THE BILL BLACKWOOD
LAW ENFORCEMENT MANAGEMENT INSTITUTE OF TEXAS

Public Safety Computer System
Implementation Policy

A Policy Research Project
Submitted in Partial Fulfillment
of the Requirements for the Professional Designation
Graduate, Management Institute

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July, 1996

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ABSTRACT

This research project discusses policy issues relating to the implementation of a public safety computer system. The City of Farmers Branch (Texas) will be initiating a project to obtain new computer hardware, system software and application software for a Computer Aided Dispatch System for police, fire and EMS; Mobile Data Computers, Police Records Management System, Court Records, and Fire Records. The research cites major issues among law enforcement agencies recently involved in similar projects and establishes criteria for the selection of a computer system contractor. The policy issue of conducting a needs assessment report is examined as well as the need for a formal installation or implementation plan. The research sets forth hardware and application software capabilities proposed for the City of Farmers Branch (Texas) and will assist in the development of Request for Proposals.

Introduction

The City of Farmers Branch (Texas) will be initiating a project to obtain new computer hardware, system software, and application software for a Computer Assisted Dispatch System (CAD) for police, fire, and EMS; Mobile Data Computers (MDC), Police Records Management System, Court Records, and Fire Records. This project as a whole will completely replace the existing of records management and calls for service tracking systems currently utilized by the police and fire departments.

The City of Farmers Branch (Texas) intends to purchase a hardware and a standard software package that does not require heavy modifications or customizing to meet the system specifications. The City of Farmers Branch (Texas) will be seeking a contractor capable of providing:

- Technical and functional expertise;
- Complete installation and testing of Hardware, System Software, and Application Software;
- Training of personnel, and;
- Complete User and Technical Documentation, support, long term enhancements, and software maintenance. (City of Pearland)

This research paper will address policy issues regarding the technological needs of public safety within the police and fire departments, the assessment and selection of a computer system and contractor, and set forth a policy regarding the implementation of such a system. The resulting policy will provide a smooth transition to a highly technical environment for employees and minimize the disruption of services to the public.

The major sources utilized for researching public safety computer systems and the implementation of such systems are from technical publications, professional publications, and from surveys of other municipalities involved in similar projects. The City of Denton (Texas) and the City of McKinney (Texas) have been helpful in sharing information relating to the implementation of public safety computer systems in their respective cities. Private corporations such as IBM, HTE Public Safety Systems, and Integrated Computer Systems have also been consulted for this research paper.

Traditional methodology has been utilized in searching topics and reviewing literature on public safety computer systems and the implementation of such systems. Interviews were conducted with law enforcement and information services professionals that have recently been involved in the installation of public safety computer systems. Site visits and contractor demonstrations have also been utilized. Legal research on this topic has not been conducted. The intended audience for this research is the Police and Fire Administration, City Administrative staff, and the City Council.

Historical Context

The City of Farmers Branch is located on Dallas' northwest city limits and is bordered by two major interstate highways and the Dallas North Tollway. Farmers Branch is the home to over 2,600 companies including forty Fortune 500 Companies and eighty-eight corporate headquarters, such as IBM, Occidental Chemical, Sprint, and Digital. Although the residential population is approximately 24,500, the daytime population is 85,000 as the business community commutes to the city's many high-rise office buildings and industrial parks.

The Farmers Branch Police Department is located at 3723 Valley View Lane and is composed of seventy-one sworn personnel and twenty-four full and part time employees. The police department is made up of six divisions: Patrol, Criminal Investigation, Special Investigation, Support Services, Detention Services, and Administration.

The Farmers Branch Fire Department is composed of fifty-four certified fire fighters, four fire prevention personnel, four dispatchers, a support specialist and a secretary. The fire department operates from the Fire Administration Building, located at 13210 Goodland with two fire stations; Fire Station No. 1, located at 2535 Valley View Lane, and Fire Station 2, located at 3940 Spring Valley Road. The fire department is also responsible for the City's emergency medical services and utilizes three mobile intensive care units for this function.

The Farmers Branch Police Department currently utilizes the city's IBM A/S 400 with software release 3.1 for storage of police records. The A/S 400 is located at City Hall and is accessed remotely via a T-1 data line. Some information regarding offense reports, arrest reports, traffic citations and pawn tickets are entered into the A/S 400 as a part of normal record keeping. The police department is not able to retrieve the stored information from the A/S 400 in a useable format for crime reports, crime analysis, UCR and IBR reporting, and special reports required by city staff and city council. In addition, all reports supplied to the public are researched by hand by police department staff and records personnel.

The police communication center is located in the police building and answers four (4) 911 telephone lines and seven (7) non-emergency telephone lines. Current staffing consist of one (1) call taker or desk clerk and one (1) dispatcher at any given time with additional desk clerk during peak hours. A mobile data command terminal is used by the police dispatcher to dispatch

calls for service to patrol vehicles and to enter information into the NCIC/TCIC system. A personal computer is used by the front desk clerk to create a daily activity log or daily police blotter for the department. The daily police blotter and other call records are manually filed and maintained at various locations in the police building for future reference. Emergency calls for Fire and EMS are answered by police and transferred to the fire department dispatcher located at Fire Station No. 1.

The Patrol Division has utilized Motorola MDT's (Mobile Data Terminals) in each patrol unit since 1986. The police department purchased twenty (20) mobile data terminals and utilizes the system to dispatch calls for service and provide officers in the field a platform to make direct inquiries into NCIC/TCIC files for stolen vehicles, stolen property, wanted person checks and driver's license checks. The system also allows officers in the field to communicate with the dispatcher or car to car without use of the radio. The MDT is no longer manufactured and replacement parts are difficult to obtain. This has caused the current MDT system to become unreliable and the system is deteriorating rapidly. Frequent service calls are required to keep the system operational. Fifteen (15) MDT units are currently in service with the remainder being used for replacement parts. It is a high priority of the police department to obtain a replacement of this system.

The A/S 400 at city hall and the MDT system are not interfaced. This requires two computer terminals at several locations within the police department. In addition, nine (9) personal computers are used by different divisions of the department for word processing and miscellaneous record keeping. These PC's are not networked and the software is not standardized.

The construction of a new criminal justice center is planned and will begin in the Spring of 1997, at the site of the current police and courts building at 3723 Valley View Lane. Construction will take place in two phases:

Phase 1: Construction of the Courts, Communications, and Jail facility. (estimated completion date of Spring 1998)

Phase 2: Remodeling of the current facility for housing the Patrol Division, Investigations, Emergency Operations Center (EOC), and Administration.(estimated completion date of Fall 1998)

Combined Police, Fire, and EMS dispatching will be implemented upon the completion of Phase 1 of the building project.

Review of Literature and Practice

Interviews were conducted with eight municipalities and two counties on policy issues regarding the selection of a contractor, project funding, training of personnel, and the implementation process of a public safety computer system. Independent research in the form of Request for Proposals were obtained and reviewed from the Pearland Police Department and the Collin County Sheriff's Office. Site visits to the cities of Coppell, Denton, Highland Park, McKinney, and Richardson were made for demonstrations on the operation of public safety computer systems. Research regarding market availability was conducted through contact with vendors and the review of professional publications and periodicals.

Interviews with municipalities and counties revealed that all but one project was funded through a Capital Improvement Project allowing the cost to be balanced over a three to four year period. The most popular contractor selection process was through development of Request for

Proposals and competitive bidding. However, each agency selected a contractor on slightly different criteria. The City of McKinney's project consisted of a computer aided dispatch system for police, fire and EMS; and records management for the police and fire departments. Mobile data computers were not included in this project. The City of McKinney based its selection, in part, on the size of the contractor's state wide client base in Texas (Turner). The City of Denton based its selection, in part, on the ability of a prime contractor such as IBM to guarantee completion of the project in the event of a default by a subcontractor (Collins). The City of Denton is initiating a multi-year project to include a computer aided dispatch system for police, fire, and EMS, mobile data computers for the entire police and fire fleet of vehicles, and records management for the police and fire departments. This is a multi-million dollar project and will be completed in several phases over the next three years. The majority of agencies reported that the implementation plans for their public safety computer systems were documented in the yearly budget as a part of the Capital Improvement Projects as well as in the resulting contract. No other official policy statements were developed regarding implementation of the systems. The training of personnel was also addressed in the resulting contract and not a part of an official policy statement.

Discussion of Relevant Issues

The key issues involved in the implementation of a public safety computer system are identifying the technical needs of the police and fire departments, project funding, contractor evaluation and selection, and the installation process.

The technical needs of police and fire departments as a policy issue can be may need to be determined as a first step in the process (Turner and Collins). The City of McKinney relied on the its Information Services Department for analyzing the needs of the police department. Once this process was complete a consultant was hired to review the needs and the resulting Request for Proposals (Turner). A needs assessment report may be useful in laying the groundwork for developing Request for Proposals and may also be a useful aid in justifying funding for the project (Collins).

Funding of large computer projects can be quite costly and may be initiated through a Capital Improvement Project or the sale of bonds (Cantrell). The majority of agencies involved in this research preferred a Capital Improvement Project over other types of funding. Funding the project through a fund balance allocation may allow the project to be paid in full at the time of installation (Cantrell). This process may provide cost benefits over the use of bonds or other obligations.

Contractor selection and evaluation is a very broad policy issue. The process of selecting a contractor for a public safety computer project should include site visits, contractor demonstrations, the ability of the contractor to meet the technical needs and networking needs of the agency and a cost analysis (Pigeon and Sae). A poor selection process may result in a purchase of a computer system that quickly becomes obsolete or is no longer functional after a short period of time (Turner and Sae).

Upon the selection of a contractor and the negotiation of the contract, the next major issue was identified as the installation process. The installation process should be managed very closely by a consultant, a designated contract or a project manager (Pigeon and Sae). An installation plan

should be developed, if not a part of the contract, and should be followed closely with weekly meetings between the contractor and contract manager (Sae). A benefit to establishing an installation plan or policy is that all parties are kept up to date on the progress of the project. Problems can be dealt with as they arise and not weeks later (Galbraith). Technical assistance from the Information Services Department during the weekly meetings will also insure that the city will get what it pays for (Sae).

Conclusion/Recommendations

The identification of the technical needs of the police and fire departments, the evaluation and selection of a contractor, and the installation process are key policy issues that must be addressed to insure a successful project. The establishment of an implementation policy can provide a smooth transition to a highly technical environment for employees and minimize the disruption of services to the public during the project.

The technical needs of the police and fire departments should match those of the city to provide total functionality of any system installed (Sae). Information Services should be consulted and should play a major role in the project from its inception. A project of this nature initiated without the assistance of the local Information Services Department will experience more than its share of headaches and problems.

A Needs Assessment Report is useful in laying the groundwork for developing Request for Proposals and is also useful aid in justifying funding for the project. A Needs Assessment for the City of Farmers Branch should address the following areas:

- Current operations of police and fire call processing.

- Records management systems of both police and fire departments.
- Plan of action for replacement and upgrade of the current computer system.
- An assessment of available technology including site visits and vendor demonstrations.
- Vendors and products that meet the needs of the police and fire departments.

As a result of the research conducted recommendations are being made regarding proposed hardware, system software, and application software. Implementation of Computer Assisted Dispatch for police, fire, and EMS, and records management is proposed along with a Client/Server Network (Kreps and Richardson). Replacement of the MDT system with mobile data computers is also proposed. It is expected that the new system will completely replace the current hardware and software.

The police department plans for the new system (inclusive of fire and EMS) to utilize the following peripheral devices (City of Pearland):

- One (1) call taker station
- Two (2) dispatch stations
- One (1) dispatch supervisor station
- Fifteen (15) Mobile Data Computers for Patrol Division vehicle equipped with Automatic Vehicle Locator, Driver's License Card Reader, Heads Up Display and Citation Printer.
- Forty-six (46) Pentium, 100 MHZ or greater, PC workstations:
  16MB RAM
  1.2GB+ Hard Drive
  3.5 Floppy
  4X CD ROM
  17" SVGA (.28), non-interlaced, low EMF Monitors - CAD & Records
  14" SVGA (.28), non-interlaced, low EMF Monitors - Remainder
- 8 Laser Printers
- 1 high speed log printer for Communications Center
- 2 printers for printing receipts in Court and in the Communications Center
- 1 printer capable of printing court dockets for Courts
- 1 full page document scanner
- 1 fingerprint scanner
- 1 digital camera for photo imaging
- 1 Firewall (for use with Internet applications)

- UPS for the main CPU and CAD system

The proposed system will automate the following areas:

- Police, Fire, and EMS dispatching
- Calls for Service
- TCIC and NCIC Inquiries. The system should meet the requirements of NCIC 2000. (NCIC Program Office)
- Field Reporting (i.e. Offense Reports, Incident Reports, Field Interviews, Accident Reports, etc...)
- Wanted Person, driver's license, and stolen vehicle inquiries
- UCR Reporting both current and incident based (must meet NIBRS requirements)
- Criminal Investigation and Investigator assignments
- Property Room operations and property disposition procedures
- Stolen property (must meet JIMS' requirements), Pawn Shops, Bicycle Registration
- Jail, Booking, Fingerprint Management (AFIS), Mug Shot Management (photo imaging)
- Court Records
- Personnel Management
- Fire and EMS Incident Reporting (must meet and comply with NFIRS reporting standards)
- Fire Inspections and Investigations
- Hydrant Inventory and Testing
- Automated Assistance and Mutual Aid request for Fire and EMS

The proposed system should be of sufficient processor size and speed to allow up to eighty (80) users to have on-line access to records with less than two (2) second response time, ninety-five percent of the time (City of Pearland). The system should include the appropriate switching and software capabilities to allow multiple users access to E-Mail, the Internet, the Regional Database, the Texas Crime Information Center and the National Crime Information Center.

The contractor evaluation and selection process for the City of Farmers Branch Public Safety Computer System should be rated and based in part on the following criteria:

- The ability of the hardware and software (both system and application) to meet the requirements defined in the RFP (City of Pearland).
- Cost of hardware, software, service, and support including Systems Integrator (City of Pearland and Collins).

- Training and education of personnel and the location of training and education (City of Pearland).
- The system's ability to accommodate future expansion and growth relating to both hardware, system software and application software (City of Pearland).
- The availability of application software and computer hardware maintenance in the Dallas area (City of Pearland).
- Financial stability of the software and hardware Contractor (City of Pearland).
- Contractor references and the support history of making timely enhancements, system upgrades, and updates to both system software and application software (City of Pearland).
- Existence of an effective "User Group" both on a statewide and national basis (City of Pearland).

Each criteria should be rated on a relative scale from zero (0) to ten (10) points with zero defined as the lowest rating (not meeting specifications) and ten defined as the highest rating (meets or exceeds specifications).

The majority of agencies involved in this research did not have a policy regarding the process for implementing a computer system. The majority of agencies relied on the contract between the agency and the contractor or relied on existing plans published in the yearly budget as a part of Capital Improvement Projects. A stand alone implementation plan in the form of a policy statement is recommended and should include the following:

- The identity of the contract manager along with duties and responsibilities (Sae).
- The establishment of weekly project meetings and the designated persons attending the meetings (Sae).
- The establishment of timely progress reports detailing any positive or negative occurrences in the project (Pigeon).

The establishment of an official department policy addressing the recommendations cited in this research will provide an additional tool for administrators to insure the completion of a quality project that will remain technically functional, be cost efficient and provide a means to better serve the public (Cantrell, Fulton, Johnston and Pigeon).

The estimated cost of the project proposed for the City of Farmers Branch is between $1.2 and $1.4 million dollars (Belvis). It is recommened that the project be funded by yearly deposits to a fund balance and require the project to be completed in phases over a three to four year period. This would allow for the project to be completed without any long term debt or other obligations by the city.

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PUBLIC SAFETY COMPUTER SYSTEM

IMPLEMENTATION POLICY

The research conducted for this project will address policy issues regarding technological needs, contractor assessment, training, and the installation of a new computer system for police, fire, and emergency medical services (EMS) in the City of Farmers Branch.

The research will also lead to the initiation of a project to obtain new computer hardware, system software, and application software for a Computer Assisted Dispatch System (CAD) for police, fire, and EMS; Mobile Data Computers (MDC), Police Records Management System, Court Records, and Fire Records.

Policy Issues must be addressed relating all aspects of the project to insure a smooth transition to a highly technical work environment.

The major sources utilized for researching public safety computer systems and the implementation of such systems are from technical publications, professional publications, and from surveys of other other municipalities involved in similar projects. The City of Denton, Texas and the City of McKinney, Texas, have been helpful in sharing information relating to the implementation of public safety computer systems in their respective cities. Private corporations such as IBM, HTE Public Safety Systems, and Integrated Computer Systems have also been consulted for this research paper.

Traditional methodology has been utilized in searching topics and reviewing literature on public safety computer systems and the implementation of such systems. A survey was conducted of local law enforcement agencies to determine current type of utilization and contractor satisfaction. Site visits and contractor demonstrations have also been utilized. Legal research on this topic has not been conducted.