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Implementation of a Field Reporting System

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Implementation of a Field Reporting System

**Introduction**

The objective of this proposal is to assess the deficiencies of traditional report writing procedures conducted by \_\_\_\_\_\_\_\_ police officers and to compare those practices to the benefits of implementing a fully automated field reporting system.

Traditional report writing is very time consuming and inefficient. Information is currently hand written into field notes, then typed into a report, printed, and later re-entered into the system by a records technician. This practice, along with the additional time it takes for officers to travel back and forth to the office for each report, results in wasted time and increased errors. A field reporting system would allow officers to enter data into the system right from the scene. New data could be regenerated from existing data already in the system and officers could have victims validate the accuracy of the information right on the spot.

The City of \_\_\_\_\_\_\_\_ is a \_\_\_\_\_\_\_\_ suburb of Minneapolis, Minnesota. The \_\_\_\_\_\_\_\_employs \_\_\_\_\_\_\_\_officers and \_\_\_\_\_\_\_\_civilian members, all who work together to protect and serve the \_\_\_\_\_\_\_\_ residents of the community. The \_\_\_\_\_\_\_\_is known as the “Silicon Valley of the Midwest” (Jerde, 2005). Additionally, *Money Magazine* reports that \_\_\_\_\_\_\_\_ is the “Best Place to Live in America” (Braverman et al., 2010). The members of the community are affluent, diverse, and forward thinking. As a result, they expect their local police department to be on the cutting edge of technology.

Processing police reports the old fashioned way is no longer considered an acceptable solution. It is time to change the practice of redundant data entry and hand written reports. It is time to progress forward to an environment of real time reporting with a fully automated solution.

**Problem Statement**

**Background**

From the viewpoint of other Minnesota police agencies, the \_\_\_\_\_\_\_\_Police Department has always been very progressive in implementing community programs and in their technology. However, the \_\_\_\_\_\_\_\_ Police Department currently lacks a fully automated electronic field reporting system.

In a decade of restricted budgets within governmental agencies, the concept of doing more with less has become an expected of budget administrators. As a result, police department managers look for new ways to improve service to the communities they serve while finding ways of spending less. One of the greatest costs to any police department is the salaries of the officers who work there. One way of being fiscally responsible is to be more efficient with those officers’ time. In an effort to understand how officers can be more efficient, it is necessary to analyze their duties.

One of the core functions of a police officer is to investigate and document crimes. Minnesota State Statute 299C.12 (2011) states the following:

Every peace officer shall keep or cause to be kept a written record of crimes reported to or discovered by the officer within the officer’s jurisdiction…including a statement of the facts and a description of the offender, so far as known, the offender's method of operation, the action taken by the officer, and all such other information that may be required.

In the \_\_\_\_\_\_\_\_ Police Department, officers currently achieve compliance with this statute through a very traditional and antiquated method. Imagine this scenario: A complainant or victim calls the police department to report a crime. The dispatcher receiving the call obtains the person’s name, contact information, location of the incident, and the description of the event. The dispatcher then enters the data into a computer aided dispatch system, assigns the incident a tracking number, and dispatches an officer to the scene. The officer responds to the scene and meets with the victim. Upon interviewing the victim, the officer takes out his notebook and writes down the incident number, time of call, location of the crime, the victim’s name, address, and phone numbers. The officer will also take similar notes on all subjects, vehicles, and property connected to the crime. Additionally, the officer will process the scene for evidence and note any findings. All audio statements and photographs collected must be taken to the police department and burned to a compact disk in order to preserve the information.

Once cleared from the scene, the officer drives back to the police department, logs into a computer, and loads a report template in a word processing program. The officer then re-enters all the basic call information that was originally collected by the dispatcher. Additionally, the officer types in complete information of all subjects, vehicles, property, and offense information collected at the scene. The report face sheet is then saved and printed out in order to start a workflow process. The officer can either dictate or type their narrative report. The narrative report must include summary information about the crime, the details of the subject statements, and the officer’s observations and actions taken. If the report was dictated, the officer will have to wait one to several days until the report is transcribed by a record’s technician. When the narrative report is finally typed, the officer will review it for accuracy. Once the officer is satisfied with the narrative report, the office will print it out, attach it to a typed face sheet, and give it to a supervisor for approval. After the report is approved, the paper report is submitted to a technician in the Records Unit, who will then re-enter all the subject, vehicle, and property information into the records management system. The records technicians will finally complete the intake workflow by scanning the paper reports and supporting documents into the system. Only at this point can a case be officially assigned to a detective.

**Importance**

An analysis of the above process indicates that some of the data is recorded as many as four times for each report. Additionally, due to necessity of saving temporary documents through the process, the case number of the event is required to be typed a minimum of seven times. In addition to wasting time with this redundancy, the whole process of data entry (and re-entry) greatly increases the potential for errors in the final record.

**Stakeholders**

According to data documented in the \_\_\_\_\_\_\_\_ Police Department records database (2011), \_\_\_\_\_\_\_\_ police officers wrote 6,460 crime reports in the year 2010. In that same year, an officer’s average response time to a call was 4.8 minutes. As a \_\_\_\_\_\_\_\_ police commander, I know from personal experience that \_\_\_\_\_\_\_\_officers will often return to the police department to write a report and then get called away before they finish it. I also know that at times officers are able to write two reports at the office before they get called away. Using a reasonable estimate that these two are about equal in volume, it is fair to say that on average, \_\_\_\_\_\_\_\_ officers make at least one round trip to the police department for each report they write. Using the average call response time of 4.8 minutes, the travel time back and forth to the office for each report is approximately 9.6 minutes. Upon multiplying this period of time to the 6,460 reports written, it is estimated that \_\_\_\_\_\_\_\_ officers spent over 1,033 hours traveling back and forth to the office to write reports in 2010. This time results in the loss of one half of one officer’s annual work time. According to \_\_\_\_\_\_\_\_ (personal communication, November 9, 2011), a full time police officer is paid $37.29 an hour and receives approximately $11,850 worth of fringe benefits annually. In summary, it is estimated to cost the police department over $50,000 in lost time a year for police officers to drive back to the office to write a report versus typing the report while in their police car or still at the scene.

Although the \_\_\_\_\_\_\_\_ Police Records Unit does not log the amount of time spent on data entry or processing crime reports, Ioimo and Aronson (2003) conducted a study of a mid-sized Arizona police department where the police records staff did document their time. The study compared the amount of time for the police department’s records staff to process each police report before and after the department moved to a field reporting system. Ioimo and Aronson (2003) discovered that prior to the implementation of a field reporting system, it took approximately 45 minutes to enter all necessary data and complete a crime report. After the implementation of field reporting, it took approximately 9 minutes per report. This resulted in a net savings of 36 minutes per report. Applying that time savings to the 6,460 crime reports processed in 2010, the \_\_\_\_\_\_\_\_Police Records Unit could have saved an estimated 3,876 hours of data entry time throughout the year. According to \_\_\_\_\_\_\_\_ (personal communication, November 9, 2011), a full time police records technician is paid $22.41 an hour and receives approximately $11,850 worth of fringe benefits annually. As a result, if the time savings identified in Ioimo and Aronson’s 2003 study is used in the \_\_\_\_\_\_\_\_Police Department 2010 statistical analysis of report processing, the police department would save an estimated $22,100 in fringe benefits and another $86,860 in wages. In summary, it is estimated that a field reporting solution could reduce data entry staffing needs and would save the city $108,960 annually.

Ioimo and Aronson (2003) also assessed the value of an in-field reporting system to the Arizona police department’s investigative bureau. The study analyzed the detectives’ clearance rate for the three years prior to the implementation of field reporting and compared it to clearance rate for the three years after the implementation of a field reporting solution. The study showed a significant improvement in case clearance with an estimated 64 percent increase. This improvement was attributed primarily to the speed that the crime reports were available to the investigations bureau, and partially to improved accuracy of the data.

Ioimo and Aronson (2003) found that police administrators benefited primarily due to improved speed in which crime information was available to them. In \_\_\_\_\_\_\_\_, the unnecessary delays caused by dictation and the current report workflow can not only handicap an investigation but also frustrate an impatient victim who is waiting for a resolution to the reported crime. Additionally, an officer typing a report inside the police department has no realized presence in the community. The community members of \_\_\_\_\_\_\_\_ expect and deserve better service from their police department.

Another requirement of Minnesota police officers is to document vehicle accidents that occur within their jurisdiction. Officers are required to send specific statistical information to the Minnesota Department of Public Safety. This is required by Minnesota State Statute 169.09 (2011). Subdivisions 8 and 9 of that statute state the following:

A peace officer who investigates an accident that must be reported under this section shall, within ten days after the date of the accident, forward an electronic or written report of the accident as prescribed by the commissioner of public safety. The commissioner of public safety shall prescribe the format for the accident reports required under this section. Upon request, the commissioner shall make available the format to police departments.

Currently, when \_\_\_\_\_\_\_\_ police officers are called to the scene of an accident, they complete handwritten forms that include all necessary information on the vehicles, drivers and passengers of the vehicles. They also take notes on the additional information required by the Minnesota Department of Public Safety, including a map of the accident scene, direction of travel, injuries sustained, and contributing factors to the cause of the accident. After the accident, the officer returns to the police department, logs into the Minnesota Department of Public Safety Driver and Vehicle Services online crash reporting website, and types in all the information that was gathered at the scene. Once that data entry is complete, the officer electronically submits the data to the state and prints out a local copy for approval. Once the report is approved, it is sent to the Records Unit where a records technician scans the report in and then enters the driver and vehicle information into the police records management system.

Because most of the statistical data collected is submitted directly to the Driver and Vehicle Services databases, that data is not entered into the local records management system. As a result, the \_\_\_\_\_\_\_\_police department is unable to track or produce intelligent reports regarding the cause and/or contributing factors of the accidents that occurred within the city.

Minnesota Department of Public Safety Driver and Vehicle Services Division \_\_\_\_\_\_\_\_ (personal communication, October 25, 2011), reports that they are just beginning the process of building a new crash report management system; however, the actual completion and implementation of this new solution is anticipated still to be several years away. \_\_\_\_\_\_\_\_ stated that as a result, her division has no plans to invest developmental resources into implementing an electronic interface solution for local police departments. \_\_\_\_\_\_\_\_ further stated that although Minnesota police departments are encouraged to use the Driver and Vehicle Services online reporting system, they are not legally required to do so. \_\_\_\_\_\_\_\_ pointed out that there are still several police departments in the state that send their crash reports to the state via paper report. Currently, data collected by Driver and Vehicle Services is not provided to the police departments until the end of the first quarter of the year following the year the data was collected.

Mobile computers have been in \_\_\_\_\_\_\_\_police cars for several years. They were installed with the intent of assisting officers in retrieving important information from databases so that the officer could make safe and informed law enforcement decisions while out in the field. While these computers have really helped officers get necessary information out of databases, it seems impractical to not take advantage of this very same equipment to provide a solution for officers to put data into the system while still out in the field.

According to The International Justice and Public Safety Network (as cited in Roberts, 2011), in 2003 only 38 % of police departments were using electronic methods to transmit crime report information back to their police departments, but by 2007 the number of agencies using field reporting solutions increased to 60 %. Roberts (2011) believes that automating the transmission of field reports to the police department is critical if the staff wants timely and accurate information available to them.

**Trends**

Several other metro police departments already have field reporting solutions in place. As a former member of the \_\_\_\_\_\_\_\_ Drug Task Force and past user of the \_\_\_\_\_\_\_\_ police records system, I know that the \_\_\_\_\_\_\_\_ Police Department has had field reporting in place as far back as 2001. Also, according to \_\_\_\_\_\_\_\_ (personal communication, May 5, 2011), his department implemented field reporting in 2009. \_\_\_\_\_\_\_\_ indicated that their infield reporting system has provided a dramatic savings in personnel time and improved their case turn around. The Dakota County Sheriff’s Office and all eleven police departments in the county implemented a field reporting system five years ago (Humphrey, 2009). Humphrey (2009) reported that the same solution has also been adopted by the Bloomington and Owatonna police departments, along with the Steel County Sheriff’s Office.

**Proposal to Address the Problem**

I propose to address the above issues by implementing a paperless all-inclusive field reporting system that allows officers to electronically document crime information and input electronic evidence directly into the department’s records management system. This system would allow officers to enter subject, vehicle, and property information electronically into their mobile computers while still at the scene. According to Karadjov (2007), data already in the existing computer aided the dispatch system, and the records management system could be used to auto-populate many of the fields in the report. This would save on data entry time and dramatically reduce errors. When the data is already in the system, officers could just ask subjects to verify its accuracy. Observations could be typed into narrative reports in real time, which would improve accuracy. Additionally, officers could attach audio statements and photos to the report electronically right from the scene. The officer could send the report to the supervisor for review prior to even leaving the scene. As a result, errors or inadequate information could be resolved before the officer leaves the scene. Once approved, the report and data could be immediately available to other patrol officers, supervisors, investigators, administrators, and records staff. Since the data would already be in the system, records technicians would not have to do any data entry. Records staff would merely validate the information for quality and control, and enter the crime codes mandated for statistical reporting. The data could then be immediately shared with investigations, other law enforcement agencies, and the courts system.

Although change is often met with resistance by many staff members, I propose to address these concerns by first educating all department employees on the benefits of the change. I propose to create a team of employees that represents all demographic groups of affected users. Team members would be selected based on a balance of capability and interest. The team would be empowered to research solutions, take part in the report creation, participate as beta testers, and then help train the rest of the employees. This active involvement by the front line users would help diminish the fears and bring ownership to the users themselves.

Concerns of officer safety have been considered. It is understood that officers may be distracted from seeing potential dangers when focused on typing reports while out in public. These concerns can be mitigated by allowing officers to either dictate, type reports while still at safe scenes, or stop at one of the several fire stations to complete their narratives. Another option would be for officers to park in the median on the freeway. This location allows an officer plenty of time to recognize a potential danger. It also works as a traffic violation deterrent to the hundreds of drivers who pass by the police car parked in the median.

An electronic accident report would also be created for field use. Data entry into this report would be similar to a crime report, as would the approval process and electronic workflow, which would automatically submit all collected data directly into the police records database. A records technician could then send a paper copy to Driver and Vehicle Services to achieve compliance with their reporting requirements. Data entry would be a wash for the officer when compared to the old system; however it would save valuable data entry time for records technicians. Additionally, the extra crash data in our system would help supervisors and administrators allocate resources to issues that are causing crashes more quickly.

**Relevant Management Principles**

It is understood that according to existing management principles, the decision to move forward with this proposal would normally be made by the existing police command staff. However, in this case it is believed that both the police and fire management teams should be consulted and educated on the benefits of using the departments’ existing \_\_\_\_\_\_\_\_ for field reporting. \_\_\_\_\_\_\_\_ is the current vendor for the city’s police and fire computer aided dispatching system, the police and fire records management system, and the police and fire mobile communications software. As a result of this one vendor approach, all these systems are already fully integrated and interfaced. To stay within the city’s goal of keeping public safety solutions fully integrated, it only makes sense to use \_\_\_\_\_\_\_\_ field reporting solution. Additionally, besides benefiting the police department, the field reporting solution could also be used by the fire department for building inspections and fire investigative reports. In summary, in an effort to be fiscally responsible and to preserve continued integration, it is recommended that this proposal be considered by both the police and fire management teams.

**Relevant Laws, Rules, Regulations, or Policies**

There are very few laws or rules that impact whether a field reporting system could be put in place. One exception involves security as it relates to the mobile computer connectivity to the police department. According to the Federal Bureau of Investigation’s Criminal Justice Information Services Security Policy (2011), in order to transmit law enforcement sensitive data from a mobile computer to a police department, the agency is required to use a secure Virtual Private Network. Additionally, the policy requires advanced authentication login if the mobile computer is removed from a secure area such as the inside of a police vehicle. Examples of advanced authentication are defined to be technologies such as fingerprint biometric readers, smart cards, key fobs, or some other physical hardware tokens. Fortunately, all \_\_\_\_\_\_\_\_ police mobile computers are already set up with these security requirements in place.

**Implementation Issues**

Things to think about when considering the implementation of a field reporting system include how much staff time will be involved in the implementation and training, the overall cost of the project, and how long will it take to complete the project.

**Human Resources**

In order to successfully implement this project, it would be of value to assign a project manager who has a broad knowledge of technology and also understands the needs of the patrol, investigations and records divisions. This role would best fit one of the two existing support sergeants who are already jointly responsible for the implementation of other technologies. The project manager would be responsible for overseeing the project team and establishing a detailed timeline for the project. The project team should proportionately represent all involved workgroups. It is proposed that the build team include at least two patrol officers, a patrol sergeant, the record’s supervisor, a record’s technician, and the evidence technician. Supervisors of team members should provide them with a sufficient amount of time to successfully fulfill their role on the team. It is estimated that each build team member would allocate two hours a week for group meetings during the planning and development process. Also, team members would need additional time to beta test the system in the field with real examples.

**Financial Resources**

The existing mobile computers already have the latest hardware and software resources and are able to support field reporting. As a result of the implementation of the electronic ticket writing application in 2010, mobile computers already have driver license readers and printers. No additional hardware would be needed in the field.

According to \_\_\_\_\_\_\_\_ (personal communication, September 9, 2011), our vendor, \_\_\_\_\_\_\_\_, estimated a cost of $23,400 for the software and design of the necessary field reports. \_\_\_\_\_\_\_\_estimated an additional cost of $6,600 for the implementation and training on those report templates. Like the rest of the system, there would be a reoccurring 12% annual maintenance cost effective the year following the implementation. These estimates are for the police department needs only. The fire department needs would be a separate cost if they wished to create a field reporting solution for their mobile computers.

**Time Frame**

The desired timeline for product approval, design, and development is expected to last six to eight months. Beta testing, workflow implementation, and training is expected to take another four months. It is expected to have a fully functional all-inclusive field reporting system in place within one year.

**Ethical Considerations**

One ethical issue that is certainly noteworthy in this proposal is job security for existing records technicians. As noted in the problem statement of this document, the traditional method of report writing requires the need for much time consuming data entry by records technicians. Removing that need of redundant data entry would reduce the need for staffing. Records staff have already expressed concerns that they may lose their jobs if the department moves to an electronic field reporting system. As a result, they’ve already started talking negatively about the idea of this proposed change.

In the police department that Ioimo and Aronson (2003) studied, the role of records staff switched from data entry to data quality and control, which helped improve the accuracy of the data. The remaining time realized from the substantial reduction in data entry resulted in clerical staff being transferred to other job functions, such as assisting investigations and administration in the production of crime analysis data. Additionally, in the \_\_\_\_\_\_\_\_ Police Department, there is still much work that needs to be done to standardize and digitize many historical and permanent case files. There is also much work to do in digitizing and entering historical personnel training records. As time passes and staffing leaves or retires, the department can gradually reduce clerical staffing on an as needed basis.

**Diversity Considerations**

It is recognized that some veteran officers resist technology and some younger officers resist writing reports. Technology was already the solution for officers to get information into the system, so once veteran officers understand that the auto-population solutions of field reporting will be quicker than the traditional system, and that they will no longer have to burn their digital evidence to compact disks, it is believed that they will eventually appreciate the new solution. This front end fear and resistance to change can be further resolved through good education and making sure that this group of officers is represented on the developmental team.

For the younger officers who resist writing reports, the option of dictation still exists. Younger officers are often technically savvy. As a result, it is believed they will appreciate the point and click automations that will be part of field reporting. Additionally, the time saved from driving back and forth to the office will allow them the opportunities to focus more on what they enjoy the most…catching bad guys. Like the seasoned officers, it will also be important to educate the benefits of field reporting in advance and to make sure this demographic group of officers is represented on the developmental team.

**Summary**

The objective of this proposal is to compare the police department’s current report writing procedures to the benefits associated with implementing a fully automated field reporting system. In summary, the current system of gathering notes in the field, driving to the office to type that information in a report, and then printing the report out so the data can be entered into the records management system is inefficient and slow. Alternatively, entering data only once at the scene is considered to be more accurate and results in an expedited delivery of information to investigations, which increases the case solvability factor. Additionally, field reporting keeps officers out in the field where they will be more available to the community.

Although there is a realized cost up front to move to a field reporting system, improving efficiencies in officers time, and gradual reduction in records technicians will help alleviate these costs. Concerns of officer safety while typing reports out in public can be mitigated with alternative solutions. The intended outcome would be to have an all-inclusive field reporting system in place that realizes all the listed benefits, and a system that would be so appreciated by all users that no one would even consider wanting to go back to the old system.

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