Government Finance Officers Association

City of Pittsburgh, PA

Review of County Proposal to Provide ERP Services

March 2010

Note: This is a privileged and confidential document between the City of Pittsburgh, PA and the Government Finance Officers Association (GFOA). No part of this publication may be cited, reproduced, stored in a retrieval system, or transmitted in any form or by any means without prior consent from GFOA.

Table of Contents

Executive Summary **3**

Ability of City to Realize Expected Benefits from ERP **4**

Issue #1: Lack of Defined Functional Scope 4

Issue #2: Lack of Flexibility to Accommodate City Business Processes 5

Issue #3: Limited Scope 5

Issue #4: Lack of City-Wide Understanding of Issues 6

Review of Proposed Licensing **7**

Issue #5: Ownership of Software License 7

Review of Implementation Agreement **7**

Issue #6: County is Managing the Implementation Services Agreement. 7

Issue #7: Historical Data Conversion is Not in Scope for this Project. 8

Issue #8: Lack of Interfaces in Existing Scope 8

Issue #9: Identification of Project Team 8

Issue #10: County Identify as Lead Project Manager 9

Issue #11: Lack of Milestone or Deliverable Based Payments 9

Issue #12: Lack of Training or System-Wide Knowledge Transfer 10

Review of Post Implementation Support Structure **10**

Issue #13: Extension of County's JDE Service Center 10

Issue #14: City's Role in JDE Advisory Board 11

Review of Project Costs **11**

Issue #15: Cost Exceeds GFOA Estimates for the City's Project 11

Issue #16: License Costs Require City to Pay for County 12

Issue #17: Costs are Not Detailed 13

Review of Proposed Agreement Terms **13**

Issue #18: Lack of Service Levels 13

Issue #19: Lack of Dispute Resolution Process 13

Issue #20: Lack of Other Key Project Terms and Conditions 14

Appendix A - ERP Background **15**

Using ERP to Create Framework for Technology Investments 17

Executive Summary

For this project, the Government Finance Officers Association (GFOA) reviewed Allegheny County's (the County) proposal to provide ERP services to the City of Pittsburgh (The City). During the review, GFOA focused on significant risks and issues that could prevent the City from realizing implementation success and made corresponding recommendations to address any potential risk. Success was defined at the City's ability to achieve features and functionality commonly associated with modern ERP systems.

Overall, none of our recommendations are meant to preclude the City from moving forward with the County proposal. They are meant to point out areas of risk, functional or technical deficiency, and cost parameters that are not aligned with the current public sector technology market structure.

ERP implementations represent very large projects that establish a system that is often used for 15-20+ years in most organizations. When done correctly, they establish the foundation for all other technology implementations in the organization. When done poorly, they often cost more than planned, fail to deliver expected benefits, and constrain the organization in its future plans.

Based upon review of the County's proposal, the following issues represent the most serious risks to the County:

1) **Lack of Defined Scope:** It is impossible from the proposal to determine what the City will be receiving for its investment. Because of this it is impossible to determine if the City will be able to achieve expected benefits from the proposed system.
2) **System Configuration Forced on the City:** The proposal requires that the City replicate the County's configuration. It is unclear if the County's configuration will meet the City's needs.
3) **Experience in Implementing Systems:** While it is assumed that County staff have experience with maintaining JD Edwards the implementation of the system will likely require a different skill set. System implementers need advanced knowledge of the system and how to the system can be applied. GFOA considers past implementation experience to be a critical determinant of project success.
4) **Cost:** Costs proposed by the County exceed the estimated costs if the City were to purchase a separate system and implement it on its own. It appears that with many costs (especially license costs) the City is underwriting the entire enterprise project.

COP000481

Ability of City to Realize Expected Benefits from ERP

This section will provide an analysis of the County's proposal and the major risks that could prevent the City from realizing all expected benefits from the ERP system.

Issue #1: Lack of Defined Functional Scope

While the proposal identifies the scope as being limited to the Address Book, General Ledger, Job Cost, Accounts Payable, Purchasing, and Fixed Asset modules, this description remains extremely vague. Within each module there could be a large amount of flexibility and discrepancy in expectations for what is expected and what is ultimately delivered. Additionally, it is unclear even if the County's configuration will meet the City's needs or if the City will be able to take advantage of any of the features that commonly define ERP systems in the market today.

Recommendation:
GFOA recommends that functional and technology requirements be defined prior to implementation in order to establish a detailed project scope. Also, it is unclear if the proposed scope will be able to meet the needs of the City or cover all City processes within each of the listed functional areas/modules. Defining functional and technology requirements is standard in the software industry and the foundation of every software license and implementation services agreement that GFOA negotiates with its other clients. In addition to defining the scope for the project, the requirements serve the following purposes:

1) Allow the City to identify whether or not the County's proposed software functionality will meet City business processes. The current proposed agreement implies that City find major gaps only after they have made initial payment and as part of the design process. With this timeline, identification of issues will most likely be too late and could lead to significant additional costs to the City.

2) Provide a guide for implementation to match system capabilities with existing and future business processes. At each step in the implementation, the City is able to track issues related to specific requirements and ensure that value is delivered.

3) Act as a warranty to ensure that the City ultimately receives the value that it has paid for. Specific requirements worked into a warranty provide direct statement of project scope and system capability to provide protection to the City. Without requirements, the scope is often too vague as it is within the proposed agreement.

At a minimum, the City should be able to thoroughly review the County's design documents and business processes to assess the current gaps with their required processes before entering into an agreement where the City is expected to adopt the County processes "as is.".

Issue #2: Lack of Flexibility to Accommodate City Business Processes

The County has proposed to duplicate existing County configurations and processes to facilitate implementation of JD Edwards in the City. This proposal does not account for where City processes differ from the County. Where differences occur it may be difficult for the City to fit within the County configuration (for example: chart of accounts). In addition, where differences may occur, the City's two options would be either 1) change business process to match the County (if possible) or 2) deviate from the County process to install a different configuration for the City. Neither option is discussed in the proposal. In addition, neither option may be possible.

In some cases, it may be impossible for the City to change processes and continue to meet the City's goals. For example, the County's chart of account is set up to organize and account for the County's organizational units. The City has different units. Where change is possible, it will likely require significant investments in training and organizational change management to get employees to learn and accept the new business process. Where it is impossible for the City to adopt the County's process, the City would then need to set up the system different from the County's configuration. While this is not included in the proposal, it is also not clear if personnel from the County used for the project have the skills and knowledge to complete the configuration. This would most likely require external consultants at additional costs.

Recommendation:

ERP systems are developed to be flexible so that organizations can configure business rules within the system to support industry best practices and adapt to unique requirements of each organization. By replicating the County's configuration, the City will not be taking advantage of the system and may be implementing a system that simply does not support the City's processes.

Issue #3: Limited Scope

The County proposal states that the scope of the implementation is limited to Address Book, General Ledger, Job Cost, Accounts Payable, Purchasing, and Fixed Assets. Besides the list being vague (it does not specifically describe what is involved with each functional area) the list is not a complete list of functionality required by the City. Prior to entering an agreement with the County, the City must determine what is involved in scope and what will be required to manage those functions not included in the scope. For example, it does not appear that the system will include accounts receivable, project accounting, or grant accounting. In addition, it is assumed that the project would not include human resources or payroll. Failure to implement a full system (or all core modules within financials) would require the City to maintain its existing PeopleSoft

system or force the City to manage those other functions through separate shadow systems. Use of shadow systems to augment system functionality will significantly decrease efficiency. All shadow systems require redundant data entry, periodic reconciliation, and make reporting information difficult as data is often fragmented between multiple systems.

Recommendation:
The proposed implementation does not currently include all of the functionality purchased in the ordering document nor does it include the functions necessary to satisfy the City's business case for replacing PeopleSoft. The City should inquire why only those modules were proposed for implementation. Most likely the County uses and benefits from additional modules that the City would also find useful.

Issue #4: Lack of City-Wide Understanding of Issues

The County's proposal aims to implement a limited number of modules by replicating the County's current configuration. This approach assumes that the City and County are identical or that systems are "one size fits all." Neither is true. While systems are made to be flexible, flexibility requires configuration that is not included in the proposal. It is unclear if the proposed system will meet the City's needs or how this proposed system fits with the City's longer term plans for both systems and other planned initiatives that may have an impact on a financial system or rely upon one.

Recommendation:
Focus of ERP implementation should be on the project as a business project and the use of technology to solve business process issues. To achieve the business improvements necessary to create value necessary to justify investment in the project, the City should clearly define project goals and targets upfront. These targets along with the previously mentioned functional requirements then act as a guide throughout implementation to help gauge project success.

As with any project, but more importantly with a project of this size, it is vital to have clearly established goals and objectives prior to beginning the project that address current needs. The system can then be applied to meet these needs if the system is determined to be the best solution for the City's problems. Implementing the system without this essential step often leads to increased costs of software that is purchased and not implemented or fully utilized. Without clearly defined goals, this implementation will not solve the most pressing issues of the City, and there is an inability to link this project to the overall strategic plans of the City.

Review of Proposed Licensing

Issue #5: Ownership of Software License

Ownership of the proposed license structure is difficult to decipher. It appears that license ownership is to be with the City; however the County agreement states that the County will own the Master agreement and the City will own a sub-license. Under this scenario:

- Software warranties will be difficult to manage.
- Maintenance and support will be difficult to manage.

In addition, City overhead will be required to provide oversight of a contract that it has been entered into but is being managed by the County. For example, tracking credits for County implementation services to the City will need to be tracked.

Recommendation:

The City should negotiate a more stringent arrangement regarding management of the software license and work out several tenets regarding their overall roles and relationships under the support agreement.

Review of Implementation Agreement

Issue #6: County is Managing the Implementation Services Agreement.

Failure by either entity to meet a contract requirement could jeopardize the entire agreement. The City will have difficulty enforcing any warranty if the County does not agree with the City that the implementation vendor has failed to provide a service. The City has no or limited input in any services agreement. For example, it is standard practice for the customer to have first right of refusal of a consultant and to develop the acceptance criteria for project deliverables.

Recommendation:

- The base implementation services contract should be built with cooperation of the City and County. Individual work orders (that serve as amendments to the base contract) should be developed individually for County and City implementations.
- The City and County should co-develop acceptance criteria for the system.

- The City and County should co-develop a payment process for any implementation services agreement. For example, it is GFOA's recommended practice to make payments based upon deliverables and milestones. The current proposal does not clearly delineate project deliverables either internal with the County or external with any implementation services provider.

Issue #7: Historical Data Conversion is Not in Scope for this Project.

While it is not essential to convert all history from the City's PeopleSoft system, some historical data needs to be loaded into the system at Go-Live such as open balances, current activity, etc. Complete absence of data conversion will not provide a usable system. In addition without historical data conversion, the City will need to maintain the old system for historical reporting purposes or develop an independent data warehouse to support historical reporting, project cost accounting, budget development, etc.

Recommendation:
The City and County should develop a listing of all necessary data conversions and include in the agreement. The list should identify responsibility for each task necessary to convert data. The City and County may want to consider entering into shared ancillary conversion services agreements such as utilizing a third party to develop conversions of data deemed necessary to future operations.

Issue #8: Lack of Interfaces in Existing Scope

With the limited scope that the City will implement, information from the JD Edwards system will need to pass through to other administrative systems in use by the City. For example the City's payroll and HR systems will require an interface to the ERP system. In addition, the City may want to exchange data with its 311 system. These interfaces will need to be defined and included in the agreement.

Recommendation:
The City and County should develop a listing of all necessary interfaces and include in the agreement. The list should identify responsibility for each task necessary to complete the interface.

Issue #9: Identification of Project Team

The proposal states that the City and County will both provide approximately 10-15 resources for the project. However, the agreement does not state responsibilities for City and County staff nor does it indicate the assumed skill or knowledge levels of project team members. Staffing ERP implementations takes effort and dedicated personnel is often necessary. The City needs to fully understand the staffing commitments expected from the County prior to entering an agreement.

COP000486

Recommendation:
The agreement must detail staffing expectations including who will be included on the project team, the role of each member on the project team, and the level of commitment of each member to the project.

Issue #10: County Identified as Lead Project Manager

The County's proposal identifies the County as the lead project manger. However, there is no estimate of hours for the project (other than what is listed on the project governance organization chart). While the County staff may have current expertise with JD Edwards, the City will have functional knowledge of the City and should be equally represented with a project manager.

Recommendation:
GFOA recommends a project management office structure with joint City and County Co-Project Managers.

Issue #11: Lack of Milestone or Deliverable Based Payments

The County's proposal does not identify or describe what will be provided in exchange for required payments. The proposal indicates the following payment schedule.

Amount	Date
$1 Million	Execution of Agreement
$1 Million	September 1, 2010
$875,000	March 31, 2011

Recommendation:
Payments should be based upon delivered services, deliverables, and milestones. In addition, final payments should be based upon conditional acceptance and final acceptance criteria. Using deliverable or milestone based payments ensures the City is provided with the system proposed by the County.

GFOA also recommends that the deliverable schedule clearly matches project progress. The GFOA has never negotiated an implementation services agreement with a payment schedule as front-loaded as the one proposed from the County to the City. As defined in the table above the City is required to pay for approximately 35% of the project prior to the completion of a single project task or activity and absent any quantifiable deliverable. It is highly debatable that the City has previously entered into any construction or services agreement with this lack of payment leverage. A payment schedule as proposed by the County shifts an inordinate amount of risk to the City.

GFOA has negotiated over 200 implementation services agreements in the past twelve years and all of them have included some form of payment retention, which this proposed agreement lacks. GFOA strongly recommends the addition of payment retention to this agreement.

Issue #12: Lack of Training or System-Wide Knowledge Transfer

Technology projects involving complex software systems such as ERP often overlook the importance of the people element and place more emphasis on the technology or financial costs. The pitfall here is to place less emphasis on the proper staffing, back-filling, training of end users, and involvement of key stakeholders throughout the implementation process. In GFOA's experience, the people aspect of an ERP implementation is as critical if not more so than the software system itself. Ultimately, the successful implementation of an ERP system is dependent on the quality of staff performing the implementation and is only effective if the users can adequately use the system with proper training.

The County's proposal does not indicate how City staff will be trained on the new system or how knowledge transfer will occur for City technical and functional maintenance staff.

Recommendation:
Implementing an ERP system without proper focus on training the people who will ultimately be using the system is a primary cause for system implementation failures. The County's proposal should address how knowledge transfer will occur to City staff, both end users and power users.

Review of Post Implementation Support Structure

Issue #13: Extension of County's JDE Service Center

The proposal states that the County's JDE Center will be expanded to support the City's JDE operations. However, in this proposal, the County does not define how this support structure will be organized or what it will do. In essence, what will the support structure support? The proposal indicates that "included business processes" are supported, but does not define what they are. In addition, there are no defined service levels that define the level of support the City can expect.

In general, proposed services and service levels should be defined to protect both the City and County. For example, the proposal indicates that "Unlimited services for certain requests that include password resets, menu changes, and report creation." While this provision limits the "unlimited services" to certain requests, those requests should be defined with a service level expectation. In addition, it is unlikely that the County would be able to provide "unlimited services" with respect to report creation. Therefore, as previously discussed above this knowledge should transfer to City technical and functional experts.

Recommendation:

The agreement should provide more details of the County's JDE Center governance structure including service level agreements. In addition, the City should understand how the JDE Service Center will accommodate City processes along with ancillary systems and processes.

Issue #14: City's Role in JDE Advisory Board

The proposal states that the City will be granted seats on the JDE Advisory Board but does not indicate the number of seats or the role of those seats. If the City implements JD Edwards it will be relying on that software to maintain financial operations that are vital to the City. The City should ensure that it has appropriate representation and decision making power to protect its interests in the future.

Recommendation

The agreement should define in detail the role of the City in setting the strategic direction for the JD Edwards implementation at the City.

Review of Project Costs

Issue #15: Cost Exceeds GFOA Estimates for the City's Project

In October 2007, GFOA conducted an evaluation of the City's financial, payroll, and human resource systems. As part of the analysis, GFOA conducted market research along with surveying other similar sized organizations to determine a cost estimate for replacement of the City's finance, HR, and payroll systems. Based on subsequent experience with other organizations similar to the City, GFOA believes that those estimates provided in 2007 are still accurate for the City's project.

Project cost estimates provided below represent a full implementation of the identified modules configured by professional implementation consultants for the City's processes for "core financials." Core financials would include all modules provide by the County plus project and grant accounting, accounts receivable, treasury management, and other extended modules.

COP000489

Estimated Total Costs for ERP (Core Financial Modules)		
Category	**Low Estimate**	**High Estimate**
Software License Fee	$511,000	$691,000
Total Professional Services	$1,346,000	$1,821,000
Travel	$368,000	$498,000
Hardware	Not Estimated	Not Estimated
Project Contingency (15%)	$278,550	$376,800
Total Project Costs	**$2,503,550**	**$3,386,800**
5-Year Software Maintenance and Support	$564,720	$763,642
Total 5-Year Cost	**$3,068,270**	**$4,150,442**

Additional Annual Costs		
Annual Hosting Fee*	$415,000	$858,000
Additional 5-Year Cost	**$2,075,000**	**$4,290,000**

** Note: Since 2007, GFOA has seen a decrease in hosting costs. It is likely that if the City were to enter into an agreement with a firm for hosting services, the fee would be closer to or below the low estimate.*

In comparison with the Costs provided by the County, the County's costs are significantly higher.

County Cost Proposal		
Category	**County Proposal**	**Difference From Average Market Estimate**
Software License Fee	$2,392,000	398%
Total Professional Services	$1,917,500	121%
Travel	$0	NA
Hardware	$957,500	NA
Project Contingency (15%)	NA	NA
Total Project Costs	**$5,267,000**	179%
5-Year Software Maintenance and Support	$2,631,200	396%
Total 5-Year Cost	**7,898,200**	219%

Additional Annual Costs		
Annual Hosting Fee	$787,000	124%
Additional 5-Year Cost	**$3,935,000**	124%

Issue #16: License Costs Require City to Pay for County

The license costs that the City will pay both initially and in each year in the form of maintenance and support payments are consistent with GFOA's observed market prices for organizations that are the same size as the City and County combined. This indicates that the City will be paying for 100% of the license costs required to use JD Edwards at

both the City and County. Similarly, each year, the City would be required to pay the 22% (of original license costs) maintenance and support fees.

Issue #17: Costs are Not Detailed

Cost proposals provided to the City by the County are not sufficiently detailed, therefore it unclear what the City will be receiving for the money spent. In addition to not having requirements that identify a functional scope, the County's proposal also does not detail hardware costs.

Recommendation:
The City should require the County to complete a cost schedule that is based upon functional requirements, proposed staffing, and detail of hardware provided.

Review of Proposed Agreement Terms

Issue #18: Lack of Service Levels

As referenced throughout this report, the County proposal does not provide service levels for proposed services leaving the City at risk. For example, the proposal states that: "County shall not guarantee continuous uninterrupted access to and availability of applications and functionalities within the scope of this agreement."

Recommendation:
The current proposal contains no service levels. If the City and County are uncomfortable defining service levels at this point, the agreement at a minimum should include service level criteria. Detailed service levels should be established in a later agreement.

Issue #19: Lack of Dispute Resolution Process

Throughout implementation, issues will arise that necessitate a dispute resolution process.

Recommendation:

GFOA recommends the following dispute resolution language:

> *In the event of any dispute or disagreement between the City and County, whether with respect to the interpretation of any provision of the Agreement, or with respect to the performance of either party hereto each of the parties will have their respective Project Managers meet for the purpose of endeavoring to resolve such dispute or negotiate for an adjustment to such provision. If a resolution to such dispute does not occur during such meeting or within three (3) business days thereafter, the parties agree to elevate the dispute to a meeting of the City's XXX and the County's XXX. If a resolution to such dispute does not occur during such*

COP000491

meeting or within three (3) business days thereafter, the parties agree to elevate the dispute to XXXX and XXX. If the City and the County are unable to reach a mutually agreeable resolution after such meeting, the County's Administrator will make a final determination.

Issue #20: Lack of Other Key Project Terms and Conditions

As stated previously in this report the GFOA has significant experience negotiating these types of agreements for municipal governments similar to the City. GFOA has developed significant expertise in these matters and has substantial previous agreements available to provide a baseline for the City.

Recommendation:

The GFOA strongly recommends that the City give itself adequate time to negotiate an agreement that is fair and equitable to both the County and the City. There are several key terms and conditions absent from this agreement that GFOA includes in any service agreements that we assist with negotiating. The City should allow proper time to make sure that these terms, many of which would serve to protect both the City and the County are included in any finalized agreement.

Appendix A - ERP Background

The implementation of an integrated enterprise resource planning (ERP) system can be a sizeable and challenging endeavor, requiring a significant amount of effort to ensure success. However, governments of all sizes are currently utilizing ERP systems and realizing significant benefits from system integration, adaptation of best business processes, and advantage of technology and automation. In all cases those benefits are the end result that often comes from significant efforts in planning, implementation, and training. Governments that have attempted to "cut corners" often find the project to be very difficult and often implement a system that fails to meet expectations or at worst is incapable of meeting business needs and supporting the operations of the organization. As such, ERP implementations represent some of the most important projects that a government will undertake. At a minimum, any modern ERP system should contain the following defining characteristics of ERP.

1) Specific Functionality to Meet Business Needs

As ERP systems evolve, vendors continue to enhance public sector specific functionality such as advanced budgeting, grant management, and performance management capabilities. Many of these features were not available or not specifically available to the public sector when the City first implemented PeopleSoft. As functionality is enhanced, use of the system can be expanded to eliminate the need for other redundant systems. This would allow the City to reduce the number of systems to maintain. The following chart lists common components of an ERP system. While not all organizations implement the entire list of functional areas, those that do not are not able to take full advantage of the technology and the benefit of integrated data.

Components of ERP			
Core Financials	**Human Resource Management**	**Work and Material Management**	**Treasury Management**
▪ General Ledger ▪ Budget ▪ Financial Reporting ▪ Accounts Payable ▪ Project Accounting ▪ Grant Accounting ▪ Activity Costing	▪ Personnel ▪ Payroll ▪ Benefits ▪ Time and Labor ▪ Position Control ▪ Billing ▪ Travel Expense	▪ Purchasing ▪ Capital Projects ▪ Fleet Maintenance ▪ Asset Management ▪ Inventory ▪ Work Orders	▪ Utility Billing ▪ Tax Billing ▪ Business Licenses ▪ Accounts Receivable ▪ Cash Management

2) Modern Technology Standards

Current ERP systems are built using modern programming languages, standards, and technical architectures. This technology includes administrative and programming toolsets that enable developers to configure, modify, and customize the systems and also aid in the design of interfaces and security. In addition, systems are now utilizing service oriented architecture and standard middleware to allow them to perform business process management These business logic controlling workflows easily exchange data and thus allow other administrative systems to integrate with the ERP system.

3) Workflow

Workflow allows for the automation of business processes within the ERP system. By routing approval and notifications through the system based on triggering events, the system can help automate many paper intensive processes such as purchasing approvals, personnel actions, budget preparation, and payroll time entry. Workflow capabilities are responsible for many of the business process improvements that the City should benefit from as part of any systems implementation.

4) Advanced Reporting

"We know the data is in there, but we can never get it out," is a common complaint end-users voice about legacy systems. ERP systems are associated with powerful reporting and information analysis capabilities available system-wide because the system operates using a common relational database making information available across the organization. Unlike legacy systems, ERP systems focus less on standard reports and more on "ad hoc" reports that end-users design and can customize themselves with real-time data. Most importantly, these report features eliminate the need for manually pulling information from multiple sources. Analytic capabilities within most report writers will allow for direct manipulation of data in the system such as "what-if" analysis. This can have a profound impact on budget forecasting.

5) Flexibility in Chart of Accounts to Meet Managerial and Financial Reporting Needs

A common complaint of end users is that legacy systems do not permit the capture of expenditure detail below the budgetary control level.

The chart of accounts (COA) is an important element in determining the overall usefulness of a financial system. The COA supports financial reporting and budgetary requirements. In addition, the COA structure should be flexible enough to incorporate more detailed information often kept outside of the legacy system, while maintaining the integrity of the overall reporting and budgetary structure. A flexible COA structure based on relational database concepts is one element of ERP that can improve reporting and eliminate many "shadow" systems from proliferating in an organization.

COP000494

6) Web Enabling and Internet Capabilities

Using an ERP system that is web based and accessible through a browser such as Internet Explorer or Mozilla Firefox allows for easier access to the system and easier maintenance on the system. Accessing the system through a browser also makes it possible to allow the City's remote facilities, employees working from home, vendors, and citizens access to portions of the system to view or update information. In addition, systems allow for capabilities to make information available to the public through the web or through portals. Allowing this access will decrease staff time spent responding to inquiries.

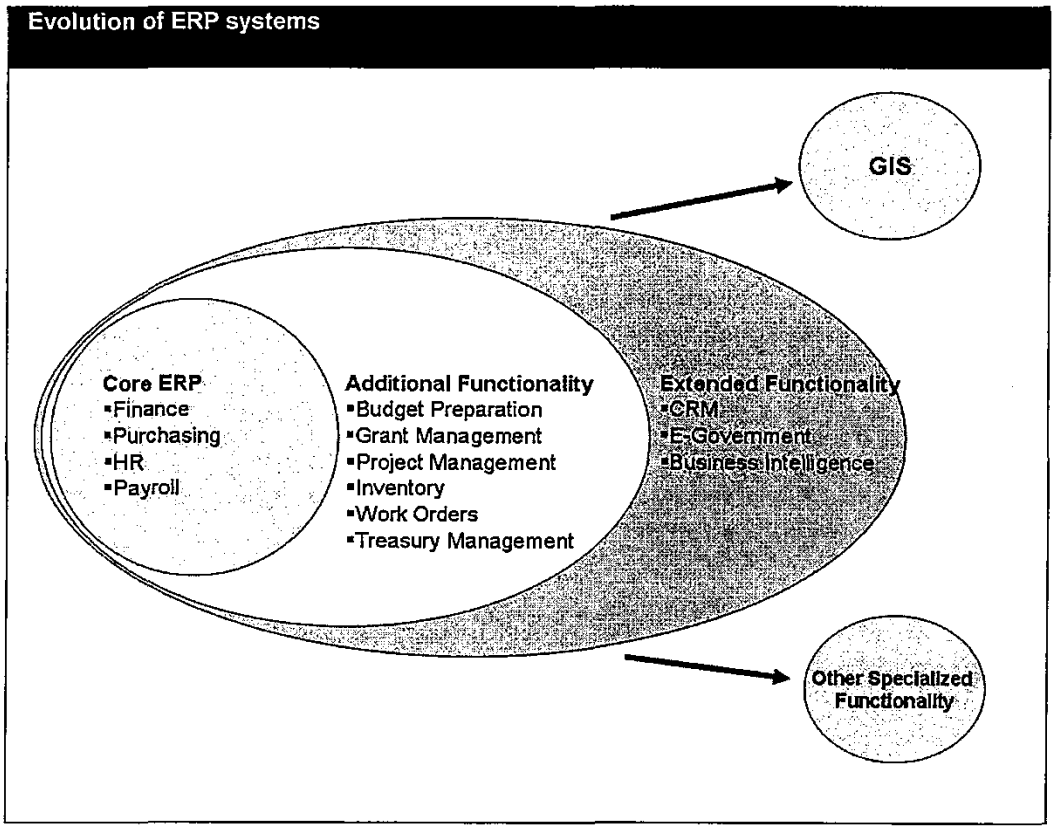
7) Microsoft Office Integration

Microsoft's business productivity applications (Word, Excel, and Outlook) are and will be essential for completing the City's business processes with or without an ERP system. However, ERP systems now offer direct integration with Microsoft Office applications that allow for automatic download and upload capabilities that removes the need to re-key data. By easily moving data in and out of the ERP system, staff is allowed to perform more value added analysis to support business decisions using current and accurate information.

8) Self Service

Most ERP systems allow for vendors and employees to access portions of the system. By pushing out responsibilities for data entry, staff can focus more on managing the information and less on the time-consuming processes that staff must perform to key information into the system. Self service capabilities also allow for a better customer service experience. Today, everyone takes advantage of self service capabilities from the private sector such as package tracking from delivery services, on-line banking, on-line bill pay, on-line tax filing, etc. ERP systems (or other similar systems) allow for this type of citizen service experience.

Using ERP to Create Framework for Technology Investments

Generally, ERP systems evolve where the core functionality (such as general ledger, purchasing and HR) is delivered first, followed by non-core functionality such as budget preparation, work orders, and inventory. Some organizations only implement the core functionality. However, when implementing the core functionality, it is essential that it be done correctly and with future goals in mind. The core serves as the foundation that other modules and functional areas will be built upon. Failure to establish this solid foundation will often result in higher costs going forward as modules will need to be re-implemented or functionality will simply be lost when implementing those "extended features.
"

The following diagram summarizes the ERP systems evolutionary path. Note however, the path is not a completely linear one. ERP system vendors may offer a variety of solutions across any or all of these categories.