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Computer Aided Dispatch in Support of Community Policing

Executive Summary

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This research project was conducted by the Institute for Law and Justice (ILJ) to determine the extent to which computer-aided dispatch (CAD) systems can support community policing and measure performance under new community policing objectives. The study was sponsored by the National Institute of Justice (NIJ) under its “Measuring What Matters” initiative. The researchers found that CAD systems have much to offer community policing because of the richness of the basic data that is collected. However, CAD can be even more effective if enhancements are made that directly support community policing.

Background on CAD Systems: Strengths and Weaknesses

CAD systems were developed by vendors in the 1960s to support two key objectives of the professional policing model: (1) satisfying citizens with rapid responses to all calls for service and (2) effecting arrests to reduce crime. CAD technology minimized the time required to dispatch patrol units and provided tools that helped police managers allocate resources more effectively (see sidebar, "Brief History and Overview of CAD Systems"). Under community policing, however, professional policing objectives have been modified and new objectives have been added. Arrests are still important, but so is problem solving to prevent crimes. Rapid response to true emergency calls is still a goal, but community policing requires flexibility for handling non-emergencies, for example by taking a report over the telephone.

Past research has consistently emphasized two important features of CAD systems: (1) they provide a rich source of data because of the detailed information they contain on what patrol officers do and (2) less than 20 percent of the citizen calls in a CAD system are for serious crime incidents. The rest are for incidents that affect the callers' quality of life to such an extent that they believe police intervention is necessary.

Since an aim of problem solving under community policing is to address many of these incidents, CAD data can be of particular benefit in identifying problems and in measuring the impact of problem solving efforts. On the other hand, CAD applications have been criticized as inadequate for measurement purposes. Several weaknesses in CAD data relate to *call*

classification processes and schemes. For example, the type of call that appears in a CAD record usually is based on information conveyed by the caller, who may not know the difference between a burglary and a robbery or between vandalism and graffiti. A related problem is that the list of call types used in the communications center may not adequately address everything that is needed under community policing; "other type of call" is the largest volume category in some departments. Other problems relate to determining incident address (e.g., the telephone number and address from E9-1-1 systems may not be the location of the incident), which has been a longstanding problem for hot spots analysis, and to capturing data on calls that bypass the CAD system (e.g., calls made directly to officers' pagers or to storefront offices). A final problem is the need for a new vocabulary to describe CAD information. In some departments, every record gets counted as a call for service, including multiple calls on the same incident, assist units at the same incident, and administrative and self-initiated activities.

Overview of Research Approach

In this study, the researchers explored (1) current uses of CAD to support community policing, (2) new ways to use CAD data for performance measures under community policing, and (3) changes in CAD systems and related policies that may be needed to better support problem solving and other community policing activities. The project involved conducting case studies of community policing implementation in three departments (the San Diego Police Department, the Metropolitan Police, District of Columbia (MPDC), and the Aurora (Colorado) Police Department; performing CAD system reviews in these departments; developing "prototype" CAD-supported performance measures for community policing; and conducting a national survey of police departments to validate the prototype measures.

Community Policing Framework

To guide the research and analysis, a framework for describing community policing was needed. It is widely held that problem solving, partnerships, and organizational change are critical elements of community policing;¹ but the research team needed to articulate more precisely what community policing entails. To do this, they took advantage of the ideas put forth by Cordner,² who provided one of the few frameworks available that described community policing in other than broad philosophical terms. Cordner identifies four major dimensions of community policing and describes elements associated with each dimension (see Exhibit 1). In

this framework, the organizational dimension includes technologies such as CAD systems, as well as other information needed to support performance appraisals, program evaluations, and departmental assessments.

Exhibit 1: Cordner's Community Policing Framework**Philosophical Dimension**

Citizen input
Broader definitions of police functions
Emphasis on personal service

Tactical Dimension

Partnerships with citizens
Problem solving
Positive interaction

Strategic Dimension

Re-oriented operations
Emphasis on prevention
Geographic focus

Organizational Dimension

Structure
Management
Information (including CAD)

Prototype CAD-Supported Measures of Community Policing

After clarifying what each department sought to accomplish through community policing, the researchers examined the CAD systems and current CAD applications at the three study sites. Department personnel assisted in identifying how current CAD data could be more effectively used to support community policing, as well as deficiencies in the CAD data and how these deficiencies could be alleviated. Interviews were also conducted with vendors who had provided and supported the departments' CAD systems. The next step was to develop "prototype" measures for community policing from samples of CAD data at all three sites. These measures were developed in the areas of problem solving, support for special units or programs (e.g., gang units, drug units), resource allocation, management accountability, and citizen involvement and satisfaction. With assistance from the sites, the researchers also identified changes in CAD systems that would be needed to support community policing, such as changes in data elements captured, changes in call taker and dispatcher screens, and others.

National Survey

In the summer of 2000, ILJ conducted a mail survey of 420 police departments. The survey sample included all police departments in the country serving jurisdictions with populations of 250,000 or greater and a sample of departments in jurisdictions with less than 250,000 residents. Primary interests were to determine (1) key community policing activities,

(2) whether the prototype measures would have utility in the departments, and (3) whether the departments' CAD systems were capable of providing the measures. The survey instrument also included questions on call management strategies.³

Findings

Case Studies and CAD System Reviews

The case studies revealed a number of similarities in community policing implementation at the study sites. For example, all three sites had changed to a geographic focus to achieve community policing goals, albeit with different organizational support structures; and all three implemented problem solving as a cornerstone of their efforts. Other similarities and differences are highlighted below.

Philosophical Dimension. Each site had its own community policing philosophy, while still including the essential components of partnerships, problem solving, and organizational change. Community policing in San Diego and Aurora has been well documented in the policing literature for nearly 20 years, but the MPDC's efforts are more recent. In 1998, the District launched Policing for Prevention (PFP). This community policing approach explicitly includes a major goal for "systemic prevention" and a goal for "focused law enforcement," which includes high visibility enforcement actions and police visibility generally in high crime areas. There are 83 Police Service Areas (PSAs), and the concept of partnerships is strongly linked to problem solving action plans initiated at the PSA level (see sidebar, "Policing for Prevention in the District of Columbia"). Primary means of achieving citizen input in San Diego are through 21 Service Area Advisory Boards, an extensive volunteer program, and efforts to revitalize Neighborhood Watch. In the District of Columbia, PSA meetings are the cornerstone of citizen involvement, whereas Aurora relies heavily on the work of 21 Police Area Representative (PAR) officers with community groups.

Strategic Dimension. In addition to achieving a geographic focus through police service areas, all three sites operate storefront offices, with about 30 of these in San Diego and several in the District and Aurora. Fine-tuning geographic deployment schemes, however, was an ongoing process. Drawbacks of small teams include difficulties scheduling time off, resistance by some managers to 24-hour geographic accountability, and cross-beat dispatches, which may partially

defeat the purpose of "permanent" patrol service area assignments. Efforts to decentralize detectives and other specialized functions also met with some resistance, particularly in the MPDC. With respect to freeing up officer time for community policing, the SDPD stands out in its use of civilian community service officers, telephone report units, and volunteers to provide call handling alternatives.

Tactical Dimension. Corder's concept of positive interaction—encouraging officers to treat all calls as opportunities to provide quality services and identify problems—was embraced at all three sites but was difficult to measure. The police partnerships discovered were often directly linked to problem solving projects and involved an array of citizen groups and agencies at all three sites. Problem identification, analysis, and assessment involved the use of CAD data at all three sites, although a number of missed opportunities were discovered.

Organizational Dimension. San Diego and Aurora had revised officer performance evaluations by including criteria related to problem solving and other pro-active work; the MPDC revised performance evaluation criteria for lieutenants and above and had goals to develop new criteria for other positions. Although the sites saw the value of CAD data in meeting their community policing objectives, CAD data was generally difficult for the average officer to retrieve. In addition, the sites were in the throes of major system overhauls (CAD system in San Diego, the RMS in Aurora, and virtually all information systems in the MPDC). In short, the study sites had taken advantage of CAD data to plan, modify, and monitor their community policing strategies. However, their efforts fell short of the full spectrum of analysis and reports that can be obtained from CAD data, in part because of technical difficulties in extracting data valuable for community policing, in a timely manner, from systems that were designed to support dispatching functions.

National Survey

Community Policing Activities

The survey questionnaire asked about 12 specific activities typically associated with community policing. The results are shown in Exhibit 2.

Exhibit 2: Percent of Departments Engaging in Community Policing Activities

Activities	Great Extent	Moderate Extent	Limited Extent	Not at All
Gave geographic responsibility to patrol	51	26	15	8
Have a citizens police academy	48	10	13	29
Conduct beat/neighborhood meetings open to the public	32	35	21	12
Opened neighborhood substations	26	19	18	37
Adopted problem solving techniques	22	33	32	14
Developed information systems to support problem solving	17	31	36	16
Conduct citizen surveys on a regular basis	17	22	37	24
Decision-making occurs in lower ranks	16	45	36	4
Developed evaluation criteria for determining success of community policing	14	22	43	22
Decentralized detectives	10	11	18	61
Changed communications center procedures on how citizen calls are handled	9	24	36	31
Eliminated one or more ranks	5	7	13	75

Looking at selected activities, more than three-fourths of departments (77 percent) have assigned geographic responsibility to patrol (to a moderate or great extent), and about one-third have changed their communications procedures for call handling. With respect to problem solving, 55 percent of departments have adopted problem solving techniques and 48 percent have developed information systems to support problem solving. Fewer departments (36 percent) have developed evaluation criteria to measure the success of community policing. Finally, 39 percent make at least moderate use of citizen surveys.

CAD Systems and Data Access

Almost two-thirds of departments (63 percent) have a dispatch system on site that serves only their jurisdiction; 11 percent have an on-site system that serves other jurisdictions as well as their own; and 26 percent share a dispatch system that is not physically located at their department. About 54 percent of respondents said they could design queries and reports in CAD, and 46 percent said they could export CAD data to other programs for analysis.

Types of CAD Data Routinely Used for Analysis

Location Data. Less than one-third of departments (31 percent) used all six types of location data listed in the questionnaire and shown in Exhibit 3. A large majority (88.3 percent) analyze call for service (CFS) data by street address, although analysis using apartment or suite number is less common (54.5 percent). About three-fourths of departments conduct analysis by beat or reporting area and event location (as distinct from caller address). Fewer than two-thirds routinely analyze CAD data by premise history (63.6 percent) or by reporting party name or phone number (58.7 percent).

Primary and Assist Units. Respondents were asked to indicate which of the following types of data on primary responding units were routinely analyzed: unit designation, time dispatched, time arrived, and time completed. Nearly three-fourths of respondents (73 percent) said they used all four data elements to analyze the activity of primary units; somewhat fewer (61 percent) reported using all four data elements to analyze assist unit activity.

Incident Data. Exhibit 4 shows the extent to which departments routinely used nine types of incident data for analysis. About two-thirds of respondents (65 percent) said they used at least six of the nine options, with 26 percent using all nine options. The most frequently used data element was type of call as recorded at dispatch (88 percent), and a majority of departments (64 percent) used final call type based on officer assessment. The data type least frequently used for analysis was text narrative.

Exhibit 3: Location Data from CAD Systems

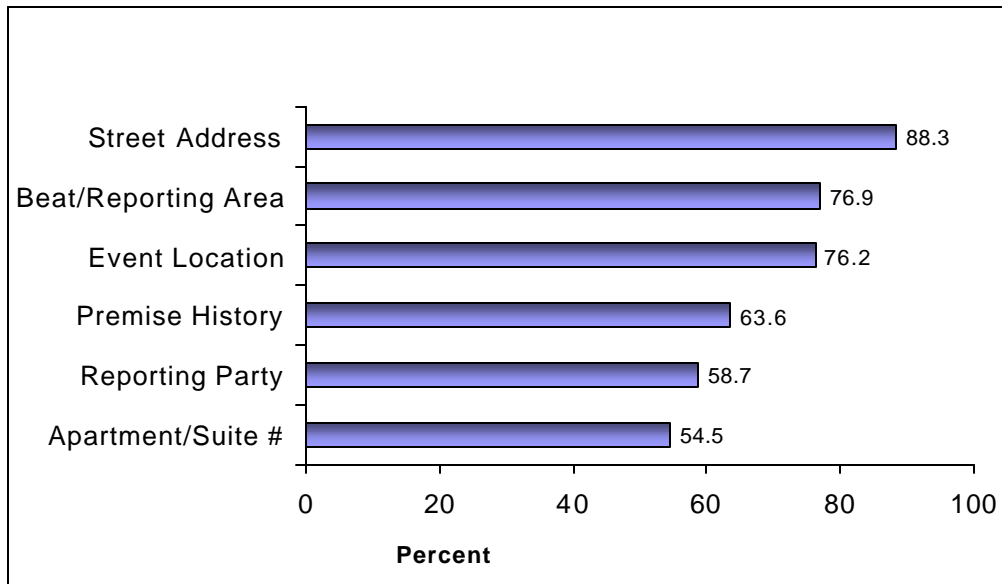
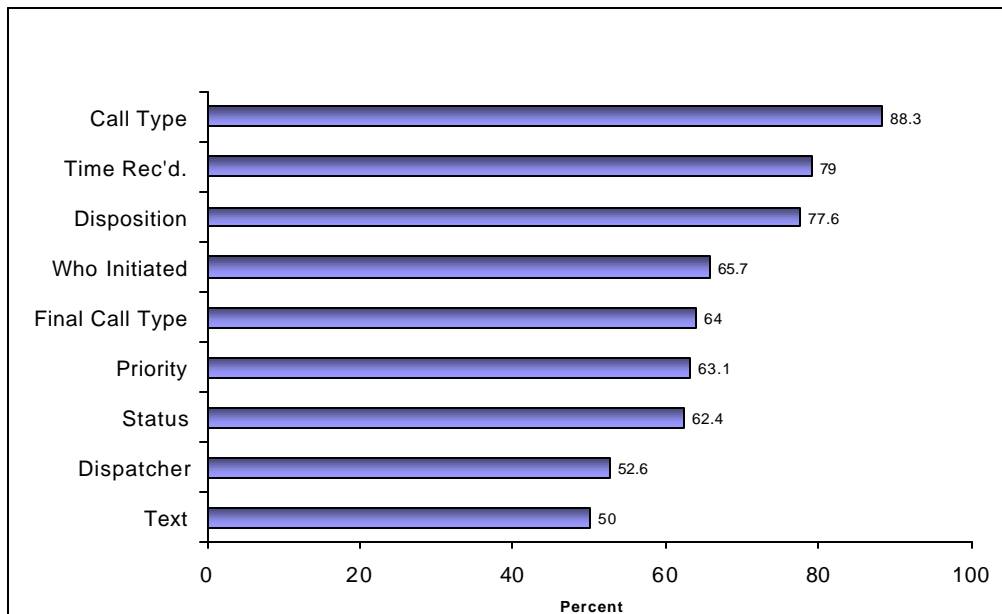


Exhibit 4: Incident Data from CAD Systems



Call Management

Call management alternatives are important in the strategic dimension of community policing, in that using such alternatives can free up patrol officer time for pro-active work.

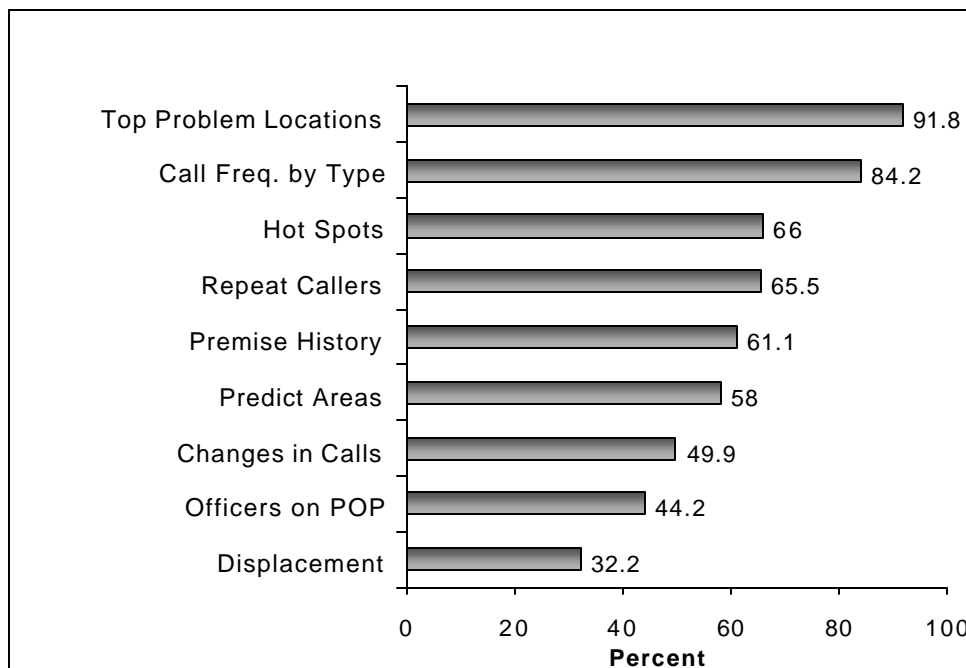
About 56 percent of respondents had a Telephone Reporting Unit (TRU), with TRUs used in 88 percent of large, 70 percent of medium-sized, and 33 percent of small departments. Only 6 percent of respondents used Internet reporting; and only 3 percent reported having 3-1-1 systems in place, although 93 percent of large departments indicated that they have discussed this possibility.

Community Policing Measures

Several survey questions asked about the extent to which departments are using various community policing measures in the areas of problem solving, resource allocation, support for specialized initiatives, management accountability, and community involvement/satisfaction. Since the questions did not specifically ask whether the CAD system generated the data for the various measures, it is likely that some data was obtained from other sources.

Problem Solving Measures. Exhibit 5 shows the percent of departments currently using each of nine measures for problem solving. Nearly 92 percent of departments report identifying top problem locations and 84.2 percent analyze call frequency by type of call. In contrast, only about half (49.9 percent) use information on changes in calls for service to assess problem solving efforts; 44 percent determine which officers are performing problem solving work; and one-third analyze displacement with respect to problem solving. Fifty departments (12 percent) reported use of all nine measures for problem solving.

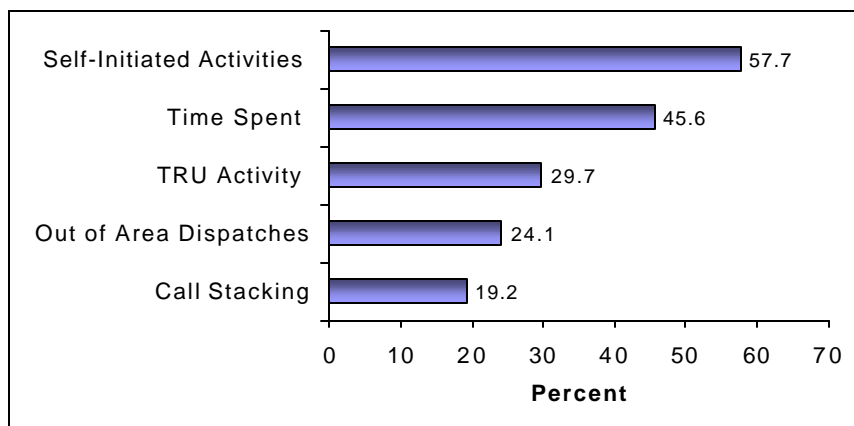
Exhibit 5: Problem Solving Measures



A separate question asked about use of data on problem type and problem location specifically to support special initiatives or units (e.g., gang unit). About three-fourths of respondents reported analyzing both types of data to support special initiatives.

Resource Allocation Measures. Exhibit 6 shows that a majority of departments (57.7 percent) assess officers' self-initiated activities, although less than half analyze time spent at a location or on a problem. Less than one-third analyze TRU activity (29.7 percent), review out of area dispatches (24.1 percent), or analyze call stacking activity (19.2 percent).

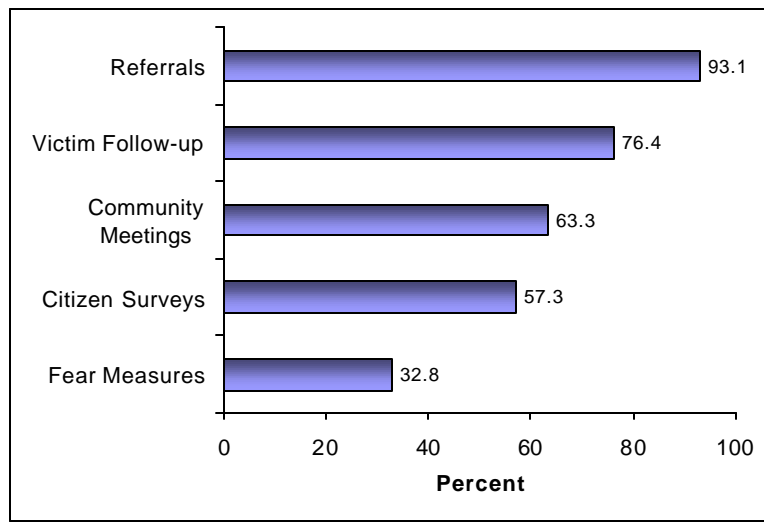
Exhibit 6: Resource Allocation Measures



Management Accountability Measures. Two measures that might be used in holding managers accountable for community policing activities are number and types of calls (e.g., in the geographic area for which a manager is responsible), and complaint calls. Almost two-thirds of departments (65.3 percent) said they captured and analyzed complaint calls and another 20 percent said they plan to do so. Similarly, 60 percent of departments said they use number and types of calls for management accountability purposes and 23 percent said they plan to do so.

Community Involvement and Satisfaction Measures. Five measures related to community involvement and citizen satisfaction were listed in the questionnaire (see Exhibit 7). The vast majority of agencies (93 percent) report making referrals to other agencies, and about three-fourths (76 percent) do some type of victim follow-up. More than half of departments capture information on community meetings (66 percent) and use surveys to measure citizen satisfaction (57 percent). Only one-third of departments currently use measures of fear (the survey did not capture the types of measures used).

Exhibit 7: Citizen Involvement and Satisfaction Measures



Other Survey Results

- Only 30 percent of departments said their CAD systems kept records of citizen calls received by the communications center where no official response was made by the police (for example, the call was transferred to another agency).
- A large majority of respondents (84 percent) reported using call types that are specific to community policing.
- 63 percent of departments said crime analysis was performed by a centralized unit; 30 percent reported having both centralized and decentralized units; and 7 percent reported using only a decentralized unit for crime analysis.

Summary of Findings

It is clear that existing CAD systems—although designed to support a traditional, professional model of policing—do in fact provide useful data for measuring new objectives under community policing. Overall, the CAD-supported community policing measures included in the survey appeared realistic not only to the three case study sites, but also to a broader range of departments. However, there were a number of areas where CAD data were underused.

- *Access to Data Captured by CAD.* In about half of the surveyed departments, CAD systems capture considerable data that is not easily retrieved. In other words, nearly half of departments rely on "canned" CAD reports.

- *Location Data for CFS Analysis.* In some departments, analysis of location data lacks precision. Although 88.3 percent of departments analyze CFS data by street address, 45 percent do not analyze by apartment or suite number.
- *Data on Type of Call.* Thirty-six percent of departments do not use data on "final call type" (based on officer assessment) in their analyses.
- *Referrals to Other Agencies.* Most agencies lack the capacity to analyze calls that are referred to other agencies, with only 30 percent of departments reporting that their CAD systems keep records of such calls.
- *Crime Analysis.* Crime analysis is still a centralized function for most police agencies (63 percent).
- *Problem Solving.* Only about half of departments have adopted problem solving techniques, have developed information systems to support problem solving, or have analyzed data on changes in CFS to help assess problem solving efforts. Less than half of departments analyze data on displacement or data indicating which officers work on problem solving.
- *Resource Allocation Measures.* It was surprising that only 24 percent of departments analyze out of beat or out of area dispatches, which can reduce officer time for pro-active work (as well as increase response times). Analysis of officer-initiated activities is more extensive, however, with 57.7 percent of departments assessing self-initiated activities and most others planning to do so.⁴

Implications for Policy and Practice

Compared to 15 years ago, CAD systems are much more than an efficient means of dispatching police cars to handle calls. However, as noted above, there are a number of areas where CAD data was either underused in measuring community policing, or if used, was not as reliable as it should have been.

Need for More Precise Data in CAD Systems

The final call type, which reflects an officer's assessment from the scene, may differ from the initial call classification based on information from the caller. Unless CAD data analysis includes the final call type, it will not accurately reflect the nature of crime-related calls and other problems that are phoned into the communications center. Addressing this issue is generally more of a policy issue than a technical one. Departments need to make it routine practice for officers to report the actual nature of a call for service once they have completed their "run." Depending on a department's CAD capabilities, officers may do this by phoning the information in to the dispatcher, or they may be able to enter final call type via mobile digital

computers in the field. A more significant issue is to increase supervisors' understanding of why final call type data is important. In many departments, it should be possible to identify officers/units that do not provide this information. In turn, supervisors can be held accountable for ensuring that this is done.

Similarly, new procedures would be needed to capture officer activity on calls and other requests for police service (e.g., walk-in requests) that CAD does not capture. To the extent that these tend to be requests of a non-emergency nature, the need to capture this information may not be obvious. However, the data can be significant for avoiding undercounts of calls/requests to police; and it can be valuable for problem solving (e.g., identifying quality of life problems and fear-related issues that can be addressed before they become more serious).

Finally, departments need to assess the value of data on calls referred to other agencies for identifying community problems. Most departments do not capture data on these calls, yet they represent an opportunity to identify problems and to understand how the department is handling the total demand for service. Departments might begin by analyzing a sample of referral calls and assessing the value of this information. Creating several new classifications for calls not receiving an "official" police response could increase the value of the data.

Need to Refine Call Classification Schemes

Another problem with CAD system data is that many police departments use code classifications systems designed under a professional policing model. Those schemes need to be significantly changed to reflect the data needed under community policing. Classification schemes based almost entirely on local ordinances and state laws fail to capture data on quality-of-life and other issues of interest to community policing. A significant overhaul of the classification schemes may be needed in this regard. Similarly, CAD data can assist in measuring fear of crime—if the classification scheme for calls has the correct categories—by providing data about suspicious persons, suspicious automobiles, gangs, and other problems related to citizens' fear.

Need for Greater Application of CAD Data for Problem Solving

Only half of departments surveyed currently use data on changes in calls for service to assess problem solving efforts, and fewer than half use CAD data to analyze

displacement—another potential measure of problem solving effectiveness. Greater use of CAD data to measure effectiveness can be encouraged—at least in part—by improving the accuracy and relevance of the data and by providing officers with decentralized access to user friendly applications that import selected CAD data. A second part of the solution is for management to place a greater emphasis on measuring problem solving effectiveness. This in turn relates to issues of training, leadership, accountability, and organizational culture.

Need for Data on Officer Time Devoted to Problem Solving

CAD systems already use codes to capture self-initiated activities of patrol officers and other personnel. The list of self-initiated activities can be expanded to include problem solving and other activities, such as community meetings and school visits. Implementing new codes for self-initiated activities is probably more a matter of will, policy, and management emphasis than technical capability. Departments that want to capture this information will need to be prepared to sell officers on the need, explain how the data will be used, and follow up to ensure compliance. A number of officers and supervisors interviewed during the case studies recommended assessing and rewarding problem solving work done by teams rather than scrutinizing time spent by individual officers.

Need for Improved Access to CAD Data

CAD data is generally difficult to retrieve, and only about half of the departments surveyed export CAD data to other programs for analysis. Exporting CAD data to a Geographic Information System (GIS) is an increasingly popular option for crime and problem analysis; the challenge is to enable officers to create their own useful maps without having to wait for a crime analyst to process their requests.

Vendors who develop CAD software are the key to improved access to CAD data. The underlying structure of the CAD system is necessarily complicated. CAD vendors' emphasis is on data structures and an underlying programming code that operates efficiently in a real-time environment. In the past, vendors have been far less concerned about uses of their data after the incident has been completed. However, there are several ways in which vendors can be enticed to make their systems more accessible to users.

In today's marketplace, the movement is toward "open architectures," which provide buyers with detailed information on the data structures of systems. Police departments should demand these open architectures as part of a procurement process for a new CAD system. Of course, if the CAD system is already in place, then this option cannot be exercised. In this circumstance, a police department still has options. One is to contract directly with the vendor to provide modules for more detailed data from the CAD system that would be useful in the department's efforts on community policing. This approach is admittedly expensive. An alternative is to garner support from the vendor's User Group, which is comprised of representatives from all police departments that have acquired their CAD software.

Assuming that improvements can be made to data access, police departments still have their work cut out for them in three areas: (1) training, (2) access to computer terminals, and (3) a greater emphasis by management on data analysis. Training should provide examples of real crime-related problems and resource allocation issues from the department. Recruits at the academy or in field training should also be familiarized with resources available in the department for accessing CAD data. Finally, many supervisors do not realize how CAD data can help them analyze problems and manage their team's resources. If they do not see these benefits themselves, providing free time and computer access for officers will not be a priority.

Finally, the survey for this project showed that in most departments, requests for CAD data from officers, supervisors, and managers typically go to a centralized crime analysis unit. Until officers have easier access to CAD data themselves, out of date or irrelevant reports—which, historically, have been frequent complaints from field operations—may remain a deterrent to the use of CAD and other crime analysis data. Potential solutions include (1) streamlining the request and approval processes for obtaining customized crime analysis reports, (2) assigning existing crime analysts specific geographic responsibility, whether they remain located at a central office or work at a substation, and (3) surveying officers and supervisors about the types of data they consider valuable and providing that data routinely, perhaps in lieu of other regular reports that are not well used.

Need for Linkages to Other Systems

Linkages to other information systems could enhance the utility of CAD systems even further. For example, most CAD systems assign a complaint number to crimes and traffic

accidents. Reports on serious incidents usually are entered into separate databases for analyzing the characteristics of these events. However, it is rare that linkages are established between these systems and the CAD data. The technical obstacles for making these linkages are not significant. The complaint number is usually the key between them. With most database applications, it is fairly simple to merge records together using the common complaint number as a key.

Need for Additional Analysis to Support Resource Allocation Decisions

Many departments are using calls for service (and other) data to determine new beat boundaries or patrol service areas to support geographic deployment under community policing. However, there are several areas where CAD data appear to be under-used with respect to resource allocation. For example, fewer than one-third of the departments currently analyze out of area dispatches or TRU activities, both of which can have an effect on officer time for problem solving and other pro-active work.

Most agencies are familiar with service standards for emergency response and other traditional policing services (for example, police will respond to true emergencies in less than 4 minutes). But far fewer departments (and communities) have come up with similar standards for new services under community policing. The result is that there may be high public expectations for community policing without a full exploration of the staffing implications. Not only must departments assess how officer time can be freed up through appropriate call handling alternatives, they must also involve the community in clarifying how officers should be spending that free time.

Finally, with respect to management accountability, interest in meetings such as those associated with Compstat has grown around the country. Community policing departments need to include data on calls for service to inform meetings like these since it provides a more complete picture of the issues that concern citizens enough to call the police.

Recommendations for Future Research

The survey conducted for this project included nine potential CAD-supported measures for problem solving. Fifty departments (12 percent of respondents) reported that they used all nine measures. Taking a closer look at these departments' use of CAD (and other) data for problem solving, and with what results, could reveal concrete examples of how departments can

benefit from taking a more analytical approach to problem solving and other essential components of community policing.

The study also found that if data are not easy for officers to obtain, the chances of their using it to support problem solving are slim. Evaluations of new systems that provide decentralized access to CAD (and other) data would be of particular value to practitioners.

This project also suggested that departments can benefit from analyzing calls for service that did not receive an official police response (e.g., were referred by call takers to other agencies or resolved by communications center personnel). The value of these data for identifying emerging problems or measuring fear, however, has not been fully explored. A closer examination of the value of these data, perhaps combined with data from 3-1-1 systems or other agencies' intake records, could move this concept from the realm of theory to that of practice or reveal whether significant obstacles exist that might prevent this approach.

Brief History and Overview of CAD Systems

The St. Louis, Missouri, Police Department is credited with the first CAD application in 1965. Powered by a computer occupying half a floor in headquarters, it enhanced the communication center's operation and improved patrol deployment. By the mid-1980s, virtually every medium and large-size police department recorded activities of its patrol officers through CAD applications. Also about this time, E9-1-1 or "enhanced 9-1-1" systems appeared that displayed the address of the telephone from which a call was made and permitted the call taker to hold a line open while the problem was investigated. By 1985, 89 of the 125 largest cities had E9-1-1.

Over the last 20 years, CAD systems have been expanded to handle call priorities, multiple unit dispatches, fire and medical emergencies, telecommunications to state and national inquiry systems, mobile digital terminals in patrol units, citywide emergency communication provisions, and many others. Many police departments have developed patrol allocation plans using queuing models with CAD calls for service as the input "demand" and patrol units as "servers." The queuing models calculate the number of units needed to satisfy predetermined efficiency objectives set by a police department. For example, the models can estimate how many patrol units would be needed to achieve an average travel time of 4 minutes to all citizen calls for service, or estimate the number of units needed to meet a predetermined objective for patrol time on preventive patrol, problem solving, directed patrol, or other activities.

Today's CAD systems are further enhanced with applications linking to a department's records management system. In addition, some cities have implemented the 3-digit number, 3-1-1, for citizens to call for needed services, including police responses to non-emergency situations. Operationally, the telephone company converts the 3-1-1 number to the non-emergency 7-digit number normally used at the police department. From a CAD viewpoint, the introduction of 3-1-1 has no effect on the system. Call takers enter the same information into the CAD system, and the system then takes appropriate actions for handling the non-emergency event, such as assigning a lower priority to the dispatch or routing the call to a telephone report unit.

Policing for Prevention in the District of Columbia

MPDC is in a unique position as the primary law enforcement agency for the nation's capital. MPDC routinely handles demonstrations and special events, protects various federal facilities and dignitaries, and coordinates with more than 20 separate law enforcement agencies that have limited jurisdiction within the District. In the District of Columbia, community policing, known as "Policing for Prevention," is a fairly recent development.

The PFP organizational strategy was developed under Chief Charles Ramsey in 1998 and aims to (1) intervene early and effectively in crime problems through more focused and proactive law enforcement; (2) help stabilize communities through neighborhood-based problem solving; and (3) promote long-term (systemic) prevention by addressing the underlying conditions that lead to crime. Focused law enforcement emphasizes addressing hot spots of crime and disorder, repeat offenders, and repeat victims. It also gives priority to the most serious crimes, to crimes that most concern a particular community, to groups at highest risk for violence and other victimization, and to communities in distress or transition.

Prior to Chief Ramsey's appointment, the department had already begun a move toward community policing by revamping the beat structure and subdividing its seven police districts into 83 Police Service Areas (PSAs). The PSA structure is used as the basis for deployment of resources, assignment of calls for service, accountability, community relations, crime analysis, and problem solving. Milestones over the past several years have included:

- Replacing the sergeants who managed the PSAs with lieutenants
- Implementing a top-to-bottom geographic-based organizational structure with three Regional Area Commands, each headed by an assistant chief
- Launching Partnerships for Problem Solving to train officers, volunteers, and other agency representatives in problem solving and related skills
- Introducing new management tools, including PSA Action Plan forms and Targeted Organizational Performance Sessions (TOPS)
- Adopting a Performance Management Program designed to evaluate performance of the ranks of lieutenant and above
- Creating the Policing for Prevention Group to be responsible for researching, planning for, and implementing community policing in the department.

In addition, the department has been replacing all major information systems, including the CAD system (which was cut over in December 1999), a 3-1-1 system (November 1999), and an investigative case management system (January 2001). The MPDC was also planning a new automated field reporting system, records management system and by December 2003, a new police personnel performance management system.

Endnotes

- ¹ The Community Policing Consortium defines community policing as follows: " At the center of community policing are three essential and complementary core components: community partnership, problem solving and change management.... Change management requires a clear recognition that forging community policing partnerships and implementing problem solving activities will necessitate changes in the organizational structure of policing." <http://www.communitypolicing.org/about2.html> (November 20, 2001).
- ² Gary W Cordner, "Community Policing: Elements and Effects." In *Critical Issues in Policing: Contemporary Readings* (Third edition), edited by Roger G. Dunham and Geoffrey P. Alpert. Prospect Heights, Illinois: Waveland Press, 1997.
- ³ During this period, ILJ had a separate grant from the COPS Office to study call management strategies for community policing, with a survey planned for that project as well. The researchers felt there was enough overlap to combine the surveys for the two projects. Thus the 24-item survey instrument included questions on call management strategies in addition to questions on CAD and community policing measures.
- ⁴ Unfortunately, we could not tell from this survey the extent to which departments use CAD codes for problem solving, community meetings, and similar activities associated with community policing. Two-thirds of departments (66 percent) currently capture information on community meetings, but not necessarily via the CAD system.