Problem Analysis in Policing
An Executive Summary

Crime Mapping News: Special Issue

The aim of this special issue of the *Crime Mapping News* is to provide the executive summary of the report "Problem Analysis in Policing," written and published by the Police Foundation through funding from the United States Department of Justice's Office of Community Oriented Policing Services (COPS Office). The full report introduces and defines problem analysis and provides guidance on how problem analysis can be integrated and institutionalized into modern policing practices. The ideas and recommendations in the report come primarily from a two-day forum conducted in February 2002 by the Police Foundation and the COPS Office in which a group of academics, practitioners, and federal government representatives discussed problem analysis and made recommendations for its progress (see *Crime Mapping News*, Volume 4, Issue 2 for details of the forum). This executive summary is an annotated version of that report and is meant to provide practitioners with an overview.

Both the full report and this executive summary assume that the reader recognizes that problem-oriented policing and problem-solving are valuable approaches in policing and that the reader is familiar with the fundamental principles of these approaches. The reports do not define and justify these ideas but discuss how they can be improved by the adoption and advancement of problem analysis. For additional resources on problem-oriented policing and specific problem-solving components and examples, as well as the biographies of the participants in the forum, please see the full report. The full report, "Problem Analysis in Policing," will be published in hard copy and in an electronic format in spring 2003 and will be available free of charge. See the Police Foundation or COPS Office Web sites for availability.

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

What is problem analysis?

In his book, *Problem-Oriented Policing*, Herman Goldstein states, "The problem-oriented approach calls for developing—preferably within the police agency—the skills, procedures, and research techniques to analyze problems and evaluate police effectiveness as an integral continuing part of management" (1990, p. 49). In this article, this approach is called problem analysis and is defined as:

> An approach/method/process conducted within the police agency in which formal criminal justice theory, research methods, and comprehensive data collection and analysis procedures are used in a systematic way to conduct in-depth examination of, develop informed responses to, and evaluate crime and disorder problems.

One important point about Goldstein's statement and this definition is that problem analysis is a process that occurs within the police agency. Ideally, problem analysis represents a method of providing police agencies with the capability to conduct in-depth, practical research. Yet, while the ideal is to develop a full problem-analysis capacity within every police agency, in reality that may not be possible or practical. Many agencies, especially smaller ones, must draw on outside research skills to aid them in problem analysis, and even larger agencies may require some specialized expertise from external researchers. What is essential is that police agencies develop an internal capacity to use problem analysis to inform practice and that this type of research is conducted to examine crime and disorder problems, not the police agency itself.

Table of Contents

Why is problem analysis important?

The role of analysis in problem-solving is vital because it involves the in-depth examination of underlying factors leading to crime and disorder problems for which effective responses can be developed and through which assessment can be conducted to determine the relevance and success of the responses. Public safety problems addressed by police agencies are both simple and small in scope as well as long-term and chronic. Although, admittedly, the police alone (or even as a lead) cannot provide solutions for major societal problems that lead to crime or social disorder, problem analysis can inform effective problem-solving practices through systematic, thoughtful analysis of all types of problems. This is the key to making a significant impact on public safety and disorder. Conversely, in a report entitled, *Using Analysis for Problem-Solving: A Guidebook for Law Enforcement*, Tim Bynum states that "responses based upon inadequate or incomplete analyses will not address the causes of the problem and are much less likely to produce the desired results" (2001, p. 18).

What is the current state of problem analysis within problem-solving?

In a recent COPS-funded study that reviews the last twenty years of problem-oriented policing, author Michael Scott discusses how analysis and evaluation within police agencies have been the slowest areas to develop, although problem-solving and problem-oriented policing have blossomed in both concept and practice: "Problem analysis remains the aspect of [problem-oriented policing] most in need of improvement" (2000, p. 7). He sees the need for an increased focus on these areas to ensure that the problem-solving process is practiced effectively. He also states that police departments have become very creative and adept at developing and carrying out responses to problems, but internal knowledge and use of crime analysis and systematic research and evaluation have not paralleled this effort.

Similarly, the National Assessment of the COPS-funded Problem-Solving Partnerships program indicated that analysis was the weakest phase of the problem-solving process (Police Executive Research Forum, 2000). This same study found that police often have difficulty "clearly defining problems, properly using data sources, conducting comprehensive analysis, and implementing analysis-driven responses" (Bynum, 2001, p. 2). These observations from the field showed that police are generally good at identifying problems but experience difficulty with problem analysis (Bynum, 2001, p. 7).

Why is analysis so challenging?

The first and most obvious reason that problem analysis has lagged behind responding to problems is that, historically, catching the bad guys has been the primary focus of the police, rather than analyzing crime and disorder problems. Police officers and detectives are trained to respond to one call at a time or to investigate one crime at a time. A good detective may link a number of crimes together through a similar perpetrator and/or modus operandi, but this is still examining the crime on an individual level. Thus, policing accumulates and values a different kind of knowledge, that is, experiential knowledge. Research knowledge has not been accumulated or valued as highly. The key is to blend these two types of knowledge as each improves the value of the other.

Conducting systematic analysis requires an additional perspective for policing—long-term data analysis from a variety of perspectives that is focused on discerning the causes/facilitators of specific crime problems, as well as short-term data analysis that is focused on immediate trends and series or individual cases. One example comes from a problem-solving project that analyzed auto theft in the Southwest United States. Examination of longitudinal records management data as well as interviews of auto theft detectives were conducted. Detectives were convinced that stolen vehicles were being taken to Mexico. However, analysis of the five years of data showed that over eighty-five percent of the vehicles were recovered locally. Why were the perceptions of detectives not supported by the long-term data? The detectives received and investigated less than ten percent of all auto theft reports because of the lack of evidence on the other ninety percent of cases. Their assumptions were based on their investigations of individual cases and their personal experiences, rather than on all cases over the five-year period.

Until recently, police agencies had neither the data nor the technological resources to analyze large amounts of data. In fact, many still do not have crime reports or calls for service in an electronic or easily accessible format. This also has hindered the incorporation of analysis into policing. In addition, author Tim Bynum discussed many more impediments to analysis in police agencies in his report, *Using Analysis for Problem-Solving: A Guidebook for Law Enforcement.* One of the impediments he lists is the emphasis by police on rapid response to problems and the perception that in-depth analysis of these problems requires too much time or resources. He also notes the police perception that all the information needed has been collected and, in some cases, responses are based on hunches, experience, or traditional approaches. Lastly, he asserts that there is the perception that once analysis is complete, it cannot be revisited (Bynum, 2001, p. 15).

About the Author

Dr. Boba was a senior crime analyst at the Tempe, Arizona, Police Department before joining the Police Foundation in Washington, DC. She currently directs the work of the Crime Mapping Laboratory that includes crime analysis, crime mapping, and problem analysis training and technical assistance as well as the publication of this quarterly newsletter. In addition, she is currently the project director for the East Valley COMPASS research partner project. She teaches two graduate courses in these areas at the University of Maryland at College Park. She holds a Ph.D. and an M.A. in sociology from Arizona State University.

What problem analysis is not...

Problem analysis *is not* merely creating maps to see where crimes have occurred. It is not merely conducting statistical analysis on secondary data to compare levels of incidents over time. It is not merely identifying trends and patterns in the frequency or magnitude of crime or supporting the police function, but it is examining the underlying conditions of both the simple and complex problems police are tasked to solve. It is not only determining "who done it" or even "where done it," but looking at the *why*. Problem analysis is not one-dimensional nor does it warrant only one type of analysis; it is complex and there are often several analytical paths that might lead to viable solutions. Finally, it is not a discrete or static process, but occurs within the problem-solving process and changes by the type of problem or needs of the organization.

What problem analysis is…

Problem analysis *is* broader than crime analysis, as it is currently being practiced, in that it not only supports police activities but can drive them as well. It is action research in that it involves using formalized methods of study with a goal of arriving at practical solutions. It is interpretive, creative, and innovative as well as open-ended and inclusive. That is, it does not presuppose the answers to questions or use solely conventional methods and data to examine problems. It is theory-based and hypothesis-driven. This does not necessarily mean formalized, academic theory, but it can be based on logical common sense or practically-informed theory about the way the world works. It uses hypotheses; that is, it takes a position on what will result from informed responses. It is neither entirely exploratory nor anecdotal, but includes the examination of underlying conditions of crime and disorder problems. It is solution- and prevention-oriented (i.e., not superficially addressing an issue by analyzing a response after the fact). It is an iterative, dynamic process. It is not static, in that just one approach, one analysis, and/or one response is adequate, but rather the process requires a triangulation of methods of analysis, response, adjustment of the response based on additional analysis, and so on. It is proactive and not reactive. It demands partnerships of various agencies and communities for analysis and assessment as well as response, specifically for access to additional data sources and knowledge about a particular problem. Finally, it is fundamental to strategic policing because of its larger scope and focus on formulating long-term solutions to problems.

Problem analysis and beat-level problem-solving

It is important to begin the discussion of problem analysis by distinguishing it from beat-level problem-solving and the analysis that is used in that context. Problem analysis is different from beat-level problem-solving analysis principally in scope and depth. In beat-level problem-solving, officers typically work to identify and resolve small-scale problems. The use of analysis at the beat-level is fairly limited. Officers may use some crime counts or simple analysis of data, but rarely need to conduct an in-depth examination of a problem or formally evaluate the response. Often the response may not warrant an assessment because the results are readily apparent. In contrast, problem analysis takes a more general approach in which analysis is used to investigate, respond to, and assess the impact of responses on problems. This is not to say that the problems addressed by problem analysis are only large-scale, but rather that the analysis used to address complex problems needs to be systematic, in-depth, and evaluative.

To illustrate with a large-scale example, someone conducting beat-level problem-solving may identify a graffiti problem in a particular neighborhood through analysis of criminal damage incidents, work with the community to remove the graffiti, and arrest the offenders. An approach using problem analysis would investigate a graffiti problem by collecting city-wide or regional data over a long period of time to determine the various types of graffiti (e.g., tagging, gangland markings, etc.) as well as specific symbols and messages portrayed in the graffiti. The problem analysis project may take much longer but would be much more comprehensive, addressing a longer-term, larger-scoped problem and seeking a long-term solution. Part of this solution may be identifying offenders and removing graffiti as the beat-level analysis showed to be successful. However, problem analysis may also reveal that, in the long-term, other responses can be successful such as increasing the natural observation of and limiting accessibility of graffiti-prone locations. Thus, the distinction in these two examples of beat-level problem-solving analysis and problem analysis is both the scope of the problem as well as the level and systematic nature of the analysis and evaluation. In addition, a comprehensive problem analysis would uncover and/or point to effective responses based on criminological theories or disciplines, such as the rational choice theory or situational crime prevention.

Problem analysis and crime analysis

We assert that problem analysis is different than crime analysis and its current practice. In a recent COPS-funded study of 1,358 large and small police departments, O'Shea (1999) found that even though the departments conduct a wide range of crime analysis, the most common type of activity police agencies report is focused on short-term pattern and trend identification, or "tactical crime analysis," while less time is spent on "strategic crime analysis" such as victim analysis, spatial analysis, program evaluation, and long-term crime forecasting. These results suggest that departments are not focusing their crime analysis efforts on the problem-solving process or on action research, but have chosen to focus on analysis that supports traditional

policing practices. Even though crime analysis and problem analysis are interrelated and in an ideal world would be one in the same, the current focus of crime analysis warrants distinguishing it from problem analysis. Problem analysis is a proactive form of analysis in which formal theory, research methods, data collection, and statistics are used systematically to examine both simple and complex problems as well as to point the way to more strategic interventions that address and prevent a whole class of crimes or incidents.

What is a problem analyst?

Problem analysis is an approach or a process and could be conducted by individuals in a variety of positions within a police agency (e.g., crime analysts, police planners, police officers, detectives, community service officers, or police managers and administrators). Ideally, a police agency would employ a problem analyst whose education and training has focused on action research and whose function it is to conduct problem analysis. However, most agencies in the United States are fairly small and do not employ any type of analyst, much less a problem analyst. While it is recommended that a specific individual be hired to conduct problem analysis, the following discussion applies also to external researchers or consultants hired to conduct problem analysis within a police agency or existing police personnel who have problem analysis as one of several work responsibilities.

What are the knowledge and skills necessary to conduct problem analysis?

The following knowledge and skills are important for conducting problem analysis and combine both the operational perspective of a police agency and an analytical perspective. Ideally, an individual conducting problem analysis would possess *all* of these, but that is nearly impossible. Thus, what is listed and described here provides both a comprehensive picture of the requirements of the problem analysis function as well as guidance to develop a job description for a problem analyst or new aspects of current police analyst positions. See the full report for a more in-depth discussion of each topic area.

Knowledge

Knowledge consists of the facts or ideas acquired by study, investigation, observation, or experience. To conduct problem analysis, it is recommended that the individual have knowledge of the following:

- *Criminological theory.* Problem analysis does not dictate that an individual know all the criminological theories in-depth, but s/he should have a working knowledge of theories that have contributed the most to understanding the local crime and disorder problems police agencies face. Theories that focus on the criminal event and the opportunity for crime are preferable to theories that focus solely on the criminal. Many relevant theories are drawn from the specialized fields of environmental criminology and situational crime prevention (e.g., rational choice theory, routine activity theory, crime pattern theory, deterrence theory) and theories that explain the clustering of crime (e.g., repeat victimization, repeat offending, and repeat locations or "hot spots").
- *Literature.* In a general sense, the problem analyst should be aware of both classic and current research literature related to problem-oriented policing, situational crime prevention, crime problems, action research, statistics, and research methods. In addition, many of the reports produced by the federal government are important for problem analysis as they provide practical case studies and evaluations.
- *Research methods.* The problem analyst should have an understanding of basic research design, sampling methods, modes of observation (experiment, field research, surveying, evaluation), data collection and coding, process and impact evaluation, and ethics and politics of social research.
- *Data and data integrity.* The problem analyst must understand the basic types of data and databases as well as issues of reliability and validity surrounding data in general and those issues particular to police data.
- *Technology.* The problem analyst need not know how to fix a computer but should have basic knowledge about the advantages and limits of technology both for data collection and analysis.
- *Statistics.* The problem analyst should have knowledge of measures of descriptive and inferential statistics as well as forecasting. A master's-level knowledge of social science statistics is appropriate (sufficient, for example, to understand concepts such as multiple regression analysis), and a particular knowledge of cross-sectional and time-series analysis is recommended.
- *Geographic information systems (GIS) and spatial analysis.* Because of the importance of geography and crime and the focus of problem-solving and crime prevention on "places," the problem analyst must have knowledge of geographic information systems technology as well as the nature of spatial data and analysis.
- *History and current state of policing.* It is important that a problem analyst working in a police agency understands the evolution of policing and its current state. Although problem analysts might not be intimately familiar with the wide range of issues that confront police executives and police scholars, they should have some general appreciation of how policing has evolved and the role of analysis within conventional expectations and practices.

- *Dynamics and nature of policing.* The problem analyst should have knowledge of the nature of police organizations and police culture and, more specifically, the history and nature of the particular agency where s/he is employed.
- *Policing and the criminal justice system.* Related to the previous category, this includes a basic understanding—what might be taught in an introductory criminology course—of how police fit into the criminal justice system.
- *Problem-oriented policing.* Problem analysis is a result of Herman Goldstein's concepts of problem-oriented policing and problem-solving. Thus, the problem analyst should have intricate knowledge of these concepts. In addition, the analyst should have knowledge of the practical application of these concepts including the successes and failures over the past twenty years.
- *Understanding crime problems.* Problem analysis requires an understanding of crime, disorder, and public safety problems. Over time and through literature reviews and practical experience, the analyst would develop an understanding of the complexities of various public safety and crime problems, as well as their context in his/her own jurisdiction.
- *Urban issues and policies/strategic planning.* Because the problem analyst will be examining issues in a context much broader than policing, knowledge of general aspects of local government, such as urban and rural development policies, is important, as many crime problems and their responses are not just police-centered. More specifically, the problem analyst should have knowledge of strategic planning in a general sense and how it is practiced in his/her agency. In an agency that is practicing problem-oriented policing, the problem analyst will be an important contributor to a strategic plan.

Skills

A skill is the ability to use one's own knowledge effectively in a particular situation. The following are skills important to any professional, but are described here by how they are important to the problem analyst:

- *Communication skills.* There are several types of communication skills that are important to the problem-analysis function. The first is interpersonal communication with a variety of people both within the police organization and outside of it. The second type of communication is presentation skills. An individual conducting problem analysis must be able to present various types of information such as analysis results or an overview of a project to various types of audiences, including police personnel, city government officials, community groups, groups of professionals, etc. The third type of communication is writing skills. The problem analyst, more so than the traditional crime analyst, will be tasked with writing research proposals and comprehensive research reports that include a literature review, methodology, and statistical analysis. The analyst will also be responsible for executive summaries of the research work for particular audiences as well as for taking material (e.g., complex research by others) and interpreting it for the police audience. Another type of communication skill is marketing. The problem analyst must have marketing skills to explain and demonstrate how important problem analysis is and what it can do for the department and the community. The proactive aspect of marketing is probably the most important aspect of this skill, and the analyst should be motivated to seek out, talk to, and ask questions of colleagues, rather than wait for them. Another type of communication skill is facilitation. In the context of developing a problem-solving project, a problem analyst may be tasked with bringing a group of relevant individuals together to outline the process or discuss an issue. Lastly, one of the most important communication skills is listening. Much of the knowledge that exists in police departments is based on experience and can often be anecdotal. However, it is the responsibility of the problem analyst to take in a variety of experiences and use that information to contribute to a comprehensive picture of a problem.
- *Literature review skills.* Problem analysts need to have the ability to synthesize relevant literature about a topic for various audiences that might include police management, federal government grantors, journals, media, and community groups. The problem analyst should also have the skills to obtain the relevant literature (e.g., through the Internet or through searches of criminal justice periodicals databases).
- *Critical thinking.* Critical thinking is one of the most important skills in conducting problem analysis. Critical thinking is not knowledge about a problem but is a skill of examining and thinking about a problem. It begins with questioning what others believe to be fact and realizing that there is more than one way of examining a problem. Much of what we think about crime problems in policing is based on what we know from personal experiences and what we find from examining secondary data. Taking such information as fact and as representing the problem can be flawed. Thus, it is crucial that the problem analyst look at everything with a critical and questioning eye.
- *Research skills.* The problem analyst must have basic research skills which include generating hypotheses and developing a research methodology to test the hypotheses, that is, developing ideas that need testing about a particular problem and constructing research and analysis to test them appropriately. Knowing the various types of research and their components is one thing; applying them appropriately is another. This is particularly important because problem analysis occurs in a practical context, and much of what is learned in formal research methodology courses may need to be altered as it may not be realistic or practical.
- *Use of technology.* The problem analyst should have technical skills and experience using word processing, database, and mapping software. The problem analyst will not only need these skills in order to analyze and present data, but may also be called upon to analyze future technology needs of the problem-analysis function or the agency as a whole.

- *Data.* The problem analyst will be working with many different types of data sources and data formats. As noted earlier, the analyst should have knowledge of the various databases and issues of data integrity. In addition, the problem analyst should have data manipulation skills which include the ability to collect and code primary data, create databases, and work with secondary data (e.g., recoding, computing and combining variables, and constructing data queries).
- *Project management.* Problem analysis endeavors can be fairly large, complex projects; thus, the problem analyst should have organization, time management, and supervisory skills to oversee and successfully implement these projects.

An overview such as this informs the assertion that problem analysis is a more in-depth form of crime analysis as it is being practiced today. Although it may be difficult to find one person who has all of the skills and knowledge, an individual can be hired with some of the skills and knowledge and can work to obtain more over time. One of the most important skills in any case is the person's curiosity and critical thinking ability as these are the skills that put the analyst in the position to obtain knowledge they may not have and provide the police agency with an alternative perspective.

Qualifications of a problem analyst

It is recommended that a problem analyst come into a position with a master's degree or equivalent level of skills, knowledge, and experience, particularly about criminology/social science theory, research methods, and statistics. The individual's knowledge and skills should be sufficiently advanced to permit him/her to be proficient in performing the basic tasks essential to problem analysis. For example, if the extent of an analyst's knowledge is mean and standard deviation, s/he is not going to be able to apply these statistics easily. However, if s/he knows much more advanced statistics, s/he will know mean and standard deviation very well and be able to apply it appropriately. If the analyst attempts to apply limited knowledge, it would be difficult to determine its proper use and appropriateness to the situation without outside assistance.

An agency could avoid this problem by requiring either a master's degree or a bachelor's degree with a certain number of years of experience. A minimum requirement of a bachelor's degree is recommended. This would help to assure, but may not guarantee, that the problem analyst has experience conducting literature reviews, constructing and implementing research projects, and has adequate theoretical training. Additional testing and a thorough interview process for such a position should be combined with these minimum requirements. It may be the case that a police agency does not have personnel adequate to judge the skills and knowledge of a potential problem analyst, in which case academics and researchers can assist in the selection process.

What is the role of problem analysis in a police agency?

Interestingly, there are already positions in policing that require many of the skills, knowledge, and organizational support described thus far. However, many of these individuals are responsible for crime analysis, evaluation and research, strategic planning, or grant writing. The problem analyst is distinguished from these types of positions in that the problem analyst is linked directly to the problem-solving process and the operations of the department.

The fundamental purpose of the problem analyst is to participate in the problem-solving activities in the department. Much of what a problem analyst does would overlap with many of the duties of other positions in a police agency. Ideally, these duties would not be included as the primary responsibilities of a problem analyst because they would detract from the problem-solving process. For example, one may argue that resource allocation should be a responsibility of the problem analyst, since often a response to a particular problem involves directed patrol. However, it might be useful for a problem analyst to help construct a staffing plan that would address a particular problem and be part of a response in a problem-solving context. It would not be advisable for a problem analyst to conduct the resource allocation analysis for the entire department, as this duty is not directly relevant to the problem-solving process.

Where should problem analysis be placed within the police organization?

Based on the necessary skills and knowledge, once an individual is selected to conduct problem analysis, where does s/he fit in the police organization? There are two considerations in placement. The first is where to place the problem-analysis function within the organizational chart/chain of command, and the second is the physical location of the office(s) of the person conducting problem analysis. Generally, the problem-analysis function should have a relatively prominent position in the organization in both contexts.

- *Organizational placement.* It is important that the problem-analysis function have prestige (be relatively high in the organizational structure) within the organization but also have a neutral placement. This would prevent problem analysis from being focused on one particular area of the department over another (e.g., patrol vs. investigations). That is, if this function is supervised by a specific division, it may become less neutral by doing work for that division only, since the person conducting problem analysis reports to the head of that division.

- *Physical placement.* The placement of an individual conducting problem analysis in a particular office also warrants consideration. It is recommended that the office provide reasonable access to all areas of the department. Access to the chief and upper management as well as to the line-level staff is important, although this is when the proactive nature of the problem analyst comes into play. This person must make an effort to be seen by and work with officers, detectives, dispatchers, records clerks, and the crime analysts, which means leaving the office and approaching them. This will encourage interaction, which in time will build a rapport for collaborative research.

The placement of an individual conducting problem analysis will vary by size of an agency. What is appropriate in a smaller agency employing one problem analyst might be different in a larger agency with a team of problem analysts.

What does a problem analyst need from the organization?

As discussed above, the problem-analysis function should have access to all levels of the department and requires a high level of skills and knowledge. Thus, a problem-analysis position demands a salary that is comparable to other professional staff salaries in the police agency. Obviously, the actual salary would depend on the size and location of the police agency within the United States.

Because problem analysis has not been part of everyday police activities, a police organization must make a conscious effort to support its integration and acceptance. Most importantly, the problem-analysis function must be supported by the management of the organization. This support is manifested in many ways, but it is grounded in the attitude of the management staff and how problem analysis is addressed throughout the organization. The problem-analysis function must be spoken of with respect and an emphasis on legitimacy and, as discussed above, placed in a prominent position in the department.

The management of a police organization can support problem analysis with resources and access. One type of resource that the problem-analysis function requires is time. This means time to conduct problem analysis free from day-to-day crime analysis duties (e.g., preparation of crime counts and monthly reports), administrative analysis (e.g., resource allocation), strategic planning, and grant writing for the entire police department (i.e., writing grants for additional officers). In addition, not only must there be time in the day to conduct problem-analysis activities, there must be time to analyze, to respond, and to assess. In other words, organizations must be *patient* with problem-solving and problem analysis. Problem analysis requires thoughtful, often multifaceted, analysis of more than Part I crime statistics and may even warrant primary data collection which can take time. In addition, time must be allowed for a response to be implemented before it is evaluated. Evaluating a response after one, two, or even six months can be unproductive depending on the response, since it had little time to take effect. With many responses, there is an implementation effect and if enough time is not allowed before evaluation, the assessment is of the implementation not of the response.

Another type of support problem analysis requires is adequate funding for expenses such as citizen surveys, statistical software, short-term consultants to assist with difficult or large projects or analyses, or interns/students for data collection. Yet, it is not enough to provide the funding for technology or interns as problem analysis requires adequate secondary data (i.e., data already collected by the agency) and access to it. This does not mean just having data available but making a commitment to providing reliable, valid data in a timely manner which can require additional training and resources. Problem analysts should be provided support through access to all levels of the department. This is necessary to approach personnel for interviews for primary data collection, to clarify issues, to conduct ride-a-longs, as well as to have access to all data and potential data in the department. There is often a barrier for civilian analysts when it comes to intelligence data, and it is important that the problem analyst also be provided with more sensitive data as necessary. This is an example of when it may be important for problem analysis to be conducted by a member of the police organization, as sharing sensitive data may be easier with an employee than with an external researcher.

The advancement of problem analysis

Because high-level problem analysis is not being routinely practiced by most police agencies, there are not many examples to demonstrate its relevance and worth or to use as models for integration. Most police agencies do not yet view problem analysis as a necessity to police business, and they need to be convinced. Thus, problem analysis will not be adopted quickly or easily, and a collective, concerted effort by various institutions with vested interests is necessary. The discussion here focuses on specific ways that police, academia, the federal government, nonprofit organizations, city government, and the community can contribute to the advancement of problem analysis.

Role of local police

The previous section discusses how individual agencies can hire and support problem analysts within their organizations. More generally, local police agencies can contribute to advancing problem analysis by adopting problem-solving (i.e., begin analyzing and assessing problems in addition to responding to them) and giving problem analysis a chance to be successful. Hopefully, with the assistance of other organizations (discussed below), integrating problem analysis into a local police agency will be made easier. These organizations can help to provide funding, training, guidance, a forum for

communication, political support, etc. Ultimately, however, it is the role of the local police agencies to allow and encourage it to happen.

Role of academia

The primary roles academia can play are as a place for problem-analysis training, for conducting and providing guidance for problem-analysis projects, and for the development of a body of problem-analysis literature. Academic institutions, specifically criminology, criminal justice, and public policy departments, can offer classes at both the undergraduate and graduate levels that focus on problem-solving and particularly problem analysis. These classes would be taught from a practical perspective in that concepts would be defined and exemplified through practical examples. They might also include a combination of traditional students and police professionals so that they might learn from one another. Academic programs could provide and encourage fellowships and internships in problem analysis which would provide students the opportunity to apply their formal research skills in a practical setting in a limited, supervised manner. A partnership between a university and a police department in which students work for free to conduct a specific research project would benefit all involved—the students, the police agency, as well as the university.

Academics can also advance problem analysis by conducting high quality action-research evaluations of problem-solving efforts, partnering with agencies to support problem-analysis projects, and making presentations of methodology and findings at *both* academic and practitioner-oriented conferences. On an individual level, academics can serve as mentors to undergraduate and graduate students as well as practitioners assisting with problem-analysis activities. They can offer ad hoc/free advice to problem analysts working in the field as part of their community service requirements. Academics conducting evaluations and assisting problem analysts can also publish their work in journals or other forums (e.g., government publications or as Internet documents) and encourage and help practitioners publish their own work. The academic community can contribute by supporting a new journal dedicated to problem-solving and by encouraging current journals to be more receptive to problem analysis (more practically) focused articles.

Regrettably, because problem analysis is somewhat of a new concept, even many academics are not aware of its importance to policing and its relevance to degree programs. As a result, the role of academia is currently limited by the small number of academics qualified to instruct problem-analysis classes, oversee internships, and conduct evaluations. Thus, another task of current problem-solving/analysis academics is to encourage other academics to learn more about and participate in problem-solving and problem-analysis activities.

Role of federal government

Various agencies within the United States federal government can assist in the advancement of problem analysis by challenging the police community, encouraging problem analysis, providing funding and training, publishing case studies and research, and providing examples of innovation. Some of the federal agencies relevant to this discussion include components of the Department of Justice: the Office of Community Oriented Policing Services (COPS), National Institute of Justice (NIJ), NIJ's Mapping and Analysis for Public Safety (MAPS) program, Bureau of Justice Assistance (BJA), Bureau of Justice Statistics (BJS), National Criminal Justice Reference Service (NCJRS), Justice Technology Information Network (JUSTNET), and the Partnership Against Violence Network (PAVNET).

Federal agencies can challenge the police community to conduct problem analysis at all levels. This would be operationalized through informal conversations, formal presentations, funding opportunities, provisions for technical assistance, as well as incorporating problem analysis into a variety of federal programs. The federal government could provide funding for a variety of endeavors supporting problem analysis. One example is bringing together experts in the field to develop a problem-analysis training curriculum that would be available for use by nonprofit organizations, membership organizations, and academia to train current and future problem analysts. In addition, the government could conduct such training through some of its established training facilities (e.g., Regional Community Policing Institutes).

Another method of advancement is providing funding for the publication of problem-analysis activities. Whether it is through a series similar to the *Problem-Oriented Guides for Police Series* published by the COPS Office or through the *Research in Brief* series published by NIJ, the federal government could help to create a library of literature on problem-analysis guidelines and examples of research. Important here is synthesizing information that is being created by various parties and feeding it back to the problem-analysis community.

The success of the Mapping and Analysis for Public Safety (MAPS) program (formerly called the Crime Mapping Research Center) in advancing crime mapping serves as an excellent example for problem analysis. One could imagine a center for problem analysis in which a staff of professionals speaks the problem-analysis word, sponsors projects, and oversees research and reports. Keith Harries' (1999) book, *Mapping Crime: Principle and Practice*, funded by the National Institute of Justice, is an excellent example of a significant contribution to the crime mapping field. The success of the annual crime mapping conference is another example of advancing a cause in that it has been successful at bringing together practitioners and researchers interested in a common issue. An annual conference on problem analysis (or a track within the Problem-Oriented Policing Conference co-sponsored by the Police Executive Research Forum and the San Diego Police Department) in which

practitioners and researchers come together to talk about analysis and assessment techniques and practical examples in which problem analysis was used (not just focusing on responses) would be invaluable in advancing problem analysis.

Role of other organizations

Other organizations that can assist in the advancement of problem analysis include nonprofit institutions such as the Police Foundation, the Institute for Law and Justice, and the Vera Institute, and membership organizations such as the International Association of Crime Analysts, the International Association of Law Enforcement Planners, the Police Executive Research Forum, and the International Association of Chiefs of Police.

Nonprofit and membership organizations can advance problem analysis by encouraging problem analysis and promoting problem analysis through conferences, presentations, research, and literature. For example, a membership organization can have several slots for problem-analysis workshops, presentations, or even an entire track in an annual or regional conference. These organizations can also present at national conferences or in local jurisdictions. With links to practitioners, professionals, and academics, they can serve as an intermediary to bring these groups together on problem analysis, fostering communication and information/data sharing. They can include problem-analysis concepts and articles in their own publications and newsletters and assist the government in collecting, synthesizing, and disseminating current information.

A current example is the creation of a new Center for Problem-Oriented Policing, the startup for which is being funded by the COPS Office. The Center for Problem-Oriented Policing is headed by Michael Scott, one of the problem-analysis forum participants, in collaboration with Rutgers University, the University at Albany, and the COPS Office. Its objectives are to (1) translate research into useful information that informs police practice; (2) educate police practitioners and researchers in the principles and methods of problem-oriented policing; and (3) make knowledge acquisition about problem-oriented policing more efficient.

Other organizations might provide problem-analysis fellowships and internships for practitioners as well as for academics who have little practical experience. They could assist the federal government with implementing its programs, such as the development and implementation of problem-analysis training as well as conducting evaluations of problem-analysis efforts. Nonprofit research and membership organizations can also stake out a problem-specific research area, which would enable them to contribute new and useful knowledge about the effectiveness of specific crime problem interventions and also become the experts on a particular topic of great concern to the police community.

Finally, because the work of problem analysis and crime analysis is so interrelated, the International Association of Crime Analysts (IACA) can contribute significantly to this effort. This organization, along with others, can seek to set public standards for problem analysis by expecting more from their constituency and by including advanced topics in training classes, conferences, articles, etc. The issue of certification of analysts is a significant one, and these organizations can promote certification of problem analysts. Looking to the adoption of crime mapping as a model, the IACA and its annual conference could be an ideal place to bring practitioners and researchers together.

Role of city government

City governments can advance problem analysis by participating in the problem-solving process and taking a holistic approach to public safety instead of holding the police exclusively responsible for addressing public safety problems. The city government can provide resources for personnel to conduct problem analysis (e.g., a problem-analysis position), and encourage analysis and accountability of all the parties involved. City governments can also encourage and provide resources for data sharing and data integration to enable problem analysis to integrate various data sources (both qualitative and quantitative) to examine a problem from a variety of perspectives. Three jurisdictions, Seattle, WA, Milwaukee, WI, and East Valley, CA, serve as examples through their participation in the National Institute of Justice program, Community Mapping, Planning, and Analysis for Safety Strategies (COMPASS), in which they have instituted a data infrastructure and analysis capability for addressing community safety problems at the city and regional levels. For more information about the COMPASS program, see the *Crime Mapping News,* Volume 4 Issue 4, Fall 2002.

Role of the community

The role of the community and community groups is two-fold. On the one hand, they can apply pressure to city governments and police departments by demanding information about crime problems as well as by asking them to be smarter, proactive, and less reactive to community safety issues. Communities are beginning to expect city governments and police agencies to provide public safety information to them. By asking thoughtful questions of the police, they will facilitate police efforts to develop thoughtful answers to which problem analysis is a natural link. The media, too, can request, analyze, and publish useful information for their constituencies. Many police agencies have begun to provide information to the community over the Internet; however, much is lacking in that it is simple and incomplete. It is not enough to provide "raw data" to individuals who may not understand the nuances of crime data; a level of definitions and analysis must also be provided to the community.

On the other hand, the community can assist in the advancement of problem analysis by contributing information through community databases and cooperation with the police and problem analysts. Individual citizens, as well as community groups, have begun to partner with police agencies to respond to various types of problems through the problem-solving process. They can also partner to assist in data collection (e.g., citizen surveys about safety, crime prevention, and victimization; pathways children take to school; location of drug markets; better reporting). By partnering, the community can help the police collect relevant data that inform the problem-solving process, and, in turn, the agency can provide the analysis results back to the community so they can both work together towards a solution.

An agenda for advancing problem analysis

As noted throughout this article, there is work being done to advance problem analysis, though much of what is happening is on an ad hoc basis. Fully implementing all of these recommendations is an ambitious goal. However, if there is a grassroots movement of academics, government officials, and analysts interested and willing to fulfill these recommendations, we may see a significant change in American policing over the next five to ten years. Interestingly, the United Kingdom is going through a similar phenomenon in that a fairly small group of people are seeking to implement new types of analysis in policing. Even though some of the issues of policing are different between the two countries, if we can look to each other for assistance and cooperation, we may be able to have a greater impact.

Most notably, the COPS Office has begun a comprehensive approach towards problem analysis with its publication of the *Problem-Oriented Guides for Police Series*, funding of the Center for Problem-Oriented Policing and the 2002 Problem-Analysis Forum, as well as other work advancing problem analysis. The future of problem analysis lies in the continued and increasing support of the COPS Office and in the collaborative work of individuals and organizations in this area who promote the idea, conduct problem analysis, and advance this emerging discipline.

The advancement of problem analysis should target police agencies and individuals that are predisposed to problem analysis; that is, organizations and individuals that are forward-thinking, that value research and analysis, and that believe in problem-solving as a valuable approach to policing. If problem-analysis efforts are focused on these agencies and successful examples result, they can make up a critical mass of problem-analysis practitioners who can demonstrate the value of using problem analysis and serve as role models for further integration. A particularly successful agency that is a model of problem-analysis integration, as New York City was to COMPSTAT, can encourage others to adopt problem analysis.

Another approach being implemented by the Police Foundation in 2003 through funding from the COPS Office is the development and implementation of a problem-analysis pilot training program. Ten analysts from agencies already conducting problem-solving will be chosen to participate in the pilot training which will be developed by the Police Foundation with help from experts in the field. These analysts will participate in the training, provide feedback, and seek to apply it in their respective agencies. The goal of this project is not only to create problem-analysis training curricula that can be used by academics and practitioners around the country, but also to create a group of motivated analysts who will discuss the concepts and issues of problem analysis as well as provide successful examples from which others can learn and see its value.

Advancing problem analysis in policing is challenged by the reactive nature of policing and the difficulty of convincing practitioners that problem analysis is a worthwhile effort. However, with a possible increase of crime rates on the horizon, the shift of focus to homeland security, and the fierce competition for resources, it may be an opportune time to assert and adopt the notion of policing "smarter" instead of policing "more."

References

Bynum, T. (2001). *Using analysis for problem-solving: A guidebook for law enforcement.* Washington, DC: Office of Community Oriented Policing Services.

Goldstein, H. (1990). *Problem-oriented policing.* New York: McGraw-Hill.

Harries, K. (1999). *Mapping crime: Principle and practice.* Washington, DC: US Department of Justice, Office of Justice Programs.

O'Shea, T. (1999). *The crime analysis unit survey* (COPS Grant # 1999-CKWXK002). Washington, DC: Office of Community Oriented Policing Services.

Police Executive Research Forum. (2000). *PSP national evaluation final report.* Washington, DC: Author.

Scott, M. (2000). *Problem-oriented policing: Reflections on the first 20 years.* Washington, DC: Office of Community Oriented Policing Services.

The full report, "Problem Analysis in Policing," will be published in hard copy and in an electronic format in spring 2003. It will be available free of charge. Please see the Police Foundation or COPS Office Web sites at www.policefoundation.org or www.cops.usdoj.gov for availability.

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