during the analysis phase of a problem-solving effort, it is almost always necessary to collect original data. Also known as primary data, this type of information is collected directly from an individual or a location by a police officer, crime analyst, or others involved in a problem-solving project. Original data sources may be crime victims; suspects or offenders; interested third parties, such as residents living in a target area; social service providers; or any other people who can shed light on a problem. Original data sources may also be the locations themselves. In a law enforcement environment, primary data can be collected through various means, including interviews, surveys, focus groups, and field or observational research. These methods of research typically produce qualitative results, in that they result in non-numerical data that the researcher must then interpret to look for underlying patterns and meanings.

> "It should be noted that interviews that can provide helpful information on crime problems are not limited to victims, offenders, and residents. For example, maids and property managers at a problem motel could be interviewed to determine their perspective on a drug-dealing problem on the premises…"

The second section of this article describes several methods that law enforcement professionals have used to collect primary data. The following examples have been drawn from the authors' professional experience as well as from examples of high quality problem-solving efforts recognized by the Herman Goldstein Award for Excellence in Problem-Oriented Policing. The Herman Goldstein Award recognizes outstanding problem-solving efforts, both in the United States and abroad, that employ innovative methods to successfully reduce selected crime and disorder problems (for more information about this award, please see www.policeforum.org). Primary data collection is often integral to the success of these specific problem-solving efforts and, one might argue, essential to the success of problem-oriented policing in general. In fact, a review of recent Herman Goldstein Award winners and finalists reveals that almost every honoree employed some method of primary data collection to gain a comprehensive understanding of the selected crime and disorder problem.

Primary Data Collection: Examples

Interviews. To analyze a prostitution problem, problem solvers in Buffalo (NY) conducted 15 in-depth interviews of prostitutes and 116 surveys of johns. From these discussions, they learned two key facts: that the possibility of arrest was the major deterrent to solicitation for johns, but not much of a deterrent for prostitutes themselves, many of whom expressed relief upon arrest[1] because it gave them a chance to rest and stay off drugs. Although these findings were not surprising, they were critical to garnering community support for the interventions. Staff working with the police department subsequently interviewed residents who were concerned about prostitution and informed them of their findings from the interviews with prostitutes and johns. Based on that information, Buffalo community members expressed support for increased john enforcement, as well as increased drug treatment and court options for prostitutes. After implementing these and other responses, the Buffalo Police Department, a 2001 Herman Goldstein Award Finalist, was able to reduce prostitution-related calls for service by more than 60 percent over a 3-year period. The interviews with the prostitutes also provided police with important information about the operation of the prostitution and

[1] Long sentences stemming from arrest (15 to 90 days) were found to be deterrents to prostitutes, but several days in jail was not.

related drug markets in Buffalo. "They were a wealth of knowledge for us," said Lt. Patrick Roberts.

It should be noted that interviews that can provide helpful information on crime problems are not limited to victims, offenders, and residents. For example, maids and property managers at a problem motel could be interviewed to determine their perspective on a drug-dealing problem on the premises and gain information on business practices that may contribute to the problem. Social service providers could be interviewed about their specific expertise in addressing a focus population. Police officers themselves are often some of the best sources of information about the nature of a problem and the kinds of responses that might be most effective. Virtually any individual who has knowledge of, or a vested interest in, a particular problem can provide useful information on it.

Surveys. Problem-solvers in agencies across the country have used surveys in a wide variety of ways to shed light on crime and disorder problems. Most frequently, police officers, crime analysts and community members have made use of two types of instruments: environmental surveys and victimization surveys.

Environmental Surveys. Qualitative assessment of the physical features and management of high crime locations has proven to be a valuable analytical strategy. This process is based on several concepts, including situational crime prevention, which involves blocking crime opportunities specific to certain times and places, and the concept of Crime Prevention Through Environmental Design (CPTED). CPTED is a prevention strategy organized around the principle that proper design and effective management of the physical environment of business areas, residential neighborhoods, parking lots, and other public and private spaces can prevent crime. CPTED maintains that physical features such as lighting, proper maintenance, access control, and natural surveillance are essential to effective crime prevention. (For more information on CPTED, please see www.ojp.usdoj.gov/nij; for more information on situational crime prevention, see *Situational Crime Prevention: Successful Case Studies* by Ronald V. Clarke, 1997.)

Observation of environmental characteristics at high crime locations, or even high accident areas, can prove to be very informative. The California Highway Patrol (CHP), winner of the 2001 Herman Goldstein Award, used this technique with much success. After identifying a deadly rural stretch of roads connecting two interstate highways near San Luis Obispo, a 31-member CHP task force boarded a bus and spent five hours personally inspecting 20 miles of roadway. The bus stopped about once a mile so that task force members could get out and assess various environmental factors that could affect road safety, including passing lines, shoulder problems, lighting, curvatures in the road, glare, fog, and signage. One of the key recommendations of the task force that came about as a result of the road survey was to adopt a 24-hour "headlights on" policy on the problem roadways. That policy "played a significant role in our success," said Joe Farrow, Assistant Commissioner of the CHP. This particular problem-solving initiative reduced traffic fatalities by 35 percent on the target roads.

Victimization Surveys. These types of data collection tools have provided problem-solvers with a great deal of information regarding the extent and nature of victimization. Because the rates of crime reporting are frequently so low (only 56 percent of robbery victims report being victimized to the police, for example), victimization surveys can provide a more

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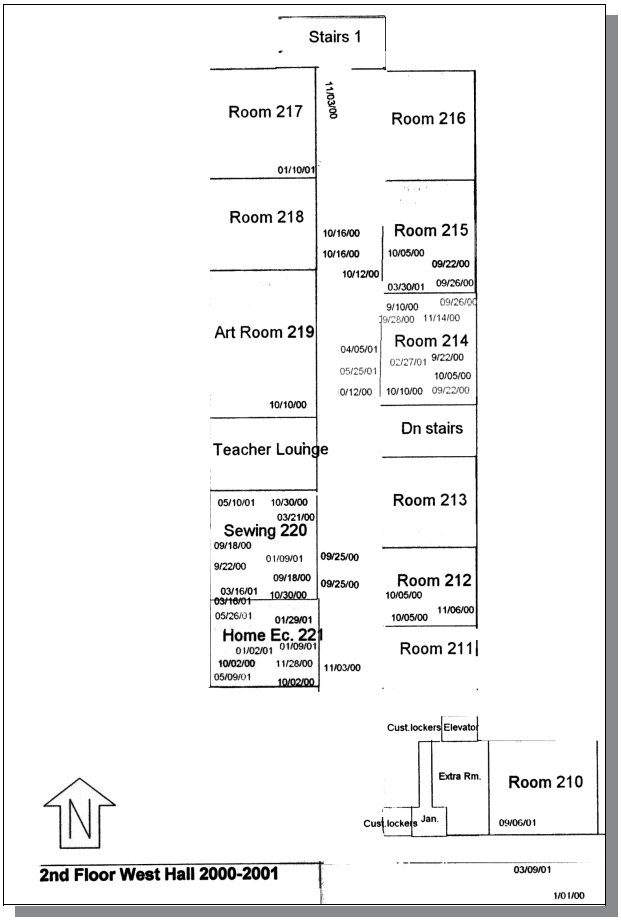
accurate picture of the incidence of a problem. Victimization surveys can also provide valuable insight into why a particular person or target was selected. To better understand why some homes were "successfully" burglarized when others were only the site of burglary attempts, the Chula Vista (CA) Police Department surveyed victims to determine what security measures were in place at the time of burglaries (both completed and attempted break-ins) and contrasted the two scenarios. Using this approach, Chula Vista, a 2001 Herman Goldstein Award Finalist, was able to determine the relative effectiveness of the various security measures.

From the victim interviews, the problem-solving team identified vulnerable points and methods of entry. For example, victims reported that in 87 percent of the break-ins that occurred when intruders defeated locked doors with tools such as screwdrivers or crowbars, burglars targeted "the one door that had no deadbolt lock." Victim reports also indicated that burglars had an easier time entering through sliding glass doors that did not have channel locks or slide bolts. Another major finding from the victim interviews was that windows with simple stock latches were easily pried open, whereas those with locks were not. Perhaps the most important finding from the victim interviews was that not one burglar attempted to break a double-pane window during the course of a successful or attempted burglary. As a result of these findings, Chula Vista negotiated with the five major home developers poised to construct 30,000 new homes in the city to shore up vulnerable points of entry in every home built in Chula Vista after February 1999. Since these responses were implemented, residential burglary has declined by 43 percent.

Other types of victimization or victim behavior surveys use objects rather than people as the units of measurement. For example, vehicle security surveys, conducted at high frequency locations for auto theft and/or theft from vehicle, can indicate whether or not motorists are employing adequate safeguards to prevent vehicle crime. A vehicle security survey involves a visual inspection of parked vehicles to look for the presence of unsecured doors and windows, valuables in view, and visible anti-theft measures such as a steering wheel lock or car alarm. By surveying all vehicles, or merely a sample of cars at problem locations for vehicle crime, the surveyors can determine whether or not victim behavior may contribute to the problem. Rather than relying on property sheets and incident reports to inform their understanding of the vehicle crime problem, the surveyors can determine why vehicle crime is a problem at certain locations. This information can also inform response efforts, as it may be necessary to implement educational efforts at parking lots where surveyors record a high percentage of unsecured vehicles or visible valuables.

Focus Groups. Focus groups, which can be used to elicit in-depth information from a key group of people, have also provided critical information to problem solvers. The South Euclid (OH) Police Department, a 2001 Herman Goldstein Award Finalist, conducted focus groups of students to determine if they felt unsafe at school, and if so, in what locations and at what times. Information from the focus groups identified hallways and class change times as high-risk places and periods for bullying, the focus problem of the initiative. Like many good problem-solvers, the South Euclid team corroborated their findings from focus groups with student surveys and maps of bullying incidents, which pinpointed the locations of hallway bullying incidents (the map on the left captures bullying hotspots by date of incident). Based on these findings, class change times were staggered, and teachers worked in teams to increase hallway monitoring. As a result of these and other measures, South Euclid was able to achieve a 60 percent reduction in bullying in hallways.

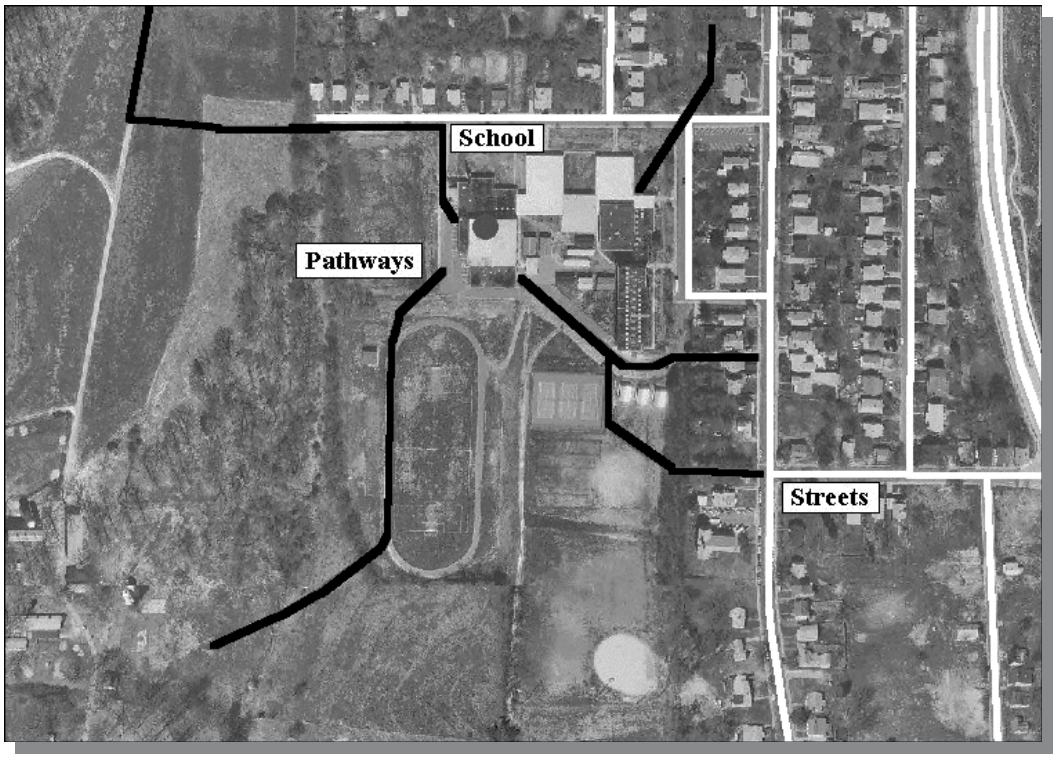


Observational Research. At times, the only way to find out information about a crime or disorder problem is to watch and record information about what can actually be seen or visually verified. A motel problem in Chula Vista provides a good example of why observational research may be necessary to get a handle on the nature of certain problems.

Calls for service to motels in Chula Vista indicate that the most frequent call type is the "disturbance" call. A catchall category, disturbances can range from a public argument, to loud music, to a person behaving irrationally on the street. Although disturbances were the number one type of call being received about motels in 2000, police officers believed that more serious problems, such as drug dealing, were commonplace. As might be expected, Computer Aided Dispatch (CAD) records did not reflect these perceptions, because neither guests nor motel clerks tended to call the police about drug dealing.

Three motel surveillance efforts at separate properties over a period of three to five hours each confirmed the existence of drug dealing and use at the motels. The aerial photograph of a Chula Vista motel (above) was used to track where guests tended to park, where pedestrians congregated, and which sections of the hotel were most active. These observations also documented the wide variations in the types of guest behavior at the motels. One mid-range property that was thought to have serious problems only had one drug-dealing guest at the time of the observation; the vast majority of guests appeared to be either tourists or businesspeople. In contrast, at one of the worst properties in the city, guests routinely left their doors wide open. Pedestrian traffic onto the property was extremely frequent compared to other motels, and visitors on foot rarely stayed on the property more than a few minutes. The motel observations, which are still in progress, underscored that each property and guest make-up is different; as such, each will require different interventions. A broad "disturbance" intervention would not be appropriate or effective.

Pathway and/or neighborhood analysis are additional examples of how observational research can inform problem-solving efforts. Pathway analysis refers to observation of the physical characteristics and the types of activity that occur along pedestrian pathways. For example, as students travel to and from school, they use a variety of informal pathways (e.g., through parks and/or parking lots) that are not captured with a traditional street map. By determining where



these pathways are and observing the types of activity that occur there, police and school officials can analyze student offender and victimization patterns along these specific routes.

The aerial photograph on the preceding page depicts observed student pathways around a school along with the street network. The use of aerial photographs to illustrate the pathways allows for a much more detailed analysis; note that the students appear to cut through a park area that does not appear on an ordinary center-line street map.

Neighborhood analysis can include conducting observation at a given location at different times of day. For example, pedestrian activity in the downtown area may vary considerably over the course of a single day. In the morning and afternoon hours, downtown streets may be filled with commuter traffic, lending a feeling of "safety in numbers" to pedestrians in the area. In the evening, commuter traffic may give way to families and individuals visiting downtown events, restaurants, or retail centers. However, pedestrian traffic and activity during the late night hours may change considerably as bars and businesses close and fewer people are on the streets; further, the types of people who are out in the late evening may be more prone to criminal activity. As these examples demonstrate, first-hand knowledge of an area and observation of the different activities that take place there can be a useful supplement to an analysis of calls for service and crime data.

Conclusion

We present these examples to illustrate the potential utility of primary data collection for understanding and responding to persistent crime and disorder problems. While it may not be feasible for a law enforcement agency to collect extensive primary data for every problem-solving effort, readers may find that collecting these data on even an ad hoc basis will ultimately serve to better inform their knowledge of the problem. For example, a quick visit to a frequently targeted ATM machine may indicate that environmental factors such as poor lighting and inadequate maintenance make the location an attractive crime target. If additional research assistance is needed to analyze a particular problem, a local university may be able to provide the necessary support without draining police department resources.

The purpose of this article is to demonstrate how law enforcement professionals have used primary data to achieve a reduction in problems as diverse as prostitution, school bullying, residential burglary, and highway traffic accidents. It is our hope that, from these examples, readers may derive information that will be applicable to their own agencies and will be encouraged to employ primary data collection as part of their future problem-solving efforts.

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Next Issue

The topic of the next issue of *Crime Mapping News* will be partnerships between software companies and law enforcement agencies with the goal of developing and/or implementing crime analysis or mapping technology. We are looking for article submissions co-authored by representatives from both agencies that detail the process and lessons learned from software development and/or implementation. If you have previously written a software-related article for the *Crime Mapping News*, we ask that you submit an article describing a different software program. We look forward to your participation in submitting articles for the upcoming issue.

If you are interested in contributing to the next issue or any future issue, please contact the Crime Mapping Laboratory at:

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Note from the Editors: *The opinions expressed in the articles of this newsletter are those of the authors and do not necessarily reflect the views of the Police Foundation or the COPS Office. In addition, only light editing has been made to the articles in order to keep each author's voice and tone.*

Summary: Advanced Crime Mapping & Analysis Symposium June 25 – 27, 2001

In June 2001, the Crime Mapping & Analysis Program (CMAP) hosted the Advanced Crime Mapping & Analysis Symposium in Denver, Colorado. The purpose of the symposium was to bring together professionals internationally recognized for their contributions to the field of crime mapping and analysis to discuss, debate, present, and refine their crime mapping and analysis techniques. Over the course of three days, each participant provided insight into their particular area of expertise and learned about others' techniques. The symposium addressed four topic areas (listed below); symposium participants are listed according to their respective areas of expertise:

1. ***Resource Allocation/Acquisition/Redistricting/ Forecasting***
   Noah Fritz, Crime Mapping & Analysis Program
   Paul Bentley, Scottsdale, AZ, Police Department
   Dr. Keith Harries, University of Maryland, Baltimore County
   Dale Harris, Corona Solutions
   Dr. William Stenzel, Northwestern University Center for Public Safety

2. ***Investigative Analysis: Target analysis, serial analysis, spatial profiling***
   Sean Bair, Crime Mapping & Analysis Program
   Chris Bruce, Danvers, MA, Police Department
   Julie Cooper, Irvine, CA, Police Department
   Dan Helms, Las Vegas, NV, Metropolitan Police Department
   Eric Nelson, Tempe, AZ, Police Department
   Mike Ronczkowski, Miami-Dade, FL, Police Department
   Tess Sherman, Austin, TX, Police Department

3. ***Problem Solving, Research, and Evaluation***
   Dr. Rachel Boba, Police Foundation
   Phil Canter, Baltimore County, MD, Police Department
   Chris Catren, Redlands, CA, Police Department
   Jamie Price, Florida Atlantic University
   Karin Schmerler, Chula Vista, CA, Police Department
   Mary Velasco, Police Foundation

4. ***Discrete Site Level Analysis***
   Steven Hick, Crime Mapping & Analysis Program
   Bill Boesch, Crime Mapping & Analysis Program
   Jim Howard, DESC Inc.
   Dr. George F. Rengert, Temple University
   Mike Woods, University of California at Los Angeles Police Department

The final product from the symposium is a compilation of articles formed out of the event that will be made available to the law enforcement and corrections community. The target audience for the compilation is those performing crime analysis or crime mapping at law enforcement agencies or institutions. Each article focuses on providing real world examples of how a variety of methods, techniques, or processes can be put into practice. An excerpt from one of the articles, "Primary Data Collection: A Problem-Solving Necessity," written by Karin Schmerler of the Chula Vista, CA, Police Department, and Mary Velasco of the Police Foundation, has been included in this issue of the *Crime Mapping News* (see page 4) as the article is pertinent to our discussion of problem analysis.

ANNOUNCING A NEW CRIME MAPPING SERIES: OVERCOMING THE BARRIERS: CRIME MAPPING IN THE 21ST CENTURY

This series was developed jointly by the National Institute of Justice and its Crime Mapping Research Center and the Police Foundation's Crime Mapping Laboratory to encourage debate regarding key issues in the implementation and integration of crime mapping into American police practice. The series, which is based on lectures presented at the Police Foundation, is concerned with the human as well as technological barriers that police agencies face. Importantly, we sought not just to define those barriers, but to provide ideas for overcoming them. The first paper in this series is entitled:

Crossing the Borders of Crime: Factors Influencing the Utility and Practicality of Interjurisdictional Crime Mapping
by John E. Eck

In this paper, John Eck, an Associate Professor of Criminal Justice at the University of Cincinnati, addresses the issue of regional crime analysis mapping. Mapping across jurisdictions has emerged as a major problem in the integration of crime mapping into police problem solving. Crime problems often cross jurisdictional boundaries. But crime analysis is often based within specific jurisdictions, and police agencies have found it difficult to move from the idea of cross-jurisdictional crime mapping to actual implementation of systems for examining crime across jurisdictional boundaries. In this, the police have faced not only technological, but also organizational, political, and social barriers. Indeed, as Professor Eck argues, the main impediments to the development of effective cross-jurisdictional crime mapping systems lies not in the technologies available but in the organizational structures and patterns of police agencies.

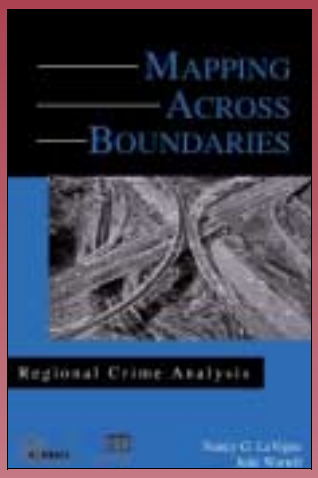
This paper is available in Adobe PDF format in the Electronic Library on the Police Foundation Web site at www.policefoundation.org. Other papers will follow as they are completed.

MAP YAP

Our regular feature, Map Yap, which allows crime analysis and mapping professionals to submit technical questions and comments or critiques of previous articles, will not appear in this issue. Instead, we are featuring answers to the Crime Analysis Challenge (beginning on the next page), a variety of analytical questions for readers to ponder and debate.

Please continue to send Map Yap questions or comments to pfmaplab@policefoundation.org. They will appear in future issues!

BOOK ANNOUNCEMENT: *MAPPING ACROSS BOUNDARIES*



Mapping Across Boundaries, written by Nancy G. LaVigne and Julie Wartell, addresses the obstacles and answers in developing regional crime mapping. The 130-page report is a primer for police agency personnel and students of mapping who want to enhance crime control and prevention efforts. The book discusses how cross-boundary mapping can better reveal hot spots of crime that occur along jurisdictional boundaries or identify serial crimes by offenders operating in neighboring jurisdictions. Through case studies, the book provides guidance on a range of regional mapping models—from central archiving systems to ambitious multi-agency consortia with common database structures and GIS platforms.

This practical guide outlines for each case model how the mapping effort began; how it was implemented; decisions regarding software, hardware, data sharing and privacy agreements; and how the cross-agency mapping has been used in practice. It highlights issues to consider in cross-agency collaborations and provides sources for additional sources, information, sample Memoranda of Understanding, and other guidance on emerging regional crime analysis efforts.

To order a copy of this book, call (888) 202-4563 or visit the Police Executive Research Forum's online bookstore at www.policeforum.org. The price is $18.00 for PERF members and $20.00 for non-members.

Crime Analysis Challenge

In the last issue of *Crime Mapping News*, we presented nine crime analysis questions designed to stimulate thought and discussion. They ranged in difficulty and complexity, and admittedly some were fairly tricky. But all were based on actual errors or mistakes we have observed in the past. We designed the questions to test knowledge of important underlying theories and methodologies.

We applaud those intrepid individuals who posted answers to NIJ's Crimemap Listserv. One of the reasons we presented the Challenge was to stimulate discussion and debate. Consistent with this goal, we have chosen to provide in this issue only short, truncated answers to the questions. We hope readers will try to figure out why these answers are correct, and to challenge and debate them if they disagree. The complete answers, including underlying assumptions and detailed explanations, will be published in the next issue of *Crime Mapping News*.

The original nine questions are repeated below. The limited answers are printed in bold red type.

Question 1

The homicide count has gone from 0 in 2000 to 6 in 2001. This increase has generated the attention of the local media. A reporter has asked what is the percent change in homicide over the last year. How would you answer the reporter?

It is not possible to calculate the percent change in this situation...

Question 2

Analysis of individuals arrested for auto theft during the past year reveals that of the 68 individuals arrested, 60 were known drug offenders. The Chief asks if this is statistically significant. How would you answer?

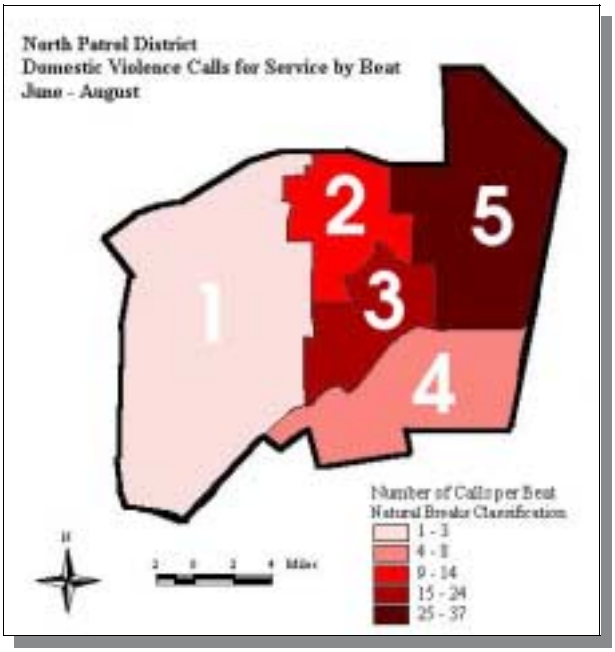
Based on the information given, you cannot determine statistical significance...

Question 3

A comprehensive and thorough study of the prevalence of burglary in the United States showed that there has been a 40% increase in such incidents from 1960 to 1990. A journalist doing a story on crime and parenting asks you what might be the most important contributing

factors to this growth. How would you answer this?
You would answer that there are no grounds, based on these data, for correlating the burglary increase with changes in parenting...

Question 4
You are the supervisor of the North Patrol District in your city. After a high profile domestic violence homicide, the chief asks each of the patrol supervisors to analyze the domestic violence problem in their district so that the problem can be effectively addressed and chances of a similar occurrence minimized. Your first step is to ask the crime analyst for a map of domestic violence in your district. To the right is the map you receive. Based on this map, what can you say about domestic violence in your district?
Based on this map, you can say that Beat 5 has more domestic violence calls for service than any other beat in the North Patrol District during the months of June through August. You can also say that there is less demand for police service to answer domestic violence calls in the western part of the district during the months of June through August...
What additional information would be valuable?
The additional information that would be valuable will be provided with the explanation for this answer in the next issue...

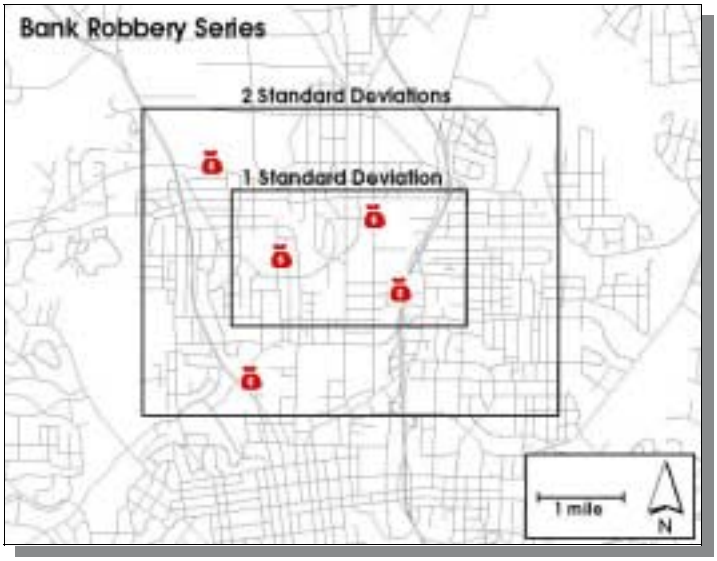


Question 5
A study of rapists who progress to sexual murder analyzed 106 crime scene variables and found the following characteristics were statistically significant ($p < 0.05$) correlates of future killing: (1) use of a weapon; (2) outdoor attacks; (3) theft from victim; (4) nighttime offences; and (5) multiple sex acts. A serial rapist responsible for 11 crimes over a two-year period has consistently demonstrated 4 of these variables during his crimes. He does not carry a weapon, but rather uses physical force, sometimes excessively so. What can be said about the likelihood the individual will progress to murder?
There is no reason to believe that this rapist is likely to progress to murder…

Question 6
The following table and map detail are an identified bank robbery series comprising 5 incidents:

Incident #	Weekday	Time
1	Monday	1215
2	Tuesday	1440
3	Monday	1330
4	Monday	1610
5	Friday	1020

What prediction about the future events would you make based on these results?
If the offender behaves as he/she has in the past, you can predict that he/she may rob a bank on a weekday, more likely on a Monday and more likely in the



afternoon...

A sergeant wants to deploy surveillance resources on Mondays, from 1100 to 1500 in the area encompassed by the first standard deviation rectangle. Based on these past incidents, what is your estimate of the probability the officers catch the offender during the next robbery through this strategy?

At the most, there is a 24% to 27% chance that the officers will catch the offender during the next robbery through this strategy...

Question 7

A study was conducted of street muggings in Centerville, a typical U.S. mid-western city. Census data indicate that Centerville's population is 49% male, 87% white, with a normal age distribution. The study collected a random sample of 100 street muggings, each of which involved only a single offender and a single victim. The results found approximately 7/8 of such offenders were white, and 13% of victims were non-white. What is the most common race of a street mugger in Centerville?

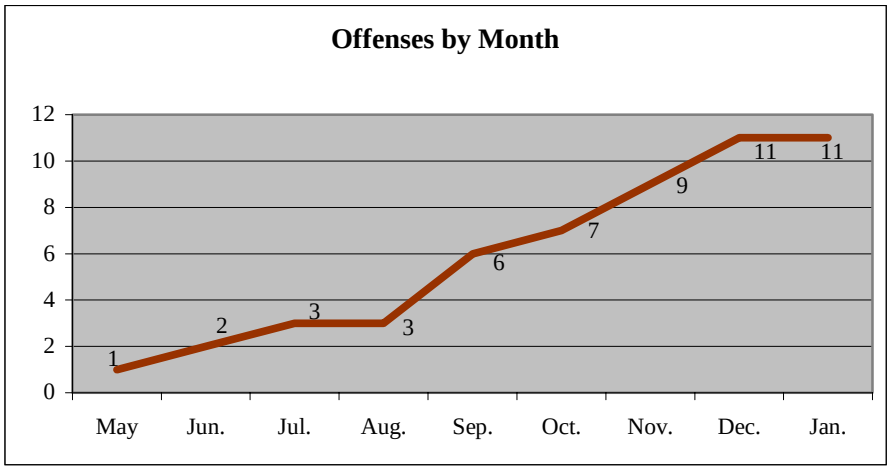
The most common race of a street mugger in Centerville is white...

Two anonymous tips have identified possible suspects in a recent unsolved street mugging: Tom Smith, a white 35-year-old male, and Robert Jones, a black 33-year-old male. Based on the study, who is the better suspect?

Neither is the better suspect...

Question 8

A child molester is active in Edmonton, Alberta, Canada. His victims have all been school children, 7 to 10 years of age, who were accosted while walking on the street alone in the dark. The attacks lasted less than a minute, and none of the victims was transported. The number of offenses by month are indicated in the graph to the right.



The media claim the molester is escalating his criminal activity. Is this a reasonable conclusion? **Yes...**

What factors might explain this pattern?

Possible factors will be elaborated upon in the next issue…

What level of offender activity might you expect in the future?

While the offender's activity could stabilize or even continue to grow, there are very good reasons for believing that his activity may start to drop...

Question 9

Research of non-acquaintance rape victims has demonstrated they have an 80% accuracy rate in describing the correct race of their assailant. A profiling study has shown that Hispanic males are 1.8 times as likely as white males to engage in stranger rapes involving victim transportation. A female visitor to an area comprised of 70% Hispanic males and 30% white males reports such an attack in which she was transported by car approximately 2 miles from the encounter point. The offender is described by her as white. Is this likely to be a correct description?

No…

Based on this description, should suspects be prioritized by race? If so, how? If not, why not?

Yes, white suspects should be prioritized the highest...

Upcoming Conferences and Training

May

Massachusetts Association of Crime Analysts Annual Training Conference
May 13-16, 2002
Hyannis, MA
www.macrimeanalysts.com/conference2002.html

Crime Mapping and Analysis Program (CMAP): MapInfo Class
May 20-24, 2002
Denver, CO
Contact: Danelle Digiosio, (800) 416-8086

June

Rio Hondo GIS/GPS Public Safety Training Center: ArcView Training
June 10-14, 2002
Whittier, CA
Contact: Bob Feliciano, bfeliciano@rh.cc.ca.us or (562) 692-0921

International Association of Chiefs of Police (IACP): Practical Crime Analysis
June 24-26, 2002
Germantown, TN
Contact: Tresonya Ball, ballt@theiacp.org

International Association of Law Enforcement Intelligence Analysts (IALEIA) Summer Conference
June 24-27, 2002
Nashville, TN
www.ialeia.org

July

Twenty-Second Annual Environmental Systems Research Institute (ESRI) International User Conference
July 8-12, 2002
San Diego, CA
www.esri.com/events/uc/index.html

General Web Resources for Training Seminars and Conferences

http://www.urisa.org/meetings.htm
http://www.ifp.uni-stuttgart.de/ifp/gis/conferences.html
http://www.geoinfosystems.com/calendar.htm
http://msdis.missouri.edu/
http://magicweb.kgs.ukans.edu/magic/magic_net.html
http://www.nsgic.org/
http://www.mapinfo.com/events
http://www.esri.com/events
http://www.ojp.usdoj.gov/cmrc/training/welcome.html
http://www.nlectc.org/nlectcrm/
http://www.nijpcs.org/upcoming.htm
http://www.usdoj.gov/cops/gpa/tta/default.htm
http://giscenter.isu.edu/training/training.htm
http://www.alphagroupcenter.com/index2.htm
http://www.cicp.org
http://www.actnowinc.org
http://www.ialeia.org

Early Reminders!

Annual Conference on Criminal Justice Research and Evaluation
July 21-24, 2002
Washington, DC
www.nijpcs.org/upcoming.htm

International Association of Law Enforcement Planners (IALEP) Annual Training Conference
September 22-27, 2002
Long Beach, CA
www.ialep.org

COPS

Advancing Community Policing in America

The Office of Community Oriented Policing Services (COPS) is the Federal office responsible for advancing community policing, including funding the hiring of additional community policing officers and funding innovative community policing initiatives in agencies throughout America.

Hiring Officers
The Universal Hiring Program provides grants to help law enforcement agencies hire community policing officers. The COPS in Schools program provides grants for the hiring of officers to fight crime and disorder in and around schools.

Technology and Civilians
The COPS Office provides funds to acquire new technologies and equipment, and for the hiring of civilians for administrative tasks. This allows more law enforcement officers to spend their time on the streets pounding the pavement instead of pounding the keyboard in station houses.

Promoting Innovation
The COPS Office provides grants to promote innovative approaches to preventing and solving crime, reducing fear of crime and increasing trust between law enforcement agencies and the communities they serve. Following are a few examples:

- The Tribal Resources Grant Program provides funds to Indian tribes to enhance their law enforcement infrastructures and increase community policing efforts.
- Domestic Violence grants assist communities to fight domestic violence through community policing.
- The Justice Based After-School Program supports police led after-school programs to prevent juvenile crime and victimization.
- The Methamphetamine Initiative targets the production and distribution of "meth" in urban and rural America.
- The School-Based Partnership Program assists hundreds of communities and police to fight school crime.

Training and Technical Assistance
The COPS Office is dedicated to providing the free training and technical assistance necessary to assist agencies, officers and communities to implement and sustain community policing, through a nationwide network of regional community policing institutes and in partnership with the Community Policing Consortium.

For more information on the COPS Office or to receive information regarding funding opportunities visit our newly upgraded website at:
www.cops.usdoj.gov
or call the DOJ Response Center at (800) 421-6770

ABOUT THE POLICE FOUNDATION

The Police Foundation is a private, independent, not-for-profit organization dedicated to supporting innovation and improvement in policing through its research, technical assistance, and communications programs. Established in 1970, the foundation has conducted seminal research in police behavior, policy, and procedure, and works to transfer to local agencies the best new information about practices for dealing effectively with a range of important police operational and administrative concerns. Motivating all of the foundation's efforts is the goal of efficient, humane policing that operates within the framework of democratic principles and the highest ideals of the nation.

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