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Data Processing Analysis and Recommendations for the City of Wayne, Nebraska

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DATA PROCESSING ANALYSIS AND RECOMMENDATION

FOR THE CITY OF WAYNE, NEBRASKA

David R. DiMartino

November, 1983

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University of Nebraska at Omaha

ACKNOWLEDGEMENTS

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DATA PROCESSING ANALYSIS AND RECOMMENDATION
FOR THE CITY OF WAYNE, NEBRASKA

I. <u>Scope and Purpose</u>

This report presents an analysis with recommendations regarding the data processing needs of the City of Wayne, Nebraska. The analysis was undertaken pursuant to an agreement dated October, 1983 between the Center for Applied Urban Research (CAUR) of the University of Nebraska at Omaha and the City of Wayne.

This report will provide Wayne officials with information on the current status of data processing in their city government and the city's information management data processing needs. The report will also discuss the applicability of computer technology, the probable configuration and cost of a computer system to meet their needs, and recommendations concerning future action by the city in the area of data processing.

II. <u>Contemporary Computer Technology</u>

Recent advances in technology have brought computers within the reach of many local governments in America. These advances have substantially reduced the cost of computer systems and have also made possible effective computer use by local government personnel who are not data processing experts.

The first advance has been a tremendous reduction in the physical size and cost of computers coupled with dramatic increases in their functional capabilities.

Second, the current generation of application programming, or software, available to local governments is characterized by flexibility and "user-friendliness." That is, the programming is designed for interactive use on video terminals by personnel who have little or no knowledge of computer technology or programming. One result of these changes is that local governments today can acquire and use computer systems to aid in performing everyday activities and can do so with a high degree of confidence and at relatively low cost.

III. Acquiring the Technology

Regardless of the type of hardware, a computer system should be viewed as a tool to be used like any other piece of office equipment. It is an integral part of the work routine, just like the typewriter, the telephone, the adding machine, or the filing cabinet.

Computer usage is technically feasible in almost all organizations. Technical feasibility, however, is often less important to local governments than several other factors, including:

* Cost. Cost is perhaps the best understood and most definitive means of determining the feasibility of any new system. Is the new system more or less expensive than current methods? Although cost may be the best understood criterion for determining feasibility, accurate cost

estimates are often difficult to obtain, especially in cities with limited current data processing capabilities.

A word of caution is in order here. Few local governments that implement computer technology can expect to reduce overall costs. Thus, a strict cost justification for an electronic data processing system may be impossible. At best, a local government can anticipate cost displacement (e.g., the moving of costs from one place in the budget to another), cost avoidance (e.g., the use of more efficient technology to prevent, avoid, or move into the future costs that would otherwise occur), and/or service improvements.

* Ease of Operation. Some computer systems can be operated only by technically trained personnel. A factor in favor of the current technology, especially the present generation of mini- and microcomputers, is that local government personnel who are not trained in the technology can easily operate these systems in many cases, and a technical staff of programmers is not required.

* Available Programming. The availability of proven, easy-to-use software or programming to make a computer system do what a local government wants, when it wants, and how it wants is crucial to system feasibility. Without adequate software, a computer is only an expensive box that fulfills no useful purpose. Software is available in most

functional areas of local government from a variety of sources and needs to be considered prior to hardware considerations.

 * Growth. An important factor in the feasibility of an electronic data processing system is the extent to which it can grow to meet future government requirements. Not only should the system be capable of accepting more sophisticated uses and equipment (hardware) but also of accommodating normal growth in the volume of city activities.

 * Staff Considerations. The degree of acceptance of computer technology within a local government is a significant consideration in system feasibility. Similarly, the degree of staff ability to perform specific local government functions (e.g., payroll, utility billing, etc.) and staff aptitude and enthusiasm for the use of computers can be constraints on system effectiveness. To put it more plainly, staff support for computerization, competence in positions that will rely on computer technology, aptitude for using automated equipment, and interest or enthusiasm for automation are most important to the effective implementation of a computer system in local government.

 * Political Feasibility. Finally, political feasibility may well be the single most critical element in the success of computerization in a local government and the most difficult factor to deal with. Political feasibility

means the extent to which local elected officials and administrators understand and support the need for an electronic data processing system. In the absence of such support, a local government would be well advised not to proceed with system procurement. On the other hand, the support of these persons can help immeasurably to ensure the smooth acquisition, installation, and operation of a system.

Once a local government has reviewed these factors and determined both the need for and feasibility of acquiring new or enhancing existing automated technology, a step-by-step procurement plan should be adopted. This study of Wayne's current data processing requirements is the first step in such a plan. It will, in turn, lead to the following activities, in order of occurrence:

* A decision by city officials whether to pursue acquisition of a computer system based on the recommendation contained in this report. This decision should follow shortly after review of this report by city officials.

* In the event the city decides affirmatively, CAUR will assist the city in development and submittal to data processing vendors of a Request for Proposal (RFP) for a system to meet the requirements identified in this study.

* Proposals received by the city will be evaluated, and two or three finalists will be selected for additional consideration from among all of the proposals.

* City officials will be asked to approve the selection of finalists and to authorize further evaluation of these proposals, including visits to local governments or other organizations having systems installed by the finalists.

* CAUR will conduct a detailed evaluation of the remaining proposals and will recommend a system vendor for consideration by the city.

* Negotiation of a contract with the selected vendor will follow.

* Finally, system installation, testing, and acceptance will complete the procurement plan.

This step-by-step plan outlined here is recommended for use by the City of Wayne as a method proven effective for computer system acquisition in numerous local governments throughout the country.

IV. Current Data Processing in the City of Wayne

The current level of data processing in an organization, whether manual or automated, is an indicator of the organization's need for improved technology. It also provides insight into potential problems that may arise with

implementation of newer technology. A review of an organization's data processing operation also allows the development of a cost analysis that can be used, in part, to suggest whether new or enhanced data processing capabilities are justifiable.

The following is a brief discussion of the data processing activities in the City of Wayne. Data for this section of the report were provided by Wayne's city administrator, city clerk, department heads, and other city staff persons.

A. Current Data Processing Equipment

Wayne currently owns a Burroughs L-9000 ledger-card bookkeeping machine that was purchased in 1979 for $26,000. The machine is under the supervision of the city clerk-treasurer. Since January, 1980 the city's total hardware maintenance costs have totaled $13,877, with $3,970 being the most recent year's maintenance cost. Thus, the city's total current investment in this equipment is approximately $39,877.

Projecting future costs for an L-9000 machine is difficult. To begin with, it represents a technology at least two generations distant from what this manufacturer currently offers on the marketplace. As a result, both hardware maintenance and software support can be expected to become increasingly difficult to

acquire and increasingly expensive.   As the machine
ages, breakdowns can be expected to occur with greater
frequency, and repair will become more difficult and
costly.

The city's projected 1984 hardware and software
support costs of approximately $4,000 will probably
increase each year.   A conservative five-year projec-
tion of these total costs, is $23,500 (itemized below).
These figures do not include the possibility of a major
equipment breakdown.

```
1984    $ 4,000
1985      4,500
1986      4,500
1987      5,000
1988      5,500
```

Total $23,500

If this figure is added to the city's current invest-
ment in this equipment, a net investment of $63,377 at
the end of the next five years will result.

The next items to consider about the Burroughs
L-9000 are the range of functions currently performed
on it and the extent of their automation.   The
Burroughs L-9000 is an outdated machine.   As will be
explained in Section V on page 12, current low-cost
computer systems are far more flexible, easy to use,
and responsive than older generation systems. This is
especially true in comparison with an L-9000 or similar
machine.

Bookkeeping machines of this vintage can be used only by one person at a time to perform one function at a time (such as data entry or check printing but not both simultaneously), and even minor changes in activities (such as a new utility billing rate) require programming changes.

Wayne currently uses this machine for accounting functions (including accounts receivable, accounts payable and general ledger accounting), payroll, and utility billing. Budgetary accounting and budget preparation are performed manually, and none of the functions that are automated is integrated.

Given current uses and also the limitations of the machine, the automation of additional functions on it is not feasible. Hence, Wayne's only options are: (1) continue present use of this equipment until the system becomes obsolescent or until support costs force a decision to abandon or replace it, and (2) plan for an orderly transition to a more effective and efficient computing system in the relatively near future.

B. Principal Administrative Activities

The Wayne clerk/treasurer's office operates the L-9000 bookkeeping machine for budgeting, payroll, and utility billing activities.

1. Financial Management. Wayne currently has its general fund accounting and reporting system auto-

mated on its bookkeeping machine. The city's $7 million budget is managed through seven separate funds, including approximately 65 revenue and 65 expenditure accounts. Budget reports are prepared twice per month, include expenditures and year-to-date totals, and are distributed to all department heads.

2. <u>Payroll</u>. Payroll processing is also run on the city's bookkeeping machine. Checks are processed twice per month for all 50 employees for an estimated 1,200 payroll checks per year.

3. <u>Utilities</u>. Utility billing is the third major area using automated technology in Wayne. Data processing for this function is also provided by the L-9000.

Wayne provides public water and sewer service to approximately 1,700 residential, commercial, and industrial accounts. Electrical service is provided to 2,100 accounts. Customer history files are maintained for 24 months.

Customers are billed monthly for electrical service and quarterly for water and sewer service. A total of 2,100 bills is issued each month. Approximately 200 accounts are delinquent each month.

Wayne State College with approximately 2,000 students is located in the City of Wayne. The presence of this highly mobile population results in a substantial volume of change in local residency and, thereby, in local utility accounts.

Additional data processing functions are performed manually. These include accounts receivable, accounts payable, personnel records, inventory, and a city lottery.

The City of Wayne's automated functions are not integrated. As an example, the payroll system does not automatically update the general ledger or other affected subsystems of the financial management system. In addition, the automated functions are neither interactive nor transaction oriented. This means that user personnel must perform a variety of manual transfers of data rather than being able to enter data once through a computer terminal and have the computer automatically update appropriate files and records and perform required calculations. Finally, data processing in Wayne relies on a batch processing mode that requires coded input and produces periodic (usually monthly) printed reports. However, state-of-the-art technology would allow users to enter data directly

into the computer via terminals, to access data directly in the same manner, to perform unique inquiries, and to minimize the number of printed reports and forms.

C. Chief of Police

At present, the chief of police makes no use of electronic data processing. His principal need is for a computer terminal and printer for data base management. His six-man force with four support personnel process approximately 1,800 calls for service and 300 arrests per year. The number of records in the police department's master file totals 50,000. The desired system would assist with office operations, report filing, and record searches. These functions would involve the automated accessing of complaint, warrant, and criminal history records, dog and bicycle licensing, motor vehicle registrations, and police, fire, and rescue emergency information.

V. Basic Applications to Consider for Computerization

A. Introduction

The use of automated data processing in the City of Wayne is relatively limited. This is understandable if for no other reason than the size of the city and its operational requirements. The equipment currently in use, the Burroughs L-9000, represents a generation of

technology that does not permit integration of the city's major administrative functions, e.g., accounting, budgeting, payroll, utility billing and accounting, and others.

The current generation of data processing technology permits and encourages both functional and data base integration. The type of system that should be considered by Wayne should have the following characteristics:

Transaction oriented--When a transaction such as updating the accounts receivable file is made, the system accepts the transaction and automatically updates all affected ledgers and funds. This would, for example, permit automatic distribution of the entry throughout the system and would also provide for an audit trail of the transactions.

On-line--Computer terminals and printers in one or more physical locations in City Hall would be connected to the computer central processing unit.

Real time--Processing on the system occurs at the time a user begins to work at a terminal, and no need exists to create punch cards, ledger cards, computer coding forms, or other input type documents to run through the system at a later time.

Interactive--This means that users communicate directly and immediately with the computer through video display terminals.

Multi-programming--This means that the computer is capable of accommodating the performance of several functions by several users at the same time. For example, a utility clerk could enter meter readings at one terminal, an accounts receivable clerk could enter payments at another terminal, and the printer could print payroll checks all at the same time.

Inquiry/Report Generator--The system should include software that will enable users to make unique inquiries across all data bases, to create unique files, to combine data from various files, and to generate unique (not pre-programmed) reports, all using standard English language commands.

B. Immediate Applications

The heads of all city departments were extremely helpful to the study team by providing clear and concise information about current departmental activities and also by giving serious consideration to their departments' automation needs. Most departments provided a well-considered list of items for possible computerization.

Not all items from those lists are feasible for automation in Wayne just now. However, the development of these lists suggest a healthy interest in and support for computerization in Wayne. This will be quite valuable when the time comes to implement a computer system for city activities.

Among the items suggested by the various departments for automation that the study team believes are feasible and realistic, the following should be given immediate consideration by the city:

1. Administration

First priority should be given to replacing the Burroughs L-9000 with an up-to-date computer system and enhancing the automation of the functions currently performed on it. This would involve the following software elements:

- Integrated financial management system, including:

general ledger accounting

budgetary accounting

vendor accounting

accounts payable

accounts receivable

- Inventory/purchase orders

- Automated cash collection

- Payroll/personnel system

- Utility accounting and billing

a. <u>Integrated Financial Management</u>.   The most immediate need for automation is in the area of financial management.   This should include a fully integrated financial management system (IFMS) that could assist in providing for better revenue and expenditure controls and reporting, promote improved cash collection, account-ability, and cash flow management, and improve other financial management activities. An auto-mated financial management system to meet Wayne's needs should be a fully integrated system designed around a general ledger accounting subsystem.   All subsystems should automatically update the general ledger and all other affected subsystems.   The IFMS system should be a full encumbrance accounting system and should accommodate GAFFR standards.

b. <u>Payroll</u>. Another priority item for automation in Wayne is a payroll system which should func-tion as if it were a stand-alone system but which should also be fully integrated into the IFMS and personnel systems.   The payroll system should be integrated with the financial manage-ment system.

c. <u>Personnel</u>. An automated system to meet these personnel management needs of the city of Wayne should be integrated with the IFMS and payroll systems.

d. <u>Utility Services</u>. The required utility services system should support all utility billing and accounting activities.

The utility billing system must handle water, sewer, and electric billing functions although it should also have the flexibility to accommodate other utilities should they be provided by Wayne at some time in the future.

2. <u>Criminal Justice</u>. Priority should also be given to automating the office of the chief of police. The primary elements of an automated criminal justice information system include subsystems for record creation, maintenance, and retrieval. Such a system should be an on-line, real time system that is adequately cross-indexed for ease of retrieval and maintenance.

The confidentiality of records and information maintained by law enforcement agencies is of great concern to the police department. Therefore, the system adopted should provide for security of access.

C. Future Applications

    1. Word Processing. Many state-of-the-art computer systems include full word processing capabilities. Often the combination of word and data processing is a desirable feature for a local government. In this way, for example, data processing terminals can be used for word processing functions, data maintained in the computer's disk storage system can be accessed for in word processing activities (e.g., sending mailings to all utility customers or vendors from whom the city has made purchases), and the power of the computer mainframe used for word processing production.

    These additional capabilities suggest that consideration be given to investigating the feasibility of an integrated data and word processing system. The RFP that will be prepared, if this report is accepted by Wayne, should require responding vendors to provide cost and other information regarding integrated data/word processing. After review of the proposals, Wayne can decide whether to acquire such a capability or opt for a stand-alone word processing system.

    2. Inventories and Equipment Management. The following record keeping and inventory requirements

were listed by several departments. These should be considered for automation only after action has been taken on the priorities listed above. The minimum functional requirements are listed below.

a. City-wide capital assets inventory

b. Departmental inventories

c. Equipment management

VI. System Configuration and Cost Estimate

A. Immediate

An in-house computer system for Wayne to perform administrative and criminal justice functions is expected to cost from $93,500 to $133,000. Included are all required hardware, software, hardware maintenance, and software support for an initial five-year period. The system will include the following elements:

1. Hardware

1 central processing unit (CPU) with 256 to 384 K (units of memory)
1 disk storage system with 40 to 60 MB (units of storage)
4 terminals (CRT's), configured as follows:
1 CRT - financial management activities located in the clerk/treasurer's office
1 CRT - cash collection and data input located in the clerk/treasurer's office
1 CRT - general administrative and financial management located in the city administrator's office
1 CRT - law enforcement and record keeping located in the office of the chief of police
3 printers, configured as follows:
1 line printer (200-250 lpm) located in the computer room in the clerk/treasurer's office
1 receipt printer located at the cash receipt window in the clerk/treasurer's office
1 dot-matrix printer located in the office of the chief of police

2. Software

Integrated financial management
Payroll/personnel
Utility billing
Purchase order/inventory control
Inquiry/report generator
Criminal justice/law enforcement

Two options exist for computerization of the police department. The first is to attach a terminal and small printer to the computer recommended for administrative functions and to acquire a law enforcement software package. An alternative is to acquire a stand-alone microcomputer system with packaged law enforcement software. The costs for automating this function on an expanded single computer system or a stand-alone microcomputer system are comparable, with an estimated cost range of $15,000 to $20,000.

B. Other

1. Word Processing

Word processing capabilities may be available (bundled) with administrative software acquired for other functions. If bundled, word processing would be available at virtually no cost. Otherwise, word processing packages are available separately at a cost of $2,000 to $5,000.

2. Inventory and Equipment Management

Wayne could easily incorporate a software package for inventory and equipment management for

use on its administrative computer. Acquisition of such programming should cost in the range of $500 to $2,500 and have an impact on hardware cost of no more than $2,000.

VII. Alternative Methods of Acquiring Computer Technology

A. Alternatives

The City of Wayne can acquire the required computer technology by one of three alternative methods, including:

1. Rely on outside service bureaus for data processing. These agencies can be used to provide either "batch" or "on-line" data processing services.

2. Acquire in-house computer hardware and also develop application software (programming) for the system.

3. Acquire a fully programmed and supported system, including both in-house computer hardware and packaged application software. Such a system would be operated by existing city personnel.

B. Evaluation of Alternatives

1. Service bureaus

a. Advantages

- Software and hardware are maintained by the service bureau.

- A qualified staff is available in certain functional areas.

- The transition to automation from current operations would be relatively easy.

b. <u>Disadvantages</u>

- Limits are imposed by cost and expertise available at service bureaus regarding initiation of additional or more sophisticated data processing capabilities.

- Service bureau software may not provide much flexibility for the local user.

- Communication breakdowns and attendant costs can occur and communication costs can be high if an on-line connection to the service bureau is used.

- In Nebraska, no service bureaus are known to exist that offer a full range of local government data processing.

2. <u>In-house hardware/in-house software development</u>.

This alternative is not deemed acceptable for the following reasons:

- The length of time required to create the required software will be excessive.

- The personnel and cost requirements of in-house software development and support are excessive.

- The limited availability of qualified programmer/ analysts with experience in munici-

pal government would result in difficulty in hiring and retaining a qualified programmer(s). This alternative would take too long, cost too much, and involve too much risk for a small local government to implement a data processing system.

3. <u>In-house computer and packaged software</u>

   a. <u>Advantages</u>

      - The city would own and control its own system.

      - The software is tested and reliable, and most packages can be modified by the vendor to meet the city's specific requirements.

      - The system can be operated easily by existing personnel.

      - The system provides a relatively easy transition and introduction to electronic data processing.

      - A procurement contract can be executed under which a vendor is fully responsible for system (hardware and software) performance according to the city's specifications.

   b. <u>Disadvantages</u>

      - Certain problems are associated with ownership and control of a computer system, including system depreciation and obsolescence, equipment failure, and use scheduling.

- Unanticipated vendor problems can occur.

- Personnel problems can arise involving both training of personnel and personnel fear of and/or opposition to a system.

C. Recommendation

This study recommends that a Request for Proposal (RFP) be developed to solicit proposals for in-house computer hardware and packaged software per the configuration outlined in this report.

Three compelling reasons exist for the City of Wayne to proceed with automation. First, the equipment that it currently operates for purposes of accounting, payroll, and utility billing is antiquated, has essentially no expandability or enhancement potential, and maintenance on this equipment can be expected to become increasingly difficult and expensive. Second, the current generation of computer technology is relatively inexpensive, highly reliable, and will provide the city with a considerably enhanced capability to perform needed data processing tasks.

Third, the city can proceed with this recommendation to submit RFP's for a new system at virtually no risk. That is, no decision regarding acquisition of a replacement system need be made until bids have been received and evaluated and cost comparisons made.

NOTICE OF REQUEST FOR PROPOSAL
EDP SYSTEM FOR THE CITY OF WAYNE, NEBRASKA

_____
(Date)

On _____ the City of Wayne, NE released a request for proposal (RFP) for an in-house, on-line, real time, multi-user or multiprogramming data processing system or comparable on-line, real time, multi-user or multiprogramming time sharing capability.

The RFP is available by contacting Mr. Norman J. Melton, City Clerk, City Hall, Wayne, NE 68787 (402) 375-1733.

The RFP requests proposals to automate activities in the following offices in city government in Wayne: City Administrator, City Clerk/Treasurer, and Chief of Police.

The deadline for submittal of proposals, which under no circumstances will be changed, is _____ . Sealed proposals must be delivered to Mr. Norman J. Melton, City Clerk, Wayne, NE.

Additional inquiries regarding this RFP should be directed to Dr. David R. DiMartino, Center for Applied Urban Research, University of Nebraska at Omaha, 1313 Farnam-on-the-Mall, Omaha, NE 68182, (402) 554-2764, the technical adviser for the City of Wayne on this project.

Note: If the vendor sales office receiving this notice or RFP does not serve the Wayne, NE area, please forward to the appropriate office in your company.

DRAFT ADVERTISEMENT

NOTICE OF REQUEST FOR PROPOSAL
FOR
ELECTRONIC DATA PROCESSING SYSTEM

Sealed proposals will be received by the City of Wayne, at the office of the City Clerk, City Hall, Wayne, Nebraska, 68787 until _____ _____, for a data processing system to automate several activities in city offices. The system requested must have on-line, real time, multi-user capabilities, a minimum of five terminals or work stations, adequate printing and storage capabilities, and system backup. Vendors interested in receiving a copy of the RFP should contact Mr. Norman J. Melton, City Clerk, City Hall, 306 Pearl Street, Wayne, NE 68787, (402) 375-1733.

The City of Wayne reserves the right to reject any and all proposals, to waive technicalities or informalities, and to accept any proposal deemed to be in the best interest of Wayne.

By order of the City Council of Wayne, Nebraska.

/s/ Norman J. Melton
City Clerk

PUBLISH:

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1.0 Introduction

1.1 Purpose

This Request for Proposal (RFP) is submitted to solicit proposals from qualified vendors for computer hardware, software, and support for the City of Wayne, NE. In order to receive consideration, a proposed system must meet the requirements of the City of Wayne as herein described.

1.2 Proposal Submitted

Sealed proposals will be accepted by Norman J. Melton, City Clerk, City Hall, 306 Pearl Street, Wayne, NE 68787, (402) 375-1733. no later than
_____. All proposals must be submitted in accordance with the conditions and instructions provided herein. The envelopes containing the proposals shall be marked as follows: "Automated Data Processing Equipment and Software Proposal."

A copy of each proposal must be mailed or delivered to Dr. David R. DiMartino, Senior Research Associate, Center for Applied Urban Research, University of Nebraska at Omaha, 1313 Farnam-on-the-Mall, Omaha, NE 68182, no later than
_____. He is the technical adviser on this project.

1.3 Schedule   Date

RFP released
Closing date for proposal submitted (time)
Formal bid opening (optional)
Vendor conference (optional)
Oral presentations and system demonstrations
Evaluation completed and vendor selected

This schedule is intended as a guideline for the timing of various events in this effort. Management requirements and other factors may cause certain of these dates to be changed from those originally scheduled. In no event, however, shall the deadline for proposal submittal be changed.

2.0 General Conditions

2.1 Conformity with RFP

All proposals must conform with the requirements presented in this RFP. The City of Wayne reserves the right to reject any proposal not in conformity with the requirements of the RFP.

2.2 Uniformity of Proposals

All proposals must be submitted in a uniform format as described in Section 4 of this RFP, and all proposals shall include completed data presentation forms which are found in the Appendix.

2.3 Additional Information/Further Contact

Vendors are directed to make all inquiries or requests for information relative to this RFP to Dr. David R. DiMartino, Center for Applied Urban Research, University of Nebraska at Omaha, Omaha, NE 68182, (402) 554-2764. He is the consultant selected by the City of Wayne to assist in this procurement process. Any deviation from this requirement, including direct contacts for such information or marketing calls to the City of Wayne, may result in disqualification of a proposal.

2.4 Performance Bond

The selected vendor, at the city's option, shall furnish a performance bond as a guarantee of performance. All proposals must contain a statement of the vendor's willingness to furnish such security in the event the vendor is selected by the City of Wayne.

2.5 Procurement Contract

The selected vendor shall be required to execute a procurement contract written for and by the City of Wayne. The city will not execute the vendor's standard contract. All proposals must contain a statement indicating the vendor's willingness to accept a city written contract and to agree to the inclusion of this RFP, the vendor's proposal, and all subsequent written material relevant thereto in the contract. A copy of the city's proposed procurement contract is attached as Appendix B to this RFP.

2.6 Non-collusion

Each proposal shall contain a non-collusion affidavit, a copy of which is enclosed in Appendix A.

2.7 Right to Reject Proposals

The City of Wayne reserves the right to reject any or all proposals, to waive technicalities or informalities, and to accept any proposal deemed to be in the best interest of the city.

2.8 Identification of Primary Vendor

Any proposal that includes reference to more than one vendor or supplier of goods or services shall contain adequate definition of said goods or services together with adequate identification of the proposed supplier of the same. Furthermore, the proposal shall clearly identify a single vendor who shall have ultimate responsibility for system installation and implementation and with whom the city's contract will be executed. The city will not execute multiple contracts or a contract with multiple parties and will execute only a single contract with a single primary supplier who shall be fully responsible for the contract.

2.9 Cash Discounts and Trade-ins

The city will consider any cash discounts or other price or purchase con-
siderations proposed by a vendor and will consider the same in determining the
lowest and best proposal. The city currently owns a Burroughs L-9000. All
vendors shall indicate in their proposals the cash discount or trade-in offer,
if any, that is applicable to this system.

2.10 Liability and Insurance

The selected vendor shall save and hold the city harmless from any and all
legal liability arising out of the infringement of any patent or copyright in
respect to the normal use of proposed or installed equipment or software.

The selected vendor shall purchase and maintain during the life of the
contract such public liability and property damage insurance as shall protect
him and any subcontractor performing work covered by the contract from claims
for damages for personal injury, including accidental death, as well as from
claims for property damage that may arise from operations under the contract,
whether such operations be by himself or by any subcontractor, or by anyone
directly or indirectly employed by either of them.

2.11 Price Protection

Prices quoted in the proposal shall be firm prices and not subject to increase
during the term of the proposal or of any contractual agreement arising
between the city and vendor as a result of the proposal. Vendors shall
provide firm prices less any federal excise tax. Vendors shall stipulate the
expiration date of the price quoted for their proposed systems.

Should a price on a hardware device or software element or other element of a
proposal be reduced by the vendor or manufacturer during the term of the
proposal, the same shall be made immediately available to the city, and the
city and its consultant shall be notified in writing by the vendor within
ten days of any such price reduction.

2.12 Funding Out Clause

Vendors must signify their willingness to accept a clause in the contract
that provides that in the event the city's budget does not allow for funds
to maintain an automated data processing system for any following year, a
contract for lease or lease/purchase, if either of these options is selected,
may be terminated and services discontinued without penalty to the city.

2.13 Right to Purchase from Any Source

The city reserves the right to purchase in part or in whole any desired
equipment or services from any source or sources.

2.14 Delivery Date

Vendors shall specify in their proposals the delivery date of their equipment, services, and/or products (i.e., how long from the time of order to the delivery of hardware and/or software). The city will expect to receive the selected equipment, services, and/or products on the dates and times so specified, and the same will be duly entered into the contract with the selected vendor.

2.15 Vendor Commitment

Vendors must state their commitment to maintain, support, and upgrade the operating system and application software and hardware at their current or the public-released levels for at least the term of any lease of lease/purchase agreement and in the case of purchase for a minimum of five years.

Vendors shall not require the city to incorporate new features into the system. Furthermore, any changes incorporated shall have minimum impact on system use and operation.

2.16 Maintenance/Support

Vendors must supply the names and addresses of all service organizations that will provide maintenance of all equipment, the operating system, and application software proposed herein. Vendors must also specify the maximum response time for all service. The response time quoted shall be the maximum time to elapse between the time a call for service is made and a service representative responds on-site or other response is made (e.g., software support via telephone).

2.17 System Responsibility

The contents of this RFP notwithstanding, the vendor has the responsibility to verify the completeness, accuracy, and suitability of his proposal to meet the functional requirements of the city as stated herein.

Any additional equipment or software required after installation to meet the the city's requirements as stated herein shall be provided by the vendor without claim for additional payment; the understanding being that a complete system that operates effectively and to the satisfaction of the city is required. The successful vendor will be obligated to provide a system that meets all guarantees in his proposal for the price contained therein.

2.18 Rights to Submitted Material

All proposals, responses, inquiries, or correspondence relating to or in reference to this RFP, and all reports, charts, displays, schedules, exhibits, and other documents provided by vendors shall become the property of the City

of Wayne when received. Supporting technical manuals will be returned at the request of the vendor. The city retains the right to use any or all system ideas presented in any proposal. Selection or rejection of a proposal does not affect this right.

3.0 Selection Process

The selection of a computer system to meet its requirements by the City of Wayne will involve both objective and subjective elements. The process to be used to make this selection is outlined below.

3.1 Request for Proposal (RFP)

This RFP is intended to provide interested vendors with uniform information concerning Wayne's requirements for an automated information processing system.

In responding to this RFP, vendors must adhere to the included format and use the included standard forms. Deviations from this requirement may subject proposals to rejection by the city.

3.2 Evaluation Committee

A committee of city officials has been appointed to review and evaluate all proposals. The consultant will provide an evaluation of all proposals and will serve as technical advisor to the committee and the city throughout the evaluation process.

3.3 Evaluation Criteria

The following elements will be considered by the committee in evaluation of all proposals: hardware, operating system, application software, training, hardware maintenance/support, software maintenance/support, vendor organization, and cost. The relative importance of each factor is a management judgment and will include both objective and subjective considerations.

3.4 Oral Presentations

Should oral presentations be desired by the city, the same shall be arranged in advance by the city's consultant in order to accommodate most effectively the scheduling requirements of city officials and personnel. The following rules shall be closely adhered to during the oral presentations:

- Discussion of the equipment and operating system must be confined to the configuration and level of equipment contained in the proposal, including future capabilities for expansion of the system.

- Discussion of application software must be limited to currently available systems or to software being developed specifically for the configuration and level of equipment proposed.

- The oral presentation will not be a "negotiating session." Only material contained in a vendor's formal written proposal will be discussed during the oral presentation.

- Vendors should avoid superficial marketing language and materials and focus on the actual configuration and capabilities of proposed systems. This is especially important as time for oral presentations will be strictly limited and as local officials are interested in the specific capabilities of systems and vendor organizations, not in generalities or banalities.

3.5 Systems Demonstration

Should demonstrations of the proposed system be desired by the city, the same will be arranged by the city's consultant at a time and place acceptable to the city in order to accommodate most effectively the scheduling requirements of city officials and personnel. To the maximum extent feasible, efforts will be made to combine the oral presentation with the system demonstration.

Demonstrations should not exceed two hours in length (three hours if combined with an oral presentation), and, unless alternate arrangements are approved by the city, vendors must demonstrate equipment and software as nearly identical as possible to that proposed for the city.

3.6 Selection

Following the evaluation process described above, the evaluation committee will present its recommendation to the City Council. The City Council will make the final decision to award a contract.

4.0 Proposal Format

Proposals should be written in a concise, straightforward, and forthright manner. Superficial marketing statements and materials should be avoided.

Proposals should be organized in the following manner, using all forms contained in Appendix A.

4.1 Application Software

4.1.1 Include narrative description (including principal functions and outputs) of each major application software element in each functional area. Example input and output formats, screens, and user manual level documentation should be included in all proposals.

4.1.2 Furnish cost by application (include license or other fees).

4.1.3 Identify computer language(s) in which applications will be written.

4.1.4 Identify and provide names and telephone numbers of contact persons in local governments (particularly cities) in which said application software is installed, operating, and supported by vendor.

4.1.5 Furnish narrative description of proposed maintenance/support of application software including methods and associated costs.

4.1.6 Outline method of providing software, e.g., whether software will be developed and by whom, packaged programs, third party, public domain, etc. Specify which application software programs are yet to be developed and which are considered ready for installation. <u>Vendors should not include public domain or third party software unless they include a firm price for custom modification of said software to meet the requirements of the City of Wayne.</u>

4.1.7 Discuss conditions of use, e.g., restrictions, proprietary rights, etc.

4.1.8 Calculate and include a cost summary in Figures 4, 8, and 9.

For 4.1.2 and 4.1.8 above, firm costs for software must be provided. If software modification is proposed by a vendor, modification costs must be included in the quoted software price.

4.2 <u>Hardware</u>

The proposed hardware must be a 16-bit multi-user microcomputer or a 16-bit or larger minicomputer. In all cases, systems proposed must be interactive, real time, and multi-user and/or multiprogramming.

4.2.1 Describe all hardware elements in the proposed configuration in a brief narrative format, and provide adequate technical information either in the narrative or in supplementary material included in the proposal.

4.2.2 Provide names and telephone numbers of contact persons in local governments in which identical or nearly identical systems are installed, operating, and supported by vendor.

4.2.3 Itemize purchase costs by equipment device, and provide monthly maintenance costs by equipment device.

4.2.4 Itemize lease/purchase costs assuming a five-year time period by equipment device, and provide monthly maintenance costs by equipment device.

4.2.5 Calculate and include a cost summary in Figures 3, 5, 7, 8, and 9.

4.2.6 Vendors shall specify the capabilities of the system to restore itself in the event of interruption(s) of power.

4.2.7 Vendors shall also propose surge protectors for the CPU, disk drive, and all peripheral devices. Characteristics and limitations of the proposed surge protectors shall be described in the narrative portion of the proposal and their cost included in the hardware cost tables.

4.3 Operating System

Provide a narrative description and adequate supplementary material on the
proposed operating system. Emphasis should be placed on the functional capa-
bilities of the system, including utilities, programming aids, report genera-
tors, data managers, etc. Cost data should be provided in the narrative and
in Figures 3, 5, 8, and 9.

4.4 Training

List and briefly describe recommended training programs. Additional infor-
mation should include: estimated cost of each program, duration, location,
travel, and subsistence cost (if training is not provided in Wayne, NE), name
of training organization, city staff persons recommended for training (by job
title), and frequency and availability of retraining. Cost and other data
should be included in Figures 6, 8, and 9.

4.5 Facility and Space Requirements

Discuss in the narrative all environmental considerations and requirements
(space, heat, air conditioning, humidity control, electrical circuitry, noise,
etc.) including changes required to the proposed facility in the City of Wayne
to accommodate the proposed system. Present estimated costs of facility pre-
paration in Figures 8 and 9.

4.6 Data Management System (DMS)/Inquiry

Propose a DMS/Inquiry capability. This capability should be described in the
narrative and costs presented therein and in Figures 8 and 9 as part of system
software.

4.7 Miscellaneous Costs

Present estimated initial costs and number of file storage media, disks,
diskettes, tapes, cassettes, etc., and one-time installation charges, if any,
in a narrative and display in Figures 8 and 9.

4.8 Development/Testing of Software

Specify the maximum time required (in calendar days) to write or modify
proposed application software to meet the city's requirements and to test same
for acceptance by the city. Vendors will indicate whether said software is to
be developed/written anew or modified from existing packaged, third party, or
public domain software.

The City of Wayne will accept and pay for the system (hardware and software)
acquired from the selected vendor only upon the satisfactory performance
of the application software as defined in the contract.

4.9 Support

Indicate the number of qualified maintenance personnel located within a
reasonable distance of Wayne, Nebraska, estimate the average time to make a
service call, and indicate the average time to return equipment to normal
operating conditions. This time shall be calculated from the time a request
for service is made by City of Wayne personnel.

Also indicate the manner in which application software support will be provided, the pricing arrangement for such support, and the number of qualified personnel and their locations available for such support. This information must be provided for each major application system.

State the preventive maintenance policy, including amount of maintenance recommended, the hours during which it will be provided, and the monthly costs.

If a vendor imposes a maintenance surcharge based on distance from the vendor's maintenance location, this surcharge must be identified in the proposal.

4.10 List of References

Provide a list of local governments (particularly cities) currently using the same or similar hardware and application software as contained in the proposals. This list will include the organization name, address, the name and telephone number of the contact person in the organization, and the type of system in use (including both hardware and software). Include or attach this list to Figure 1.

4.11 Sample Contract

The City of Wayne will not execute a standard vendor written contract or procurement agreement.

A copy of the city's proposed procurement agreement is attached as Appendix B to this RFP. Vendors must indicate in their proposals their willingness to accept a city written contract.

5.0 System Requirements

This section of the RFP provides instructions to vendors for structuring their proposals according to the requirements of the City of Wayne. Sufficient processing power, mass storage, and peripheral devices must be available to service all concurrent activities efficiently and economically. Should the system that is selected by the city fail to perform according to the city's requirements as stated herein, and should said failure be determined to be the fault of the vendor, the vendor will be required to provide at no cost to the city any and all enhancements or additions to both hardware and software as may be required to cause effective performance.

5.1 System Constraints

5.1.1 Personnel Considerations. The desired system must be capable of being operated by existing personnel. The city does not intend to hire programmers or systems analysts, and operators will be selected from current staff.

Programming changes or modifications must be capable of being accomplished by the original providing vendor since the city does not intend to employ programmers.

5.1.2 <u>Data Input and Inquiry</u>. All data entry is expected to be done during normal business hours. Daily inquiries into all files through CRT's or other on-line, interactive terminal type devices can be expected. Proposed systems, therefore, must be capable of handling both input and inquiry functions.

5.1.3 <u>File Protection and History and System Backup</u>. In order to safeguard data files, provision must be made for daily backup. Vendors shall describe file protection and backup procedures in the narrative sections of their proposals.

5.1.4 <u>File Security</u>. All computer files must be accessible in an interactive mode using CRT's. Security provisions must be established on the system to guard against access to data by unauthorized persons and unauthorized changes to existing data. Such security provisions must be described in the proposal and must include effective auditing procedures.

5.1.5 <u>Adequacy</u>. Proposed systems must be of sufficient capability and capacity to allow the effective performance of all of the city's requirements in an on-line, real time, interactive, multi-user, multiprogramming mode.

5.1.6 <u>Space Considerations</u>. The CPU, disk, and tape drive for the proposed system should be capable of residing in a room of approximately 200 square feet in size.

5.1.7 <u>Modularity</u>. The system proposed must have the capability for expansion. Additional main memory, increased mass storage, and additional CRT's and printers and other devices may be needed for future applications. Proposals should address the means, extent, and cost of system expansion both with and without a change of CPU and disk drive(s).

5.1.8 <u>Data Management</u>. The proposed system must have an English language driven data management/inquiry capability that provides at least the following:

-- Limited freedom of word order and syntax for inquiries

-- Generation of user-specified formatted output

-- Sorting capability on a variable number of descending or ascending sort-keys

-- Generation of statistical information from and concerning files

-- Selection and sorting of user-specified items for building of new files and for use of subsequent process

-- Relational and logical operations

-- The ability to inquire and generate unique reports across all files and data bases.

5.2 System Hardware

The proposed system configuration must provide for an on-line, real time, multi-user, multiprogramming, interactive operation capable of operation and use by existing city personnel.

Disk must be the primary mass storage medium, and a tape system for backup must be proposed. The suggested hardware configuration is depicted in Section 7.0 and must be expandable to meet the functional requirements of additional computing that may be implemented in the future by the City of Wayne.

Vendors must indicate the nearest location of a backup CPU and disk system. Availability of a backup CPU and disk system, owned either by the vendor, another local government, or a private business, that can be used by the City of Wayne in case of the failure of the city's CPU or disk system is a requirement of this RFP for all proposals.

All vendors who propose on-line teleprocessing through a service bureau (or other organization) at a remote location must include all communication requirements and costs (e.g., hardware, software, modem, line, etc.) in their proposals. They must also indicate the nearest backup CPU and disk system in case of failure of the CPU or disk system at their proposed site or of communication with the site.

5.3 Operating System

The proposed hardware must have an operating system that supports the requirements listed under hardware, e.g., on-line, real time, multi-user, multiprogramming, and interactive. The system must have a data management/inquiry capability that provides for some user-oriented application program development, maintenance, and operation.

The system must support at least one of the more common programming languages. Multiple language capabilities are desired.

5.4 Application Software

5.4.1 General

The performance of the application software has been determined by Wayne to be the single most important element of the computer system for which proposals are herewith solicited. Acceptance of and payment for the selected system will be based on the performance of the application software. The application software element(s) that determine system acceptance are presented below under Phase I. The implementation of Phase I is expected to require from six to 12 months after system delivery.

City personnel will be assigned to work with the selected vendor in determining modifications to the application software and also to supervise for the city the implementation of each application system.

5.4.2 Phase I: Immediate Consideration (Months 1-12)

Phase I will consist of implementation of the hardware and software necessary to automate the city functions listed below.

To the maximum extent practicable, the systems listed below shall be fully integrated, although control of each respective software system and data base must reside with the office responsible for its operation.

1. Financial Management. The automated financial management system for Wayne should be fully integrated and designed around a general ledger accounting subsystem. All subsystems should automatically update the general ledger and all other affected subsystems. The financial management system should accommodate encumbrance accounting and should also accommodate both accrual and cash management practices. It should also be fully integrated. It must include at least the following major subsystems:

    a. Standard (probably existing city) chart of accounts

    b. Budgetary accounting

        * line item accounting and budgeting
        * departmental accounting and budgeting
        * fund accounting and budgeting
        * program/project accounting and budgeting
        * encumbrance accounting
        * accrual accounting

    c. Accounts receivable

        * cash collection and control
        * cash distribution
        * billing/invoicing

    d. Accounts payable

        * check preparation
        * check reconciliation

    e. Cost accounting

        * by fund
        * by department
        * by line item
        * by program/project

f. Purchasing and inventory

    * purchase order and requisition issuance and control
    * inventory control

g. Capital assets

    * capital asset inventory
    * capital asset depreciation
    * capital improvement budgeting

h. Forecasting/modeling and spreadsheet capability

    * revenue
    * expenditures

i. Vendor files

    * by vendor
    * by item/category
    * by department/division/project
    * three-year history

j. Auditing requirements

    * transaction files
    * trial balances
    * audit trail

k. Investment and Debt Management

2. **Payroll.** The payroll system should function as if it were a stand-alone system but should also be fully integrated into the financial management and personnel systems. The payroll system should accommodate the budgeting, accounting, forecasting, and auditing requirements of the financial management system.

An acceptable payroll system must include at least the following components:

a. Payrolls

    * weekly
    * bi-weekly
    * semi-monthly
    * monthly
    * additional periods
    * exceptional payroll

b. Deductions

    * up to 25 categories of deductions, including all standard deductions
    * automatic deduction payments to all payees

c. Types of pay

* regular
* overtime (three kinds)
* military leave
* vacation leave
* sick leave
* workers' compensation
* leave without pay (with benefits)
* uniform allowance
* additional categories as required

d. Types of benefits (deductions and reporting)

* capability to handle up to 20 benefit programs

e. Specific accounting requirements

* by line item
* by department
* by position
* by program/project

f. Unemployment compensation, workers' compensation, and injured on duty reporting and payments.

3. Personnel. A proposed personnel management to meet the needs of Wayne should be integrated with the financial management and payroll systems and may be either a stand-alone system or a module of the payroll system. The following functions must be included in such a system:

a. Employee file

* history on all employees and retirees, including current status and permanent history

b. Applicant file (optional)

* history on all applications
* one-year history on-line
* five-year history off-line

c. Reports

The employee files together with the vendor's other personnel activity subsystems should be used to generate a variety of required reports and analyses. These should include but not be limited to:

* active employees - detailed and summary
* affirmative action/EEO

* reporting on all benefit programs
* safety/injured on duty
* position vacancies
* positions filled
* insurance claims
* pension status
* job classification
* work or performance standards
* labor cost comparison and forecasting.

4. Utility Services. The utility services system for Wayne should support all utility billing and accounting activities and should include the following subsystems:

   a. Utility billing (budget, estimated and regular billing)

   b. Cash collection and distribution

   c. Delinquent billing and collection

   d. Connect/disconnect scheduling

   e. Disconnect notices

   f. Meter and route books

   g. Complete accounting system.

   The utility billing system must handle water, sewer, and electric billing functions although it must also have the flexibility to accommodate other utilities and/or billing functions should they be provided by Wayne at some time in the future.

   The City of Wayne is interested in exploring use of remote devices for use by meter readers to collect and store meter readings for input into the utility billing system. Vendors should indicate whether their proposed system will accommodate such devices, the type(s) of devices available, their functional capabilities, and their costs.

5. Police Records and Reporting. The primary elements of an automated police records and reporting system include subsystems for record creation, maintenance, and retrieval. Such a system should be an on-line, real time system which is adequately cross-indexed for retrieval and maintenance.

This system should include the following subsystems:

a. Master criminal incident/history file

b. Master name index

c. Incident reporting

d. Accident reporting

e. Arrests and bookings

f. Basic records
   * Officer reports
   * Resource allocation and control
   * Performance evaluation
   * Training

g. Crime and activity statistics
   * Crime analysis
   * Required reports (state and federal)

5.4.3. Phase II: Future Consideration

The following applications should be included in vendor's proposals for consideration by Wayne. Depending on city priorities, they may be selected for inclusion in the initial installation.

1. Word processing

   This shall be a full word processing system, as distinct from a text editor.

2. Inventory and Equipment Management
   Analysis of city operations indicates that Wayne could benefit from an inventory/equipment management system. Such a system, run on the administrative computer, should have the following capabilities:

   a. City-wide capital assets inventory
   b. Departmental inventory
   c. Equipment management, including
      - Vehicle depreciation and replacement scheduling
      - Standard vehicle specifications and analysis of performance against specifications
      - Preventive maintenance for all vehicles and equipment
      - Detailed cost accounting for all vehicles and equipment, by department, by program or project, and other relevant criteria
      - Coordination (preferably through an automated purchasing system) of the purchasing of parts and equipment as well as interdepartmental transfers of the same

- Establishment of a charge-back or billing system for all maintenance work (preventive or scheduled, emergency, repairs by others, etc.)
- Fuel inventory and control of fuel dispensing as well as the use of all city fuel stations by all vehicles regardless of departmental designation

6.0 City of Wayne Information

Location: The City of Wayne is located in northeast Nebraska at the intersection of state routes 15 and 35, approximately 100 miles north/northwest of Omaha.

1980 Population: 5,240

Government: An eight member City Council, Mayor, City Administrator and the following officials: Clerk/Treasurer, Public Works Superintendent, Utility Superintendent, and Chief of Police.

Financial and Related Information:
    Annual budget of $7 million
        7 funds
      150 accounts
       50 employees (plus 10 seasonal)
      100 payroll checks per month
      270 vendors in vendor file
    2,100 utility customers
    Fiscal year is August 1 to July 31

7.0 Suggested System Configuration

7.1 Configuration Summary

As indicated in Sections 4.2 and 5.2, vendors may propose either microcomputer or minicomputer based systems for Wayne. Herewith is the suggested configuration for the system.

System Configuration

- 1 CPU (Central Processing Unit)
- 1 Disk storage system
- 1 Tape system
- 1 System printer
- City Administrator
    1 CRT
- City Clerk/Treasurer
    3 CRT's
    1 Receipt printer (to be located at service counter for receipts and other records for walk-in customers)

- City Chief of Police
  1 CRT   or   Separate, compatible
  1 Matrix printer   microcomputer system
  (for hard copy output   with matrix printer
  from inquiries into
  system files)

Vendors may also propose a microcomputer system using an alternative configuration. In such cases, the alternative should be specified by the vendor and should perform equally as well as the configuration specified above.

VI. <u>System Configuration and Cost Estimate</u>

A. <u>Immediate</u>

An in-house computer system for Wayne to perform admin-istrative and criminal justice functions is expected to cost from $93,500 to $133,000. Included are all required hardware, software, hardware maintenance, and software support for an initial five-year period. The system will include the following elements:

1. <u>Hardware</u>

1 central processing unit (CPU) with 256 to 384 K (units of memory)
1 disk storage system with 40 to 60 MB (units of storage)
4 terminals (CRT's), configured as follows:
    1 CRT - financial management activities located in the clerk/treasurer's office
    1 CRT - cash collection and data input located in the clerk/treasurer's office
    1 CRT - general administrative and financial management located in the city adminis-trator's office
    1 CRT - law enforcement and record keeping located in the office of the chief of police
3 printers, configured as follows:
    1 line printer (200-250 lpm) located in the computer room in the clerk/treasurer's office
    1 receipt printer located at the cash receipt window in the clerk/treasurer's office
    1 dot-matrix printer located in the office of the chief of police

2. <u>Software</u>

Integrated financial management
Payroll/personnel
Utility billing
Purchase order/inventory control
Inquiry/report generator
Criminal justice/law enforcement

Two options exist for computerization of the police department. The first is to attach a terminal and small printer to the computer recommended for administrative functions and to acquire a law enforcement software package. An alternative is to acquire a stand-alone microcomputer system with packaged law enforcement software. The costs for automating this function on an expanded single computer system or a stand-alone microcomputer system are comparable, with an estimated cost range of $15,000 to $20,000.

B. Other

1. Word Processing

Word processing capabilities may be available (bundled) with administrative software acquired for other functions. If bundled, word processing would be available at virtually no cost. Otherwise, word processing packages are available separately at a cost of $2,000 to $5,000.

2. Inventory and Equipment Management

Wayne could easily incorporate a software package for inventory and equipment management for use on its administrative computer. Acquisition of such programming should cost in the range of $500 to $2,500 and have an impact on hardware cost of no more than $2,000.