OFFICE OF THE CITY AUDITOR

**AUDIT OF THE
PROCUREMENT AND IMPLEMENTATION
PHASES OF THE
HUMAN RESOURCES INFORMATION SYSTEM
(HRIS)**

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**March 7, 2003
Report No. 379**

AUDIT OF THE PROCUREMENT AND IMPLEMENTATION PHASES OF THE HUMAN RESOURCES INFORMATION SYSTEM

CONTENTS

Memorandum

CITY OF DALLAS

March 7, 2003

Honorable Mayor and Members of the City Council
City of Dallas

We have conducted an audit of the procurement and implementation phases of the Human Resources Information System.

The Human Resources Information System is processing the payroll, and checks are being issued. As a result of our inquiries, examinations, and analyses, we have identified several opportunities for improvement and recommendations that are presented in this report.

The City Manager and I have agreed to work together in the development of an action plan within 30 days to resolve these issues.

We appreciate the cooperation of City staff during our examination.

Thomas M. Taylor

Thomas M. Taylor, CPA
City Auditor

c: Teodoro J. Benavides, City Manager

EXECUTIVE SUMMARY

We have conducted an audit of the procurement and implementation phases of the Human Resources Information System (HRIS). A 1998 Needs Assessment Study identified Human Resources and Payroll functions critical for replacement. Since the payroll system was over 30 years old, replacement was warranted. The procurement process began with the engagement of IBM Global Services to perform a needs assessment and a definition of specifications for a new HR/Payroll system. Deloitte Touche was engaged to implement the Lawson HRIS on November 14, 2001.

The City Auditor's Office was asked by the Finance and Audit Committee to serve in a quality assurance capacity during the implementation phase of the HRIS. As issues were identified, the City Auditor's Office staff brought them to the attention of the HRIS project team.

As a result of our inquiries, examinations, and reviews, we conclude that some stated policies and procedures were not always followed, payroll data accuracy and completeness is in question, security provisions have not been fully defined, contract terms and conditions were not adequately reviewed and modified, and lack of complete functional requirements may impair the system implementation and payroll processing efficiencies.

The HRIS is processing payroll, and checks are being issued. However, many of the outstanding issues remaining from the HRIS implementation should be resolved to make this system more effective.

For purposes of this audit, the term "system," as defined in Section 3(d)(1) of the Computer Security Act of 1987, means any equipment or interconnected system or subsystems of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. It includes computers, ancillary equipment, software, firmware, and similar procedures, services (including support services), and related resources as defined by regulation issued by the Administrator for General Services.

We have summarized our major findings below.

- Complete functional requirements for all City departments were not specified. The principal cause was a lack of appropriate reviews among the City departments by the HRIS project team on:
    - Basic system features and functionality.
    - Contract terms and conditions.
    - Assessment and implementation of timekeeping management for employees.
    - Successful testing and deployment of the HRIS system.
- There was not a sufficient level of control in developing the HRIS project.
    - Identifying processing anomalies.

1

- Communicating identified errors to departments.
- There was a lack of full financial disclosure on the HRIS.
  - An additional $450,000 to cover unanticipated expenditures was included in the 2002 budget. However, these costs were not presented side by side with other project costs so that the City Council would be aware of the total system cost.
  - Unidentified costs are driving up the overall cost to the City.
    - The City spent over $575,000 in FY01 to implement an employee benefits membership services system that was replaced in FY02.
    - $25,000 for email costs was not included in original funding request.
    - $24,000 for in-house installation costs of the Kronos time clocks was not included in original project funding request.
    - Costs will be incurred by the City of Dallas to upgrade the Kronos clocks.
    - $26,400 for the purchase of Crystal Reports licenses and training was not included in the original funding request.
    - Many departments are developing alternate manual or automated processes to address system deficiencies such as the labor distribution system.
- Data accuracy and completeness is in question due to payroll processing errors.
  - Payroll checks.
  - W-2 forms.
  - Attendance Incentive Leave.
  - Vacation accrual.
  - Employee personal profile information.
  - Delays in posting corrections to personnel and payroll records.
- Equipment procurement was not adequately controlled or researched resulting in unnecessary expenditures.
- The application service provider hosting the HRIS system was switched to a new vendor without a security or financial due diligence assessment of that vendor being performed.
- Projected cost savings as reported to the Finance and Audit Committee in November 2001 will not be realized in FY03. The savings included in the FY03 budget are $1.6 million (46%) below those originally projected and presented to the Finance and Audit Committee. Also, sixty-five percent (65%) of the savings identified in the cost/benefit analysis are not based on a reduction in full-time FTEs.

While the City's payroll continues to be processed, opportunities exist to increase the

efficiency and effectiveness of the system. The City Manager has agreed to work with the City Auditor to develop a plan of action to address all outstanding issues raised in this report. The City Auditor is committing the necessary audit resources to facilitate the speedy resolution to these issues to provide the City with an effective Human Resource Information System.

INTRODUCTION

Authorization

We have conducted an audit of the procurement and implementation phases of the new Human Resources Information System (HRIS). We conducted this audit under the authority of Chapter IX, Section 2 of the Dallas City Charter and in accordance with the Annual Audit Plan approved by the City Council.

The objectives of our audit were to:

Scope and Methodology

- Identify the needs assessment(s), which initiated the HRIS system design/replacement project.

- Identify processes used to assess and establish the system requirements of all City departments.

- Identify processes used to gain project approval by:

  - The Human Resources Department (HR).
  - The Information Technology Executive Committee (ITEC).
  - City Management.

- Validate Request for Competitive Sealed Proposals (RFCSP) to HR requirements.

- Identify implementation strategy, including adherence to System Development Life Cycle methodology, a comprehensive transition plan, User Acceptance Testing, Service Level Agreements (SLAs), and Electronic Funds Transfer issues.

- Evaluate the security aspects of the proposed system and identify areas of concern.

- Evaluate the cost/benefit of the new system.

This audit included activities of the Communications and Information Services Department (CIS), the HRIS Executive Steering Committee, the Deloitte Touche implementation team, Interpath Communications and USinternetworking (Application Service Providers), and Iron Mountain (offsite data storage).

We performed our audit in accordance with generally accepted government auditing standards and included tests of the financial records and other audit procedures that we considered necessary in the circumstances.

INTRODUCTION

Our audit covers the period from June 2000 through November 14, 2002. Additional work was performed during January and February 2003 to address W-2 issues.

To develop an understanding of the consolidation of departmental HR and payroll functions into the new HRIS system and to identify any implementation or operational issues, we reviewed the following:

- Needs Assessment process from which the HRIS system originated.

- Cost/Benefit analysis.

- System specifications.

- RFCSP acquisition policies and procedures.

- Vendor financial condition.

- Vendor negotiation process and participants.

- SLA between the City and Deloitte Touche.

- Security assessment.

- Applicable contracts.

- Vendor compliance to system feature specifications.

- Implementation strategy.

- Project implementation plan.

Additionally, we interviewed Deloitte Touche management and staff to determine their specific project roles.

Overall Conclusion

As a result of our inquiries, examinations, and analyses, we conclude that several policies and procedures were not followed, data accuracy and completeness is in question, security provisions have not been fully defined, and contractual issues may impair the system implementation and payroll processing efficiencies.

Background

In March 1998, IBM Global Services performed a Technology Needs Assessment. The purpose of the assessment was to create a Citywide, long-range information strategic plan that supports the City's mission to "enhance the quality of life for all

INTRODUCTION

citizens of Dallas by delivering services in the most efficient and cost effective manner." The result of the Technology Needs Assessment was a five-year Information Technology Plan. The assessment examined two core business processes that have a direct impact on every department within the City. These processes are procurement and human resources. IBM identified areas of productivity improvements and cost savings through workflow simplification, paper reduction, and application of technology. As a result of its analysis, IBM recommended that the City replace the human resources and payroll systems.

In early 2000, efforts to replace the human resources and payroll systems began. Formal project activities commenced in June 2000 culminating in a RFCSP being issued in November 2000. Eight primary vendors responded to the RFCSP. In August 2001, the Evaluation Committee selected Deloitte Touche as the recommended vendor. After contract negotiations were finalized, the City Council approved the contract on November 14, 2001.

On October 8, 2001, the Finance and Audit Committee requested that the City Auditor serve in a project oversight capacity during the implementation phase of the project.

The City Auditor has worked very closely with the HRIS project team throughout the audit. Issues identified during the course of the audit were brought to the attention of the HRIS team and project manager.

OPPORTUNITIES FOR IMPROVEMENT

We identified certain policies, procedures, and project management practices that can be improved. Our audit was not designed or intended to be a detailed study of every relevant system, policy, and transaction. Accordingly, the opportunities for improvement presented in this report may not be comprehensive of the areas where improvements may be needed.

1. There was a lack of appropriate reviews for the HRIS system.

The project team did not specify complete functional requirements for all City departments. Examples of where adequate reviews should have occurred are discussed below.

A. The labor distribution system functional requirements were not adequately assessed.

The Lawson system is not addressing the labor distribution function in all departments. This task has been delegated back to many departments at an increased cost to those departments. By not addressing all department requirements, the City lost the opportunity to eliminate many secondary processes departments perform to record and charge labor distribution.

In order to capture and charge the relevant costs per project, some departments must still record individual time expenditures in a separate system. Manual vouchers are created to post the incurred expense through RESOURCE (the City's accounting system) to the appropriate receiving department. The legacy payroll system was integrated with an automated labor distribution system to capture and post charges from one department to another department.

It was discovered late in the implementation that the Lawson modules purchased by the City would not be able to perform the same function for all departments as the previous LINC system. The labor distribution system captured an employee's time by project. This information was then charged to each department per the specified project codes. The system also tracked the time charged to federal government grants, thereby allowing the City to be reimbursed for its incurred costs.

A review of each department's use of the labor distribution system before solicitation of the RFCSP would have alerted the HRIS project team to the criticality of having a fully integrated labor distribution system for all departments.

B. Project tracking features are not addressing all departmental requirements in the current system.

OPPORTUNITIES FOR IMPROVEMENT

Interviews with Lawson and Deloitte Touche project team members have revealed that the new Lawson system has the ability to record, process, and report on time worked per project (commonly known as project tracking). However, the City did not purchase the Project Tracking and Activities Module.

Departments such as CIS, Dallas Water Utilities (DWU), Park and Recreation, Public Works and Transportation, Streets, Equipment and Building Services (EBS), and the City Auditor's Office must use project tracking applications to record, manage, and bill for their time. The functional capabilities of the Lawson system do not address these departments' needs. Therefore, redundant time entries are made into different systems.

If the HRIS project team had completely reviewed the departments' system requirements before issuing the RFCSP, the team could have:

a) Secured a more thorough understanding of the Lawson system features and how they could be applied to the City.

b) Assessed the benefits of migrating to a single time and project tracking system.

c) Considered adding the Project Tracking and Activities Module to the overall project strategy.

Equipped with this information, a recommendation to purchase the Project Tracking and Activities Module may have been justified based upon productivity improvements, resulting in tangible cost savings. Since a recommendation to procure the module was not made, the opportunity to provide each department with a uniform application to track project time and costs was lost.

C. The HRIS project team negotiated an SLA with terms that are not in the best interests of the City.

Better control of the SLA negotiation process could have resulted in a more tenable and favorable SLA for the City. The City agreed to a service availability rate that leaves the City vulnerable to downtime during critical payroll processing periods.

The City agreed to a Minimum Service Availability Rate (uptime rate) of 98.5% for access to the HRIS system.

This rate equates to an effective downtime of 11 hours per month. The City is vulnerable to the HRIS system being unavailable during critical payroll processing periods, Monday through Wednesday. Several times during the implementation period in the fall of 2002, the HRIS system was not available during the critical periods. Provisions have not been developed for ensuring the payroll is processed on time in these events. Finally, the SLA does provide for a penalty, in monetary terms, should an event occur that affects the timely issuance of paychecks and direct deposits.

OPPORTUNITIES FOR IMPROVEMENT

An SLA can be structured to accommodate a variable rate charge based on high and low priority or priority determined processing needs. This variable rate type of SLA can be negotiated to be more cost effective than a flat rate service charge. The SLA negotiated between the City and KPMG for the "E-Gov" project contains very specific descriptions, procedures, requirements, performance levels, and system availability provisions that provide a very high level of contract performance protection for the City.

City personnel engaged in SLA negotiations should scrutinize all contracts to ensure that critical processes and functions have 100% availability and that the City is receiving the most value for the money expended.

The project team reported to us that negotiations are currently in progress with Deloitte Touche to strengthen the service availability rate component of the SLA.

The SLA does not allow the City to audit service activity records.

In order to verify and validate the causes of service outages and downtime, the City needs the capability to audit the Deloitte Touche Service Activity Logs. Section 9.1 of the Deloitte Touche contract entitled "Auditing Rights" only covers the ability to audit Deloitte Touche's books to substantiate fees and expenses. The City does not contractually have the right to audit the Service Activity Logs.

Section 8.2 of the SLA discusses a Service Activity Log report. This report is provided on a monthly basis. Areas covered in the report include: outages (scheduled and other), preventative measures implemented, a list of technical support requests and their status, and change requests and their status. Reports emanating from the Service Activity Log are provided, but the ability to audit the log is not provided.

Without the ability to audit the log, the City may not be able to validate the statistics listed on the report or investigate the root cause of an outage.

The project team reported to us that negotiations are currently in progress with Deloitte Touche to strengthen the audit service activity component of the SLA.

Contract specification reference is not defined and is unauditable.

One example of an unauditable portion of the contract can be found in Section 3.5 of the Agreement for Services between the City and Deloitte Touche. Section 3.5b states that Deloitte Touche will provide the following hardware required to support the number of users specified in Schedule A, Section 3.4.

OPPORTUNITIES FOR IMPROVEMENT

"(b) application server capacity equal to a Sun E-250 system with two processors."

Contract provisions do not exist to determine how to measure the performance of a Sun E-250 per industry standard performance measurements. In the absence of a standard tool for measuring performance, the interpretation of this section of the contract is inconclusive, which results in an unauditable contract specification. Additionally, the City may be sharing processing resources on the same server with other companies, as the contract does not specify use of a "dedicated" server.

D. CIS Security was not involved in developing contract specifications.

CIS Security did not participate in the development of contract specifications. CIS Security participated in a vendor technical demo evaluation in April 2001, but was not asked to review the telecommunication security requirements until September 2001, *after* the winning bidder was selected. Upon review by CIS Security, it was determined then that the equipment specified in the draft contract did not provide sufficient protection from security threats. To address the security issue, CIS Security recommended that additional equipment be purchased to provide adequate security. However, the equipment was never purchased.

The time clocks for the HRIS system were originally specified and listed in Deloitte Touche's bid submitted in the spring of 2001. Interviews with CIS Security revealed that they were unaware of the existence of the time clocks throughout the entire RFCSP process. It was not until after the City Council approved the project that CIS Security reviewed and inspected the specified clock, a Kronos Model 480. This review took place December 3, 2001, approximately three (3) weeks *after* City Council approval.

We recommend that the City Manager:

A. Develop a long-term solution to address the labor distribution functionality.

B. Review departmental requirements in regard to project tracking and make recommendations on implementing a Citywide solution.

C. Coordinate with departments and identify the limitations of the existing SLA and make recommendations on how those limitations will be addressed in the negotiations with Deloitte Touche.

D. Coordinate with CIS to develop an HRIS security and telecommunications plan.

Management's Response:

A. Management will work to identify any enhancements to this system.

OPPORTUNITIES FOR IMPROVEMENT

B. Management is in the process of evaluating a capital project tracking system that provides a wide spectrum of functionality related to the capital construction operations in addition to tracking the capital costs. The City Auditor is sending a representative to these meetings.

C. Management concurs with recommendation to form a group to identify and make recommendations for negotiations with Deloitte Touche regarding the SLA.

D. The appropriate personnel in CIS will work on the security and telecommunications plans of all other applications in conjunction with the appropriate departmental representatives.

2. There was not a sufficient level of control in developing the HRIS project.

The HRIS project did not include review and monitoring by departments and/or committees that have been designated as quality control entities in the project development process.

A. HRIS project information was not communicated to the ITEC until late into the development cycle of the HRIS system.

This lack of communication contributed to a number of issues that could have been avoided. Some of these issues include deploying only 47 of 200 time clocks purchased, installing technically unsuitable clocks for use on the City network, negotiating contract terms that impeded the ability of the City to return unused or unsuitable equipment, and other implementation issues that were being experienced during the deployment of the HRIS.

The ITEC's purpose is to lead the technology planning process within the City to ensure that limited information technology resources are allocated to the highest priority business needs. To achieve this purpose, the ITEC reviews and recommends City Manager approval for organizational control mechanisms, projects whose definitions are aligned with City goals and objectives, project funding, and project prioritization setting.

As a forum for sharing technology information between various departments, the ITEC strives to maintain an awareness of all planned, ongoing, and previously implemented projects within the City. For projects brought before the committee, departments, through their representatives, are able to transfer knowledge, communicate concerns, and apply lessons learned from previous experiences to upcoming technology projects.

During the implementation of the e-Government project, the ITEC, through the efforts of the member departments, addressed many of the implementation concerns in order to assure the successful transition from system start-up to the ongoing production operations. Had the HRIS system received the same level of scrutiny, we believe many of the implementation issues would have been resolved prior to going into production.

OPPORTUNITIES FOR IMPROVEMENT

B. CIS, and more specifically CIS Security, had very limited participation in the project until after the successful vendor was notified in August 2001.

Throughout the procurement life cycle of the project, the HRIS project team did not specifically include CIS Security as an integral member of the Steering Committee. As a consequence, key security components were overlooked in the negotiation and equipment selection phases.

Since CIS Security was not informed of all issues related to security, it could not play an integral role in the development of project specifications. A higher level of involvement by CIS Security could have provided the City with the opportunity to negotiate additional equipment and services into the contract and select a time clock system compatible with the City's network and security standards.

To avoid operational downtime and prevent unauthorized access, it is common industry practice when implementing large enterprise-wide projects to include a security plan as part of the overall system design and implementation. This forward planning effort allows security threats and vulnerabilities to be identified and appropriate designs implemented to provide a high degree of protection from potential intruders. Since the HRIS management team did not include CIS Security in the early stages of the procurement cycle, CIS Security did not have sufficient time to analyze, specify, and document a plan to protect the City from unauthorized attack. As of September 30, 2002, a formal security/telecommunications plan does not exist.

We have requested from CIS all documents related to the implementation of telecommunications connectivity between the City and the Deloitte Touche hosting site located in Raleigh-Durham, North Carolina. We received a preliminary network diagram approximately one week prior to City Council funding approval on November 14, 2001. Since receiving the initial diagram, we have requested further documentation on numerous occasions but, as of November 14, 2002, have not received any updates.

Although the HRIS system has now been brought on-line and is in production, we are not able to review, validate, or comment on the effectiveness of the security provisions since a security plan does not exist. Industry best practices dictate that a fully documented security plan (including detailed network diagrams) be developed prior to system deployment. It is important to have a secure and well-documented security/telecommunications plan in effect to ensure the protection of all City human resources data.

C. The HRIS project team did not adhere to standard CIS project management methodology.

CIS has developed a project management methodology by which all technology projects are to be managed. This methodology is embodied in a document entitled "Procedures

OPPORTUNITIES FOR IMPROVEMENT

Matrix Request for Competitive Sealed Proposals."

The four (4) areas of the CIS project management methodology that were not followed include:

1) Initial Notification. Procedure #21 of the Procedures Matrix states that the project manager shall deliver the RFCSP package to Purchasing and copies of the FINAL version to City departments.

2) Evaluation Committee Participation. Procedure #10 of the RFCSP states that the project manager shall recommend the Evaluation Committee. It further states that representatives from Purchasing, the City Attorney, and the City Auditor may be consulted as warranted.

   Although the procedure states, "as warranted," the departments should determine whether their participation is warranted and in the best interests of the City.

3) Contract Specifications Review. According to the CIS Procedures Matrix, contract specifications were finalized on November 20, 2000. Work began on development of the specifications in July 2000. Section 5.1.4 of Administrative Directive (AD) 4-5, Contracting Goods and Services, states: "Develop specifications and ensure that specifications are reviewed by the appropriate reviewing departments (City Attorney, Risk Management, other user departments, expert departments, i.e., CIS for computer and high tech equipment, vehicles, etc.)."

   The AD indicates that the specifications are to be reviewed by "expert departments" referring to City departments that may have a particular expertise as it relates to the subject project. If City departments had participated in the contract specifications review, the areas of security and hardware could have been more specifically addressed and accounted for in the contract as they were in the eGovernment contract.

4) Contract Negotiation Participation. Section 6.6.3 of AD 4-5 states: "The contract negotiation process for high technology procurement must be coordinated with the assistance of the department of Communications and Information Services, the Records Management Officer, the City Auditor's Office, and the City Attorney's Office."

   The City Auditor's Office was not notified of the contract negotiation process from negotiation commencement through contract award and final City Council approval. Contract negotiations with two firms began during the week of June 4, 2001, and a winning bidder was selected on August 23, 2001. Further negotiations with the winning bidder occurred up to City Council approval on November 14, 2001.

OPPORTUNITIES FOR IMPROVEMENT

We recommend that the City Manager require all department directors and project sponsors to implement procedures ensuring that administrative directives and system development procedures are followed.

Management's Response:

Management concurs.

3. **There was a lack of full financial disclosure of HRIS costs to the City Council.**

A. **Project costs, as presented to the City Council, did not include an additional $450,000 to cover unanticipated costs.**

The costs reported to the Finance and Audit Committee and the City Council were $6,189,001 for the Deloitte Touche contract. A review of the 2002 budget reveals that additional funds were set aside for the HRIS implementation. Details of the additional funding are as follows:

Non-Departmental	$348,255
Other department budgets	$101,745

Based on the original reported project costs and the additional costs included in the 2002 budget, the total budgeted project costs were actually $6,639,001.

B. **Unidentified expenditures drove up the cost of the system.**

HRIS and Employee Benefits Membership Services projects were independently developed resulting in $575,000 being expended for duplicate capabilities.

The City procured an employee benefits services contract that emulated the capabilities of the HRIS system. Within the span of 15 months, the City implemented two employee benefit membership services solutions at a total implementation cost of $805,649.

In June 2000, the City contracted with United HealthCare (UHC) to provide claims processing and administration. As a result of this outsourcing contract, HR implemented a systematic plan to reduce staff as claims processing activities transitioned to UHC. By the end of December 2000, the majority of the City's claims processing staff had been eliminated. In January 2001, HR initiated an effort to outsource employee benefits membership services. The vendor selection process continued throughout the spring of 2001. An agreement with Synhrgy was reached, and a contract was approved by the City Council on June 27, 2001. The supplemental

OPPORTUNITIES FOR IMPROVEMENT

Synhrgy agreement added benefit enrollment services to the UHC contract including a call center and integrated voice response capabilities. A timeline indicating major milestones for both systems is shown below.
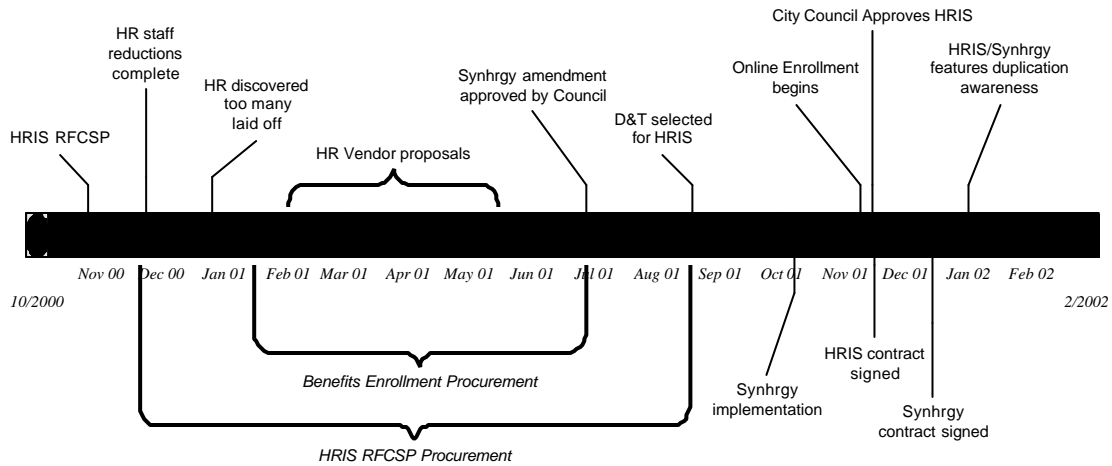
As can be seen from the timeline, both projects were in their respective "procurement" phases concurrently. Neither project had received City Council approval, nor had a preferred vendor been selected. As each project progressed through the spring of 2001, the potential duplication between the two systems was not identified and discussed in order to eliminate the duplication. As a result, the possibility of expanding the scope of the HRIS contract to include enrollment, retirees, and call center services (or any combination thereof) was not addressed.

The Synhrgy solution was pursued for two reasons:

1. HR staff resources, which would process benefits enrollment, had been eliminated (December 2000), and a solution was needed before the November 2001 enrollment period began.

2. The projected implementation timeline given by most of the HRIS bidding vendors was 12-18 months according to HR management. This timeline would result in a "go-live" date subsequent to the November 2001 benefit enrollment period, thereby resulting in a need to identify, evaluate, select, and implement a solution prior to November 2001.

According to the HR Director, the uncertainty of the HRIS implementation schedule caused consideration of more immediate solutions to the benefits enrollment issue.

OPPORTUNITIES FOR IMPROVEMENT

A cost/benefit analysis of the UHC benefits enrollment service should have been performed prior to the 2002 plan year to determine the most cost beneficial solution for the City. The analysis should have considered two options:

1. Expand the scope of the HRIS RFCSP to include outsourced employee benefit membership services.

2. Analyze the impact of continuing to process membership services in-house for one additional year (2002) and then transitioning to the Lawson system for 2003.

A subsequent review of the two systems indicated that both systems could process benefits enrollment for City employees.

In April 2002, the City terminated the relationship with Synhrgy in order to find a more cost effective alternative. The City then engaged the services of Deloitte Touche to meet membership enrollment needs for the 2003 plan year.

In 2001, the City spent $575,000 with Synhrgy in one-time implementation fees. In 2002, the City spent $230,649 with Deloitte Touche for one-time implementation fees.

$25,000 for email costs was needed to implement HRIS.

The RFCSP submitted by Deloitte Touche indicated that the Lawson application has the capability to provide automatic electronic notification (email) based upon the occurrence of certain events. One of the events triggering the generation of an email occurs when a supervisor has modified an employee's time sheet. This modification causes an email to be sent to the employee notifying them of the supervisor's action.

To fully utilize the email feature for City employees, each employee must have an email account. According to CIS Security, by July 1, 2002, approximately 8,000 users will have email accounts. The approximate number of City employees is 13,000. To ensure that all employees have email accounts, the City had to purchase an additional 5,000 licenses.

To minimize cost outlays, CIS recommended the purchase of an email system that allows an additional 5,000 employees to receive notifications. The cost of the additional software and hardware to provide this email capability for City employees is approximately $25,000. These costs were not included in the funding request approved by the City Council in November 2001.

OPPORTUNITIES FOR IMPROVEMENT

$24,000 was expended for in-house installation costs of the Kronos time clocks.

The HRIS project team did not communicate the time clock requirements to EBS and CIS during the RFCSP stage. As a result, additional costs were incurred. Implementation costs for the Kronos time clocks included site preparation, electrical work, network configuration, and testing. Clock configuration was performed by Basye and Associates. City-supplied implementation activities were performed by EBS and CIS; however, the costs incurred for these City-supplied activities were not included in the project funding request approved by the City Council. Additionally, installation costs and ongoing annual operating costs are not included in the departments' (EBS and CIS) budgets for FY02 or FY03.

EBS and CIS expended 833 unbudgeted hours in FY02 to install the clocks. These additional hours equate to approximately $24,000. Neither department was aware that the City had purchased the time clocks until after City Council approval.

Further, as a result of trading the model 480 for the model 4500, CIS will incur additional conversion costs. Resources normally devoted to other communication activities will have to be diverted to upgrade the clocks.

In the November 6, 2002, HRIS briefing to the City Council it was stated that all of the 200 time clocks and more would be used. Subsequent to that meeting, and to the date of this report, we have requested the project team to provide the details of clock deployment, but the deployment plan has not been provided.

Costs will be incurred by the City to install and/or replace Kronos clocks.

As a result of trading the model 480 for the model 4500, CIS will incur unbudgeted conversion costs for FY03. Resources normally devoted to other communication activities will have to be diverted to upgrade the clocks. Failure by the HRIS project team to communicate the time clock requirements to CIS during the RFCSP stage has resulted in additional unbudgeted costs being incurred. Open lines of communication during the lifecycle of a project can help identify all costs associated with the project prior to implementation.

In the November 6, 2002, HRIS briefing to the City Council it was stated that all of the 200 time clocks and more would be used. Subsequent to that meeting and to the date of this report, we have requested substantiation of this assertion; however, the project team has not provided the details of clock deployment.

$26,400 was expended for the purchase of Crystal Reports licenses to augment the HRIS reporting capabilities.

A complete review of the LINC payroll system resulted in the identification of certain

OPPORTUNITIES FOR IMPROVEMENT

critical reports that were not included in the contract with Deloitte Touche. To obtain these reports, the City procured Crystal Reports, which is a highly functional tool for extracting and reporting on data from a variety of applications.

Examples of reports not currently being generated by Lawson include the PR9, Position Classification Assignments, and the Police Monthly Traffic Overtime Report. The PR9 provides FTE information and is used for budgeting purposes. The Position Classification Assignments report provides a snapshot of employees by position and rate of pay and is used in overall payroll administration. The Police Monthly Traffic Overtime Report provides the detail information needed for reimbursement in various federal grant programs.

Several departments indicated that they do not receive the Payroll Leave Register. Each of these departments expressed the need to receive this report each payroll period. The departments use the report as an audit tool to verify that the employee is paid accurately and that vacation, sick, and comp time is recorded correctly. Based on the number of issues the departments are having with the new payroll system, it is important that this audit tool be available to verify the accuracy of the data.

Departments are developing alternate manual or automated processes to address system deficiencies.

- At this time, the Police Department does not have an automated tool for reporting overtime to federal agencies in the administration of various grant programs. The Police Department routinely reports overtime activity for five grants to justify reimbursement from the federal government for the officers' overtime. Since this report is not available, the department must manually extract and prepare the data for reimbursement. Failure to gather and incorporate departmental requirements into the RFCSP have led to the omission of key reporting tools for the Police Department.

- As discussed in Finding 1A, the original automated labor distribution system was replaced. DWU, Public Works, Park and Recreation, and the City Auditor's Office are developing and implementing alternate solutions to the HRIS system to allow for the proper charging of time for several hundred employees. For example, DWU used the previous labor distribution report to charge outside customers for services performed and to ensure that an employee's time spent on a project was properly capitalized to the project's account. Additional time is being spent developing spreadsheets to track employee's time and manually completing TC-80 forms for entry into Resource.

OPPORTUNITIES FOR IMPROVEMENT

- Four hundred employees in DWU must have their time entered manually by HR due to the unavailability of time clock licenses.

We recommend that the City Manager institute procedures requiring all projects submitted for City Council approval to include all project costs, capital as well as non-capital costs, so that the City Council may accurately weigh the benefits versus the total financial costs of a project.

Management's Response:

Management will establish a task force to study this recommendation and define for future system implementations:

- The total costs that should be included.

- The ability to measure those costs.

- The cost/benefit of this exercise on all projects.

The task could involve the tracking by project of:

- All specification review costs.

- RFP/RFB/RFCSP/preparation.

- Tabulation and evaluation time.

- Preparation of council briefing materials, agenda materials, etc. by departmental staff, City Auditor, City Attorney, City Manager, etc.

4. Data accuracy and completeness is in question due to payroll processing errors.

The volume and nature of the errors being reported by the departments are causing a concern regarding the data accuracy and completeness of the HRIS system. Since the introduction of the new system, numerous complaints have been made regarding the processing accuracy of the HRIS system. Examples of problems reported include:

- Some employees had their pay doubled, received duplicate checks, or were paid while on Leave Without Pay.

- System anomalies caused incorrect W-2s to be issued to some employees.

- Seasonal employees have received excess remuneration, and have terminated employment with the City without repaying the excess amount.

- Payroll deductions have overstated or understated amounts.

OPPORTUNITIES FOR IMPROVEMENT

- Attendance Incentive Leave was calculated incorrectly.

- Vacation and Leave time balances were incorrect for approximately three months after the system implementation.

- The leave balances printed on the pay stub did not match the data contained in the Self-Evident Application.

- Payroll corrections submitted by departments were not processed for four payroll cycles.

- Medicare deductions for employees hired before 1986 were re-activated, but should not have been.

The payroll system is comprised of automated and manual procedures. Errors can be caused from multiple sources: original software code, processes, data entry, and hardware malfunction. The explanation given to the users by the HRIS project team is that there have been no system errors. Instead, it has been portrayed that the principal causes of the errors have been either configuration or data entry errors. What we found is that there have been data entry errors, configuration errors, and errors that have been systemic in nature, most recently the calculation of Attendance Incentive Leave. Leave balances had to be corrected over several payroll cycles. Data entry is a potential source of errors due to the large number of pay codes users must know to correctly enter their time. For example, civilians must know 77 individual pay codes and how to apply those codes.

Many of the errors reported could have been encountered and corrected had a thorough departmental user testing process, prior to going into production, been followed. Based upon the problems encountered, adequate user training should have been employed to communicate and educate the users when modified HRIS procedures were deemed necessary. In addition to reducing the errors once the system went into production, departmental user acceptance testing would have alleviated some of the apprehensions and concerns of users in the implementation of a new system.

Based upon the errors observed during the implementation of the HRIS, the City Auditor's staff will work with the departments and payroll staffs to identify and correct HRIS data accuracy and completeness issues.

We recommend that the City Manager:

- Require the identification of HRIS errors encountered and the course of resolution for those errors.

- Require the departments to review and correct the HRIS payroll processing data for any of the enumerated errors.

- Require ongoing training and education for the departments on the use of the HRIS

OPPORTUNITIES FOR IMPROVEMENT

system.

Management's Response:

Management concurs and has been performing the corrections since go live. Ongoing training will be performed.

5. Equipment procurement was not adequately controlled or researched.

A. The number of time clocks procured was far in excess of the actual clocks deployed.

City departments returned the original time clock survey results during the June/July 2001 time period. Approximately 5 to 6 months elapsed between the requirements gathering phase and the clocks being delivered in December 2001. Approximately 200 time clocks were indicated as being needed. During the Kronos implementation phase of the project, additional information surfaced indicating that fewer clocks would actually be needed. The number of clocks currently in operation/training is 47, leaving 153 clocks uninstalled and in storage. The cost to the City of these unused clocks is $381,162. (It should be noted that the City has negotiated an even exchange of 80 model 480s for the newer model 4500s. As a result of the exchange, the City has 73 model 480s and 80 model 4500s in storage.)

It is apparent from the number of uninstalled clocks that the departments re-evaluated their time clock requirements resulting in a downward revision of the actual number of clocks needed.

Approximately 1,000 employees, as reported by the departments, still need access to time clocks. It is estimated that this need will be met by installing an additional 41 clocks. Even with this additional number of installed clocks, the City will still have 112 unused clocks.

The City Manager has stated that all time clocks purchased would be used. Assuming an installation rate of 1 clock per 34 to 40 employees, approximately 4,000 employees would have to be identified as needing access to time clocks. We are unaware of any further requirements beyond the existing 1,000 employees and do not foresee how the City will use the surplus clocks.

An additional concern is the warranty on the extra time clocks. The time period of the warranty is approaching or already past the coverage period. When the warranties expire, the value of the time clocks will be diminished. In addition, if any time clocks are found to be defective, the City may not be able to exchange them.

If the Executive Steering Committee had assessed alternate procurement strategies, the City could have more closely aligned the clock purchases with operational requirements of

OPPORTUNITIES FOR IMPROVEMENT

the departments.

B. Deloitte Touche did not notify the City of the availability of the newer technology clocks prior to installation of the older clocks.

Our research revealed that a new and more technologically capable time clock (model 4500) was delivered to a health care provider in Louisiana in early January 2002. This customer had purchased an older technology clock in July 2001, but returned the older clocks and purchased the newer model 4500. According to the customer, the newer clocks were shipped to them on January 8, 2002, six days before Kronos publicly announced availability of the new clock on January 14, 2002. Interviews with the Executive General Manager and the Deloitte Touche Sr. Project Manager indicate that they first became aware of the new model clock in March 2002. CIS first discovered the existence of the newer clock in January 2002. According to the Kronos web site, the clock was formally announced to the general public on January 14, 2002.

Given that the Kronos customer cited above was aware of the availability of the newer clocks prior to the public announcement, it appears that Deloitte Touche was not current on technology advancement in the industry. According to the Deloitte Touche response to the RFCSP, page 3, they stated:

> *Effective decision-making requires accurate information delivered in a timely manner. Systems must be in place to align information technology with business objectives and to create synergy among people, processes and technology. Working together with the City's team, Deloitte & Touche can lead your organization toward success though organizational transformation that is rapid, high quality and low-risk. From business case development to enterprise wide dynamic process models, Deloitte & Touche and Lawson Software provided unequalled public sector consulting and implementation support for the lawson.insight solution.*

In the case of the clocks, Deloitte Touche did not provide the City with information regarding the availability of the newer clocks nor did Deloitte Touche act in a timely manner to provide such information to the City when it became public knowledge. When Deloitte Touche became aware of the new clocks, it did not take the initiative to provide the City with improved hardware for a more secure and effective system.

When it was discovered that a more capable clock was available, the Executive General Manager approached Deloitte Touche in an effort to return the older clocks in exchange for the newer clocks. Deloitte Touche refused to take back all of the clocks but agreed to upgrade eighty of the older clocks to the newer model at no cost to the City.

If the original contract purchase had included a provision either to: 1) return unused clocks

OPPORTUNITIES FOR IMPROVEMENT

for a refund or 2) include a phased-in purchase of the clocks, the number of clocks procured would be consistent with the number of clocks actually needed.

We recommend that the City Manager:

A. Provide the deployment plan, with associated costs, that identifies the remaining employees needing time clock access and the number of time clocks needed for support of those employees.
B. Develop a technology solution for the City to be able to manage our existing and future time clock deployments on the network.

Management's Response:

Management concurs that it will develop a roll out plan for the installation of the remaining clocks. The maintenance fee on the clocks insures that any defective clocks will be replaced with a new one at any time.

6. **The application service provider hosting the HRIS system was switched to a new vendor without a security or financial due diligence assessment of that vendor being performed.**

Deloitte Touche switched application service providers to a new vendor, USinternetworking, Inc., freshly out of bankruptcy, in a new location, and without a security assessment having been performed by CIS and the City Auditor's Office. This move raises a question as to the security of our data. The HRIS project team was made aware of this move approximately 6-8 weeks prior to the move; however, they did not notify appropriate City departments of the impending move. Additionally, the cost of using the off-site processing facility is over $700,000 per year, and placing this business with a vendor with a troubled financial past is questionable.

The justification for using an external service provider is that the City does not have the equipment or expertise to provide hosting services for the HRIS system. Although there may be a shortage of personnel and/or equipment to provide this function currently, the City, specifically CIS, does have significant experience in hosting and managing servers and system applications.

With the security and financial concerns of this new vendor, we believe a cost/benefit study should be performed comparing the existing hosting solution to using City employees and resources.

We recommend that CIS:

- Have a financial due diligence review performed on USinternetworking.

OPPORTUNITIES FOR IMPROVEMENT

- Perform a cost/benefit study comparing the existing hosting solution to using City employees and resources. Based upon the results of the study, the City should either perform these services in-house or determine whether to use an outsourced service provider.

Management's Response:

Bain Capital, who funded Interpath, acquired USinternetworking (USi) out of bankruptcy, merged the two companies, and kept the USi name for future operations. They also decided to consolidate data entry operations in Annapolis and Milpitas. This decision was based on their recognition that these two sites were the most advanced. Two members of the City Auditor's staff performed a security review at the Annapolis site on December 19, 2002, at no cost to the City.

Throughout all this, Deloitte Touche remains the contractor to the City and will be held responsible and accountable for any non-performance of hosting services. The City will continue to monitor the cost/benefit of its decision to use the outsource service provider.

7. Projected cost savings as reported to the Finance and Audit Committee in October 2001 will not be realized in FY03.

A. Projected cost savings will not be met for FY03.

The October 19, 2001, HRIS project presentation to the Finance and Audit Committee indicated that $2.9 million would be saved in FY03 as a result of implementing the new HRIS system. This reduction would be achieved through a staffing reduction composed of full-time and partial FTEs. Full-time FTEs are equated to full-time employees assigned to the payroll function while a partial FTE refers to an employee dedicating only a portion of their time to payroll activities. Departments contributing full-time FTEs include Police, Fire, and Central Payroll. All other departments that contributed partial FTEs reported cost savings.

As the project progressed and moved towards a "go-live" date, HR performed a telephone survey of each department inquiring as to how many FTEs they would be reducing for the upcoming FY03 budget as a result of implementing the new HRIS system. The survey results were forwarded to the Office of Financial Services where all departments were summarized together, and fully loaded payroll costs were computed. The difference between the potential savings of $2,900,000, as identified in the Finance and Audit Committee presentation, and those listed in the FY03 budget is $1,331,198. The projected savings the City can expect in FY03 is 46% less than what was communicated to the Finance and Audit Committee.

B. Staff reductions as reported to the City Council are not based on actual

OPPORTUNITIES FOR IMPROVEMENT

personnel reductions.

In order to achieve the FTE savings from the implementation of the HRIS system, only employee positions whose work was solely committed to processing and administering payroll would be eligible for reporting as an FTE reduction. Many of the reductions instead were based upon an assessment to departments where personnel did not actually depart. Using the City Auditor's Office as an example, the Office of Financial Services assessed our office a charge of $36,502 for the HRIS system implementation. Yet the person occupying the position is still performing payroll functions as well as a host of other coordinator functions. In addition, we have seen an increase in the workload of payroll processing based upon the implementation of the system.   Other departments, such as Fire and Police, have retained payroll staff.

C. The methodology used to determine HRIS cost savings was inappropriate.

The following table, Direct and Indirect Cost Savings, identifies the departments/areas where significant cost savings could have been achieved. The table also shows potential savings compared to the 2001 Budget. Indirect cost savings are shown in italics.

Direct and Indirect Cost Savings

Dept.	Type of Savings	2001 Budget		65% Cost Savings		Revised 2001 Budget*	
		# Employees	Cost	# Employees	Cost	Headcount	Cost
Central Payroll	Direct	6.5	333,374	4.2	216,693	2.3	116,681
Police	Direct	16.0	658,543	10.4	428,053	5.6	230,490
Fire	Direct	6.0	271,479	3.9	176,461	2.1	95,018
Citywide Payroll clerks/staff	*Indirect*	*218 (10 hrs/week)*	*2,834,000*	*218 (6.5 hrs/week)*	*1,842,100*	*N/A*	*991,900*
Citywide paymaster staff	*Indirect*	*60 (2 hrs/week)*	*156,000*	*60 (1hr/week)*	*101,400*	*N/A*	*54,600*
Central payroll computer cost	*Indirect*	*Various*	*321,328*	*Various*	*208,863*	*Various*	*112,465*
Total			**4,574,724**		**2,973,570**		**1,601,154**

* Adjusted for 65% cost savings factor

A 65% cost savings factor was applied to the total payroll costs as defined in the FY01 budget to determine the overall payroll personnel related savings for the project. The 65% factor used in the Cost/Benefit Analysis was based on a 2001 American Payroll Association Best Practices Benchmarking Study. The study identified areas where savings could be achieved by automating all or part of a manual payroll processing system. According to the study, time entry comprises from 1% to 73% of total payroll employee hours. Since time entry comprises a significant portion of payroll costs at the City, 65% was selected as the best representative estimate of the savings that the City could achieve by implementing a

OPPORTUNITIES FOR IMPROVEMENT

highly automated payroll system.

The inaccuracy in applying a 65% savings factor to all costs is that a portion of the identified costs are actually indirect in nature. Also, applying the 65% factor to the City is making a broad assumption that the City is able to achieve a savings rate that is: 1) at the high end of the spectrum (with 73% being the highest) and 2) based on a study where only 2 out of 45 (4%) of participating organizations were government entities. It is difficult to support the arbitrary selection of a savings rate when the basis of that rate includes minimal representation from the government sector.

A more pertinent approach would have been to assess each payroll position within each department during the RFCSP process. Observations would be made of the processes, procedures, and communication channels within each department and within payroll. From the observations and measurements of the various processes, a formal assessment could have been made of the areas in which cost savings would be achieved. Input from the various vendors would also have contributed toward the project team's understanding and identification of where personnel savings could be gained. With the data gained through the analysis, a more accurate assessment of the potential cost savings to the City could have been performed.

True cost savings can only be identified when full-time positions are used as the basis of the analysis. Partial position savings will not be realizable unless: 1) an equivalent number of positions are actually eliminated or 2) measurable increases in productivity are experienced. Of the $1,601,154 savings listed in the table above, $1,046,500 (65% of the total savings) is based on partial positions. If partial position savings are excluded from the calculations, the cost savings total $554,654.

When performing cost/benefit analyses, it is important to segregate actual cost savings from indirect cost savings to present an accurate assessment of the financial merits of the project.

We recommend that the City Manager prepare total project cost to total project savings schedule, identifying the actual number of staff reduced because of the cost savings.

Management's Response:

Management concurs. A schedule will be prepared to include actual cost savings as well as qualitative improvements of the system.