

---

# USING GEOGRAPHICAL TOOLS WITH INTERAGENCY WORK GROUPS TO DEVELOP AND IMPLEMENT CRIME CONTROL STRATEGIES

---

by

**Faye S. Taxman**

**University of Maryland — College Park**

and

**Tom McEwen**

**Institute for Law and Justice**

***Abstract:** To address crime-related problems in their communities, police departments are increasingly involved in interagency work groups. As community policing and problem-oriented strategies are implemented, these groups are likely to include businesses, community organizations, and non-governmental agencies. Because these partnerships strive to reduce crime and disorder and to promote public safety, they often rely on police agencies for guidance. One of the tools that has promoted successful collaboration among the partners is geographical information, which focuses attention on the problems and needs of a particular neighborhood or community and uses the target area to garner community and government agency support for new initiatives.*

Maps provide a visual tool for displaying crime data that consist of events (criminal activities) and places (crime locations). Police departments are increasingly using maps to understand crime and de-

---

Address correspondence to: Faye Taxman, University of Maryland, Department of Criminology and Criminal Justice, 2220 LeFrak Hall, Suite C, College Park, MD 20770.

velop solutions. At the same time, the approaches of community and problem-oriented policing have led police to act with interagency work groups to develop crime prevention and control strategies. The work groups are likely to include government agencies, businesses, and community and other nonprofit and non-governmental organizations. These partnerships strive to reduce crime and disorder by providing a more comprehensive approach to problem solving. Police agencies are now bringing both of those efforts together by using maps and geographical information in their collaborations with interagency work groups.

This chapter explores the critical role of mapping in police departments and work groups, particularly as it relates to successful development of work products. The chapter begins with an overview of mapping as a problem-solving tool and then explores how mapping can contribute to the development of an interagency work plan. Many of the examples are from the sites participating in the Drug Market Analysis Project (DMAP)<sup>1</sup> of the U.S. National Institute of Justice. The experience of those five jurisdictions<sup>2</sup> provides valuable insights into how maps and information can foster collaboration among groups with varying perspectives. Finally, two case studies illustrate how police departments, government agencies, and communities can use crime data and maps to develop systematic responses to crime. The case studies illustrate the importance of full support from the members of the interagency work group. Without their full involvement in all phases, the efforts will be only partially successful.

### **MAPPING: AN APPROACH TO PROBLEM SOLVING**

Recent developments in criminological theory focus on the importance of places, paying special attention to "attributes of places and... routine activities combined to develop crime events" (Eck and Weisburd, 1995:21). Essentially, this has led to an examination of both place and offenders. Research on place has focused on clustering (the location and frequency of crime events), features (the unique social and physical characteristics of places), and facilities (special-purpose structures that operate in a given area). Research on people in places provides insight into how offenders select crime places (Eck and Weisburd, 1995). Crime place research is a growing body of literature that provides a new approach to developing crime prevention and control strategies.

The attention on places, people, and events has renewed interest in the use of geographical information and mapping to understand

crime and responses to it. Maps present complicated, detailed data in a way that makes it easier to conceptualize crime problems. Computerized mapping facilitates the process by providing more expeditious methods of producing maps (McEwen and Taxman, 1995). Computerized mapping also contributes to user-friendliness by using symbols, colors, and time lines (Cohen et al., 1993).

McEwen and Taxman (1995) discuss how computerized mapping facilitates the understanding of crime problems. Three types of computer mapping techniques have evolved. *Descriptive mapping* is used to illustrate crimes, calls for service, traffic accidents, and other data in pin-map style or shaded area formats. *Analytical mapping* begins with the analysis of data and then displays the results. The identification of places and crime events is a favored analytical technique. Finally, *interactive mapping* provides the opportunity to make queries and then map the results. These techniques help police agencies identify crime problems and develop solutions that are sensitive to people and place issues. Each of these different mapping techniques can lead to a different understanding of the crime problem and recommended solutions.

Mapping provides the opportunity to be proactive in developing solutions to crime problems. By mapping people and place data, it is possible to discern patterns, and using a variety of data from different sources should enrich the detection of patterns. Researchers have noted that the traditional use of law enforcement data (on arrests or calls for service) can be supplemented with data on such incidents as violations of fire, health, building, or school codes (Maltz, 1995). Problem-solving approaches can then be used to develop a comprehensive solution. As Eck (1996) discusses, mapping should also be driven by theories about crime. Theory-driven mapping will confirm or refute theoretical predictions, thereby altering crime control strategies in the future.

## **INTERAGENCY WORK GROUPS: ANOTHER APPROACH TO PROBLEM SOLVING**

Work groups are often called upon to address critical social problems. These work groups may include the police, government health and social service agencies, businesses, and community and other nonprofit, non-governmental organizations. Work groups provide a forum in which interested parties can join together on common issues and develop a strategic plan of action. Through the efforts of a work group, immediate and continuing attention is given to pressing

issues. The Program for Community Problem Solving, a joint effort of five national associations, notes the following:

Efforts to solve community problems seldom fail because reasonable solutions are not available. Programs are far more likely to run into difficulty because key parties are not included in the decision making or the methods used to identify solutions are not productive [Carpenter, 1990:2].

A work group brings difficult issues to the table and ensures that the forces resisting change are present for problem solving and negotiation. To ensure cooperation, the work group must assemble all parties with a vested interest in the problem. Often the selection is based on geographical area or community. The group, which has diverse and often conflicting interests, then assumes responsibility for defining the problem, developing solutions, and implementing responses. During this process, the partners address controversies and reach a consensus. The goal is to formulate strategies for issues that demand continuing action. Over time, the work group upholds its initial commitments and ensures implementation of appropriate responses.

Work groups are organized in several different ways. The most common approach is to have one agency (the police) take lead responsibility. The "lead agency" approach manifests itself in one of four ways: (1) the agency decides to "solve" the issue itself; (2) the agency stakes out its own position; (3) the agency sets up a committee composed of members with similar perspectives; or (4) the agency "consults" with others and then crafts a plan for the best solution. In each of these scenarios, the lead agency assumes responsibility for the agenda, the definition of the problem, and the definition of "acceptable and workable" solutions. That approach often fails because all participating groups are not fully committed to solving the problem. More importantly, this approach often fails to use data from various sources to fully understand the problem. Solutions may instead evolve from mere perceptions of the problem.

Another approach is consensus building. Here, each member of the work group participates in all phases of the project, such as the definition of the problem and its solutions. Data sharing is an important factor in fostering the consensus process. It also contributes to an understanding of the problem from different perspectives by empowering the members to become active participants. Carpenter (1990:3) describes the process:

In a consensus building process different interests work together to identify issues, to educate each other about their respective concerns, to generate options, and then to reach agreements that all sides can accept. This does not mean that all sides will be equally enthusiastic about a solution; rather, participants will recognize that it is the best solution available.

In a change from the conventional committee approach, representatives of all major interests are involved in developing the process as well as formulating solutions. Representatives can participate in a planning committee, or their advice can be sought in interviews about appropriate issues to address logical components of a program, and who should participate and how. A successful consensus process can be more work to coordinate than other approaches, but will result in a workable solution that all parties can accept—implementation will not be impeded by a dissatisfied interest group.

Through the consensus-building process, interagency work groups reach agreement on issues affecting crime and social disorder in the community, and they take "ownership" of the problem and its solutions. It is a continuing process that requires each participant to value the input and commitment of the other members.

Work groups that strive to build a consensus recognize that no agency is solely responsible for the action or products of the group. The process requires the participants to be equally committed to identifying the problem, defining the target issues, developing effective solutions, and monitoring the implementation. The four stages of problem solving frequently used by police agencies are represented in the SARA model, which contains tasks similar to those of a consensus-building work group (Eck and Spelman, 1987):

- (1) *Scanning*: identifying the problem, especially the focus on places and events.
- (2) *Analysis*, learning the causes, scope, and effects of a problem.
- (3) *Response*, acting to alleviate the problem.
- (4) *Assessment* determining whether the response worked.

The consensus-building approach begins with the identification of stakeholders. As defined by Rossi and Freeman (1990:424), a stakeholder is "concerned with the efficacy and efficiency of efforts to improve social conditions" and generally "has a stake in the outcome." The stakeholders typically have different perspectives on the meaning and importance of the group's efforts. They may be policy makers and decision makers, program sponsors, agencies offering

services in an area, persons receiving various services in an area, citizens' and community groups, groups that compete for resources, or organizations that play a leadership role in the community. Contextual stakeholders, or those organizations or individuals located in the immediate area, are also important actors in the consensus-building process. It is imperative that stakeholders participate in the work group to ensure full representation of the issues. This joint effort makes certain that the recommendations are implemented and the outcomes are meaningful.

The selection of work group participants is an important component in the consensus-building process. Contextual stakeholders are critically important to ensure that the group fully represents varying perspectives. However, in some situations the inclusion of these group members presents problems. Weisburd (1996) notes the potential for confidentiality problems or conflicts of interest. The stakeholders may have friends or relatives who will be targeted by law enforcement or other strategies. For example, if gambling, prostitution, or drug dealing occurs at the neighborhood bar, and the work group makes recommendations against those illegal activities, a member may be placed in a delicate situation. However, it may also be possible to develop more effective strategies and a fuller assessment of the net effect of the responses.

Applying the consensus-building approach to crime problems requires law enforcement agencies to be team players. Traditionally, law enforcement personnel have been asked to define and "solve" the crime problem. Although the police agencies may consult with other agencies and citizens' groups, they ultimately have sole responsibility for the response. By contrast, in an interagency collaboration, the police department is a partner in the process and must recognize that other players have equal roles in the achievement of the outcomes. Webster and Connors (1993:81-82) note that involvement of the police and community in consensus-based interagency efforts may result in the "inclusion of many community problems that, in the past, technically have not been the responsibility of the police. These problems are appropriate . . . because they contribute to a crime, disorder, or fear of crime problem." Although the role of law enforcement may shift, the net effect is to motivate all partners to commit to the outcomes.

## **SUCCESSFUL WORK GROUPS: USING MAPS AND GEOGRAPHICAL DATA**

Information is the binding force in interagency collaboration. Police data on such matters as calls for service and numbers of arrests are often relevant to the group's activities. That information, along with other pertinent data sources, forms the work group's foundation because it unites government agencies, businesses, and community groups in a common understanding of the problem. Each member of the work group can contribute data that assists in reaching an understanding of the problem. Maps and other data provide a basis from which to develop solutions that are pertinent to the problem, and a focus on places and events helps in defining its characteristics.

Maps play a key role in an interagency project. Maps narrow the scope of the work group and inform the partners of the characteristics of the problem. Maps can also be used to develop action steps. For example, the distribution of crime events around places (such as bars or fast-food restaurants) gives the work group different information than mere knowledge that crime is rising in a particular neighborhood. Solutions can then be tailored to the specific nature of the problem. As noted by Harries (1990:38):

A geographical perspective can greatly aid problem solving. It can be used to identify problem locations that can then be subjected to a more detailed analysis. During the analysis of a problem a geographical perspective can be used to develop detailed understanding. Like the problem solving approach, a geographical perspective is comprehensive, including the cultural environment (attitudes, values, and learned behavior), the physical environment or context in which human activity takes place (the layout of the city, the influences of the weather, for example), and the social characteristics of people: the patterns of their demographics, including their age, sex, wealth and poverty, racial characteristics, lifestyles (including housing types), and so forth.

The focus on a neighborhood, community, or jurisdiction defines the parties that have a stake in the results of the initiatives and targets the discussion and initiatives on places that affect the quality of life. During the consensus-building process, members are sensitized to the mutual advantages of their efforts. The following discussion, modeled after the SARA process, relates how mapping and geographi-

cal information play a key role in each phase of an interagency project.

### **Scanning: Identification of the Problem**

Law enforcement information that is location-oriented, such as call-for-service and arrest data, is invaluable to community work groups because it helps participants identify the problem and how it affects the community. As Eck and Weisburd (1995) note, the focus on "crime place" then leads to consideration of facilities, features of the place, and clustering of events. These three components provide important information on maps that the work groups can use. The more specific the map information, the better the group can identify the unique nature of the problem. Maps help work groups identify crime event locations, crime frequencies, and unique features of the sites (such as alleyways, schoolyards, or abandoned houses).

Several jurisdictions have used call-for-service data to identify locations that have repeat calls. In Houston, the police and Hispanic citizens were concerned about violence in cantinas. Through repeat-call analysis, the police found that 3% of the cantinas in the city were responsible for 40% of the violence. The police then narrowed the scope of the problem and developed a special liquor control team to target the hot spots. In Baltimore County, MD, the domestic violence unit used repeat-call locations to identify areas where domestic violence calls were prevalent. The unit, which included police officers, mental health officials, and community leaders, targeted those areas for preventive actions that included the distribution of fliers on community resources for domestic violence victims (Webster and Connors, 1993). For its problem-oriented policing (POP) projects, the crime analysis unit in San Diego used repeat-call analysis and arrest data to target geographical areas with recurring problems (San Diego Police Department, 1992).

In DMAP, all five sites relied on call-for-service and arrest data to identify the locations of drug markets: Hartford used narcotic arrest data (Tien et al., 1993), Kansas City and Pittsburgh used call-for-service data (Sherman and Rogan, 1993; Cohen et al., 1993), and San Diego and Jersey City used call-for-service and arrest data (San Diego Police Department, 1992; Weisburd et al., 1992). Both call-for-service and arrest data have valuable features. First, they identify the addresses or locations where events tend to occur (the point data) and the spatial distribution or clustering of the points; consequently, it is possible to determine places that are hot spots for certain activities. Second, the data reveal the timing of the events (the hours of day



or days of the week), which is a critical factor in understanding the pattern of occurrence. By examining the data, the work groups can assess the factors that make an area attractive for crime and disorder. Mapping the data provides the visual picture that allows the work group to scan the problem and identify its key characteristics.

### **Analysis of the Problem**

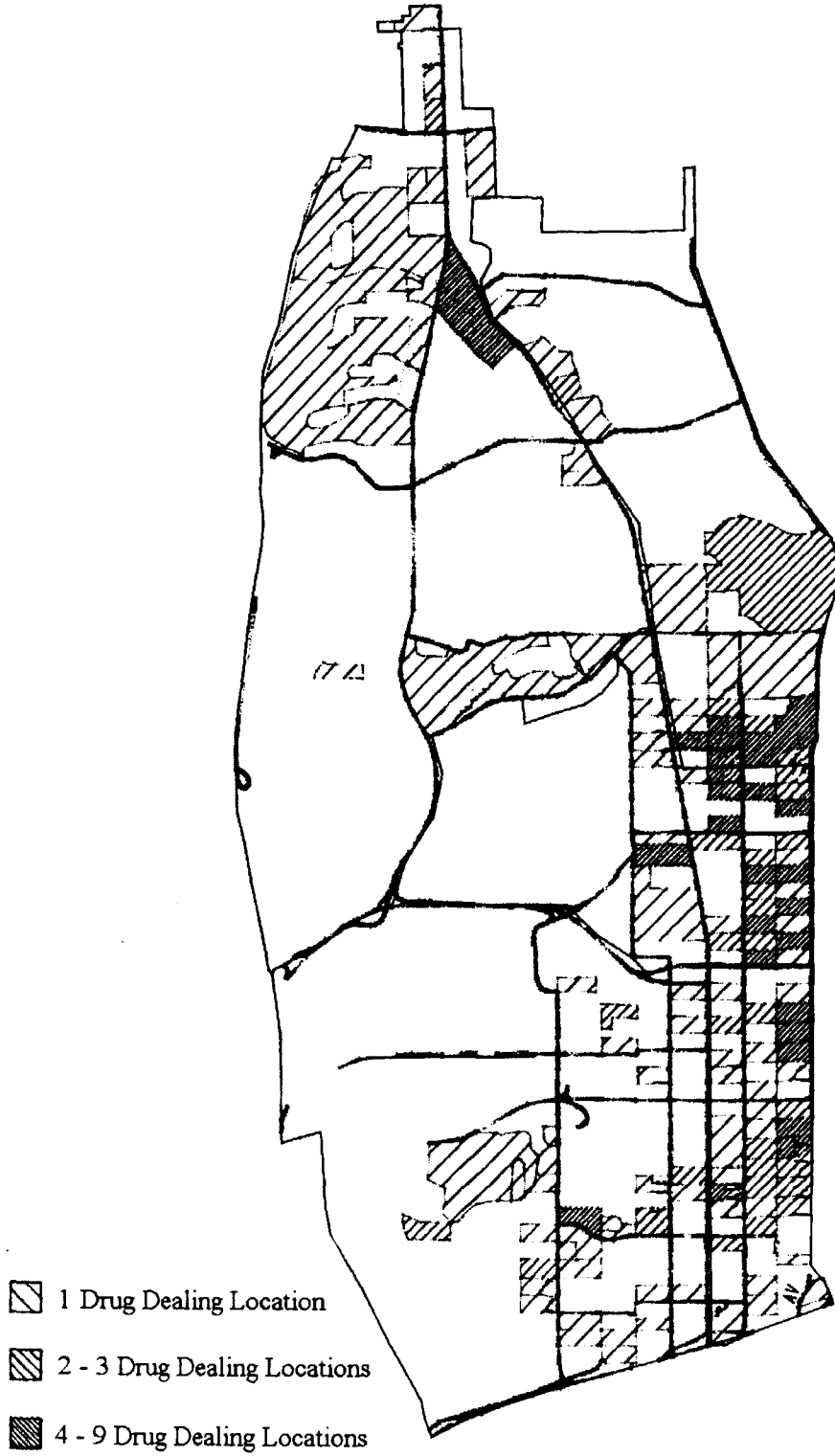
The second interagency task involves analyzing information, an important step in the process of gaining commitment from community stakeholders. Before the participants can take ownership of the problem, they must be informed about its causes, scope, and effects. Only a shared understanding leads to a shared commitment to action. Mapping is a tool for analyzing the problem. Harries (1990:27) comments:

Maps provide ways of dealing with complex data so as to reduce complexity and increase understandability. A map, like a picture, is worth a thousand words. Maps can provide lots of analytical power, reducing confusion and increasing the clarity and certainty of our analyses. This, in turn, allows us to communicate more effectively with others — to be more persuasive — as long as the technique is used appropriately.

Maps relate information in an easy-to-understand manner by making tabular information visual. In the Pittsburgh DMAP (P-DMAP), researchers at Carnegie-Mellon University shared maps on drug markets and other crime events with the Weed and Seed work group. These maps were useful to the project because they identified neighborhoods and communities in which different incidents were likely to occur.

In San Diego, maps supported the POP projects by providing patrol officers with information that could be used to analyze crime events in their beats and to identify crime patterns. Those patterns often were not evident until the data were mapped. The maps could identify when, how often, and where crime events tended to occur. For example, locations for drug dealing were of obvious interest under the department's DMAP program. Figure 1 shows drug dealing locations for a group of four beats in the city. Prior to this map, officers were aware of a few locations, but the map clearly shows clusters of blocks that had high-volume sales. Eck (1993) notes that the use of mapping resulted in a proactive, rather than reactive, approach to policing.

**Figure 1: Drug Dealing Locations in Four Beats in San Diego**



For the Pittsburgh project, Carnegie-Mellon University developed maps that use colors and symbols to describe various crime events, including type, location, and frequency — information that helps work groups understand the problem in a neighborhood. For example, pin maps showed 1990 call-for-service data in one community (Middle Hill) in order to identify the locations from which citizens called the police to report drug sales, overdoses, and weapons.<sup>3</sup> Each event is a different color on the map: blue for drug sales, green for overdoses, and pink for weapons. The researchers also used different-sized circles to dramatize the clustering of events —the larger the circle, the more calls for service. A different mapping technique, shading, showed changes in the frequency of events during a particular period. Levels of pink indicated areas where activity was "heating up"; levels of blue, where activity was "cooling off." By mapping the change in the extent of the problem over time, the police department and community detected the displacement of drug market activities to nearby neighborhoods. Such a technique can be useful in showing the impact of different responses over time.

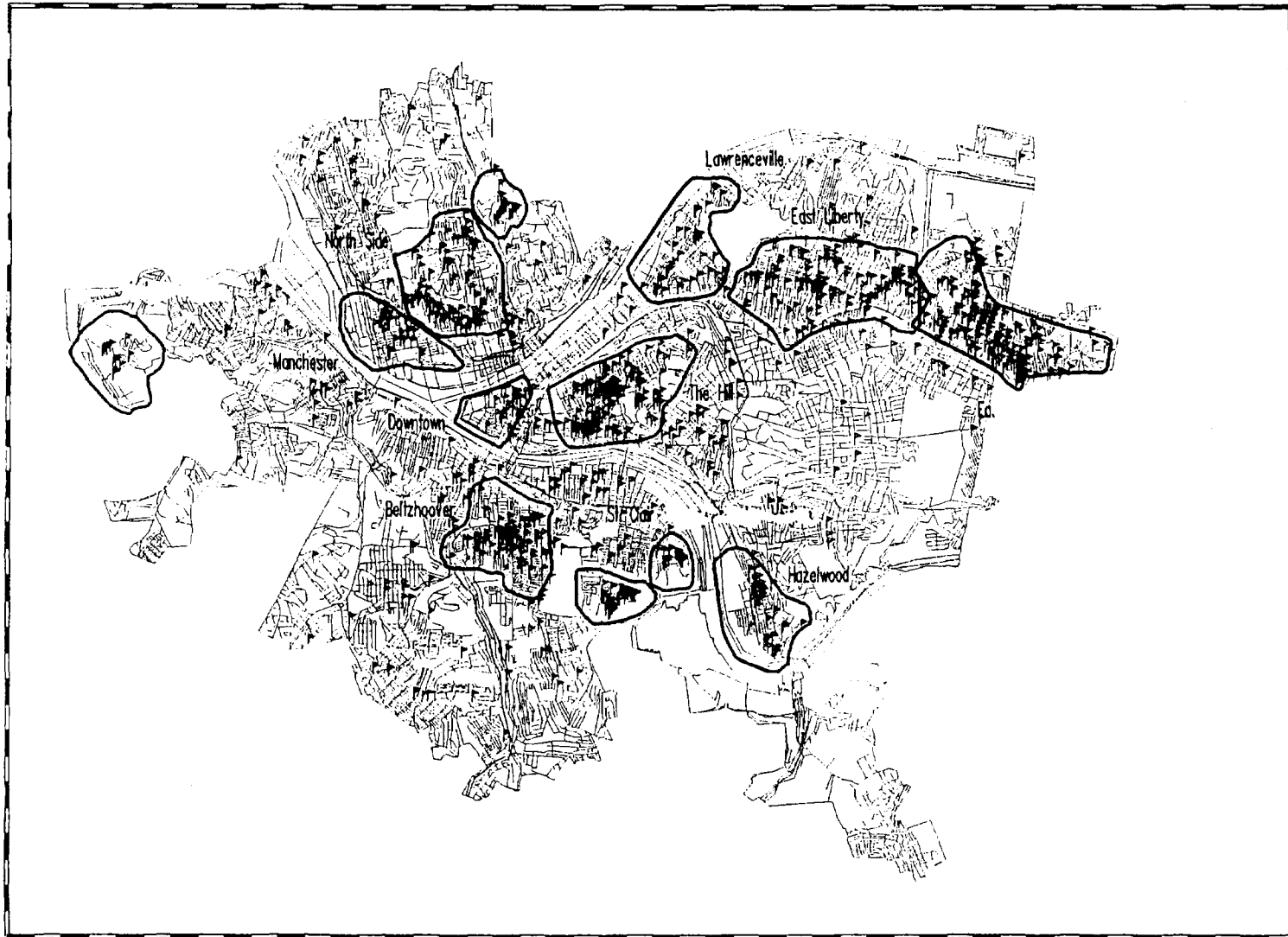
The Pittsburgh project also used automated pin maps effectively to indicate drug market areas. The drug markets shown in Figure 2 are based on drug calls and indicate 13 different areas of the city with concentrations of drug activities.

Analyzing the timing of crimes is also a critical step for a community work group. The evaluation of the Tactical Narcotics Teams (TNT) in New York City, for example, emphasizes how crime data based on different times of the day or days of the week will direct the strategy of the group. The timing of crime events also affects neighborhood quality of life. According to Sviridoff et al. (1992:77):

TNT's presence clearly made drug buyers and sellers more cautious.... [S]ellers shifted their working hours to periods when they thought TNT was not likely to be around.... For example, many participants in the research area crack markets felt it was safe to operate around "dinner time"—between 5 p.m. and 6 p.m. They believed that TNT officers would be eating, changing shifts, or processing people who had been arrested.

Although the preceding examples used police information only, other data may be helpful in analyzing a problem. These data might be provided by housing agencies, social service agencies, fire depart-

**Figure 2: Pittsburgh Drug Market Areas**



merits, schools, building inspectors, or other sources. Data from those sources may help work groups understand the person (Maltz, 1995) and the place (Eck, 1993), including a place's unique features and crime-proneness. For example, information on street lighting or the types of buildings surrounding the convenience stores might contribute to a better understanding of the robberies in San Diego. The maps in Pittsburgh could be enhanced by showing the types of buildings where drug sales, overdoses, and weapons are reported. It is critical that the work group analyze information from varying perspectives to ensure that a comprehensive response is implemented. The analytical stage lays the foundation for work group participants to recognize their roles in problem solving, commit resources, and develop an effective response.

### **Response to the Problem**

In the response stage, the work group members must develop strategies that address the agreed-upon problem. The response should reflect their roles in the community. Maps are particularly useful for developing responses. The maps provide information about the community that might be useful in developing crime prevention strategies. For example, maps might display a community's natural boundaries (rivers, blocked alleys, buildings, other structures); pertinent facilities (schools, hospitals, clinics, businesses, commercial enterprises); and other neighborhood characteristics. The work group may find this information pertinent to the development of different responses from different agencies. For example, police departments could use law enforcement activities; religious organizations could use houses of worship to hold workshops; social and health organizations could be asked to use mobile vans to reach residents; and businesses could provide financial and administrative support to different target initiatives.

As noted by Eck and Spelman (1987), responses vary, depending on the nature of the problem and the type of solution desired. After analyzing the elements of the problem, the work group must determine a solution. Solutions range from eliminating the problem in its entirety to removing the problem from police consideration. The responses must support the desired solution, and must be realistic enough to obtain continued support and assistance from the community. The maps assist the work group in determining whether the problem is spatially distributed, concentrated, or epidemic. The extent of the problem may lead to the choice of solution. In Table 1, Eck

and Spelman provide some guidance in matching solutions to different types of problems.

**Table 1: Matching Solutions to Different Types of Problems**

<b>Type of Solution</b>	<b>Types of Problems</b>
<b>Eliminate the problem.</b>	Small, simple problems that have recently occurred. Problems that are not persistent. Problems that affect a relatively small group.
<b>Substantially reduce the problem.</b>	Neighborhood crime and disorder problems. Persistent problems. Problems that affect the quality of life.
<b>Reduce the harm created by the problem.</b>	Problems that are prevalent, and when it is almost impossible to reduce the number of incidents. Problems that have characteristics and unintended harmful effects that can be altered. Problems that involve multiple solutions.
<b>Deal with the problem more effectively.</b>	Problems that are jurisdiction-wide and involve larger social issues. Problems needing short-term solutions that involve changes in the way the problem is handled. Problems needing long-term solutions that involve social changes.
<b>Remove the problem from police consideration.</b>	Problems that are created by specific groups as a by-product of their ways of operating. Problems where law enforcement has only minimal impact on the likely outcomes.

Many of the solutions to crime problems add new dimensions to the roles of government agencies, communities, and businesses as these entities forge new relationships to fight crime. For example, police agencies in several jurisdictions have joined forces with correctional agencies to monitor high-risk offenders who are under some

type of supervised release. The Redmond, WA, and Madison, WI police departments have initiated efforts to monitor the activities of probationers or parolees and provide feedback to correctional officers (Morgan and Marres, 1994; Balles, 1993). There is a formal exchange of information between the two partners. The correctional agencies inform police officers of the high-risk offenders in their communities, and the police agencies send copies of field investigation or arrest reports to corrections officials immediately after an event occurs. Law enforcement agencies often have timely information on the activities of offenders, which facilitates correctional decisions about technical violations. The Redmond and Madison partnerships resulted in greater cooperation among public safety agencies that had not collaborated in the past even though their missions are closely related. While this solution does not eradicate the crime problem, it does provide an opportunity to substantially reduce the crime problems caused by unsupervised probationers and parolees.

The Police Assisted Community Enforcement (PACE) program in Norfolk, VA is an "interagency support structure [designed] to focus problem solving in neighborhoods and to advance citywide partnership efforts" (PACE, 1993). PACE developed the following initiatives to respond creatively to the problems in six districts, based on place and offender issues:

- Spiritual Action for Empowerment, a coalition of religious organizations that sponsor neighborhood block parties, music, and inspirational speakers for youths.
- Athletic League, which involves youth in recreational activities.
- Nighthawk Basketball, which includes programs for older teens and younger adults in the evening.
- Action Leadership for Empowerment and Resource Training, which uses training to develop community leadership.

The districts implement responses based on the "strength and needs of neighborhoods" (PACE, 1993) and the available resources.

In an extensive review of the results of community involvement in policing efforts to reduce crime and disorder, Grinc (1994) found that implementation is often problematic because of the "fleeting nature of 'projects' to help poor communities," projects that often have short-lived responses but no long-term commitments. One example is the tendency to rely on strong enforcement efforts for an immediate response to a crime problem. Without the commitment of other organizations, the impact of law enforcement efforts is generally short-lived.

When the intensive enforcement ceases, the community is often left without the resources to maintain the newly reduced levels of criminal activity and to develop long-term solutions to the problem. As a result, law enforcement loses credibility in the eyes of the community.

Interagency work groups must take a twofold approach to avoid the typical pattern of short-term responses. First, because many community problems are complex and persistent, the strategy must include short- and long-term efforts that address the different facets of the problems. Second, the group must develop ways to motivate the partners to stay committed to the plan. Ongoing evaluation of the responses creates a role for each member and encourages commitment to long-term solutions.

### **Assessment of the Response**

Assessment is the final stage of the work group process, during which the group develops mechanisms to critique and monitor its responses. This feedback helps to pinpoint needed revisions, such as changing the response, improving the analysis, gathering more information, or redefining the problem. In addition, assessment is a tool that keeps the group committed to the task throughout the implementation. Because community problems often are complex and change dramatically over time, and because work group responses often involve multiple initiatives, it is necessary for the members to monitor the progress of each component and make appropriate adjustments.

Mid-course corrections are used to ensure that the response is a good fit, and to improve the linkages among the program participants. During the Jersey City DMAP, for example, narcotics detectives discovered that they needed to assign aliases to neighborhood street names because the drug organizations were monitoring police radio channels for advance information on enforcement activities. The detectives used the mapping tool to develop code names for the streets and then distributed the revised maps to the field officers. If the drug sellers monitored police channels, they would be unable to determine which street was targeted because of the coding system. Jersey City detectives told their research partners that thinking in terms of place (the neighborhood) rather than person (the suspect) provided them with an effective front-line response tool that facilitated solutions (Gajewski, 1993).

Work groups can also use maps and other informational tools to assess the results of the community initiatives. As previously dis-



cussed, P-DMAP used colored maps to show the "heating up" and "cooling off" of problem areas during the course of the project. The Eastside Substance Abuse Awareness Program, a comprehensive, community-based effort to reduce illicit drug activity in one Wilmington, DE, neighborhood, used assessment techniques to improve its responses. As in many interagency work groups, the strategic plan initially involved increased law enforcement to reduce drug activity. Following the police response, the "focus shifted away from law enforcement and more towards community participation and initiative" (Harris and O'Connell, 1994:53). The advisory council that oversees the project includes 38 members, representing state and local governments, schools, social service providers, the police department, churches, and area residents. The council meets monthly and is staffed by a program coordinator funded by the police department. This multi-agency group was instrumental in ensuring that the community was actively involved in the assessment phase, which resulted in solution as to the following problems:

- A continuing issue is irresponsible landlords. Many of the landlords fail to screen potential tenants, some of whom contribute to the neighborhood's drug problems. The advisory council staff asked 85 landlords in the neighborhood to participate in a special program designed to select appropriate tenants for their housing. The program developed screening and referral mechanisms for the landlords.
- Public telephones are often used by drug dealers to arrange transactions. The advisory council worked with the telephone company to remove several public telephones, and to modify telephones so that they could no longer accept incoming calls.
- One neighborhood bar and liquor store was a constant object of complaints from residents in the area. The advisory council met with the owner of the establishment, who subsequently agreed to hire an off-duty police officer. The presence of the officer reduced the loitering, drug dealing, and disorderly behavior that occurred outside the bar.

### **CASE STUDIES OF WORK GROUP MAP USE**

The following case studies illustrate how work groups in two DMAPs used geographical information to reduce such problems as drug trafficking, social disorder, and prostitution in their communities. The case studies also discuss the different types of groups and

how the work group process affected the development of effective responses.

### **COMPASS Project in Hartford, CT: Four Community Organization Groups**

The Cartographic Oriented Management Program for the Abatement of Street Sales (COMPASS) in Hartford, CT, provided a new approach to improving the quality of life in areas that were highly affected by crime and drugs. A two-pronged approach — reclamation and stabilization — was undertaken involving interagency work groups led by the police department and a representative from the city manager's office.

COMPASS work groups were formed in four target communities. The groups were developed on a community level because of the unique features of each community. It was anticipated that this might lead to different responses. The organization along community lines also resulted in the inclusion of different partners in the work groups. The following target communities participated:

- Charter Oak Terrace, a small area with numerous public housing buildings. The area is geographically isolated and bounded by a river, a railroad, and an interstate highway. The residents are among the poorest in Hartford, and everyone lives in the same housing project.
- Milner, a 16-block area in the north-central part of Hartford. A highway bisects the area. Housing consists of a mix of multifamily apartment buildings and houses.
- Frog Hollow, located at the south end of the city. It is six times larger than Charter Oak Terrace and three times larger than Milner. It is also located near a congested commercial street.
- Asylum Hill, which is about the size of Frog Hollow but has one-third the residents. It is a diverse neighborhood that includes residential and commercial areas. One-fifth of its families live below the poverty level.

The neighborhood work groups comprised a variety of community organizations, citizens' groups, and businesses; one goal of the project was to include more citizens' groups than government agencies or quasi-governmental organizations. The membership of each group, as shown in Table 2, varied according to the characteristics of the community and the types of drug activity that occurred.

The work groups were charged with developing a reclamation and stabilization plan — a comprehensive strategy to thwart the drug market activities in their communities. The police had primary responsibility for the reclamation efforts, while the stabilization activities involved "a variety of groups in the target area, including target area residents, community groups, institutions, businesses, and city agencies" (Tien et al., 1992:ix). Community support was available for the reclamation, but support for longer-term stabilization was hindered by a budget crisis and turmoil in the city government. Eventually, COMPASS became primarily a police initiative.

Although COMPASS attempted to integrate the work groups in the stabilization efforts, the police department served as the lead agency, and the stabilization revolved around the police community service officer assigned to each target area. That officer assisted target-area residents, businesses, institutions, and organizations by facilitating communication among the police department, city agencies, and work group members. As a result of the role of the police in both reclamation and stabilization, through the use of patrol and community service officers, the process implicitly discouraged other work group members from assuming responsibility for components of the stabilization plan.

Recognizing the need for greater involvement by the city agencies, Hartford formed a Reclamation Steering Committee, coordinated by the Office of Human Services. The committee, which included representatives from the city agencies and community groups, established the following goals:

- Reduce the incidence of drug-related crimes.
- Empower residents to take control of their own neighborhoods, make decisions, and set priorities.
- Increase the ability of residents to become economically self-sufficient.
- Enable service providers and residents to collaborate and negotiate services and strategies.

The work groups in each neighborhood would have responsibility for designing, implementing, and monitoring stabilization efforts. The steering committee desired a "bottom-up" approach, whereby it would act as an advocate for the neighborhood efforts. The committee also developed some tactics that would help the groups achieve their objectives, as shown in Table 3. The work groups would then develop the plans for implementing the tactics. As noted by the evaluators, "the target areas had to have active and well-organized community

**Table 2: Agencies Represented in the COMPASS Work Groups**

<b>Work Group Members</b>	<b>Charter Oaks Terrace</b>	<b>Milner</b>	<b>Frog Hollow</b>	<b>Asylum Hill</b>	<b>Steering Committee</b>
<b>Community Organization</b>					
Tenants Association	X			X	
Health Council	X				
Recreation Center		X			
Boy Scouts	X				
Church		X	X	X	
Block Watch Group			X	X	
Business Group			X		
Other	X	X	X	X	X*
<b>Government or Police Agency</b>					
City Executive					X
Adult Probation	X	X		X	X
Prison Association	X	X	X		
Human Services	X	X		X	X
School		X			
Office of Substance Abuse		X			
Quality Neighborhood Task			X	X	
Drug Enforcement Agency			X	X	
FBI	X				
Alcohol, Tobacco & Firearms	X				
Housing Authority	X				
City Employment Resources					X
Hartford Inst. for Criminal & Social Justice					X
Mayor's Crime Commission					X
Police Department	X	X	X	X	X

\*The Hartford Areas Rally Together community group was represented on the steering committee.

**Table 3: Overview of COMPASS Approaches and Stabilization Tactics\***

<b>Tactic:</b>	<b>Primary Objectives of Tactic</b>			
	<b>Increase Citizen Participation</b>	<b>Improve Physical Condition</b>	<b>Increase Delivery of Services</b>	<b>Deter Drug Activity</b>
Organize block watches in target area	X			X
Forge alliances between target area residents and institutions	X			X
Conduct community organizing forums	X			X
Improve physical condition of private or public property		X		
Enforce housing and public health regulations in target area		X	X	
Expand youth programs, human services, and education			X	
Implement crime prevention programs	X			X
Pressure city agencies to deliver services	X	X	X	X
Conduct neighborhood cleanups	X	X		X
Conduct citizen rallies	X			X

Tienetal., 1993

groups to facilitate defining the needs and setting the priorities" (Tien etal., 1993:2, 13-14).

Although COMPASS was initially designed so that each of the target neighborhoods would be involved in the design and implementation of the reclamation and stabilization efforts — such as identifying

the problem, developing the strategic plan, and assessing the responses — the structure of the work groups did not support such an approach. The tendency was to operate "as usual," which meant that the heads of city agencies had to pledge their commitment and resources. From its inception, COMPASS was perceived more as a police program than a citywide or neighborhood effort. Residents' groups and business associations were not involved early enough in the consensus-building process to take ownership of the problem or the proposed solutions. In addition, the steering committee was unsuccessful in nurturing support on behalf of the neighborhoods.

COMPASS was a valiant attempt at consensus building, but the government, business, and community participants were not sufficiently empowered to assume responsibility. The evaluation of the project identified three features that are necessary for successful neighborhood work groups. First, jurisdictions should consider "neighborhood viability and geography in the selection of anti-drug target areas" (Tien et al., 1993:xvi). Second, the efforts need to be "city," not police, programs. That is, the efforts should proceed by consensus and not be led by a single agency. Third, "detailed program plans, and in particular stabilization or 'seeding' plans, must be developed prior to the start of the reclamation or 'seeding' efforts" (Tien et al., 1993:xviii). The maps and information that the work groups used were based on police call-for-service data only, not data from other agencies. This constrained the work groups from developing realistic stabilization techniques.

The Hartford experience with COMPASS illustrates the importance of the process used in developing work groups and obtaining government, business, and citizen participation in solving complex social problems. COMPASS did not fully engage in a SARA-type process. In the COMPASS project, the stabilization efforts were not developed by consensus or by participants empowered for the implementation. The police took sole responsibility for coordinating the reclamation efforts, which included deciding where the drug markets were and how to change the nature of those markets. Although the police did share information with the community about drug arrests, the information was provided after the reclamation activities. By that time, consensus or momentum for addressing difficult social problems was difficult to build. Consequently, the reclamation efforts succeeded only partially.

COMPASS also dramatizes the importance of providing a full range of data to the community to develop effective responses. The work groups had maps of calls for service in each community, but they did not have geographically based data on human and social

services resources and physical conditions. The initiatives they developed, therefore, could not be as specific as those developed by the Eastside Substance Abuse Awareness Program in Wilmington, DE. In that jurisdiction, the responses were driven by problems with specific landlords, public phones, neighborhood bars and liquor stores. In COMPASS, the responses were more generic. The groups identified the need to enforce housing and public health regulations and to expand youth programs, human services, and education in target *areas*, but not in specific sites.

### **The San Diego Prostitution Task Force**

Prostitution is a persistent problem in many communities. In San Diego, several agencies were concerned about the involvement of youth in prostitution. To coordinate an interagency response to thwart those activities, a task force was formed. The task force included representatives from the police department and social service and health agencies; business owners; citizens; and outreach workers specializing in efforts to assist prostitutes. As the task force formulated a comprehensive strategy, it assessed the problem geographically because different areas of the community experienced different problems with prostitution.

The police department provided the task force with the following types of information on arrests in different areas of the county:

- Number of prostitution and related arrests in the past year.
- Number of other arrests in different geographical areas (police beats) of the city.
- Number of prostitution arrests occurring on different streets of the city.
- Characteristics of offenders arrested for prostitution (juvenile or adult, gender, ethnicity, military status).

The review of the arrests focused on the geographical aspects of prostitution. By examining arrest locations, the task force could consider reasons why certain neighborhoods or streets invited this activity, especially prostitution that involved young runaways. There was also concern about other criminal behavior, such as drug sales, that occurred in the areas where prostitutes operated.

The police department provided the task force with a map denoting the locations of arrests and citations for prostitution and the frequency distribution of the street addresses. The task force focused on three geographical areas where prostitution was likely to occur,

based on analysis of the official data. Maps showed that prostitution and related arrests were more likely to occur along major thoroughfares in one section of the jurisdiction. Supporting information revealed that the western part of that section accounted for 624, or 46%, of the 1,359 prostitution arrests in the city; nearly a third of those arrests were located on a major street. The map also illustrates that prostitution was concentrated in just a few areas.

By examining the various streets and locations where arrests were made, the task force identified geographical boundaries or features that contributed to the congregation of prostitutes. Some of the task force members had difficulty evaluating tabular data, but maps helped them visualize the frequency distribution of the prostitution arrests. When the members could "see" where the events occurred, they could make more informed decisions about their strategy.

After reviewing the characteristics of arrestees, the police department determined that the prostitution trade differed across the city. The western area attracted younger prostitutes; 65% of the arrestees were 18 to 29 years old; in other areas of the city, less than 47% of arrestees were in that age group. In the central and western parts of the county, prostitutes were just as likely to be males as females; in the eastern part of the city, prostitutes were more likely to be females. The ethnic trends showed that Hispanic prostitutes frequented the central area, while Caucasian prostitutes usually operated in the eastern and western parts.

The analysis also revealed that juveniles accounted for only a small number of the total arrests for prostitution. Only 15 of the 1,359 arrestees were under 18 years old. The police explained, however, that juvenile prostitutes are handled in a different manner than adults. Juveniles are likely to be treated as runaways or to be charged with status offenses instead of criminal charges (e.g., prostitution and loitering), a practice that accounts for underreporting in official statistics on juvenile prostitution.

The geographical information was critical to the task force's development of a comprehensive strategic plan. Health care workers, for example, used the street-location information to target their activities, such as distributing AIDS literature and condoms near the locations where prostitution arrests occurred. In addition, outreach workers made more informed decisions about the placement of "safe houses" for prostitutes. Although the workers already knew many of the prostitution areas, the maps identified new locations.

The task force recognized that the response of multiple agencies was necessary to address the problem of prostitution. As a result, the



work group recommended a strategic plan to the legislative body that included the following initiatives:

- Case managers should be assigned to areas of the city where prostitutes work. The managers should provide services for minors, coordinate transitional living facilities and support groups, and assist prostitutes in crisis situations.
- A 24-hour crisis intervention line should be available to prostitutes.
- The Social Services Subcommittee should issue a resource card that directs prostitutes to available services within the community.
- Arrestees for prostitution or solicitation should be required to attend an educational course on health and safety issues, including AIDS, drugs, and sexually transmitted diseases.
- Arrestees for prostitution should be required to attend support group meetings and perform community services through the direction of these support groups.
- An awareness program is needed to educate community members, businesses, and the public about prostitution.
- Prostitution should be added to the criteria for designating extra lighting in high-crime areas.
- A database should be established to track prostitutes, pimps, and factors associated with prostitution. The system should be available to law enforcement agencies in the region.

Without the maps and the data on arrestees, San Diego would have responded with the typical police procedure — arrest. Instead, the city recognized prostitution as a social and crime problem that required an interagency response with long-term solutions. The plan calls for arrest only as a secondary response, with the primary emphasis on prevention and intervention. The police are a part of the solution, as are citizens, businesses, and social service and health agencies. Using community policing and problem-oriented strategies, work group members can respond collectively to address the unique issues of prostitution in different parts of the community.

## **CONCLUSION: BENEFITS OF MAPPING FOR WORK GROUPS AND PROBLEM SOLVING**

Crime problems are often considered too large in scope for anyone to solve. Community policing and problem-oriented policing strategies are currently being used by many police departments to provide a law enforcement response. However, both of those strategies recognize that many crime control initiatives are essentially community initiatives. Without the participation of many different types of organizations and community groups, it is likely that the police can only bring about short-term relief for crime and disorder problems. The involvement of stakeholders is important in developing collective responses, and the use of consensus-building strategies has been shown useful in developing feasible responses to problems that often appear too large for any single agency, acting alone, to solve.

Critical to the development of effective responses is the use of good data to guide the consensus-building process. Maps and geographical data provide work groups with fruitful information. The maps are helpful in identifying and understanding the problem, developing appropriate responses, and monitoring successes. However, the data must be sensitive to the unique features of both places (features, clustering, facilities) and offenders (target selection, mobility). Place and people data can be combined in many different ways, as is shown by the different techniques developed in the Jersey City, Pittsburgh, and San Diego DMAP projects.

Relevant data guide work group decisions by giving the members a broader perspective on a problem. The case studies used in this chapter demonstrate the differences in responses based on the information that the groups used to scan and assess the problem. In COMPASS, the data consisted solely of information on calls for service, while San Diego used place- and offender-oriented data (age of offenders, location of activity, clustering of activity). The results were dramatically different. More specific, long-term solutions evolved from understandings based on the wider range of data.

Interagency work groups offer promise for future efforts to reduce crime and social disorder in neighborhoods. The complexity of social problems requires that all participants assume responsibility and be committed to the process. Using geographical tools and the SARA model for problem solving, all participants can contribute to the definition and analysis of the issues and the development of appropriate responses. That process then leads to a commitment to achieve long-term solutions.

DMAP has demonstrated how geographical tools can be the cornerstone of crime control initiatives in communities across the nation. While DMAP was primarily interested in using geographically based police data, the experience suggests that other geographically based data will contribute to the development of different solutions. The focus on mapping arrest and call-for-service data implies law enforcement solutions. However, by adding other pertinent information (on, for example, school attendance or building code violations), it is possible for work groups to perceive the problem differently and develop different solutions. Mapping has been shown to be critical to targeting problem-solving strategies, uniting stakeholders of varying perspectives, and assisting in assessment of collaborative efforts.



**Acknowledgments:** This project was funded by a grant from the U.S. National Institute of Justice to the Institute for Law and Justice (Grant number 92-DD-CX-K031). The authors wish to thank NIJ and three anonymous reviewers for their helpful comments in furthering the concepts developed in this paper. The authors would also like to thank Dr. David Weisburd for his helpful comments.

## NOTES

1. Overall, DMAP had a three-stage approach: (1) jurisdictions were assisted in the development of information delivery systems that integrated data on address or street locations, (2) the jurisdictions were assisted in the development of strategies for crime control problems, and (3) evaluations were conducted on the success of these new strategies.
2. The five sites and research organizations participating in DMAP were the San Diego (CA) Police Department with the Police Executive Research Forum; the Pittsburgh (PA) Police Department with Carnegie-Mellon University; the Hartford (CT) Police Department with the Queues Enforth Corporation; the Jersey City (NJ) Police Department with Rutgers University School of Criminal Justice; and the Kansas City (MO) Police Department with the Crime Control Institute. The Institute for Law and Justice was provided with a grant to conduct a multi-site evaluation of the DMAP project.

3. The maps developed in P-DMAP use various techniques to present the data. The researchers use a mixture of colors, symbols, and symbol sizes to characterize crime problems. Copies of the maps can be obtained from Dr. Jacqueline Cohen at The Heinz School, Carnegie-Mellon University, Pittsburgh, PA. Maps could not be included in this article due to use of color.

## REFERENCES

- Balles, J. (1993). "Organizing Government Services at the Neighborhood Level: Putting All the Pieces Together." Paper presented at the Community Policing for Safe Neighborhoods — Partnerships for the 21st Century conference, sponsored by the National Institute of Justice, U.S. Department of Justice, Washington, DC.
- Carpenter, S. (1990). *Community Problem Solving by Consensus*. Washington, DC: The Program for Community Problem Solving.
- Cohen, J., W. Gorr, and A. Olligschlaeger (1993). *Computerized Crime Mapping: Pittsburgh Drug Market Analysis Program (P-DMAP)*. Pittsburgh, PA: Carnegie-Mellon University.
- Eck, J. E. (1993). "Drug Market Analysis." Paper presentation at the Community Policing For Safe Neighborhoods — Partnerships for the 21st Century conference, sponsored by the National Institute of Justice, U.S. Department of Justice, Washington, DC.
- (1996). "Prospective Mapping: Using Theory to Guide Geographical Analysis of Crime Data." College Park, MD: University of Maryland.
- and W. Spelman (1987). *Problem Solving: Problem Oriented Policing in Newport News*. Washington, DC: Police Executive Research Forum.
- and D. Weisburd (1995). "Crime Places in Crime Theory." In: J. E. Eck and D. Weisburd (eds.), *Crime and Place*. Crime Prevention Studies, vol. 4. Monsey, NY: Criminal Justice Press.
- Gajewski, F. (1993). "Drug Market Analysis and Problem-Oriented Policing." Paper presented at the Fourth Annual Evaluation Conference on Evaluating Crime and Drug Control Proceedings, sponsored by the National Institute of Justice, U.S. Department of Justice, Washington, DC.
- Grinc, R. M. (1994). "'Angels in Marble': Problems in Stimulating Community Involvement in Community Policing." *Crime & Delinquency* 40(3):437-68.
- Harries, K. (1990). *Geographic Factors in Policing*. Washington, DC: Police Executive Research Forum.

- Harris, R.J., and J. O'Connell (1994). *Eastside Substance Abuse Awareness Program Evaluation*. Dover, DE: Delaware Statistical Analysis Center.
- Maltz, M. (1995). "Criminality in Space and Time: Life Course Analysis and the Micro-Ecology of Crime." In: J.E. Eck and D. Weisburd (eds.), *Crime and Place*. Crime Prevention Studies, vol. 4. Monsey, NY: Criminal Justice Press.
- McEwen, J.T., and F.S. Taxman (1995). "Applications of Computerized Mapping to Police Operations." In: J. E. Eck and D. Weisburd (eds.), *Crime and Place*. Crime Prevention Studies, vol. 4. Monsey, NY: Criminal Justice Press.
- Morgan, T. and S.D. Marres (1994). "A Partnership Program Worth Emulating." *Police Chief* May: 14-19.
- PACE (1993). *Police Assisted Community Enforcement*. Norfolk, VA: author.
- Rossi, P.H., and H.E. Freeman (1990). *Evaluation: A Systematic Approach*. Newbury Park, CA: Sage.
- San Diego Police Department (1992). "Grant Proposal: San Diego DMAP Phase II." Unpublished paper.
- Sherman, L., and D. Rogan (1993). "Raiding Crack Houses: The Kansas City Experiment." Unpublished paper.
- Sviridoff, M., S. Sadd, R. Curtis, and R. Grinc (1992). *The Neighborhood Effects of Street-Level Drug Enforcement: Tactical Narcotics Teams in New York: An Evaluation of the TNT*. New York, NY: Vera Institute of Justice.
- Tien, J.M., T.F. Rich, M. Shell, R.C. Larson, and J.P. Donnelly (1993). "COMPASS: A Drug Market Analysis Program (DMAP)." Unpublished paper.
- T.F. Rich, R.C. Larson, and J.P. Donnelly (1992). "On Neighborhood-Oriented Anti-Drug Programs: The Hartford Experience to Date." Unpublished paper.
- Webster, B. and E. F. Connors (1993). "Police Methods for Identifying Community Problems." *American Journal of Police* 12(1):75-101.
- Weisburd, D. L. (1996). Personal communication to the co-author.
- L. Green, and D. Ross (1992). "Crime in Street Level Drug Markets: A Spatial Analysis." Unpublished paper.