

Chapter 5

Police Department

Information Systems Technology Enhancement Project

ISTEP

Case Study: Reno, Nevada

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Reno Highlights

The Reno, Nevada Police Department is committed to community and problem-oriented policing. The department has implemented a department-wide philosophy using patrol teams. Management invests heavily in problem-solving training for all officers including a mandatory 12 hours of academy training for new recruits. They have also developed a performance assessment and promotional system based on problem-solving accomplishments.

Technologically, the department supports their problem-solving approach by using POP Track, a software program designed to help officers track problems from initial identification through completion. POP Track enables Reno officers to work through the SARA model by recording information relative to each of the SARA steps. Also, officers have recently helped redesign their roll call room into a “smart briefing room”. This innovation will make roll calls more conducive to discussion and information exchange by including a computer with mapping software and a state of the art projection system.

The Reno Police Department has admittedly struggled with computer-aided dispatch (CAD) and records technology performance during the last 15 years. However, the department has not succumbed to the information system difficulties and are well on their way to redesigning and planning new systems that will allow them to operate more effectively. Coupled with aggressive strategic planning, senior staff have made a commitment to take the department in a new direction. Information systems will no longer drive the department, but its problem-solving philosophy will drive information systems. They have backed up this commitment by initiating a planning process to develop new information systems including a records management system (RMS), CAD, crime analysis system, and jail management system (JMS).

As part of the technical portion of this strategic planning process, the department hired an outside consultant to serve as a liaison between the department and system vendors. This consultant has been successful in helping the department develop a request for proposals (RFP) for a new RMS and CAD. The department is now separating the RFP into two portions – design and implementation. The strategy will enable them to hold vendors accountable for on-time performance and quality of design. Also during this planning process, the department gathered significant input from end users, making specifications on necessary system outputs easily identifiable.

Through careful system development, officers and supervisors will be able to extract and analyze police data. In addition, integration with other local agencies will be the key to providing and gathering non-police data for more effective inter-organizational problem-solving. These plans demonstrate Reno’s emphasis on making information system decisions a part of their policing and management strategy.



1 Purpose and Scope of Report

This case study is one of several produced for the Information Systems Technology Enhancement Project (ISTEP), a project funded by the Office of Community Oriented Policing Services (COPS). The aim of ISTEP is to increase the use of information and information technology in police departments, particularly regarding the implementation of community policing. The case studies document the current state of information technology and the use of information in five police departments: Tempe, Arizona; San Diego, California; Hartford, Connecticut; Reno, Nevada; and Charlotte-Mecklenburg, North Carolina. These case studies are based on a limited review of the status of information technology in the departments. A separate cross-site report synthesizes the findings of the individual case studies. A report on the project's conceptual framework presents the overall ISTEP approach and discusses how community policing demands different types of information systems, analysis methods, and uses of information than those required under the professional-era model of policing.

The Reno, Nevada, ISTEP case study is based on two site visits to the Reno Police Department. The ISTEP team conducted the first site visit on September 14-15, 1998, and conducted the second visit on November 30-December 1, 1998. During the site visits, interviews were conducted with the chief, the deputy chief in charge of the Planning, Training, and Research Division and directly responsible for the information system acquisition project, and the deputy chief in charge of the Community Affairs Division. Also interviewed were the department's crime analyst, training director, information services coordinator, mobile computer terminal (MCT) coordinator, a sergeant in the Training Division, and the City's Information Services Director. Group interviews were conducted with shift sergeants and the bike team. In addition, two ride-alongs were conducted and a problem-solving team meeting was observed. The site visits also included a demonstration of the recently acquired POP Track software for tracking problem-solving efforts in the department. The focus of these interviews and observations was to obtain an understanding of the current state of information technology and information use in the department, the community policing/problem-solving efforts, and how these operations are informed by current and anticipated information systems. Department reports and materials on problem solving and information technology were obtained during these visits.

The organization of this case study document follows the overall conceptual framework for the ISTEP project. Accordingly, after providing background information on the police department in Section 2, particularly with respect to implementation of community policing, the case study describes current and planned information systems (Section 3), analysis methods (Section 4), and uses of information (Section 5). Section 6 summarizes our findings.

2 Police Department Background

2.1 Size, Overall Organization, Crime Levels, and Trends

Reno is a growing community with a population approaching 180,000. The community's gaming and tourist industry attracts 50,000-60,000 tourists daily, and Reno's



large hotel facilities report an average occupancy rate of more than 90 percent. These characteristics present many unique law enforcement challenges for the Reno Police Department.

The Reno Police Department (RPD) has approximately 500 employees including 330 sworn officers, 128 of whom are assigned to the patrol division. The police department is organized into three districts, North, South, and Central. The North and South Districts are relatively large and include a mix of residential, industrial, and commercial properties. The Central District is geographically compact and includes Reno's principal hotel/casino district. A Deputy Chief commands each of these districts. There is a sergeant responsible for each district for each shift. All personnel operate out of headquarters, located in the Central District, although there are decentralized meeting facilities in the North and South Districts.

A unique aspect of Reno's patrol configuration resulted from a special tax levy for the downtown area. This tax provides an additional \$840,000 to the department to provide increased police presence in this area dominated by casinos, hotels, and other businesses. This area is a 10- by 15-block area that is patrolled by 14 officers assigned to a bike team. The team works under the direction of a sergeant and operates out of the Central District. This unit was created with the goal of improving police visibility in the area. Although technically the unit is not responsible for answering calls, it does respond when it is feasible and officers are available. An active problem-solving approach dominates this team's patrol strategy.

In 1996 (the most recent year for which data are available from annual reports), there were 132,252 dispatched calls for service (362 per day on average). This represents a 25-percent increase since 1991. There were 10,881 Part I offenses reported in 1996, a 10-percent decrease since 1991; however, there was an increase in felony arrests of 23 percent during this same period (3,168 to 3,905). Larceny was the most frequently reported offense in 1996 (7,330), followed by burglary (1,676), vehicle larceny (725), robbery (507), assault (489), rape (114), arson (29), and homicide (13). Most of these offenses experienced moderate (7 to 9 percent) decreases since 1991, although rape decreased by 21 percent and robbery increased by 37 percent. Overall, these serious offenses declined by 7 percent over this period. Vehicle larceny in Reno, unlike many communities, was unchanged during this five-year period (Reno Police Department Annual Report, 1996-1997).

2.2 Community-Oriented Policing Background

The Reno Police Department has a strong commitment to community policing. Policing in Reno is based on a problem-solving strategy adapted from a similar approach taken by the San Diego Police Department. This strategy was first implemented in 1987, largely in response to deteriorating relationships with the community. At that time the department had experienced a significant reduction in resources and personnel, but they were also experiencing an increase in calls for service of 8 to 10 percent per year. Reno was also growing in square miles through annexation. A community survey administered in May 1987 indicated that only 49 percent of residents surveyed felt that the police department was doing a "good" job as an overall rating, and only 32 percent felt that the department had a "good" image.

In response to this situation, the department implemented its approach to community policing. From the beginning, significantly, Reno adopted a generalist approach emphasizing problem solving rather than the more popular and traditional specialized approach emphasizing community relations. There was never a specialized unit created to “do community policing”; rather, all officers were responsible for adopting this approach. Although choosing this approach has probably resulted in a slower implementation of these strategies, the department avoided the schism that many police agencies have experienced over what constituted “real police work.” This has been a significant advantage for this department in implementing problem solving throughout the ranks. Although the department has had a problem-solving orientation for more than 10 years, it has only recently strongly emphasized this strategy.

As noted above, the department has a geographic focus on three districts throughout its organization. A team of officers is assigned for each shift that is responsible for all patrol operations. A sergeant directs the team and is responsible for making assignments. It is up to each sergeant to create time for officers to engage in problem solving. Problems are typically identified through officers’ initiative and residents’ comments and complaints. A potential impediment to stability in geographic assignment of officers is the bid structure that allows officers and sergeants to change shifts and districts every six months. It was reported that, as in many other departments, there is considerable movement of personnel due to this bid structure.

The sergeant is responsible for attending community meetings; patrol officers also attend these meetings but, due to shift schedules, there is some variation in who goes to the meetings. (This arrangement, again, reflects the commitment that all officers are to engage in these types of activities.) While all officers are involved in problem solving, it was noted that there is difficulty in communicating problem-solving activities across shifts.

Since the late 1980s, the city has had local neighborhood organizations known as neighborhood advisory groups (NAGs). These organizations met periodically with representatives of various city agencies including the police department. Recently, however, the city manager decided to disband this structure in favor of district-wide meetings. Although there is substantial opportunity for resident input to problem-solving activities, it appears that the police department initiates most such activity and solicits citizen participation. Problem-solving activities tend to involve community assistance and participation rather than initiation.

2.3 Community-Oriented Policing Training and Assessment

The Reno Police Department maintains a vigorous approach to training. Initial training in problem solving was conducted for all officers and supervisors by the Police Executive Research Forum (PERF) in 1987. Since then all officers have received additional basic and advanced problem-solving training. As noted previously, the department’s approach to problem solving was modeled after that developed by San Diego. Representatives from Reno went to San Diego and received training and observed problem solving in action. These individuals then became the trainers for Reno.



Mission and value statements were created for the department that reflected the orientation of “Your Police, Our Community.”

Several recent initiatives reflect the importance of problem solving in this department. In addition to routine, ongoing problem-solving training, enhanced training (12 hours) on problem solving is provided in the academy. More importantly, the department is in the midst of a major restructuring of the academy. The academy is operated by High Sierra Community College. A basic principle of this revision is that problem solving should be integrated into all aspects of training and not be simply a stand-alone module. Thus, problem-solving approaches and techniques will be integrated into more traditional academy topics.

In addition, the Field Training Officer (FTO) program has been lengthened from 16 to 26 weeks, and selected FTOs are officers who best reflect problem solving in their work. It was noted by one administrator that this selection criterion is a principal policy that can be used to address the organizational culture change that is necessary to fully implement this approach. In addition, the behavioral anchors for satisfactory performance have been revised to reflect a problem-solving orientation. The department also received a \$300,000 COPS grant to design the next generation FTO program, which may potentially have broader, national-level implications.

Another important principle of training for the Reno Police Department is that the most effective training involves peer instruction. There are no “trainers” assigned to the training division; instead, most individuals conducting training come from the patrol ranks. There are common lesson plans to ensure consistent content of training, but it is delivered by a variety of officers and supervisors. The second major initiative is consistent with this philosophy. The department is currently implementing a problem-solving mentor training program. A contingent of officers recently went to San Diego and received problem-solving training on the mentoring concept. The principle behind this approach is that there will be a resource person available to assist other officers in problem-solving activities. Reno will be conducting two mentor training sessions over the next two months. Two individuals from each team will receive this training. Therefore, there should be an individual available for each team across all shifts who has participated in this training. This training will emphasize a hands-on approach and will consist of participants initiating a problem-solving project within the context of the class. Team sergeants are responsible for nominating those officers to receive this instruction. There has been a very high demand for these training slots. A similar approach was used in training 26 individuals on crime prevention through environmental design (CPTED) so that there would be a CPTED expert available for each team.

Part of the reason for the demand for this training may be that the department has revised its performance assessment and promotion procedures to reflect a problem-solving orientation. It was reported by the administration as well as patrol officers that it was understood that no one would advance in the department or receive “perks” (off-site travel for training or conference attendance) who does not actively engage in problem solving. As an example of this and the department’s commitment to problem

solving, Reno sent 15 people to this year's POP conference who were high achievers in this regard.

The promotion system includes a revised assessment center that includes considerable material on problem solving. In addition, officers have to conduct a mock community meeting as part of this process. Officers interviewed reflected a great deal of enthusiasm about their participation in these activities and generally felt that these strategies were making a difference in public safety, the relationship with the community, and their own job satisfaction.

The exceptional commitment of the department to problem solving is also reflected in its vesting considerable responsibility in officers for the ownership of their projects. Patrol officers routinely give public presentations, even to the city council and the special tax district board, on the description and outcomes of problem-solving projects.

In summary, the Reno Police Department has a strong commitment to a community-oriented strategy through a problem-solving approach. While many agencies express a similar commitment to such an approach, Reno has made a number of operational and organizational changes to support these efforts. Although considerable progress has been made in the transition of this agency to a community-oriented approach, a number of concerns remain problematic, including the identification of problems, coordination of problem-solving activities across shifts, and the depth of problem solving in the organization. As discussed below, however, perhaps the greatest impediment to problem-solving efforts in the police department is the lack of information that is needed for these activities. It is clear that the provision of information for problem solving has not kept pace with the structural and operational changes that have been made by the department. However, exciting plans are being implemented that promise to address this critical deficiency.

3 Information Systems

3.1 Information Technology Staffing and Responsibility

Historically in Reno, the police department and other city agencies were responsible for the acquisition and maintenance of their own information systems and information technology. Although this structure had advantages for agency autonomy, it led to an extremely diverse information structure and, from the viewpoint of the city, one that was unworkable. Two years ago the city decided to adopt a more centralized structure and establish a city Information Services Division that would control information systems in all city agencies. A similar approach has been implemented in Tempe, Arizona.

In 1997, the city contracted with Deloitte and Touche for a review of their information systems and to produce a Systems Information Strategic Plan. This report indicated that the distributed information systems were not working as they should and that greater coordination was needed. From this review it was apparent that multiple directions were being taken across, as well as within, the various city agencies. For example, 19 different word processing programs were being used in these agencies.



New minimum standards were set for equipment. Personal computers are required to have a Pentium processor and 2-3 gigabyte (GB) hard drive. All software must run on an Oracle platform and be compatible with a Windows 95 environment.

The strategic plan called for a more consolidated effort and for adopting a philosophy in which data are treated as a strategic resource. Through this plan, information systems were to be integrated across departments and a structure was to be created to manage the implementation of technology.

Prior to the centralization of information services, each agency had its own “in-house expert” who typically had been with the agency for some time and had an aptitude for computers. Few had a background in applications programming or systems engineering. The implementation of this new plan called for these individuals to remain in their respective agencies but report to the city Information Services Division.

3.2 State of Information Systems

The Reno Police Department is attempting to make the transition from an organization driven by technology to an organization that is driving technology. The department is in the final stages of a five-year information technology plan to replace their computer-aided dispatch (CAD) system and to implement an information system (IS) that integrates their CAD, records management system (RMS), crime analysis (CA), and jail management systems (JMS). The goal is to have a system that enables the seamless transfer of data at the incident level. They plan to enter the implementation phase in January 1999. Since the planning process was implemented, the courts have acquired their own system, so the possibility of complete integration throughout the criminal justice system is problematic. The Technical Support Division commander is heading up the department’s IS planning and implementation effort, and the approach will produce a very functional system since its design is being driven largely by end users. A department-wide computer committee plays a significant role in shaping the creation of the information systems.

The police department acquired its current records management system, known as PLIMS (Police Law Enforcement Information Management System), in 1986. It was acknowledged by all staff interviewed that some egregious errors were made in the acquisition of this system. Some felt that this system was obtained to meet records management and not operational needs. All agreed that this system just doesn’t work. The consensus was that this system never lived up to the expectations created by the vendor, and a number of components never worked at all. A common complaint, as with the users of many systems of the same vintage, was that a lot of information is entered into the system, but police cannot get anything out of it. One individual described the entry of data from field interviews (FIs) into the system as “throwing them into a black hole.” Others felt that there was a problem in entering data into the system. There is a lag of about four weeks in entering data into the system.

The system was designed and implemented in a piecemeal fashion. This approach was largely driven by available funding, but also by the lack of knowledge in the department about what they wanted and needed. It was common to have \$100,000 contracts



with the vendor for “fixes” to the system. Across all interviewed, there was common criticism of the vendor of this system, and it was generally agreed that the department was victimized by the vendor. Senior staff also acknowledged that they were victimized by their own naivete in this field. This experience has produced a common resolve to do things right in the acquisition of their new system and not repeat the mistakes of the past.

The situation relative to the existing computer system has evolved into a crisis. The current system is out of space and memory. Further, the vendor has not upgraded the operating system in some time, as it is presently functioning on an operating system that is six versions behind the most current one. In addition, the current system is not year 2000 (Y2K) compliant. A transitional system has been ordered and will be installed in the near future to bridge computer operations to the installation of the new computer system.

From the perspective of the city Information Systems Manager, this situation developed largely because the computer systems were built in a piecemeal manner without a coordinated consideration of what is really needed. Problems or needs would be ignored until they reached a critical point. He attributed this to the use of nontechnical people to put together a technical solution.

Recognizing the condition of its data system, the Reno Police Department has included significant sections on information technology in its one- and five-year strategic plans. In 1994-95 the department started to develop a Request for Proposals (RFP) along with a five-year information technology plan to replace the existing system.

Other technology developments in the department include the replacement of Motorola mobile data terminals (MDTs) with 65 “ruggedized” Panasonic laptops equipped with CD ROMS, and the possible acquisition of a proprietary automated report-writing tool estimated to cost \$150,000. Department personnel indicated that the MDTs had been inoperative for nearly a year due to an equipment problem in dispatch. Historically, the MDTs provided limited information to officers in cruisers such as wants and warrants, National Crime Information Center (NCIC), and auto theft information. At the present time, officers have little information on a call for service beyond what the radio dispatcher gives them. Therefore, communications with dispatch tends to be very conversational in nature, with limited use of MDTs to provide call information. The new Panasonic mobile computer terminals (MCTs) will provide in-car access to the report-writing tool, to information contained on the department’s LAN – such as standard operating procedures, city ordinances, and Internet-based information – and to NCIC and State of Nevada motor vehicle databases.

3.3 Information Systems Related to Professional-Era Policing

In Reno, individual information systems and software packages have been implemented using off-the-shelf products to support professional-era policing. As noted,



the CAD and RMS technology that Reno acquired in 1986 has never fulfilled its promised performance. Individualized efforts require entry of incident report data, and the RMS is limited to very specific uses.

Overall, the flow of information, at least that generated by crime analysis and manipulation of the RMS, is multidirectional. Information flows down to line officers and supervisors and outward to the community. Although no specific mention was made of providing command staff with information, it is likely that information flows upward on both a regular (i.e., annual survey, annual department report) and an ad hoc basis (i.e., special requests).

3.4 Information Systems Related to Community-Oriented Policing

Geographic Information Systems (GIS)

Senior commanders and line officers understand the benefits of computerized mapping and geographic information systems. The department's GIS technology, however, is quite limited. Crime analysis produces some maps using MapInfo. The computer used to produce the maps is dated and has limited capacity and speed, which makes the production of maps a slow process. Furthermore, the data used in crime analysis is taken from hard copies of records data and then manually reentered into a database maintained by the crime analysis unit. At the present time it is not possible to transfer data directly from the CAD/RMS system to the crime analysis database. This time consuming and inefficient process limits the potential applications and utilization of GIS for problem solving.

Problem-Solving Information Systems

The department has recently implemented the POP Track software system for monitoring problem-solving projects and the progress made in these initiatives. Officers in conjunction with sergeants determine how a problem is defined and thus entered into the system. Officers and supervisors are then responsible for entering events and activities into the system so that information on specific responses and outcomes will be available.

The software is designed to take officers through the four-step SARA model (scanning, analysis, response, and assessment) in managing specific POP projects. The software takes problem solvers through an individual project form that identifies problem location, problem type, and officers or supervisors assigned to the project. This form also allows officers to enter narrative comments about the project. The SARA form takes officers through each phase of the process and allows them to enter information using check boxes and narrative comments for a particular problem. Projects can be updated or closed by supervisors and are of particular value in tracking POP over time.

External Information Systems

A particularly important low-tech mechanism for obtaining information on community perceptions of police performance is a community survey that is done by the department in conjunction with the Department of Criminal Justice at the University

of Nevada (Reno). This survey was initiated in 1987. At that time, the department was experiencing a deteriorating relationship with the community; and as it implemented steps to address this problem, the department desired an ongoing method to assess this relationship. The survey also seeks to ascertain the community's perceptions about specific problems and concerns that may be of importance for police operations. For several years this survey was conducted every six months, and it is now administered annually. The survey is conducted by telephone and explores traditional topics, such as assessment of police performance, perceptions of safety, and identification of problems and concerns. In addition, specific questions on substantive problems are periodically included. For example, the most recent survey had several items measuring the exposure to domestic violence. A sample size of 400-500 is included in each wave of the survey and respondents are randomly selected proportional to telephone prefix. Trained volunteers conduct the survey, and the department's crime analyst conducts the analysis with assistance from faculty at the University of Nevada. These measures serve to keep the cost of each wave of the survey at about \$2,000.

3.5 Relationships and Experience with Vendors

Reno has considerable experience working with information technology vendors. In fact, their negative experience in the acquisition and operation of their current PLIMS system has given them resolve not to repeat the mistakes of the past. They felt that the system they acquired in 1986 never lived up to the promises of the vendor. There was considerable misunderstanding and miscommunication in this process, and there was a general feeling of being at the mercy of the vendor throughout the life of this system.

Based on this experience, the department knew, as it approached the replacement of the CAD and RMS systems, that it needed to be more proactive in this process. The department needed to determine its own needs and assure that the new contract would meet these needs. Given the lack of technical knowledge in the department (at the time the city Information Services Division did not exist), it was determined that in order to avoid the debacle that occurred previously, a consultant would be hired to manage the vendor, facilitate the design process, and act as a translator between the department and the vendor. The initial consulting team hired to perform these tasks was not as skilled as the department desired. While having this assistance was important, the lack of experience of this group hampered progress and, in the view of some, significantly increased the time to implementation.

About two years ago, a new consultant, Emmack Cronan Group Inc., was contracted to perform these tasks. At this point, substantial progress began to be made. This consultant had considerable experience in the criminal justice field and had worked previously with the contracted systems vendor (Tiburon). There was a strong consensus that this was one of the most important developments in the acquisition of a system that met the needs of the department. The consultant was able to help the department determine its needs and then determine if what the vendor proposed would really meet those needs.

Compared to its previous experiences, the department's experience with Tiburon has been much more positive. This does not mean it has been without problems and



issues, however. One important resolve of the department, again based upon previous experiences, was to break the tasks down into two contracts, one to support system design, and the other for system implementation. It was noted that vendors are quite resistant to this structure, preferring all tasks to be under one contract. This approach was viewed as important both as a cost containment measure and to provide incentives for the vendor to conclude the design phase as soon as possible.

3.6 Future Acquisition and Development Plans

These are exciting times for the Reno Police Department. Over the next several years a new CAD and RMS system will be implemented and integrated with vehicle laptops to form a state-of-the-art system that will support the department's problem-solving approach to policing. This will mark the culmination of a lengthy planning, design, and implementation process. The acquisition of this technology has been guided by a committee chaired by the Planning, Training, and Research Division commander. The committee developed the RFP that laid out the detailed specifications of what the new system was to do, the data elements to be included, and report capabilities. In September 1995 the draft RFP was completed. Only two vendors responded to the RFP, Intergraph and Tiburon, as most indicated that this was too big a task for them to undertake. The Emmack Cronan Group was contracted in 1996 and significant progress was made after that point.

It is important and instructive to note the process used to develop the system capabilities that were specified in the RFP. For the most part, the system was designed by the end users. Work groups were established in the department for various modules of the system according to various police operations. These groups were tasked with creating the ideal system through identifying specific information needs for problem solving, investigations, crime reporting, and other aspects of police operations within each major operational segment of the department. Several individuals noted that it was ironic that they probably benefited from the fact that their existing system was inadequate. This allowed them to start over and design a system that they really wanted rather than modify one that would likely not fill their needs even after these alterations were made.

Committee meetings with the consultant were held once a month for a 2-3 day period, and there would typically be another meeting of the work group or committee during the month. The process to develop the proposed system took much longer than anyone anticipated – at least two years – since all those involved already had full-time responsibilities that did not go away because they were involved in this system redesign effort.

The allocation for this task was \$4.5 million and \$400,000 was budgeted for the phase-one system design. As noted above, the work group designed an ideal system. It is unlikely that such a system can be obtained with the existing funds. Recently the vendor submitted a cost estimate for these changes from their standard system. The city of Reno will negotiate the actual cost of these changes with the assistance of the consultant. In addition, the department will set priorities on the various aspects of the

system and determine the components and capabilities of the initial implementation. It is anticipated that these modifications will happen soon. As noted previously, this system includes CAD, RMS, and jail management components. By agreement with the county, the jail management system will be the first system implemented. This agreed order will cause some delays in implementing the law enforcement component. The city Information Services Division manager indicated that he anticipated that the police component would not be operational until the middle of next year; however, others felt that it might be implemented sooner.

The new system will have specific components for crime analysis and mapping. Given that the design of the system was based upon how it could support problem solving, it is anticipated that many crime analysis and mapping functions can be routinized to the point where patrol officers with sufficient training can conduct analysis to support their problem-solving projects. In addition, the system will be National Incident Based Reporting System (NIBRS) compliant.

It is further anticipated that much of this analysis may be conducted from the new laptops that are currently being installed in patrol vehicles. The “ruggedized” laptops (Panasonic) have been acquired and are currently being installed. The department is exploring the acquisition of a mounting device with an articulated arm to facilitate positioning the computer for use in the vehicle. The department is also in the process of acquiring a report-writing tool that has been funded through a COPS MORE grant. It is anticipated that this will be operational in the next 12 months.

4 Analysis Methods Used

4.1 Professional-Era Analysis Methods

Crime Analysis

The department has one crime analyst who provides periodic, routine analytical reports and responds to special requests regarding specific topics. The crime analyst produces a weekly crime report that is transmitted to lieutenants. This report includes citywide crime totals by type, specific reporting-area crime totals, and incident-report records information on each of these crimes. In addition, a semiannual report on crime trends in each of the department’s 26 reporting areas is produced and disseminated throughout the department and the community.

Information for the department’s annual report is also prepared by Crime Analysis. The crime analyst completes special request analyses for officers, detectives, command staff, community members and organizations, and for other city agencies. It was estimated that about one-third to one-half of all officers request crime analysis information to assist problem-solving efforts. The crime analysis unit also tracks property in pawnshops and compares pawn serial numbers with National Crime Information Center (NCIC) data in an attempt to identify stolen property. In addition, the unit plays a role in maintaining gang intelligence and a gang-tracking database that is on the department’s LAN.



The difficulty in retrieving data from the existing data system makes the crime analysis process quite difficult and cumbersome. There is also a considerable lag in data entry. Reports produced tend to be for routine historic periods; thus information is less available for operational purposes. In many instances, data are obtained from the RMS or CAD system and reentered into a specialized database using an off-the-shelf program, FoxPro. Some limited mapping of calls for service and crime data is done using MapInfo in this manner. However, the department has recently converted the mapping program from MapInfo to ArcInfo and, increasingly, can use other data sets (police and non-police) for analysis.

4.2 Community-Oriented Policing Analysis Methods

The limitations of the existing data system present considerable difficulties and obstacles in conducting analysis for problem solving. In fact, several individuals commented that this was one of the principal (if not the major) hindrances in their problem-solving efforts. Officers are eager to conduct the analysis required by the SARA process but are often unable to do so because of the limitations of the data system. Similarly, there is no repeat-call analysis capability, which many departments have used effectively in their problem-solving strategy. One of the principal analysis methods for community policing is the annual community survey that was previously discussed. In addition, officers routinely conduct surveys of smaller populations for input and analysis related to problem-solving efforts.

On a positive note, the new computer system was designed with analysis in mind. Data elements to be used directly for problem solving were included in the system redesign. It is anticipated that officers will be able to query the system to address questions for problem analysis and will be able to produce maps of the locations of reported crimes and calls for service.

5 Use of Information

The ISTEP conceptual framework identifies seven information domains that are critical to the successful implementation of community policing. The seven domains are community interface, inter-organizational linkages, work-group facilitation, environmental scanning, problem orientation, area accountability, and strategic management. In each of these domains, information technology can, if properly applied, greatly enhance the effectiveness of community policing.

Each of the five police departments that ISTEP staff have visited excels in one or more of the seven domains. The following discussion details Reno's participation in the seven information domains.

5.1 Community Interface

At present, Reno has not utilized technology extensively to enhance the community interface aspect of community-oriented policing. Perhaps the most significant current effort is a pager-based broadcast system that the department uses to immediately noti-



fy the media and other interested parties (e.g., casino security) of news items and related events. While text pagers were previously supplied by the department to access this system, it now requires users to pay a fee for participation.

The department provides each employee with an e-mail address. At this point, however, it appears that e-mail is used extensively for internal communication but is not used significantly externally for communication with the public. The use of e-mail externally is likely hampered by the fact that the department does not consistently provide business cards to patrol officers. Since there is no permanent assignment of officers to geographic areas, there may be less demand for such access than would otherwise be the case.

The department currently has a basic Web page. There are plans, however, to make it more informative and interactive so that it can enhance community interface. The city of Reno also has plans to implement information kiosks that would include access to police information. Recently, the department began a weekly public television program. The program covers a variety of topics using guest speakers and also allows residents to phone in during the show with questions and comments.

Although the department employs limited information technology to enhance community interface, it does have several significant ways in which community input and feedback about police operations are obtained. Principal among these mechanisms is the regular community survey discussed previously. This annual survey provides important information about the community's perception of the police department and assessment of its performance. In addition, it provides citizens' perceptions of the most pressing problem in the city and in their neighborhood. The department also regularly participates in neighborhood meetings, generates bilingual public service announcements, operates a community feedback telephone line, and has cell phones for commanders.

5.2 Inter-Organizational Linkages

The Reno Police Department is in an advantageous position to establish on-line linkages with other local law enforcement agencies and the jail, prosecutor, and the courts. Such linkages are facilitated by the fact that the police department serves as the call-taking and dispatching agency for other agencies in the county. However, the antiquated nature of the CAD system and the limited amount of data that can be gleaned from it without extensive difficulty presently limit the potential of this linkage. When the new CAD and RMS systems come on line, this hurdle should be overcome. In addition, through the implementation of this new system, the police and the sheriff's department will be using the same forms and information system. Further, the jail management system will be part of the same RMS and the police department will have access to jail information. The courts have expressed some reluctance to participate, but are expected to eventually come on board.

On-line linkages with other city agencies have historically been limited due to the decentralized approach to information systems that has been taken in Reno. Until recently, each city agency had considerable autonomy with regard to its information



system. With the establishment of the city's Information Services Department with authority over information technology development in city agencies, it is likely that there will be considerable inter-organizational linkages and information sharing in the future.

Two low-tech examples of information sharing through inter-organizational linkages are prevalent in Reno. One is the creation of the Problem Analysis Advisory Committee (PAAC), which is composed of representatives of various city agencies, to assist officers in their problem-solving efforts. The second consists of increasing police involvement in city planning activities at an earlier stage in the process. This makes it possible for the RPD to have more input into residential and commercial development plans for the city. This is an important issue in a city like Reno that continues to experience rapid growth. An understanding of CPTED concepts and how crime prevention is improved by smart development and planning has significantly improved this interaction.

5.3 Work-Group Facilitation

Work-group facilitation has not been prevalent in Reno to date, largely because cross-shift or multi-unit work groups have not been a major feature of Reno's approach to community policing. However, the department has sought methods for improving coordination among same-shift patrol teams, information sharing among shifts, and avoidance of redundant or overlapping problem-solving efforts. One effort in this regard is the implementation of the POP Track system to improve oversight and documentation of problem-solving projects. It is anticipated that through this system successful problem-solving approaches can be documented and communicated to other officers who are addressing similar problems.

A major effort that facilitates work-group communication is the recently completed "smart briefing room." The traditional briefing (roll call) room was totally reengineered to make it more conducive to discussion and information exchange. Seating has been configured to encourage a more participative atmosphere. A problem-solving board for each district has been created to facilitate communication within and across shifts about current problem-solving efforts. Maps and other problem-solving information will be displayed. In addition, the room is equipped with a state-of-the-art projection system for presentations and training. The redesign of this room, including the selection and acquisition of equipment and furnishings, was conducted entirely by patrol officers.

The police department has also revised its executive-level staff meetings so that they focus more upon substantive problems in the community and efforts being implemented to deal with them, instead of focusing solely on internal administrative problems. This expanded focus helps to coordinate efforts being undertaken by officers and units in different parts of the agency. Officers are often invited to conduct presentations about their projects. In addition, this orientation provides a forum for officers to showcase their problem-solving efforts and demonstrates to them the importance placed on these activities by the command staff. The department has not gone

so far as to implement a COMPSTAT approach like that used in New York City, but it seems to be attempting to gain the advantages of this type of approach.

5.4 Environmental Scanning

Environmental scanning is a growing activity that resonates in the Reno Police Department since Reno is a rapidly growing community. The department gets information from city demographers and participates in the city planning process with respect to specific residential and commercial development proposals. The police department also participates in the city's strategic planning process, which requires the preparation of annual one- and five-year plans.

On a more short-term and tactical basis, the department engages in several types of activities that have some connection to environmental scanning. These include close coordination with Reno's many special events, close liaison with gaming establishments, regular interaction with State and Federal gaming regulators, and participation in a multi-agency task force focused on technology-related crime.

5.5 Problem Orientation

The department has implemented POP Track, as discussed previously, to help support and coordinate problem-solving efforts. More importantly, the principal focus of the department's whole effort to restructure its CAD/RMS system will provide the kind of information that officers need in order to identify and analyze problems. It is clear that the department's current information and analysis systems have weaknesses that hamper officers' problem-solving efforts. As already noted, CAD data currently are quite meager and difficult to obtain; thus CAD analysis is limited, as is analysis of RMS data and mapping. Scanning is mostly based on personal observations, analysis in support of problem solving is typically unsystematic, and assessment is often lacking due to the unavailability of data. Given this situation, it is perhaps remarkable (and a testament to training and other efforts) that some very interesting and innovative problem solving takes place in the department.

It is anticipated that individual officers will significantly increase their use of data and analysis once the new CAD/RMS system is implemented. There was every indication on site that this was not just wishful thinking. It was clear that many officers are "chomping at the bit" to have data and analysis to support their problem-solving efforts. However, as in most agencies shifting to a problem-solving approach, there remain a number of officers and supervisors who are not totally on board. In addition, the department has not made a substantial investment in crime analysis/problem solving (it only has one crime analyst); thus officers cannot expect a great deal of staff support. The new system is expected to have a substantial crime analysis component, and officers themselves will be able to query the system for routine analysis issues. However, it remains to be seen if officers can and will, to any significant extent, adopt this additional responsibility in problem solving.



5.6 Area Accountability

The department is divided into three geographic districts with a deputy chief responsible for each area. In addition, there is a plan to follow this format with a similar assignment for lieutenants, shifting them from watch commanders to area commanders. This is a new development and there is little experience in the department with area accountability. As is no surprise, the current CAD system is of little help in meeting the information needs of area commanders. The department does not employ area-based work teams (e.g., beat teams) across shifts yet, nor are detectives assigned by areas. By and large the department is organized more on a temporal basis than on a geographic basis.

5.7 Strategic Management

The department maintains a strong strategic planning orientation with an ongoing planning process that produces one- and five-year plans, updated annually. With the appointment of a new chief about a year ago, the police department began reexamining some of its basic management systems and sought to realign them more closely with community policing. A particular interest of the chief is the need for training, especially field training, to correspond with the organization's community-policing strategy. The department has taken steps to implement an aggressive training agenda. Also, there is an effort to focus staff meetings more on substantive problems in the community rather than on more traditional internal administrative matters.

Two additional information-related efforts that support strategic management are the annual community surveys that ascertain the public's priorities and perceptions, and periodic focus groups of officers to obtain information about their perceptions and suggestions for changes in the department.

5.8 Future Plans Related to the Use of Information

The Reno Police Department has a very strong orientation to problem solving both in its philosophy, operational strategy, and personnel practices. To date, however, it has not had an adequate information system to support this approach. The anticipated new computer system was designed with problem-solving needs in mind and has the potential to significantly enhance problem-solving efforts. It will be interesting and important to monitor the degree to which this occurs after implementation. Based on the commitment and strategic planning evident at the command down to officer level, the new system will be utilized heavily for problem solving.

6 Summary

6.1 Overall Assessment of Information Technology

The information technology status of the Reno Police Department is typical of many law enforcement agencies. When acquiring the current information system 12 years ago, the department lacked sufficient knowledge and experience to specify their needs in such a manner as to obtain a system that would work for them. Thus the vendor

controlled this process. As a result, the system that was obtained focused more on record keeping than providing useful information for strategic and operational purposes. This system was inadequate for meeting the information needs of traditional policing, not to mention the additional analysis needs for problem solving. The department has made a considerable transition toward fully implementing problem solving, but it lacks the information infrastructure to adequately support these efforts.

This negative experience has informed the design and acquisition of a new CAD and RMS system. This new system was designed by the end users through a comprehensive process based upon work groups that were facilitated by a competent consultant. Although this process was likely not as detailed or comprehensive as that followed by the Charlotte/Mecklenburg department, it followed a similar pattern and had a similar commitment to producing information that is useful for both strategic and operational uses in a problem-solving context.

The Reno Police Department has implemented problem solving throughout the department to a great extent and certainly is in a national leadership position regarding this approach to policing. The new information technology system has considerable potential to significantly enhance these efforts and assist the organization in completing this transition.

6.2 Reno Police Department's Best Practices

Three areas can be identified as best practices from the Reno experience from which other departments can benefit. The first is the use of a qualified consultant to facilitate their design and acquisition of the new information system. Reno learned a painful but valuable lesson from the acquisition of its last system, in which it was victimized by its own lack of knowledge and by vendors not really interested in meeting the department's needs. In the current process a consultant with considerable experience in law enforcement data systems and a working knowledge of a wide range of vendors was contracted to facilitate and manage this process. By all accounts, these services were invaluable and a major key in acquiring a system that will meet their needs.

Second, the planning and design process for the new system was guided by end users. This will ensure that the potential for meeting the information needs for problem solving, investigations, and other operational functions will be maximized. Although Reno did not have much exposure to work-group facilitation, the use of end-user groups to facilitate this planning process was paramount.

Third, the department's routine use of citizen surveys for feedback about their performance and the identification of problems is unique. While many departments have used surveys from time to time, Reno has routinized this process to provide annual data. Although it would be helpful to increase the sample size to allow generalizations about specific neighborhoods, this survey has proved to be an important source of information.



