



City of Boise

Enterprise Resource Planning (ERP)
Return on Investment (ROI) Analysis

August 1, 2008





Practical Planning
Positive Change

August 1, 2008

Lisa Schoenfelder
IT Application Services Manager
City of Boise
150 North Capital Blvd
Boise, ID 83702

Re: Enterprise Resource Planning Return on Investment Analysis Final Report

Dear Lisa:

PTI is pleased to present this final Enterprise Resource Planning Return on Investment Analysis report to the City of Boise. This report documents the analysis, findings, and recommendations from our work conducted from March through June of 2008.

I would like to take this opportunity to thank you, the project's steering committee members, and other selected City staff involved in this project. Your collective interest, participation, feedback, and effort helped drive the creation of this report.

We look forward to meeting with the IBT and EMT on August 20th, 2008 to present and discuss key findings from our analysis.

Please call me at (425) 881-3991 with any questions or concerns about this deliverable.

Thanks and best wishes,

A handwritten signature in black ink, appearing to read 'Dan Borgen', is placed over a light gray rectangular background.

Dan Borgen
Co-Chief Executive Officer
Pacific Technologies, Inc.



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1. Executive Summary



Executive Summary

Pacific Technologies, Inc.'s (PTI) 2005 Strategic Information Technology (IT) Plan for the City of Boise (the City, Boise) concluded that the City is underutilizing and under-supporting its Tier 1 Enterprise Resource Planning (ERP) software (Oracle's PeopleSoft). At that time, the City suffered from a lack of business process optimization (notably in the areas of payroll, cash receipting, and the use of workflow), ineffective timekeeping automation, inadequate training, and the existence of myriad "shadow" applications and work-arounds to address perceived system deficits. Currently, the City utilizes a significant proportion of its IT labor to operate and maintain the PeopleSoft system. In addition, the City pays relatively expensive licensing and maintenance fees. It is also smaller in size than Oracle's core target market for the PeopleSoft product.

This situation is complicated by the fact that the first series of Oracle Fusion applications are due for general release in 2008. These products represent the cornerstone of Oracle's plan to combine the "best" functions and features of nearly 30 acquisitions made in three years onto a single platform – a plan receiving much skepticism in the marketplace.

Within this overall context, the City seeks a viable, long-term ERP solution aligned with its strategic business goals. The City engaged PTI to help identify a solution that supports the "best-fit" direction for the City by conducting a thorough return-on-investment (ROI) analysis. The selected ERP solution must align with the City's overall business goals – in support of the "One Boise" strategy.

Project Approach

PTI utilized its proven feasibility analysis framework, tailored to the City's needs, to guide this project. PTI's staff conducted the work in three phases. Phase one determined the present and future costs of the current Enterprise Resource Planning (ERP) system, PeopleSoft. It also identified the City's business priorities, strengths and weaknesses of the current ERP system, future objectives for the ERP system and high value opportunities for business process improvement. The second phase assessed the current ERP marketplace, gathered comparable ERP system data from four "sister cities," defined three ERP alternatives for analysis, validated high-level cost assumptions, and developed a return on investment model for each of the defined alternatives over a 15-year time period. The third and final phase established the relative merit of the defined alternatives, facilitated the project steering committee to agreement on a preferred option, and documented the analysis. The project culminates with a final presentation to members of the Interdepartmental Business Team (IBT), the Executive Management Team (EMT), and other key stakeholders.

The City seeks a viable, long-term ERP solution aligned with its strategic business goals

ERP Market Overview

To provide a clear picture of ERP automation opportunities available to the City of Boise and to support the analysis, PTI conducted market research with various municipal ERP software vendors. These vendors participated in the market research by delivering presentations to PTI's consulting team and/or providing cost information for their respective ERP solutions.

PTI categorized the ERP product marketplace as follows:

- **Tier 1** – vendors with comprehensive, flexible software targeted toward large accounts
- **High-End Tier 2** – vendors with comprehensive packages that offer limited tailoring and less functionality than tier 1 products, and are targeted toward large and mid-size accounts
- **Low-End Tier 2** – vendors with products that are not as functionally rich and have little-or-no tailoring capabilities, targeted toward small accounts

Alternatives Definition

Based on analysis of the City of Boise's preferred functional scope and requirements, PTI defined three alternatives to address the City's ERP system needs and validated these alternatives with the City's steering committee. The alternatives include:

- **Baseline: Optimize and maintain PeopleSoft** – invest in the PeopleSoft application (e.g., purchase new modules, install upgrades)
- **Option 1: Implement a high-end Tier 2 solution** (e.g., replace PeopleSoft with Lawson, Sungard IFAS, Agresso)
- **Option 2: Implement a low-end Tier 2 solution** (e.g., replace PeopleSoft with Sungard HTE, Tyler Technologies MUNIS)

It is important to note that each of these options assumes extensive business process reengineering to improve service efficiencies, aligned with the City's "One Boise" strategy.

PTI defined three alternatives to address the City's ERP system needs:

Baseline: Optimize and maintain PeopleSoft

Option 1: Implement a high-end Tier 2 solution

Option 2: Implement a low-end Tier 2 solution

Decision Criteria

PTI identified seven criteria to use as a basis for evaluating the three ERP system options. The City's project steering committee assigned each individual criterion a weight. More important criteria received higher point values and less important criteria received lower point values.

ERP Solution Decision Criteria

Decision Criterion	Weight (Points)
Best Long-Term Position – ability of the option to provide an enduring, sustainable solution for enterprise resource planning in alignment with the City's strategic plan	22
Best Functional Capability – extent and variety of features offered by the option	21
Best Organizational Acceptance – relative willingness of City staff to undertake the option based on the ability to gain project support and buy-in	18
Lowest Cost – relative savings of the alternative options compared to the baseline	18
Lowest Technical Skill Requirements – relative ease for the City to acquire/develop and maintain the necessary technical skills to support the option	8
Best Technical Architecture – modernity of the solution's technological design	7
Best Political Viability – relative ability and willingness of City decision makers to pursue and fund the option	6
Total Weight	100

Evaluation Summary

PTI facilitated a session with the City's steering committee to rate the alternatives against all seven criteria. The committee assigned a score of 1 to 10 for each criterion, with 10 representing the best possible score. Scores for a specific criterion reflect how well that option's end state achieves the criterion's primary objectives.

PTI multiplied each score by its respective criterion weight, and summed those to derive a single weighted score for each alternative. The highest total score indicates the most favorable option. The table on the following page presents results for the three options. **Based on the steering committee's assigned values, Option 1 – Implement a high-end Tier 2 solution, received the highest total score.**

PTI identified seven criteria to use as a basis for evaluating three ERP system options.

ERP Solution Decision Matrix

Evaluation Criteria	Criterion Weight	Baseline: Maintain and Optimize PeopleSoft		Option 1: Implement a high-end Tier 2 solution		Option 2: Implement a low-end Tier 2 solution	
		Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
Best Long-Term Position	22	6	132	7	154	5	110
Best Functional Capability	21	9	189	8	168	4	84
Best Organizational Acceptance	18	6	108	8	144	4	72
Lowest Cost	18	5	90	8	144	10	180
Lowest Technical Skill Requirements	8	5	40	6	48	7	56
Best Technical Architecture	7	7	49	8	56	6	42
Best Political Viability	6	3	18	6	36	4	24
Total Score	100	41	626	51	750	40	568

Based on the steering committee's assigned values, Option 1 received the highest total score.

Cost-Benefit Analysis

PTI developed cost estimates for Options 1 and 2 by speaking with ERP vendors, reviewing recent ERP cost proposals, and comparing actual implementation and maintenance costs incurred by other municipalities for recent implementations. The City provided current ERP spending information and cost estimates for the Baseline option, including new modules and necessary upgrades. The cost estimates employ both one-time and recurring costs to calculate total expenditures over a 15-year period.

Using these estimates, PTI conducted a cost-benefit analysis (CBA) to compare the present value of the Baseline alternative with the present values of Options 1 and 2.

The table on the following page summarizes our analysis:

ERP Solutions Cost/Benefit Analysis

OPTIONS ANALYSIS	Net Present Value ¹	15-Year Total Cash Flow ²
Baseline: Maintain and optimize PeopleSoft	n/a	(\$28,400,003)
Option One: Implement a high-end Tier 2 solution	\$5,063,691	(\$19,598,436)
Option Two: Implement a low-end Tier 2 solution	\$9,360,634	(\$13,919,634)
Current City Expenditures		
Expected PeopleSoft Spending³	\$7,152,503	(\$18,349,626)

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¹Net Present Value (NPV) quantifies the difference, in today's dollars, between an option's future cash flows and a baseline investment. A positive net present value indicates a financial benefit over the baseline, taking into account factors that influence the time value of money. In this analysis, both Options One and Two demonstrate a relative financial benefit in 2008 dollars.

² 15-Year Total Cash Flow totals the dollars spent on an option over a 15-year period, including one-time costs, recurring cost, inflation, and expenditures for three anticipated version upgrades.

³ Expected PeopleSoft spending is provided for reference purposes to indicate what the City would pay for PeopleSoft even if no effort was made to improve the implementation. It demonstrates a financial benefit over the Baseline option, as the Baseline alternative requires additional expenditures for new modules, training, and enhanced IT support.

Rationale

The following table presents a brief description of the steering committee's scoring rationale for each criterion.

ERP Alternatives Scoring

Criterion	Baseline	Option #1	Option #2	Rationale
Best Long-Term Position	6	7	5	Of the three options reviewed in this report, high-end Tier 2 solutions scored the highest due to a greater vendor commitment to middle market customers (such as the City of Boise). The Baseline PeopleSoft option scored lower due to uncertainty around the transition to Fusion applications and weaker support for middle market customers. Low-end Tier 2 solutions do not scale as well and are typically sold by smaller, less stable vendors. Tier 2 solutions would struggle to meet "One Boise" objectives.
Best Functional Capability	9	8	4	PeopleSoft offers the widest range of available functionality and stronger tailoring capability among the selected alternatives. However, high-end Tier 2 vendors currently provide a similar breadth of automation. Both of these options can meet the City of Boise's strategic business needs. Low-end Tier 2 solutions offer limited flexibility and functionality.
Best Organizational Acceptance	6	8	4	The steering committee felt that City staff would be most willing to undertake the organizational change necessary in the context of a new system implementation. Implementation of a new ERP system provides the City with an opportunity to improve upon current business processes. As such, the high-end Tier 2 solution received the highest score. The committee also judged that implementing a less functional system would significantly undermine morale and inhibit staff buy-in. For these reasons, the low-end Tier 2 solution received the lowest score.
Lowest Cost	5	8	10	Cost scores were assigned proportionally based on the results of the cost-benefit analysis. The low-end Tier 2 solution, the least inexpensive, received the highest score, while the current PeopleSoft system, the most expensive, received the lowest score.

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Criterion	Baseline	Option #1	Option #2	Rationale
Lowest Technical Skill Requirements	5	6	7	Low-end Tier 2 solutions received the highest score. Their relatively small size and simpler architecture make these solutions easier to support. Both PeopleSoft and high-end Tier 2 solutions require specialized IT support and development skills. However, marketplace demand is higher for PeopleSoft specialists, making them more expensive and harder to retain, so the Baseline option received the lowest score.
Best Technical Architecture	7	8	6	Most high-end Tier 2 solutions have been redesigned recently to utilize open architecture standards and modern database design. PeopleSoft's underlying database is a legacy system and, while still relatively robust, it is slowly falling behind modern technologies. Low-end Tier 2 vendors typically do not have the resources to overhaul their systems' underlying code. As a result, low-end Tier 2 solutions are relatively rigid, difficult to integrate, and have scale limitations.
Best Political Viability	3	6	4	The lingering dissatisfaction with the PeopleSoft implementation will most likely make a new ERP solution more palatable to the City Council, especially one that offers functionality capable of supporting the City's long-term strategic plan.

Based on this analysis, the project's steering committee concluded that procuring and implementing a high-end Tier 2 ERP product represents the most favorable solution for the City of Boise.

Next Steps

As noted previously, the project's steering committee concluded that Option #1 (Implement a high-end Tier 2 solution) represents the most favorable solution for the City of Boise.

If the City's executive management team (EMT) concurs with this assessment, PTI recommends the following next steps:

Implement a High-End Tier 2 Solution – Next Steps⁴

Next Step	Estimated time (in months)	Estimated IT staff labor (in hours)	Estimated business unit labor (in hours)
1. Develop baseline measures for high-value ERP opportunity areas	1	10	400
2. Invite high-end Tier 2 vendors to provide product demonstrations	1	80	480
3. Consider visiting high-end Tier 2 system installations	1	32	160
4. Do not upgrade the current PeopleSoft system; terminate the current PeopleSoft maintenance contract	---	---	---
5. Contract with a 3 rd party for required PeopleSoft system updates; use the savings to build an ERP replacement fund	2	40	40
6. Establish a governance structure for the new ERP implementation project	1	10	30
7. Begin the procurement process, including: contracting for procurement assistance, defining requirements, developing a request for proposal (RFP), etc.	9	100	200
8. Reengineer ERP business processes with consideration of the new ERP system's capabilities	TBD	TBD	TBD

⁴ Many of these next steps overlap and will not need to be completed sequentially

If Boise pursues an alternative ERP solution, the City should expect inquiries by Oracle. Oracle may want to participate in the new selection or attempt to renegotiate the current relationship. The City should remain open to these entreaties.

If the EMT decides to remain on its current ERP platform, PTI recommends the following steps:

Maintain and Optimize PeopleSoft – Next Steps

Next Step	Estimated time (in months)	Estimated IT staff labor (in hours)	Estimated business unit labor (in hours)
1. Upgrade PeopleSoft ⁵	18	2,500	1,250
2. Develop baseline measures for high-value ERP opportunity areas	1	10	400
3. Reengineer ERP business processes with consideration of PeopleSoft’s capabilities	TBD	TBD	TBD
4. Fully implement already purchased PeopleSoft modules ⁶	12	2,400	1,200
5. Increase PeopleSoft ongoing support to 6 full-time equivalency (FTE) employees within the next year and to 7 FTEs within the next three years	---	---	---
6. Increase staff training within business units	6	---	450

⁵ Costs for steps 1 and 4 are included together as capital (one-time) costs under “internal labor” in the cost model

⁶ See previous footnote



2. Current Environment



Current Environment

The City of Boise faces multiple, complex challenges, chief among them the trends of rising population and service demands with limited or even reduced financial resources.

Boise's Strategic Plan outlines the following key operational objectives:

- Provide continuous program performance feedback
- Increase fiscal acumen and accountability
- Focus on delivering core services
- Work as "one city"

The City relies on its core administrative systems, also referred to as its enterprise resource planning (ERP) system, to support these citywide goals. Unfortunately, the City's existing ERP system (Oracle's PeopleSoft) has failed to achieve these strategic objectives.

The City of Boise's information technology strategic plan, developed in 2005, concluded that the City is underutilizing and under-supporting PeopleSoft. At that time, the City suffered from a lack of business process optimization (notably in the areas of timekeeping and payroll, cash receipting, and the use of automated workflow), inadequate user training, and the existence of myriad "shadow" applications and work-arounds to address perceived system deficits. Currently, the City utilizes a significant proportion of its IT labor to operate and maintain the PeopleSoft system. In addition, the City pays relatively expensive licensing and maintenance fees and does not fall into Oracle's target market for the PeopleSoft product.

This situation is complicated by the fact that the first round of Oracle Fusion applications are due out in 2008. These applications represent the cornerstone of Oracle's plan to combine the "best" functions and features of nearly 30 acquisitions made in three years onto a single platform, resulting in confusion and uncertainty in the marketplace.

The following section documents our project approach and methodology and identifies key findings – including opportunities for business process improvement. The remainder of this document presents the results of our alternatives analysis.

The City of Boise is underutilizing and under-supporting PeopleSoft.

Project Approach and Methodology

In February 2008, the City of Boise engaged Pacific Technologies, Inc. to:

- Assess the capabilities and costs of the current PeopleSoft system
- Identify specific areas to leverage automation for business process improvement
- Compare various ERP solutions to PeopleSoft in terms of cost, functionality, technical architecture, and risk
- Identify an ERP solution that supports the “best-fit” direction for the City and aligns with the “One Boise” strategy

We conducted our work with the City in two phases:

- Current Environment
- ERP Alternatives Analysis

Current State Assessment

Nearly 100 city executives, business managers, IT professionals, business specialists, and end users participated in interviews and focus groups with PTI. Management-level interviews helped PTI identify key issues, opportunities, and objectives for the City’s ERP system. Our team used focus groups to assess the qualitative strengths and weakness of the PeopleSoft ERP system as well as identify opportunities to leverage automation and streamline business processes. PTI also reviewed the City’s strategic plan, strategic information technology plan, and existing timekeeping, payroll, and other evaluation studies to help assess the City’s current ERP position.

During the information gathering process, PTI worked with the City’s steering committee to establish an appropriate functional scope for the ERP system assessment and to validate high value areas for improvement.

The table on the right defines the functional scope of an ERP system for the City of Boise.

ERP System Functional Scope
Financial Management <ul style="list-style-type: none"> • General ledger • Purchasing, accounts payable • Accounts receivable and cash receipting • Budgeting • Project and cost accounting • Treasury
Human Resources Management <ul style="list-style-type: none"> • Timekeeping and payroll • Position control • Recruiting • Learning management • Performance appraisal
Grant Management
Contract Management
Decision Support
Real Property Management

Nearly 100 city executives, business managers, IT professionals, business specialists, and end users participated in interviews and focus groups with PTI.



PTI analyzed the projected return on investment for three ERP solutions over the next 15 years.

The City provided cost data related to the operations and maintenance of the existing PeopleSoft system, as well as for upgrades, providing a basis against which to compare the cost of alternative options.

ERP Alternatives Analysis

PTI researched the current ERP vendor market offerings to identify alternative ERP solutions for the analysis. The City's steering committee validated three alternatives for detailed analysis in this study. PTI established high-level assumptions related to the cost analysis, which the steering committee also validated.

Our team analyzed the return on investment for each of the alternatives, comparing their relative financial performance over a 15-year period. PTI presented the results of the cost analysis to the steering committee for validation, revision, and approval. All of the analyzed alternatives include significant investment in business process reengineering, training, and resources.

PTI also conducted a sister-city survey of four comparable municipalities with ERP systems in place to identify best practices and lessons learned surrounding ERP implementation and management, and presented these findings to the steering committee.

Current ERP Assessment

Based on information gathered from focus groups, interviews, City planning documents, and technical inventories, PTI identified key findings in three major areas:

- **Implementation and maintenance** – findings centered on the initial PeopleSoft implementation as well as the resources and processes use to maintain the system
- **Business processes** – issues concerning the City's current operations and methods of providing service to the public
- **Cultural and organizational fit** – perceptions regarding the cost and complexity of the current system and its alignment with the City's strategic goals

Implementation and Maintenance

- Initial implementation appears to have been underfunded
- Some purchased modules were not fully implemented
- Financials and human capital management were not properly integrated

- Users still rely on non-ERP systems for many finance and human resource (HR) functions
- User training was inadequate for both transactional users and report development
- The implemented solution is heavily “PeopleTooled” and requires high levels of IT support
- Boise IT does not have sufficient staffing levels to support PeopleSoft
- Boise implemented fewer modules than its sister cities and is not using PeopleSoft to its full potential
- There is some industry concern regarding the future of PeopleSoft (e.g., Fusion)

Business Processes

- The City did not optimize business processes for the package, particularly in the areas of timekeeping, payroll, accounts receivable, recruiting, and workflow automation
- Many manual and paper-intensive work processes remain
- Many shadow systems exist
- Reporting is heavily dependent on IT staff
- There is significant redundant data entry
- Sister cities using PeopleSoft are centralizing many business processes

Cultural and Organizational Fit

- Some believe PeopleSoft “could be made to work” and the City should not abandon it
- Others perceive PeopleSoft is “too big for Boise” and “not worth the money”
- Many see PeopleSoft as “not user-friendly”
- PeopleSoft requires consistency of business practice and “expert-level” users

High-Value ERP Opportunities

In collaboration with the City steering committee and based on our assessment findings, PTI identified high-value opportunities for improvement. These areas may contain critical bottlenecks that impede staff productivity, reduce data integrity, and inhibit customer service, or may benefit dramatically from

Although PeopleSoft is a viable product, concerns surround its cost, implementation and maintenance, related business processes, and cultural fit.

improved business processes and/or better automation. The following table describes these problem areas and their attendant opportunities, if addressed.

High Value ERP Opportunities

Function	Problem Areas	Opportunities
Accounts payable, purchasing, inventory	<ul style="list-style-type: none"> • Proliferation of manual processes (e.g., contract status, inventories, receiving) • Redundant data entry for some approval processes • Lack of integration with other core applications (e.g., Hansen) 	<ul style="list-style-type: none"> • Streamlined procurement processes • Improved vendor management • Integration with cashiering and point-of-sale systems • Integrated tracking system and status updates • More timely purchasing and inventory data
Accounts receivable, billing	<ul style="list-style-type: none"> • Siloed approaches to receivables • Inability to support “pay anywhere” 	<ul style="list-style-type: none"> • Consistent billing processes across the City and more efficient access to data • Simplified constituent and vendor payments and collections • Enhanced customer experience
Budgeting / budget forecasting	<ul style="list-style-type: none"> • Reliance on shadow applications and manual processes • Lack of integration with human resource and financial modules 	<ul style="list-style-type: none"> • Improved and streamlined decision making • Clearer alignment with City strategic plan
Cash accounting	<ul style="list-style-type: none"> • Manual changes from cash basis to accrual accounting 	<ul style="list-style-type: none"> • Reduced labor hours
Contract / grant management	<ul style="list-style-type: none"> • No grant management automation • Manual processes for compliance tracking and reporting 	<ul style="list-style-type: none"> • Streamlined contract and grant management processes • Improved contract status tracking • Enhanced grant reporting

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Function	Problem Areas	Opportunities
Internal cost allocation	<ul style="list-style-type: none"> • Inability to easily and accurately cost key activities/services • Multiple shadow applications 	<ul style="list-style-type: none"> • Improved decision making • Increased accountability and transparency • Enhanced opportunities to reduce costs and increase revenues
Operational reporting	<ul style="list-style-type: none"> • Most reporting performed manually • Does not meet management reporting needs 	<ul style="list-style-type: none"> • Simplified reporting • Support for departmental and central finance decision making
Payroll	<ul style="list-style-type: none"> • Extremely time-consuming process • No automated rules (e.g., overtime, compensatory time) • Limited employee access to personal employment information 	<ul style="list-style-type: none"> • Increased productivity • Simplified payroll calculation process • Improved employee self-service
Project accounting (capital improvement projects)	<ul style="list-style-type: none"> • Duplicate entry and manual reconciliation • Limited or no access to project history • No ability to allocate budgets across multiple years 	<ul style="list-style-type: none"> • Reduced labor hours • Support for project management and budgeting throughout the project life cycle
Recruiting	<ul style="list-style-type: none"> • Complicated online application process • Complex applicant review process • No automated applicant tracking or notification for changes in applicant status or job postings • Workarounds and shadow applications for job classification and description 	<ul style="list-style-type: none"> • Increased applicant self-service • Shortened applicant review cycle time • Enhanced hiring decisions • Streamlined interdepartmental communications and information access • Simplified posting and hiring process

Function	Problem Areas	Opportunities
Timekeeping	<ul style="list-style-type: none"> • Duplicate entry into disparate systems • Varying departmental standards • Manual time entry 	<ul style="list-style-type: none"> • Reduced redundant data entry and increased accuracy • Simplified processes with associated efficiency improvements • Improved time-entry automation and security

The City has an opportunity to benefit from automated workflow.

In addition to improving the automation of these business functions, the City also has an opportunity to benefit from automated workflow. Automated workflow can:

- Enable automatic routing of electronic documents
- Send documents to the right people at the right time
- Distribute documents to multiple recipients, minimizing wait times
- Notify key stakeholders when action needs to be taken or has been completed
- Guarantee secure flow of information

The following chapter presents an analysis of ERP alternatives, including an overview of ERP vendor offerings, peer-city comparisons, and an evaluation of the three ERP alternatives.



3. ERP Alternatives Analysis

ERP Alternatives Analysis

This chapter presents the results of PTI's ERP alternatives analysis, organized as follows:

- ERP Market Overview
- Sister City Survey Results
- Cost-Benefit Analysis
- Pros and Cons
- Decision Criteria

ERP Market Overview

To provide a clear picture of ERP automation opportunities available to the City of Boise, and to support the analysis, PTI conducted market research with various municipal ERP software vendors. The work included inviting selected vendors to present their solution at PTI's office, interviewing vendors by phone, acquiring cost estimates for implementation and maintenance from vendors, reviewing recent ERP installation bids to gather cost data, and gathering information about actual implementation and maintenance costs incurred by other municipalities.

Vendors listed in the table below contributed cost data or other information evaluated in this study.

ERP Software Vendors Contacted

Vendor	Web Address
Agresso	www.agresso.com
Lawson	www.lawson.com
Oracle	www.oracle.com
Sungard	www.bi-tech.sungardps.com
Tyler Technologies, Inc.	www.tylertech.com

The ERP automation marketplace can be organized into three tiers of vendors:

- **Tier 1** – vendors with comprehensive, flexible software targeted toward large accounts

PTI conducted market research with various municipal ERP software vendors.

- **High-End Tier 2** – vendors with comprehensive packages that offer limited tailoring and less functionality than tier 1 products, and are targeted toward large and mid-size accounts
- **Low-End Tier 2** – vendors with products that are not as functionally rich and have little-or-no tailoring capabilities, targeted toward small accounts

The table below lists major ERP software vendors by market segment.

Major ERP Software Vendors

Tier 1	High-End Tier 2	Low-End Tier 2
<ul style="list-style-type: none"> • Oracle: <ul style="list-style-type: none"> > Oracle > PeopleSoft > SAP 	<ul style="list-style-type: none"> • Agresso • Lawson • Oracle – JD Edwards • Sungard Data Systems – Bi-Tech IFAS 	<ul style="list-style-type: none"> • Harris Computer Systems – Government e-Management Systems (GEMS) • Microsoft Navision • Springbrook • Sungard Data Systems – HTE • Tyler Technologies, Inc: <ul style="list-style-type: none"> > Eden Systems > MUNIS

Based on PTI’s experience and market research conducted for this project, Tier 1 solutions:

- **Have a high cost of implementation due to greater license fees and system complexity** – Tier 1 products typically have higher maintenance and support costs; they can exceed that of Tier 2 solutions by more than 300%
- **Make significant support demands on IT staff** – Tier 1 solutions often divert additional resources toward maintaining the ERP system
- **Tend to concentrate on their very large accounts** – Smaller customers’ needs typically have a lower priority

High-End Tier 2 solutions:

- **Do not offer all the complete functionality that Tier 1 systems deliver** – However, high-end Tier 2 systems generally meet the needs of large and medium-sized cities.

- **Cost significantly less than Tier 1 solutions** – The cost savings of a high-end Tier 2 system can free up resources to support other needs and goals
- **Are more likely to provide personalized support** – The service-oriented approach taken by most high-end Tier 2 vendors alleviates staff concerns about the level of vendor customer service and support

Low-End Tier 2 solutions:

- **Are relatively inexpensive to purchase, implement, and maintain** – Low-end Tier 2 systems provide a low total cost of ownership
- **May not meet the functional requirements of large- and medium-sized cities** – The limited functionality offered by a low-end Tier 2 system can be a step backward from the current platform
- **Do not receive the research and development investment of Tier 1 and Tier 2 products** – Typically, low-end Tier 2 solutions lag significantly in adopting new technologies and extending functionality

Sister City Survey Results

To augment our market research, we conducted a survey of selected cities, which have implemented ERP solutions. The following four cities responded to the survey:

- City of Colorado Springs, CO
- City of Eugene, OR
- City of Reno, NV
- City of Sacramento, CA

Appendix B documents the results of this sister city survey.

Lessons Learned

Most Important ERP Lessons Learned

Participants were asked, “What lessons have you learned regarding initial ERP implementation, integration and interfaces, training, change management and communication? What worked well for you? What did not work well?” Respondents cited the following lessons learned as the most important factors for success.

- **Gain executive support and buy-in** – *upper level champions must encourage frontline buy-in and ensure adequate resources for a successful implementation*

- **Maintain an enterprise perspective** – *interdepartmental planning, integration, and interfacing enable more extensive exploitation of the system's inherent capabilities*
- **Favor business process change over ERP customization** – *customizations increase the difficulty and cost of subsequent upgrades*
- **Invest in professional, experienced implementation assistance** – *a successful implementation encourages buy-in and ownership at all levels and increases the likelihood that the system will reach its full potential, while a poor implementation can 'poison the well' and encourage resistance*
- **Emphasize change management** – *a smooth, incremental change process improves user comfort, familiarity with the system, and acceptance of cultural change*
- **Provide sufficient user training** – *users must be fully trained to realize the full benefits of an ERP solution, regardless of vendor*
- **Set realistic deadlines and expectations** – *overambitious implementation leads to loss of morale and increased resistance to change; undue pressure on frontline staff hinders the learning and transition process*
- **Establish structured governance bodies and processes** – *system effectiveness depends on clearly communicated business priorities, approval methods, and delineation of responsibilities*
- **Keep software upgrades current** – *consistent upgrades allow the staff to 'grow' with the system and leverage new features/functionality*

Business Process Change and Reengineering

Participants were asked, "What lessons have you learned regarding business process reengineering attendant to your ERP implementation? What worked well for you? What did not work well?"

Respondents most frequently cited the following lessons learned regarding business process reengineering.

- **Take a positive approach** – *a focus on benefits offered by the system improves staff commitment to the project and leads to a more successful implementation*
- **Expect resistance to culture change** – *plan and allocate sufficient resources for change management from a project inception to ensure users accept new ways of doing business and fully leverage the capabilities of the system*
- **Change processes to match ERP vendor recommendations** – *using vendor recommended practices result in more efficient and effective business processes*

- **Budget adequate time and resources for education and training** – *subject matter experts need appropriate skills to fully utilize the ERP solution’s functionality and realize the potential return on investment*

Alternatives Definition

PTI and the City’s steering committee identified the following three alternatives for this return on investment analysis.

- **Baseline: Optimize and maintain PeopleSoft** – invest in the application (e.g., purchase new modules, install upgrades)
- **Option 1: Implement a High-End Tier 2 solution** (e.g., Lawson, Sungard IFAS, Agresso)
- **Option 2: Implement a Low-End Tier 2 solution** (e.g., Sungard HTE, Tyler Technologies MUNIS)

It is important to note that each of these options assumes extensive business process reengineering to improve service efficiency in accordance with the “One Boise” strategy.

Cost-Benefit Analysis

PTI derived cost estimates for ERP system implementation and maintenance by speaking with ERP vendors, reviewing recent ERP cost proposals, and comparing actual implementation and maintenance costs incurred by other municipalities for recent implementations. The City provided cost estimates for future PeopleSoft upgrades along with current ERP spending information for comparison. The cost estimates employ both one-time and recurring costs to calculate total expenditures over a 15-year period. It is important to note that actual costs most likely will vary based on the City of Boise's final requirements and contract negotiations.

Using these estimates, PTI conducted a cost-benefit analysis (CBA) which relies on future cash flow projections to compare the present value of the Baseline alternative with the present values of Options 1 and 2. Please see Appendix C for key assumptions and further detail about the CBA.

Quantitative Results

The table below summarizes the ERP ROI analysis:

ERP Solutions Cost/Benefit Analysis

Options Analysis	Net Present Value ⁷	15-Year Total Cash Flow ⁸
Baseline: Maintain and optimize PeopleSoft	n/a	(\$28,400,003)
Option One: Implement a high-end Tier 2 solution	\$5,063,691	(\$19,598,436)
Option Two: Implement a low-end Tier 2 solution	\$9,360,634	(\$13,919,634)
Current City Expenditures		
Expected PeopleSoft Spending⁹	\$7,152,503	(\$18,349,626)

⁷ Net Present Value (NPV) quantifies the difference, in today's dollars, between an option's future cash flows and a baseline investment. A positive net present value indicates a financial benefit over the baseline, taking into account factors that influence the time value of money. In this analysis, both Options One and Two demonstrate a relative financial benefit in 2008 dollars.

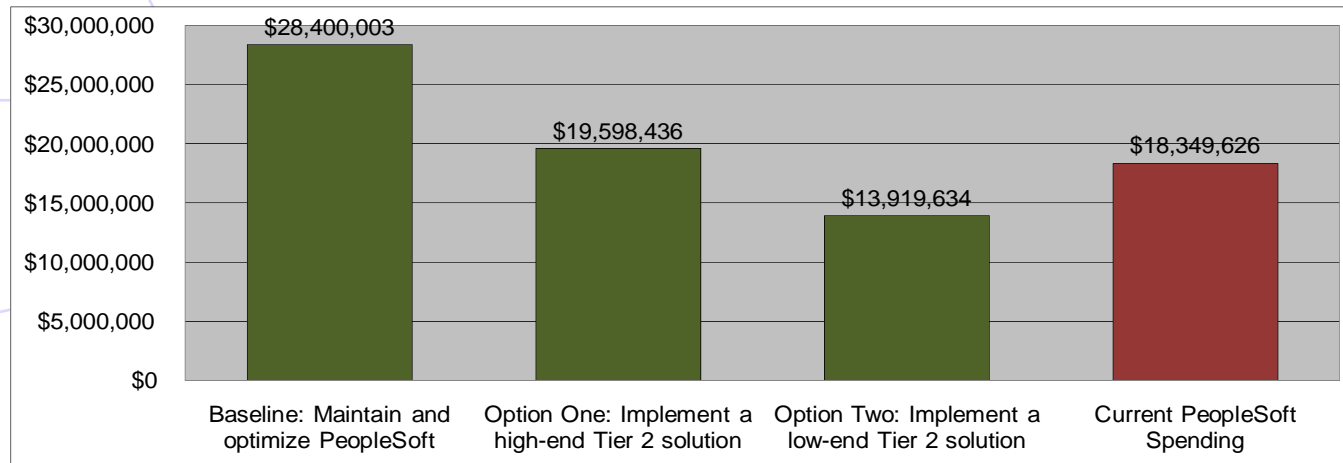
⁸ 15-Year Total Cash Flow totals the dollars spent on an option over a 15-year period, including one-time costs, recurring cost, inflation, and expenditures for three anticipated version upgrades.

⁹ Expected PeopleSoft spending is provided for reference purposes to indicate what the City would pay for PeopleSoft even if no effort was made to improve the implementation. It demonstrates a financial benefit over the Baseline option, as the Baseline alternative requires additional expenditures for new modules, training, and enhanced IT support.

PTI conducted a cost-benefit analysis (CBA) to compare the present value of the Baseline alternative with the present values of options 1 and 2.

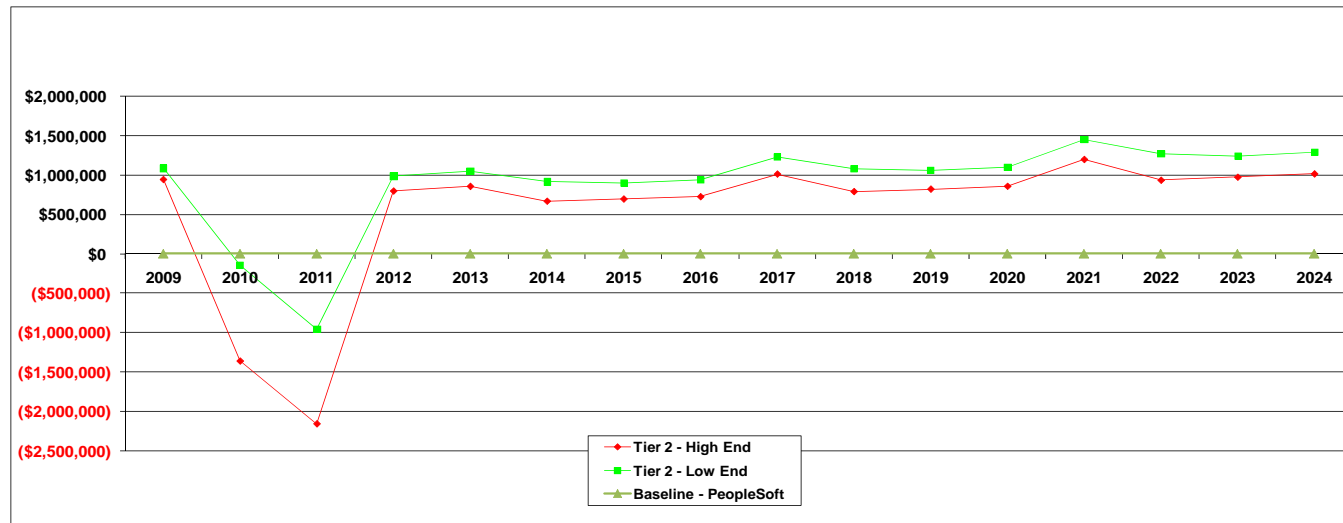
The following table presents the Total 15-Year Cash Flow of the options in bar chart form.

ERP Options Total 15-Year Cash Flow



The following graph depicts the annual net benefits of each option in current dollars (relative to the baseline). Note that implementation of a new system requires significant capital investment, as indicated in years 2010 and 2011 of the graph.

ERP Options Annual Comparative Summary
Fiscal Year beginning 10/1



The following table presents total capital and recurring costs for each option over a 15-year period. It also includes internal labor requirements for each option, expressed in FTEs.

ERP Options Cost Analysis Summary

COST COMPARISON	Baseline: optimize PeopleSoft	Option One: high-end Tier 2 solution	Option Two: low-end Tier 2 solution	Current PeopleSoft Spending
Capital Costs				
Software	\$ 780,295	\$ 745,303	\$ 415,761	\$ -
Hardware	17,425	18,296	18,296	-
Professional Services	1,375,946	2,228,775	1,382,296	626,988
Internal Labor	908,296	916,684	678,800	403,117
Adjustments and Contingency	462,294	2,037,757	1,194,518	154,516
TOTAL CAPITAL COSTS	\$ 3,544,256	\$ 5,946,815	\$ 3,689,672	\$ 1,184,621
<i>Associated Labor (in FTEs)</i>	9.2	9.2	7.2	4.0
Annual Recurring Costs ('08 dollars)				
Software Maintenance	\$ 410,610	\$ 142,297	\$ 114,479	\$ 293,660
Hardware Maintenance	41,932	41,932	41,932	\$ 38,600
IT Staff Support	646,250	369,286	230,804	\$ 461,607
Other Recurring Costs	54,019	54,019	54,019	\$ -
TOTAL ANNUAL RECURRING COSTS	\$ 1,152,812	\$ 607,534	\$ 441,234	\$ 793,867
<i>Associated Labor (in FTEs)</i>	7.0	4.0	2.5	5.0

Sensitivity Analysis

PTI conducted a sensitivity analysis to determine which factors have the most significant impact on financial return on investment of the ERP options. After testing more than a dozen key variables, PTI concluded that minor changes to the model have no material impact on the ROI.

PTI identified two factors that exert a markedly greater influence on the cost analysis than others: internal IT support levels and annual software maintenance fees. However, these factors must undergo a major change to have a material effect on the financial return on investment benefit. For example, the financial return on investment benefit would be eliminated by some combination of the following:

- Internal IT support is lowered from 7 FTE to 2.5 FTE (current IT support is 4.67 FTE)
- PeopleSoft annual maintenance fees are discounted by another 80%

Internal IT support levels and annual software maintenance fees have the most significant impact on the cost-benefit analysis.

Budget Assessment

PTI divided the costs and internal labor requirements for each option biannually to aid the City's budgeting process. This break down can be seen in the table below.

ERP Options Biannual Cost Summary¹⁰

	FY 08-09	FY 10-11	FY 12-13	FY 14-15	FY 16-17	FY 18-19	FY 20-21	FY 22-23
Baseline: Optimize PeopleSoft								
Capital Costs	742,200	948,100	482,400	225,500	256,300	267,500	304,400	317,800
Recurring Costs	1,054,500	2,385,300	2,635,700	2,846,200	3,074,700	3,322,700	3,592,100	3,884,700
Total Costs	1,796,700	3,333,400	3,118,100	3,071,700	3,331,000	3,590,200	3,896,500	4,202,500
Capital Project Labor (in FTEs)	2.7	2.7	0.6	0.6	0.6	0.6	0.6	0.6
Recurring O&M Labor	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Option One: High-end Tier 2 Solution								
Capital Costs	126,500	5,013,500	0	224,700	0	265,900	0	316,200
Recurring Costs	723,500	1,843,100	1,459,400	1,478,200	1,588,300	1,707,100	1,835,400	1,974,100
Total Costs	850,000	6,856,600	1,459,400	1,702,900	1,588,300	1,973,000	1,835,400	2,290,300
Capital Project Labor (in FTEs)	0.4	6.2	0.0	1.0	0.0	1.0	0.0	1.0
Recurring O&M Labor	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Option Two: Low-end Tier 2 Solution								
Capital Costs	126,500	2,937,800	0	176,600	0	206,600	0	242,100
Recurring Costs	585,100	1,493,700	1,086,200	1,079,500	1,162,300	1,251,800	1,348,800	1,453,700
Total Costs	711,600	4,431,500	1,086,200	1,256,100	1,162,300	1,458,400	1,348,800	1,695,800
Capital Project Labor (in FTEs)	0.4	4.5	0.0	0.8	0.0	0.8	0.0	0.8
Recurring O&M Labor	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Current PeopleSoft Spending								
Capital Costs	111,500	116,100	131,200	136,700	154,700	161,300	182,700	190,400
Recurring Costs	793,900	1,680,400	1,812,500	1,955,600	2,110,900	2,279,300	2,462,100	2,660,500
Total Costs	905,400	1,796,500	1,943,700	2,092,300	2,265,600	2,440,600	2,644,800	2,850,900
Capital Project Labor (in FTEs)	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Recurring O&M Labor	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0

¹⁰ Dollar values rounded to the nearest hundred



4. ERP Alternatives Evaluation



ERP Alternatives Evaluation

Evaluation Criteria

PTI identified seven criteria to use as a basis for evaluating the three ERP system options. The City's steering committee assigned each individual criterion a weight, or point value. More important criteria received higher point values and less important criteria received lower point values. To simplify understanding and comparison, PTI set the sum total of the weights at 100. The following table defines the criteria and associated weights.

ERP Solution Evaluation Criteria

Decision Criterion	Weight (Points)
Best Long-Term Position – ability of the option to provide an enduring, sustainable solution for enterprise resource planning in alignment with the “One Boise” strategic plan; includes vendor viability, regular software improvement, system integration, and expandability. <i>An option completely meeting all of these requirements would receive a score of 10.</i>	22
Best Functional Capability – extent and variety of features offered by the option. <i>An option fully providing all the features and automation desired by the City would receive a score of 10.</i>	21
Best Organizational Acceptance – relative willingness of City staff to undertake the option based on the ability to gain project support and buy-in. <i>An option guaranteed to get a positive response from all staff would receive a score of 10.</i>	18
Lowest Cost – relative savings of the alternative options compared to the baseline estimate using a net present value calculation based on the total expenditures over 15 years; including one-time implementation costs, upgrade costs, and recurring operating and maintenance costs. <i>The least expensive option will receive a score of 10.</i>	18
Lowest Technical Skill Requirements – relative ease for the City to acquire/develop and maintain the necessary technical skills to support the option. <i>An option requiring available and reasonably-priced technical skills would receive a score of 10.</i>	8

Decision Criterion	Weight (Points)
Best Technical Architecture – modernity of the solution’s technological design; including programming languages, integration capabilities, conformity with current standards and best practices, flexibility, and extensibility. <i>An option utilizing modern architecture, user interfacing, and web capabilities would receive a score of 10.</i>	7
Best Political Viability – relative ability and willingness of City decision makers to pursue and fund the option. <i>An option guaranteed funding and support by City decision makers would receive a score of 10.</i>	6
Total Weight	100

Pros and Cons

To help inform the City’s evaluation of alternatives based on the above criteria, PTI compiled a list of pros and cons for each option, outlined in the table below:

ERP Solution Pros and Cons

Option	Pros	Cons
Maintain and optimize PeopleSoft	<ul style="list-style-type: none"> • Opportunity to realize value from large sunk-cost investment • Feature-rich functionality • Known commodity • Less change • Stable vendor 	<ul style="list-style-type: none"> • Highest long-term costs • Complexity of use and support • Requirement for specialized IT skills to support and may be difficult to retain staff in a competitive job market • Some Boise staff dissatisfied with PeopleSoft and would prefer another product • Vendor’s target market much larger organizations than Boise • History of inadequate customer service

Option	Pros	Cons
Implement a High-End Tier 2 solution	<ul style="list-style-type: none"> • Lower long-term costs than PeopleSoft • Capability of meeting Boise's functional needs • Faster learning curve • More modern architecture in some instances • Greater attunement to Boise's market and desire in new business • Viable ASP/outsourcing options 	<ul style="list-style-type: none"> • Higher one-time costs than PeopleSoft • A completely new product for Boise staff to learn • Requirement for specialized IT skill sets • Time-consuming RFP and procurement process • Risk of implementation project failure • Potentially a less stable vendor
Implement a low-end Tier 2 solution	<ul style="list-style-type: none"> • Lowest one-time and recurring costs • Simpler technical environment • Potential ability to influence future product direction • Opportunity for full municipal automation 	<ul style="list-style-type: none"> • Risk of not meeting Boise's functional needs • A completely new product for Boise staff to learn • Time-consuming RFP and procurement process • Risk of lagging behind the technology curve

Relative cost savings represent only one component in the overall evaluation.

It is important to note that, while important, *relative cost savings represents only one component in the overall evaluation*. Factors related to long-term strategic planning, product functionality, organizational support and technical requirements drove the selection process in concert with the potential cost savings. Accordingly, PTI and the City's steering committee strived to balance IT cost efficiencies with City service effectiveness.

Evaluation Summary

PTI facilitated a session with the City's steering committee to rate the alternatives against all seven criteria. The committee assigned a score of 1 to 10 for each criterion, with 10 representing the best possible score. Scores for a specific criterion reflect how well that option's end state achieves the criterion's primary objectives.

We multiplied each score by its respective criterion weight, and summed those to derive a single weighted score for each alternative. The highest total score indicates the most favorable option. The following table presents scores for the three models. Base on the steering committee's assigned values, Option 1 received the highest total score.

ERP Solution Decision Matrix

Evaluation Criteria	Criterion Weight	Baseline: Maintain and Optimize PeopleSoft		Option 1: Implement a high-end Tier 2 solution		Option 2: Implement a low-end Tier 2 solution	
		Score	Weighted Score	Score	Weighted Score	Score	Weighted Score
Best Long-Term Position	22	6	132	7	154	5	110
Best Functional Capability	21	9	189	8	168	4	84
Best Organizational Acceptance	18	6	108	8	144	4	72
Lowest Cost	18	5	90	8	144	10	180
Lowest Technical Skill Requirements	8	5	40	6	48	7	56
Best Technical Architecture	7	7	49	8	56	6	42
Best Political Viability	6	3	18	6	36	4	24
Total Score	100	41	626	51	750	40	568

Rationale

The following table presents a brief description of the scoring rationale for each criterion.

ERP Alternatives Scoring

Criterion	Baseline	Option #1	Option #2	Rationale
Best Long-Term Position	6	7	5	Of the three options reviewed in this report, high-end Tier 2 solutions scored the highest due to a greater vendor commitment to middle market customers (such as the City of Boise). The Baseline PeopleSoft option scored lower due to uncertainty around the transition to Fusion applications and weaker support for middle market customers. Low-end Tier 2 solutions do not scale as well and are typically sold by smaller, less stable vendors. Tier 2 solutions would struggle to meet "One Boise" objectives.
Best Functional Capability	9	8	4	PeopleSoft offers the widest range of available functionality and stronger tailoring capability among the selected alternatives. However, high-end Tier 2 vendors currently provide a similar breadth of automation. Both of these options can meet the City of Boise's strategic business needs. Low-end Tier 2 solutions offer limited flexibility and functionality.
Best Organizational Acceptance	6	8	4	The steering committee felt that City staff would be most willing to undertake the organizational change necessary in the context of a new system implementation. Implementation of a new ERP system provides the City with an opportunity to improve upon current business processes. As such, the high-end Tier 2 solution received the highest score. The committee also judged that implementing a less functional system would significantly undermine morale and inhibit staff buy-in. For these reasons, the low-end Tier 2 solution received the lowest score.
Lowest Cost	5	8	10	Cost scores were assigned proportionally based on the results of the cost-benefit analysis. The low-end Tier 2 solution, the least inexpensive, received the highest score, while the current PeopleSoft system, the most expensive, received the lowest score.

Criterion	Baseline	Option #1	Option #2	Rationale
Lowest Technical Skill Requirements	5	6	7	Low-end Tier 2 solutions received the highest score. Their relatively small size and simpler architecture make these solutions easier to support. Both PeopleSoft and high-end Tier 2 solutions require specialized IT support and development skills. However, marketplace demand is higher for PeopleSoft specialists, making them more expensive and harder to retain, so the Baseline option received the lowest score.
Best Technical Architecture	7	8	6	Most high-end Tier 2 solutions have been redesigned recently to utilize open architecture standards and modern database design. PeopleSoft's underlying database is a legacy system and, while still relatively robust, it is slowly falling behind modern technologies. Low-end Tier 2 vendors typically do not have the resources to overhaul their systems' underlying code. As a result, low-end Tier 2 solutions are relatively rigid, difficult to integrate, and have scale limitations.
Best Political Viability	3	6	4	The lingering dissatisfaction with the PeopleSoft implementation will most likely make a new ERP solution more palatable to the City Council, especially one that offers functionality capable of supporting the City's long-term strategic plan.

Based on this analysis, the project's steering committee concluded that procuring and implementing a high-end Tier 2 ERP product represents the most favorable solution for the City of Boise.



5. Next Steps



Next Steps

As noted previously, the project's steering committee concluded that Option #1 (Implement a high-end Tier 2 solution) represents the most favorable solution for the City of Boise.

If the City's executive management team (EMT) concurs with this assessment, PTI recommends the following next steps:

Implement a High-End Tier 2 Solution – Next Steps ¹

Next Step	Estimated time (in months)	Estimated IT staff labor (in hours)	Estimated business unit labor (in hours)
1. Develop baseline measures for high-value ERP opportunity areas	1	10	400
2. Invite high-end Tier 2 vendors to provide product demonstrations	1	80	480
3. Consider visiting high-end Tier 2 system installations	1	32	160
4. Do not upgrade the current PeopleSoft system; terminate the current PeopleSoft maintenance contract	---	---	---
5. Contract with a 3 rd party for required PeopleSoft system updates; use the savings to build an ERP replacement fund	2	40	40
6. Establish a governance structure for the new ERP implementation project	1	10	30
7. Begin the procurement process, including: contracting for procurement assistance, defining requirements, developing a request for proposal (RFP), etc.	9	100	200
8. Reengineer ERP business processes with consideration of the new ERP system's capabilities	TBD	TBD	TBD

¹Many of these next steps overlap and will not need to be completed sequentially

If Boise pursues an alternative ERP solution, the City should expect inquiries by Oracle. Oracle may want to participate in the new selection or attempt to renegotiate the current relationship. The City should remain open to these entreaties.

If the EMT decides to remain on its current ERP platform, PTI recommends the following steps:

Maintain and Optimize PeopleSoft – Next Steps

Next Step	Estimated time (in months)	Estimated IT staff labor (in hours)	Estimated business unit labor (in hours)
1. Upgrade PeopleSoft ²	18	2,500	1,250
2. Develop baseline measures for high-value ERP opportunity areas	1	10	400
3. Reengineer ERP business processes with consideration of PeopleSoft's capabilities	TBD	TBD	TBD
4. Fully implement already purchased PeopleSoft modules ³	12	2,400	1,200
5. Increase PeopleSoft ongoing support to 6 full-time equivalency (FTE) employees within the next year and to 7 FTEs within the next three years	---	---	---
6. Increase staff training within business units	6	---	450

² Costs for steps 1 and 4 are included together as capital (one-time) costs under "internal labor" in the cost model

³ See previous footnote



Appendix A – List of Participants



A. List of Participants

The following City employees and stakeholders participated in this project.

City of Boise ERP Analysis List of Participants

Name	Position/Title	Department
Jan Baxter	Human Resources Advisor	Human Resources
Lonja Barker	Utility Billing Supervisor	Public Works
Garry Beaty	Director	Information Technology
Tina Bianca	Programs Analyst	Airport
Jim Birdsall	Manager	Planning and Development Services/Housing and Community Development
Peggy Bosely	Accounting Specialist	Parks and Recreation
Rob Bousfield	Assistant City Engineer	Engineering/Public Works
Pat Braddock	Administrative Support	Police
Ramona Bryant	Accounting Manager	Parks and Recreation
Julie Bryson	Accounting Supervisor	Planning and Development Services/Housing and Community Development
Shannon Cade	Financial Analyst	Finance
Tamara Cameron (for Karen Bubb)	Performance Arts Manager	Planning and Development Services
Bruce Chatterton	Planning and Development Services Manager	Planning and Development Services

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Name	Position/Title	Department
Frosty Chuba	Accounting Specialist	Information Technology/Communication
Tamaran Clifton	Accounting Specialist	Library
Cary Colaianni	City Attorney	Legal
Brent Davis	Budget Advisor	Finance
Kari Davis	Senior Accounting Specialist	Library/Administration
Christine DeBerry	Contract Specialist	Purchasing
Rita Deyoung	Office Coordinator	Planning and Development Services
Dennis Doan	Chief	Fire
Jill Edwards	Senior Secretary	Fire
Karen Eldredge	Benefits Specialist	Police
Linda Elizarraras	Senior Department Specialist	Parking Services
Jef Faw	Director of Finance and Administration	Finance, Clerk, Parking, Fleet, Risk
Jenifer Gilliland	Building Division Manager	Planning and Development Services
Thomas Gostas	Senior Programmer/Analyst	Information Technology
Cindy Gould	Senior Accounting Specialist	Treasury
Lynette Gould	Senior Accounting Specialist	Parks and Recreation
Jami Grasmick	Senior Accounting Specialist	Public Works
Rod Greene	Analyst	Information Technology
Angee Hahn	Senior Accounting Specialist	Financial Services-Budget
Marie Haveman	Senior Accounting Specialist	Finance and Administration

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Name	Position/Title	Department
Linda Helsel	Accounting Specialist	Fire
Mollie Holt	Support of Administration	Parks and Recreation
Ginny Horuith	Staff Accountant	Finance and Administration
Jackie Huffman	Accounting Specialist	Public Works
Bill Johnson	Assistant City Engineer	Engineering/Public Works
Mike King	Building Facilities Manager	Airport
Sue Larrinaga	Employee Services Manager	Human Resources
Linda Leech	Staff Accountant	Office of Financial Management - Accounting
Renee Lemmermann	Utility Billing SCSR	Public Works
Karla Lippincott	Warehouse Supervisor	Public Works
Mike Markham	ITSCS Manager	Information Technology Department
Connie Martinsen	Senior Secretary	Fire
June McBride	Purchasing Agent	Purchasing
Richard McConnell	Airport Director	Airport
Megan McJunkin	Human Resources Advisor	Human Resources
Denise McNeley	Administrative Assistant	Library
Diana Medley	Accounting Specialist	Parks and Recreation
Mike Middleton	Controller	Finance and Administration
Shawn Miller	Human Resources Director	Human Resources
Carla Miller-Lowe	Benefits/Compensation Manager	Human Resources
Heather Mink	Budget Analyst	Finance

A

Name	Position/Title	Department
Diane Morrison	Purchasing Advisor	Public Works
Scott Mulcahy	Captain	Police
Neal Oldemeyer	Public Works Support Systems Manager	Public Works
Kim Park	Senior Accounting Specialist	Parks and Recreation
Corey Pence	Safety Manager/Assistant Risk Manager	Safety Manager/Assistant Risk Manager
Linda Perryman	Purchasing	Police
Matt Petaja	Deputy Director	Airport
Dawn Portugais	Senior Department Specialist	Parking Services
Cathy Prado	Senior Accounting Specialist	Finance and Administration
Doreen Queen	Administrative Manager	Legal
Sandy Records	Administration Manager	Fire
Debbie Rice	Program Analyst	Legal
Jade Riley	Assistant to the Mayor	Mayor's Office
Kent Rock	Treasurer	Finance and Administration
Pamela Romans	Senior Accounting Specialist	Police
Gay Runyon	Accounting Specialist	Planning and Development Services
Mandee Russell	Program Analyst	Legal
Steve Rutherford	Chief Deputy City Attorney	Legal
Lynn Shrum	Senior Customer Service Specialist	Human Resources

A

Name	Position/Title	Department
Karen Smith	Operations and Maintenance Coordinator	Police
Amy Snyder	Property and Contract Administrator	Airport
Angela Stear	Administrative Assistant	Parks and Recreation
Tammy Swartout	LE Technician	Police
James Thomas	Administrative Assistant	Finance and Administration
Kendall Tierney	Collection Supervisor	Treasury
Candace Towne	Finance Supervisor	Police
Vicki Van Vliet	Office Coordinator	Planning and Development Services
Tonya Wallace	Finance Service Manager	Finance and Administration
Jon Williams	Review Officer	Public Works
Donna Wolf	Staff Accountant	Finance and Administration
Kawn Wooddell	Accounting Specialist	Fire



Appendix B – Sister City Survey Results



B. Sister City Survey Results

This appendix describes the “sister city” survey results in complete detail.

Survey Methodology

In March and April 2008, PTI conducted a survey of selected cities to collect information on ERP solutions, including:

- ERP vendors, software, and version numbers
- Use of various ERP software modules
- ERP function outsourcing
- Centralization
- Automated workflow
- Paperless processes
- Performance measures
- Business objectives and fit
- ERP support levels
- ERP selection
- Anticipated and realized benefits
- Total cost of ownership
- ERP implementation and lessons learned
- Business process reengineering
- Ongoing ERP system support requirements
- Critical success factors and best practices

In conjunction with the City of Boise, we developed a list of peer cities based on their similarity in population, size, technology platforms, and/or financial position. The City of Boise then distributed the survey to these cities, and requested that they return their responses directly to PTI. PTI conducted some surveys and follow up directly by telephone.

Respondents

Four of the eight selected peer cities responded to the survey. All respondents provided sufficiently comparable data after follow-up. These cities included:

- City of Colorado Springs, CO
- City Eugene, OR
- City of Reno, Nevada
- City of Sacramento, California

It should be noted that the City of Boise did not complete the survey tool. Our team gathered data for the City of Boise through our work with the City. Furthermore, data from peer governments is as complete as our consultants were able to ascertain during follow-up. Even among the final respondents, data discrepancies exist that cannot be reconciled. These are noted where applicable.

B

Implementation Information

This section details and compares respondents' ERP system implementation based on survey responses.

ERP System Implementation and Purchase Year

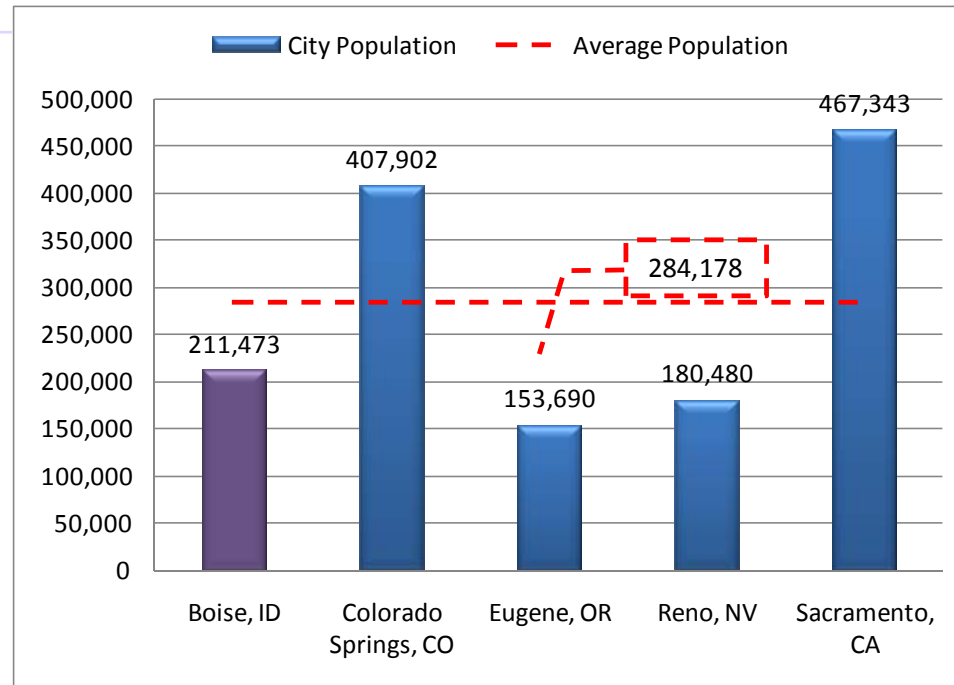
LEGEND
PS – PeopleSoft
NWS – New World Systems
MS - Microsoft
SII – Smith International, Inc.
Tier – Tier Technologies, Inc

	Boise, ID	Colorado Springs, CO	Eugene, OR	Reno, NV	Sacramento, CA
Financial Management					
General Ledger	PS 8.8 (1997)	PS 8.9 (1998)	PS 8.4 (1999)	NWS (2005)	PS (2007)
Purchasing	PS 8.8 (1997)	PS 8.9 (1998)	PS 8.4 (1999)	NWS (2005)	PS (2007)
Accounts Payable	PS 8.8 (1997)	PS 8.9 (1998)	PS 8.4 (1999)	NWS (2005)	PS (2007)
Accounts Receivable	N/A	PS 8.9 (1998)	PS 8.4 (2000)	NWS (2006)	PS (2007)
Cash Receipting	N/A	N/A	PS 8.4 (2000)	NWS (2006)	SII (2003)
Budgeting	Custom PS (2000)	PS 8.9 (1998)	Tier (1996)	NWS (2006)	PS (2008)
Project & Cost Accounting	MS Access (2000)	PS 8.9 (1998)	N/A	NWS (2005)	PS (2007)
Treasury (cash/debt management)	Quadrant/Sympro (2002)	MS Excel (1998)	N/A	N/A	PS (2008)
Asset Management	N/A	N/A	PS 8.4 (2000)	N/A	N/A
Human Capital Management					
Personnel Management	N/A	PS 8.9 (1998)	N/A	NWS (2006)	PS (2008)
Timekeeping	PS 8.8 (1997)	PS 8.9 (1998)	PS 8.3 (2001)	NWS (2006)	PS (2008)
Payroll	PS 8.8 (1997)	PS 8.9 (1998)	PS 8.3 (2001)	NWS (2006)	PS (2008)
Position Control	PS 8.8 (1997)	PS 8.9 (1998)	PS 8.3 (2001)	NWS (2006)	PS (2008)
Recruiting	PS 8.8 (1997)	PS 8.9 (1998)	N/A	N/A	Neo-Gov (2005)
Learning Management	N/A	N/A	N/A	N/A	N/A
Performance Appraisal	SuccessFactors (2000)	N/A	N/A	N/A	N/A
Base Benefits/Portal	N/A	N/A	PS 8.3 (2004)	N/A	N/A
Decision Support	MS ProClarity (2000)	N/A	N/A	N/A	N/A
Contract Management	N/A	In Selection	N/A	N/A	PS (2007)
Grant Management	N/A	N/A	N/A	N/A	PS (2007)
Real Property Management	N/A	N/A	N/A	N/A	N/A

Demographic and Spending Information

The following tables present demographic data from the survey respondents.

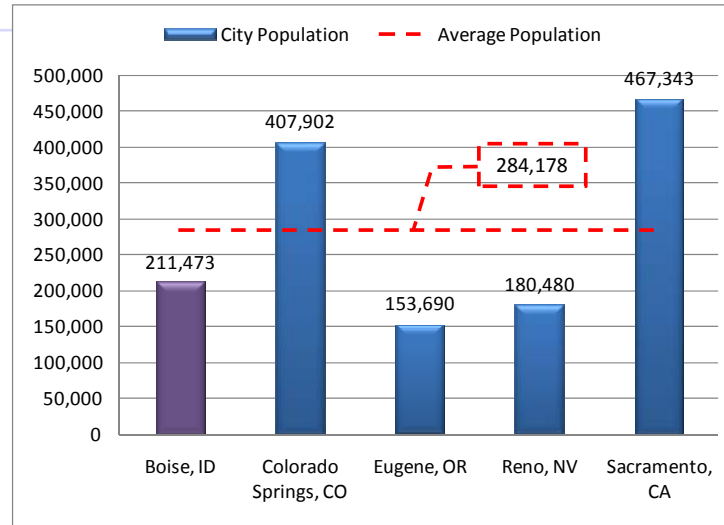
General Population



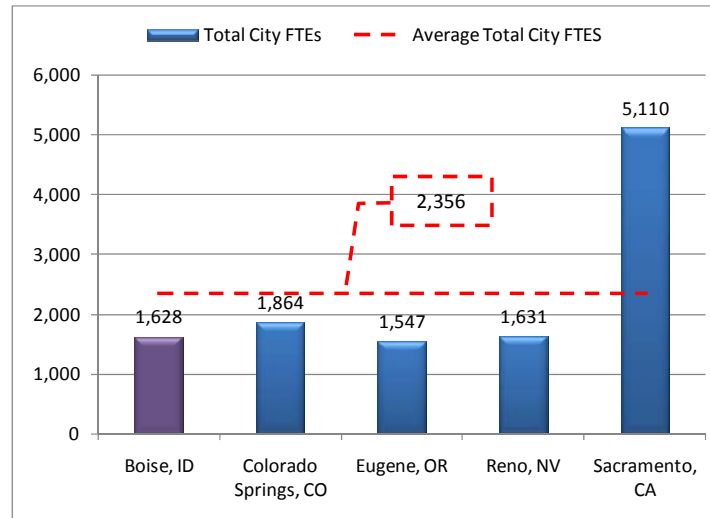
B

Total operating funds are calculated as total expenditures less capital project, debt service, and internal services (chargebacks). Note that, for cities other than Boise, all expenditure and FTE data was self-reported and limited validation was performed.

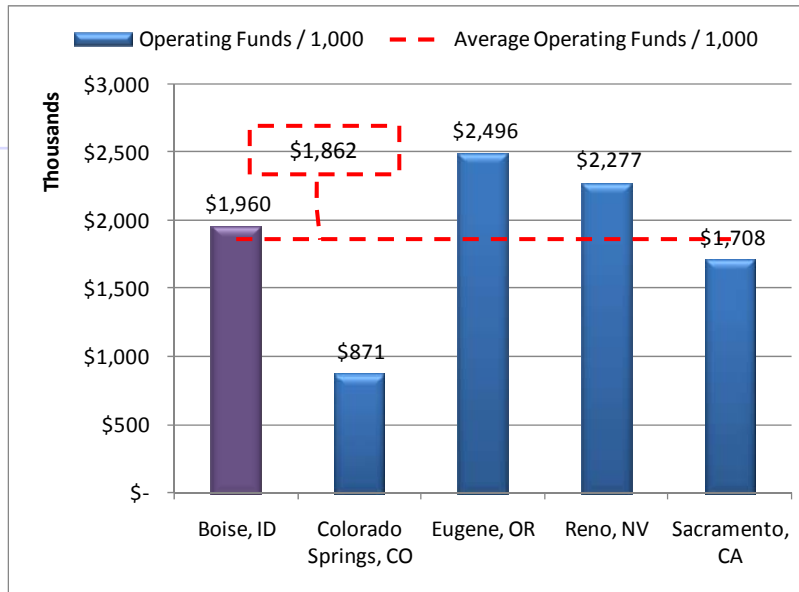
Total Operating Funds



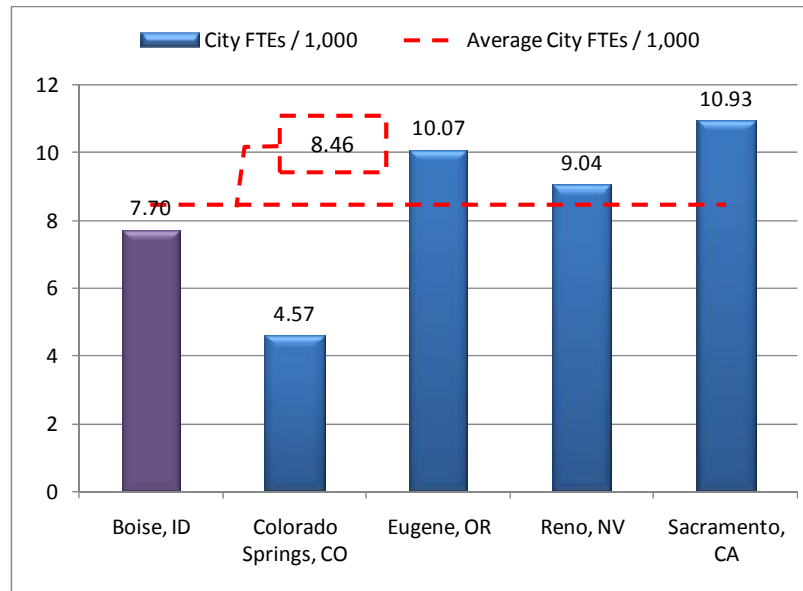
Total City FTEs



Operating Funds per 1,000 Population



City FTEs per 1,000 Population



Summary Results

The following offers a high-level summary of survey results, organized as follows:

- Qualitative Responses
- ERP Expenditures
- Benefits

Qualitative Responses

Survey respondents gave feedback on a number of ERP-related areas and described aspects of their ERP system implementation experiences.

Most Common Business Objectives

Participants were asked, “What were your business objectives for implementing an enterprise resource system? Did your selected system(s) meet these objectives?” The business objectives listed below were most frequently cited by respondents and were identified as being met by their selected ERP system:

- Improve functionality (e.g., position management/control, payroll)
- Replace mainframe system
- Implement integrated software solution
- Enhance ease of use
- Increase front line user capabilities and access
- Enhance data accessibility
- Improve Report

Response Excerpts

“Our business objectives were to build a basis for Business Process Transformation and Process Improvement, provide greater access to information, and decentralize processes.”

– Steve Ferguson, Chief Information Officer, City of Sacramento (CA)

“We wanted newer and easier to use graphical user interface (GUI) technology, better capabilities in position management/control and payroll, improved accuracy with complicated benefits programs, and secure reporting tools.”

– Mary Ann Turner, Technology Programs Specialist, City of Sacramento (CA)

“After much discussion, [the City] decided to purchase an ERP rather than purchase best of breed for all the different financial software...integration between HR and Financials was [also] an important reason.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“We thought about pursuing best-of-breed software for both the human resource and financial systems at first, but then we selected an integrated solution instead of both. The system more than adequately met the City’s needs.”

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

“We were looking for a system that was off-the-shelf and would require little to no customization. We were willing to change the way we were doing business in order to be more efficient and [we] made this a priority in the decision making process. We also wanted a system that was user-friendly so that our department users could [access] the system directly.”

– Jill Olsen, Assistant Finance Director, City of Reno (NV)

Major ERP Considerations

Participants were asked, “What were your major considerations for selecting the [ERP] solution(s)?” The following considerations were most frequently cited by respondents:

- Cost reduction
- Ease of use
- Limited need for customization
- Ability to accommodate growth

Response Excerpts

“Under [an] umbrella contract, we were able to purchase the PeopleSoft suite at very cost effective prices and we would have shared expertise.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“We wanted a user-friendly system that required little to no customization and we were very interested in a .net browser-based environment. We also wanted a system that was very affordability.”

– Jill Olsen, Assistant Finance Director, City of Reno (NV)

Participants also were asked, “If you selected a Tier 1 vendor (e.g., Oracle, SAP), why didn’t you select a Tier 2 vendor (e.g., IFAS, Munis), or vice versa?” The following is a list of selected responses:

Response Excerpts

“We believed we could leverage this additional [Tier 1] functionality later on.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“We didn’t select a Tier-2 because we wanted the experience and scope that a Tier 1 solution would provide.”

– Steve Ferguson, Chief Information Officer, City of Sacramento (CA)

“We didn’t think a Tier-2 product would grow with the organization. A Tier-1 product wouldn’t max out at an intermediate size, which fit the City’s situation better.”

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

“We felt [a Tier 1] was necessary being a city in California with extra rules (e.g., domestic partner laws). We looked at one Tier 2 vendor (Lawson), but it became a choice between Oracle and SAP. Vendors like Munis would not handle the variety of bargaining units and payroll requirements.”

– Mary Ann Turner, Technology Program Specialist, City of Sacramento (CA)

Major ERP Strengths

Participants were asked, “Please describe any other strengths or weaknesses of your current ERP system.” Respondents most frequently cited the following items as ERP system strengths.

- Payroll
- Auditing controls
- Report and query creation
- eApps and self-service

Response Excerpts

“Auditors appreciate the controls in the system. Reports and queries are easy to create for users.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“The user-friendliness of the general ledger reporting has helped our departments in accessing their financial information. This has freed up time for Finance staff immensely.”

– Jill Olsen, Assistant Finance Director, City of Reno (NV)

“The payroll system is nearly flawless. We haven’t missed any payrolls since ‘go-live’. Our only problems have been due to user error.”

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

Major ERP Weaknesses

Participants were asked, “Please describe any other strengths or weaknesses of your current ERP system.” Respondents most frequently cited the following items as ERP system weaknesses.

- Difficult upgrades for customized systems
- Costly upgrades to customized systems
- Not user friendly

Response Excerpts

“Users thought the system was very ‘clunky’ and difficult to navigate. Purchasing functionality did not match the City’s business process [and] required customizations.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“Ease of use is a problem. Customization requires programming.”

– Mary Ann Turner, Technology Programs Specialist, City of Sacramento (CA)

Most Important ERP Lessons Learned

Participants were asked, “What lessons have you learned regarding initial ERP implementation? Regarding integration and interfaces with other systems? Training? Change management and communication? What worked well for you? What did not work well?” Respondents cited the following lessons learned as the most important.

- **Gain executive support and buy-in** – *upper level champions will encourage frontline buy-in and ensure adequate resources for a successful implementation*
- **Maintain an enterprise perspective** – *interdepartmental planning, integration, and interfacing enable more extensive exploitation of the system's inherent capabilities*
- **Customize as little as possible** – *customizations increase the difficulty and cost of subsequent upgrades*
- **Ensure quality implementation assistance** – *a successful implementation encourages buy-in and ownership at all levels and increases the likelihood that the system will reach its full potential, while a poor implementation can 'poison the well' and encourage resistance*
- **Place high importance on good change management** – *a smooth, incremental change process improves user comfort, familiarity with the system, and acceptance of cultural change*
- **Don't underestimate adequate user training** – *users must be fully trained to realize the full benefits of an ERP solution, regardless of vendor*
- **Set realistic deadlines and expectations** – *overambitious implementation leads to loss of morale and increased resistance to change; undue pressure on frontline staff hinders the learning and transition process*
- **Establish structured governance bodies and processes** – *system effectiveness depends on clearly communicated business practices, approval methods, and delineation of responsibilities; a change control group or steering committee can be particularly successful*
- **Don't skip an upgrade** – *upgrade difficulty increases with the magnitude of the change; consistent upgrades allow the staff to 'grow' with the program*

Response Excerpts

"Get upper management on board, including city managers and assistant city managers. [Make] a strong enough case that they can see the results in advance."

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

"Interfaces are very important and should be planned for as part of the project plan and not be treated as an afterthought."

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“Chosen implementer and our finance/HR departments were not able to keep an enterprise perspective. There was not much thinking beyond the ‘go-live’ date. Pay attention to enterprise-wide integration.”

– Mary Ann Turner, Technology Program Specialist, City of Sacramento (CA)

“We used major customizations to satiate employee needs, but are moving back to ‘vanilla’ as much as possible. We require business cases for any new customization.”

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

“We allowed too many customizations. We did not leverage as much functionality within the system that we thought we would. Upgrades were too costly.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“We underestimated change management and training – didn’t get enough help from the vendor, or internally.”

– Mary Ann Turner, Technology Program Specialist, City of Sacramento (CA)

“We don’t train functional users as well as we should to know the system capabilities.”

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

“Some of our deadlines were not realistic, so setting realistic dates for implementation was a hard lesson learned. Some of the software was not developed to the point we were expected, so having the vendor show proof of performance would be something I would push harder for beyond the demo stage.”

– Jill Olsen, Assistant Finance Director, City of Reno (NV)

“Beware of scope creep. Set up a change control group immediately after ‘go-live’ to oversee [new changes] to be implemented.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“We have created a Citywide Systems group to manage [ongoing system support and governance].”

– Steve Ferguson, Chief Information Officer, City of Sacramento (CA)

“Upgrading consistently makes life much easier. [It] allows staff to grow with the program. Support for the upgrade path is important as well.”

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

“Communication is extremely important throughout the project with the users. They need to be incorporated throughout the project so they take ownership of it. Convincing them after the fact can lead to resistance and lack of acceptance of the new system.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

Business Process Change and Reengineering

Participants were asked, “What lessons have you learned regarding business process reengineering attendant to your ERP implementation? What worked well for you? What did not work well?”

Respondents most frequently cited the following lessons learned regarding business process reengineering.

- **Take a positive approach** – *a focus on benefits offered by the system improves staff commitment to the project and leads to a more successful implementation*
- **Expect resistance to culture change** – *plan and allocate sufficient resources for change management from inception to ensure users accept new ways of doing business and fully leverage the capabilities of the system*
- **Change processes to match ERP vendor recommendations** – *using vendor recommended practices result more efficient and effective business processes*
- **Budget adequate time and resources for education and training** – *subject matter experts need appropriate skills to fully utilize the ERP solution’s functionality and to realize the potential return on investment*
- **Establish frontline accountability to ensure successful decentralization** – *frontline employees must be empowered to take advantage of the system’s functionality*

Response Excerpts

“Our staff was prepared for this from the beginning, so this went well. We prepared for it in advance and had the mindset of how to tackle it in a positive manner, so this wasn’t much of an issue.”

– Jill Olsen, Assistant Finance Director, City of Reno (NV)

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“We have learned that in most cases, it is more cost effective in the long-run to re-engineer business processes to fit the system capabilities than it is to customize the system's business processes to fit our unique ways of doing things. The City continues to struggle with not wanting to go through the pain and expense of upgrading largely because of the number of customizations that must be evaluated and moved forward with each upgrade.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“The move towards a business process orientation required more training and [presented] new challenges. We converted a lot of staff over from the mainframe support system.”

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

“There was a large resistance from some pockets of City staff against process change. The biggest process change is to online time sheets. A lot of resources were required to train and/or test with City staff.”

– Mary Ann Turner, Technology Program Specialist, City of Sacramento (CA)

Participants also were asked, “Did you implement significant business process changes (e.g., centralization, decentralization)? If so, please describe your experiences.” The following is a list of selected responses:

“The HR function is fairly centralized at the City of Eugene. There are still HR contacts out in the organization who initiate employee transactions for supervisors, but we process everything centrally within Central Services. The employee transactions have become more centered around the PeopleSoft delivered business processes (e.g. the action/reason table within HRMS). However, the City has chosen to customize various processes within PeopleSoft when it is unwilling to compromise on changing its business processes or when we choose to make the system easier for our end users.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“We looked at changing processes whenever we could. Previously customized processes sometimes had to be changed, requiring union agreement renegotiation. Some processes had to go manual to for the same reason (labor agreements).”

– Mary Ann Turner, Technology Program Specialist, City of Sacramento (CA)

Critical Success Factors

Participants were asked, “What other advice could you offer to a city embarking on the implementation of an ERP system? Critical success factors? Best practices? Success measures?” The following is a list of selected responses:

“Be prepared to be tolerant of user error and fear of the system. Management has to provide leadership, support, encouragement and vision for the project.”

– Steve Ferguson, Chief Information Officer, City of Sacramento (CA)

“Specialized personnel are required to manage this stuff. These personnel are more expensive, but you get what you pay for.”

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

“Success depends on your ‘integrator’. Only one or two implementers proposed for each ERP option. Spending more time looking for a good integrator would be a lesson learned as well as structuring the process to make a better integration/implementation selection.”

– Mary Ann Turner, Technology Program Specialist, City of Sacramento (CA)

“Look at your business processes with an open mind and move toward generally accepted best practices rather than insisting on keeping old business processes for the sake of avoiding change. Also, establish a change management committee who will be the sounding board and decision makers regarding the need to develop system customizations to fit your business practices. The decision to use customizations should be based on not only the initial cost of developing the customization, but also the cost of re-implementing that customization each time you upgrade. The combined cost of customizing the system should be presented to the change management committee for consideration of its cost effectiveness versus changing your business processes.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

“Don’t be ‘one-deep’ on any support area. You can bail yourself out by bringing in a consultant, but it’s expensive.

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

“Stay on top of the implementation teams and don’t assume they are coordinating with the main office...confirm everything in writing. Require training materials. We had different training teams depending on the modules and there was not consistency between the implementation teams. Some created their own training materials, others had none.”

– Jill Olsen, Assistant Finance Director, City of Reno (NV)

“Maintain a large number of backups. Data security and redundancy is vital. The data can’t be replaced when lost. Create a disaster recovery plan.”

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

“We had a steering committee to report to for accountability and a change control group to help monitor which changes should be made in the system. We held meetings with users to keep them appraised of the new system. We created written documentation of essential processes to help with the learning of the new system. We developed a training program to help retrain the folks that would use the new system. We put out articles in the different division/department newsletters.”

– Sharon Amasha, Corporate Application Team Manager, City of Eugene (OR)

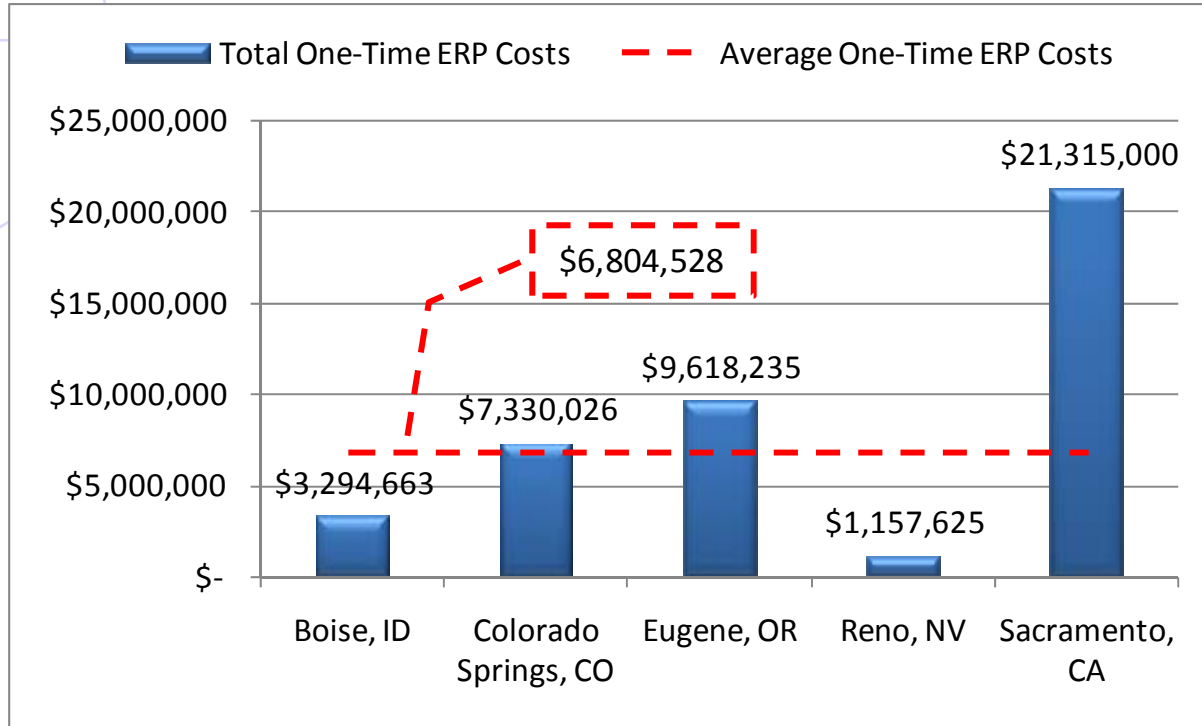
“For budgeting implementation, it’s better to have a resource onsite. After hours assistance does not work as well.”

– Paul Walker, Director of Information Technology, City of Colorado Springs (CO)

ERP Expenditures

The following charts highlight survey findings regarding ERP expenditures.

One-Time ERP Costs (adjusted for inflation)¹⁴



Implementation Legend	
Boise (ID)	PeopleSoft (1998)
City A	PeopleSoft (1998)
City B	PeopleSoft (1999)
Reno (NV)	New World Systems (2005)
Sacramento (CA)	PeopleSoft (2007)

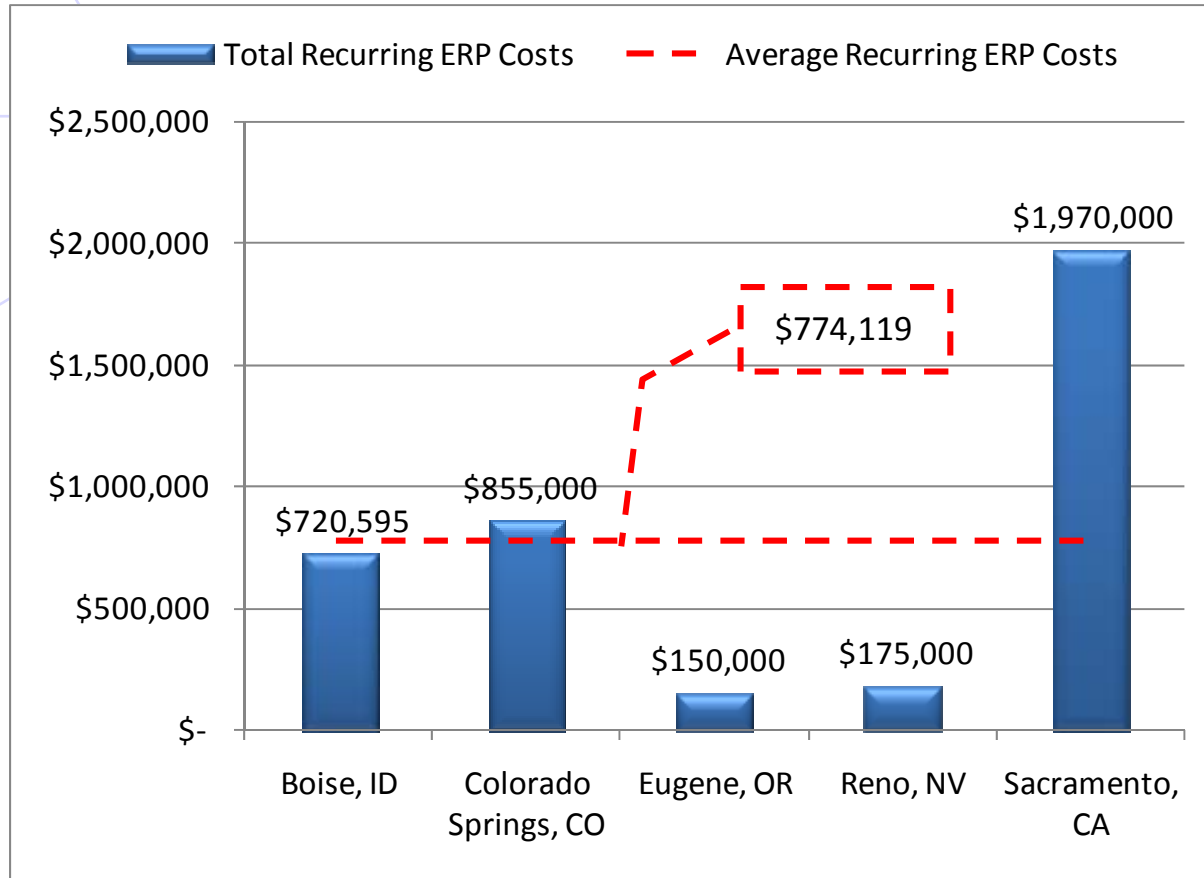
¹⁴ One-time ERP costs were adjusted for inflation from the implementation year using an annual rate of 3% and include: new or upgraded software licenses, additional hardware capacity, implementation services, other third party services, backfill, and one-time internal labor (e.g., project management, quality assurance).

The City of Colorado Springs (CO) had to re-implement their system after their third-party assistance broke contract midstream.

The City of Eugene's one-time ERP costs include the initial implementation of PeopleSoft Financials and HR (v6.0), as well as two successive upgrades to both – v7.2 and v8.4 for Financials; v7.5 and v8.3 for HR.

The City of Reno's implementation costs consisted of a one-time fee to New World Systems and included licensing, implementation, and training.

Annual Recurring ERP Costs¹⁵



Implementation Legend	
Boise (ID)	PeopleSoft (1998)
Colorado Springs (CO)	PeopleSoft (1998)
Eugene (OR)	PeopleSoft (1999)
Reno (NV)	New World Systems (2005)
Sacramento (CA)	PeopleSoft (2007)

¹⁵ Recurring ERP costs include: ongoing maintenance fees, internal labor support costs, refresh funding (e.g. new hardware, equipment), and ancillary upkeep costs.

The City of Eugene has moved its annual maintenance to a third-party provider, contributing to its lower recurring costs.

The City of Reno has outsourced hosting, maintenance, support, and disaster recovery to New World Systems.

The City of Sacramento's recurring costs include Siebel CRM and other software maintenance fees as well as an internal labor estimate of 19 FTE for ERP support. Sacramento's annual ERP maintenance fees are \$340,000.



Benefits

This section highlights survey findings regarding anticipated vs. realized benefits.¹⁶

Highest correlation between anticipated and realized benefits

The following is a list of ERP benefits both anticipated and realized by all survey respondents.

- Better quality data
- Reduced use of shadow applications
- Reduced redundant data entry
- Improved decision support information
- Improved financial controls

Lowest correlation between anticipated and realized benefits

The following is a list of ERP benefits anticipated, but least likely to be realized among survey respondents.

- Improved understanding of operating costs
- More efficient “req-to-check” cycle

Benefits not anticipated by survey respondents

The following is a list of benefits that were not anticipated by some survey respondents. All other listed benefits were anticipated by all survey respondents. No respondents reported unanticipated benefits.

- Enhanced recruiting capabilities
- Better project financial management

¹⁶ At the time of this report, the City of Sacramento was in the midst of implementation and had yet to realize any benefits. As such, it was omitted from this assessment.



Appendix C - Cost Model Assumptions



C. Cost Model Assumptions

This appendix describes key cost information, assumptions, and estimates supporting the return on investment model, as follows:

- Global Assumptions
- Key Cost Estimates

Global Assumptions

The cost model contains important global assumptions, as follows:

1. The time horizon is fifteen fiscal years, beginning October 2008
2. Expenditures will begin in October 2008 (fiscal year 2009)
3. The City's cost of capital is 4.5%
4. The City's projected wage inflation rate is 3%
5. The City's projected capital cost inflation rate is 5%
6. The City's burden rate is 35%
7. The first PeopleSoft HCM upgrade (version 9.0) will begin in fiscal year 2008 and FMS upgrade (version 9.0) will begin in fiscal year 2010
8. PeopleSoft upgrade projects will be 9 months long
9. Future PeopleSoft upgrades will occur on 4-year cycles
10. The City will remain current on all related software licenses
11. The City's current database licensing is sufficient
12. Business process cost efficiencies are vendor and product neutral
13. IT governance costs are vendor and product neutral
14. Software user group costs are vendor and product neutral
15. Implementation costs include: configuration, data migration, interfaces, testing, training
16. RFP development will last 9 months, from 6/01/09 to 4/01/10
17. The procurement process will last 9 months, from 6/01/09 to 4/01/10
18. Implementation of a new ERP system will take 18 months, 4/01/10 to 10/01/11
19. The City will incur hardware fees for a new system immediately upon conclusion of the procurement process
20. The City will incur software fees for a new system immediately upon conclusion of the procurement process
21. The City will pay dual maintenance fees for 3 months if a new system is implemented
22. There are no extraordinary overhead expenses associated with implementation or upgrade projects (e.g., no space costs, desk costs)

23. Internal labor will be utilized for implementation and upgrade project management
24. Internal IT FTE labor rates for implementation and upgrade projects are an average of current staff salaries, not including help desk staff
25. Project management for implementation of an alternative solution is assumed to be 1 FTE for the duration of implementation
26. The City's backfill costs for implementation and upgrade projects will equal 50% of the small and medium-sized enterprise (SME) labor costs associated with the project
27. Required application interfaces (e.g., document management) vary based on the chosen solution
28. Staff training is included as a recurring cost
29. PeopleSoft maintenance fees will increase 5% annually.
30. Additional server hardware and operating system licenses will be budgeted into the City's standard maintenance fund

Key Cost Estimates

In addition to global assumptions, PTI's cost model requires various resource estimates. The most material estimates are listed below, categorized by option. All costs are listed in 2008 dollars unless specified otherwise.

Global Cost Estimates

These cost estimates apply to all three ERP options.

- Business process reengineering services will cost \$200,000
- Quality assurance services will cost 10% of all external service dollars
- Contingency for implementation and upgrade projects will be budgeted at 15%
- ProClarity annual maintenance and support will cost \$22,000
- Internal project management, IT department labor, and SME backfill for future version upgrades will require 20% of the 2009-2011 implementation hours
- Annual contracted training will cost \$33,750
- Annual internal labor training hours will be 450

Baseline – “Maintain and Optimize PeopleSoft”

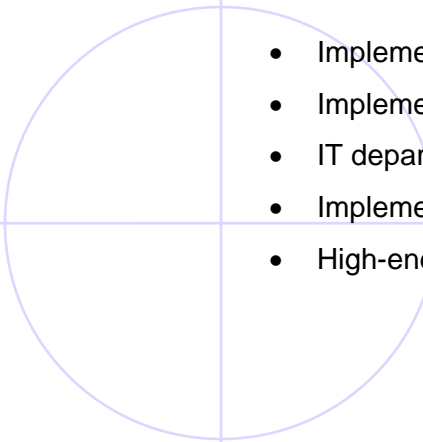
- New PeopleSoft modules and version upgrades will require two new servers at a cost of \$17,000
- Implementation services (including travel) for new modules will cost \$172,500
- Implementation services (including travel and quality assurance) for future PeopleSoft version upgrades will cost \$207,769
- IT department labor hours for new module implementation and version upgrades will require 3600 hours
- Subject matter expert labor hours for new module implementation and version upgrades will require 3,333 hours
- PeopleSoft requires 7 FTE to fully support the system

Option 1 – “Implement a high-end Tier 2 solution”

- Procurement assistance for the RFP process will cost \$100,000
- Software license fees will cost \$745,303
- Annual software maintenance fees will cost \$172,963
- Implementation will require new servers at a cost of \$18,250
- Implementation services (including travel) will cost \$1,374,555
- Implementation services estimates were adjusted up 50% based on PTI’s market research
- IT department labor for implementation will require 6,000 hours
- Implementation will require 3,750 hours of subject matter expert backfill
- High-end Tier 2 solutions require 4 FTE to fully support the system

Option 2 – “Implement a low-end Tier 2 solution”

- Procurement assistance for the RFP process will cost \$100,000
- Software license fees will cost \$415,761
- Annual software maintenance fees will cost \$139,150
- Implementation will require new servers at a cost of \$18,250

- 
- Implementation services (including travel) will cost \$712,840
 - Implementation services estimates were adjusted up 50% based on PTI's market research
 - IT department labor for implementation will require 3,000 hours
 - Implementation will require 3,000 hours of subject matter expert backfill
 - High-end Tier 2 solutions require 2.5 FTE to fully support the system

C