STATE AUDITOR'S OFFICE PERFORMANCE AUDIT

Creating a 21st-century Financial Management System in Washington

May 8, 2013

WASHINGTON
TROY KELLEY
STATE AUDITOR

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Following Appendix A is the Financial Management System Performance Audit Technical Report

Executive Summary

Managing a 21st-century state with 1980s technology

The state of Washington prides itself on its history of innovative, information-driven management. The accurate, timely, consistent, and complete information needed to make data-driven decisions requires a modern financial management system.

Today, the state manages its finances using out-of-date technology and fragmented systems that do not meet agency or state needs. These include:

- About a dozen statewide applications, referred to as core systems;
- More than 100 state agency-managed applications; and
- Multiple interfaces that connect the core and agency-managed systems.

A great deal of effort goes into managing, maintaining, and reconciling these systems, some of which date to the 1980s. The systems' limitations lead to inconsistency, delay, complex work-arounds and redundancies: all symptoms of outmoded processes supported by out-of-date software.

The inefficiencies of the current financial management system use resources that could be put to more productive uses. We estimate that a modern, integrated financial management system would save about one-quarter of the time state agency staff spend on financial management tasks evaluated during this audit.

State leaders recognize these problems and agree on their solution: a single, modern, integrated financial management system. The governor's 2013-15 budget request, as well as the House and Senate proposals, include using $2.4 million to begin implementation planning and preparation activities for the enterprise system modernization effort.

However, concerns about cost remain. Acquiring, implementing and operating such a system is expensive – our analysis estimates the price would be about $172 million over an 11-year period, and readiness activities will add additional costs. Substantial benefits include at least $228 million in effort-savings and process-improvements during the first seven years after implementation. An integrated financial management system also provides accurate, up-to-date, and easily accessible information. This information could greatly enhance process improvement efforts taking place throughout state government.

Key terms used in this report

An **interface** is any connection within or between agency-managed systems and statewide core systems. We found about 150 of these interfaces at the 12 agencies that were selected to participate in this audit. Some can automatically send data where it is needed, but others require an employee to rekey the data.

An **Enterprise Resource Planning System (ERP)** is a suite of fully integrated software applications, using a single platform, that are used to perform administrative business functions such as financial accounting, procurement, and personnel administration. The integration distinguishes ERP systems from a combination of stand-alone software solutions: it enables more efficient data processing while eliminating redundant entry and reconciliation tasks.

In conducting this performance audit, we engaged Information Services Group (ISG) to perform an analysis of Washington's current financial management systems. ISG specializes in helping state and local governments acquire and implement enterprise IT solutions. The overarching purpose of the analysis was to compare the state's current financial management systems with the potential costs and benefits of a modern, full-featured Enterprise Resource Planning (ERP) system. In particular, we sought answers to the following four questions:

1. What is the current condition of the state's financial management system, and how does it compare with the leading practices found in a modern ERP system and in other states?

2. What are the technical problems or risks associated with the current financial management system?

3. What governance and oversight model is applied to Washington's financial management? Are there gaps or overlaps in that authority?

4. What are the financial and other impacts of sustaining the current system compared to migrating to a modern ERP system?

Answer in brief

There is broad agreement that the state's financial management system needs modernization. The majority of the 140 state and agency systems analyzed are candidates for replacement by the financial management functionality of an ERP system. Although the state's current system is not in imminent danger of collapse, service interruptions are occurring more frequently, and maintenance costs are increasing.

State financial management leaders and lawmakers are preparing for the development of an integrated financial management system. A financial analysis shows that an ERP system will more than pay for itself within the 11-year estimating period of this audit. But, in order to ensure successful deployment of the system, the state's financial management and IT leadership must make further progress in structuring and defining management roles.

What functions are typically covered by an ERP system?

An ERP system includes financial management, procurement, and logistics functions, as well as a centralized data warehouse. The following financial management functions are usually included in an ERP system:

- General ledger and budgetary control
- Accounts payable and travel
- Accounts receivable and billing
- Grants/project management
- Cost accounting/allocation
- Asset management
- Banking/cash management
- Federal Transportation Aid billing
- Procurement
- Budget development

Our analysis assumes that an ERP system would be integrated with HRMS, Washington's current human resources/payroll administration system. We did not examine payroll functions in our study.

Scope and methodology

Managers and staff at three core agencies (OFM, DES, and Office of the Chief Information Officer [OCIO]), as well as 12 large agencies selected to participate in the audit, provided information on their existing and planned financial management systems operations and costs. These agencies also identified the systems that are candidates for replacement by an ERP system.

To answer the first three audit questions, we:

- Interviewed the staff responsible for managing each administrative system.

- Surveyed the end users of the state's statewide financial management systems. Respondents from the 12 participating agencies included managers, supervisors, and front-line users.

- Reviewed 140 systems in use at 12 participating agencies (described in detail in **Appendix B** of the accompanying technical report).

- Reviewed relevant financial management system documentation provided by DES, OFM, and participating agencies.

- Reviewed relevant state statutes, in particular ESSB 5931, which reorganized and streamlined state government administrative service functions, powers, and duties in 2011.

> **Agencies selected to participate**
>
> In addition to the core agencies, 12 of the state's largest non-education agencies, which make up 86% of the state's operating budget and employ 76% of state workers, were selected to participate in the audit. These agencies provided information on their systems. The 12 participating agencies are:
>
> - Fish & Wildlife (DFW)
> - Natural Resources (DNR)
> - Ecology (ECY)
> - Enterprise Services (DES)
> - Labor and Industries (L&I)
> - Revenue (DOR)
> - Health (DOH)
> - Social and Health Services (DSHS)
> - Employment Security (ESD)
> - Health Care Authority (HCA)
> - Corrections (DOC)
> - Transportation (DOT)

To answer the fourth audit question, we conducted a financial analysis that:

- Analyzed alternative approaches, including:
  - Continue on the state's current path (continuation and enhancement of existing statewide core and agency systems, as well as the addition of new point solutions to address unmet functional needs)
  - Custom development of a new system
  - "Best-of-Breed" solution (choosing and integrating the best software product available for each business function)
  - Enterprise Resource Planning (ERP) system
  - ERP system delivered as a "Software as a Service" (SaaS) solution, which is an Internet-based platform that runs on a cloud infrastructure.
- Conducted a benefit/cost analysis of an ERP system based on information provided by state agency staff and our consultant's experience assisting other states in acquiring and implementing ERP systems.

It is important to remember that the data used to estimate current system operations and maintenance costs, and future systems investments was reported by state agencies. Methodologies used when collecting these costs may have differed between agencies. Nevertheless, the financial analysis provides useful information as the state moves forward with system modernization.

We conducted the audit under the authority of state law (RCW 43.09.470), approved as Initiative 900 by Washington voters in 2005, and in accordance with generally accepted government auditing standards, prescribed by the U.S. Government Accountability Office. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

What we found

This section of the executive summary includes answers to our audit questions. The accompanying technical report and its appendices provide more detail.

Washington's financial management system does not efficiently meet agency or state needs because of fragmented, out-of-date technology.

The financial system comprises three tiers: the primary accounting system, the core financial systems, and a constellation of smaller agency-managed systems.

The Agency Financial Reporting System (AFRS)

The state's primary accounting system of record is functional and reliable, but out of date. In the early 1980s the state installed the Agency Financial Reporting System, commonly referred to as AFRS. AFRS's developer no longer supports it, making operations and maintenance the responsibility of state agency employees. All state agencies and educational institutions provide information to AFRS, but most maintain their own supplemental accounting systems at a more detailed level. Certain financial data generated in agency systems is entered either manually or by automated interfaces into AFRS.

The Department of Transportation (WSDOT) uses its own internal financial management system, called TRAINS, because AFRS lacked the capability to track transportation projects at the required level. Installed in 1991, TRAINS, like AFRS, is no longer supported by its developer.

To meet changing state and agency needs, various customizations have been made to AFRS, often without adequate documentation. The result is that support staff often does not know what changes have been made to the system. Code changes in AFRS may have severe repercussions to the many systems interfacing with it. In addition, while AFRS itself is a stable and reliable system, some systems that interact with AFRS are not reliable.

An example of a Lean process improvement using procurement

We identified numerous examples of potential inefficiencies in one of the core financial services – procurement – which could be addressed through a centralized financial management system. These include:

- The lack of access to standardized commodity code data makes it difficult to consolidate spending volumes, resulting in lost opportunities to spend less through negotiating lower prices for goods and services.
- Inefficient effort, including duplicated data entry, manual data handling, and time spent tracking documents.
- Inconsistent procurement policies, leading to vendor and agency confusion.
- Unnecessary inventory held by agencies because of inadequate supply chain management.

Recently implemented procurement reform should improve efficiency and lead to savings, but a centralized financial system could magnify the impact of these reforms.

Other core financial systems

Several central systems provide critical functions, such as managing capital assets and agency contracts. However, these systems lack features for key functional areas when compared to a modern ERP system, including general ledger, purchasing, accounts payable, inventory, asset management, and project management.

Exhibit 1 includes summary information on seven of the state's core financial management systems. It is noteworthy how few state agencies use the state's accounts receivable and cost allocation systems. See **Appendix B** in the technical report for detailed information on these and other major systems.

Exhibit 1
Characteristics of selected state core financial management systems

Core financial systems	Purpose of system	Installation date	Usage
AFRS	Comprehensive financial management	Early 1980s	All agencies
TRAINS	DOT's internal financial management	1991	DOT
Solomon IV	Accounts receivable	1997	8 agencies
CAMS	Managing capital assets	1983	78 agencies
CAS	Allocating costs	2003	2 agencies
WEBS	Vendor registration and bid notification	2004	All agencies
ECMS	Tracks and monitors agency contracts	2004	All agencies

Source: OFM.

Given the limitations of the primary and core systems, state agencies have implemented more than 100 redundant components, ranging from single Excel spreadsheets to stand-alone systems.

Maintaining these agency-managed systems requires time-consuming, manual input and duplicative processing. The result is an overall system that consumes considerably more resources than would be required by an ERP system.

The shortcomings of this fragmented system are detailed beginning on **page 7** of the accompanying technical report. They include:

- Lack of integration between purchasing, accounts payable, accounts receivable and other critical functional areas. For example, a vendor may be reimbursed for a service even though the vendor has an outstanding unpaid bill.
- Very limited support for the statewide procurement function results in manually intensive, highly inefficient and ineffective processes.
- Fragmented data storage across multiple systems makes it difficult to access the data necessary to generate certain needed reports.
- Varying frequency of agency uploads to AFRS, which creates timing inconsistencies in reported data.

We analyzed the state financial management system's performance capabilities for 55 functions. Of these, the state's systems provided full capability for only seven functions. A summary of this analysis may be found on **page 24,** and detailed analysis of each function may be found in **Appendix D**.

Financial managers, agencies, and legislative staff do not have access to the real-time financial information they need to make informed decisions. The story below illustrates how difficult it can be to answer what should be a fairly simple legislative request.

Antiquated system makes generating IT spending information extremely difficult

A few years ago, state legislators wanted to monitor and track IT spending on both maintenance and new projects for all agencies, a high priority issue. However, AFRS neither provided this information nor could it be easily modified to do so. Answering the legislative request required a complicated work-around that involved repurposing two existing code numbers in the system to track IT spending instead of the codes' intended use. Although state employees were ultimately able to make it work, this lack of versatility limits the ability to use the financial management system to quickly respond to new priorities.

AFRS and most of the core and agency-managed systems are candidates for replacement by an ERP system

Of the 140 systems reviewed, 114, or 81 percent, are candidates for replacement by the financial management functionality of an ERP system. It is likely that many more systems could be replaced at agencies not included in the study. **Appendix B** of the accompanying technical report discusses the major systems in more detail.

The ERP system could be integrated with HRMS, Washington's current human resources/payroll administration system. Payroll functions were not included in the study.

What other states are doing

Other states have grappled with this problem; half implemented the financial management functionality of an ERP system and nine others are under way. Integrated financial management systems for the public sector are a relatively recent development. The first state to implement an ERP system was Kansas, in 1994. These systems are customized to accommodate each state's unique operating environment and needs. The following map shows the ERP system implementation status of each state.

ERP financial management systems nationwide
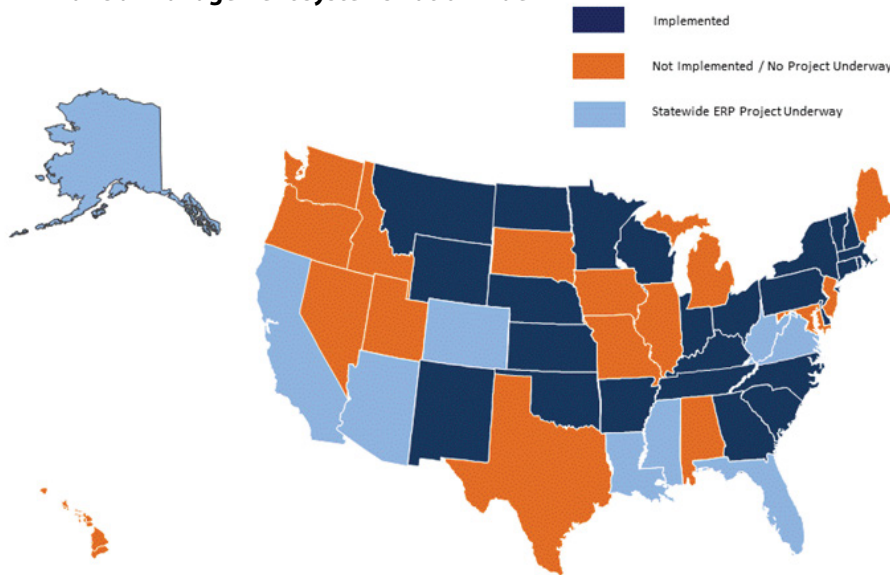
Washington's financial management system is not in danger of collapsing, but maintaining the current system will grow more problematic over time.

The state's core systems do not appear to be at risk of suffering a major failure but there are already risks to data accuracy and timely processing. Besides the inefficiencies previously discussed, the nearly 150 interfaces between centralized state systems and individual agency systems increase the risk of systemic failure. Disaster recovery testing determined it would be difficult to resume full-scale operations within the state's 72-hour recovery time benchmark.

It is also increasingly difficult to hire IT staff capable of maintaining systems based on outmoded technology. In addition, the dated programming languages used by these systems make conforming to new security requirements more difficult.

Although it is not possible to forecast system failure, performance issues have become more common. System change requests increased from 283 in 2010 to 383 in 2011. Overnight processing problems are also a significant issue. For example, in 2011 AFRS experienced 85 processing problems during off-hours.

State government financial leaders have been planning for the development of an ERP system, and identified potential benefits.

Recognizing the need to modernize Washington's core financial systems, state financial leaders designed and implemented the Roadmap Program in 2004 to help guide the development of a modernization strategy.

Roadmap participants, including most of the state's agencies and educational institutions, identified financial management system critical business needs, established a governance structure, explored modernization alternatives, and developed a high-level implementation plan. When funding became an issue, however, the state decided to place major Roadmap initiatives on hold until the economic outlook improved. In the 2011-13 budget, the Legislature provided funding for the Time, Leave and Attendance system project, which is currently underway.

The governor's 2013-15 budget request and House and Senate budget proposals include using $2.4 million to begin implementation planning and preparation activities for the enterprise system modernization effort. This work would be conducted by DES under the policy leadership of OFM and the OCIO, and in partnership with all state agencies. First year activities would include establishing a governance framework, conducting a readiness assessment, and developing an implementation strategy and action plan. The work would pick up where the earlier Roadmap left off, but with the advantage of much newer information and technology. The plan would include recommendations on: project scope, phasing and timeline; expected outcomes and measures of success; how best to sequence business process improvement work; product strategy; budget and financing strategy options; risk mitigation; staffing and organization; and strategies to close readiness gaps.

Agency staff identified the benefits expected from transforming financial processes and implementing an ERP system. These align well with the benefits described in our report and include:

- Reduced costs and effort spent on financial and administrative processes statewide.
- Ability to significantly reduce systems duplication in state government.
- Ability to redirect agency capacity from back-office processes to agency core missions.
- Access to more real-time financial and process information.
- Reduced training requirements and increased productivity when financial and administrative staff move between agencies because most tools and processes will be uniform.
- Improved capability for cost accounting, business intelligence and analytics.
- Increased financial management transparency.
- More inclusive governance and decision-making over the state's financial and administrative systems and processes.
- Increased financial accountability and control at all levels of enterprise.

The state has new, but untested ability to support the kind of centralized management structure important to the successful development and implementation of an ERP system.

Individual state agencies have traditionally made their own financial management and IT purchase decisions, a reflection of the generally decentralized state government structure in Washington. The legislative request for IT expenditures highlighted on **page 8** illustrates how the lack of coordination across agency systems makes it difficult to obtain expenditure information easily.

Legislation passed in 2011 (ESSB 5931), which consolidated state administrative policy and service functions, is intended to improve oversight of this kind of statewide project. The legislation consolidated the responsibility for enterprise financial and administrative systems support within DES, consolidated most responsibilities for financial, personnel and IT policy within OFM, and established the position of Chief Information Officer (CIO). The Office of the Chief Information Officer (OCIO) shares responsibility with OFM for determining which business processes to standardize and support with common technology across the enterprise.

Under the 2011 legislation, state agencies retain some control over their financial management software purchases, although agencies are now required to submit proposals to the chief information officer for review and approval. All large IT projects are subject to review and approval by the chief information officer and OFM. ESSB 5931 encourages the establishment of IT governance, in an attempt to ensure the consideration of the best interests of the entire state operations. These governance structures are under discussion, but are not yet established and operational. **Pages 32 through 36** of the accompanying technical report provide more detail on the state's financial management governance structure.

To ensure successful implementation, as well as successful ongoing management and operation of an ERP system, the core agencies must establish a structure that accommodates the existing culture. Recognizing this, the core agencies are developing a framework for their enterprise system modernization effort, and conducting a readiness assessment that will include all state agencies.

Fortunately, well-established project management leading practices can be applied to this type of project. To meet leading practices, the following roles should be agreed upon and established before project planning gets under way:

A single Executive Sponsor, who ensures that the state receives optimal benefits from the financial management system.

An Executive Committee, responsible for providing strategic direction and executive oversight over the Steering Committee. Membership usually includes the Executive Sponsor, the Chief Information Officer, and executives from a selection of state agencies.

A Steering Committee, responsible for providing day-to-day oversight of the project. Membership usually includes state agency and IT management staff who have direct involvement with the use and oversight of the system.

Process Owners include agency staff ultimately responsible for performing the business processes supported by a financial management system. Process owners identify requirements and improvements to the Steering Committee based on feedback from the user group.

A User Group, composed of agency staff who actually perform tasks using the financial management system. This group provides very practical feedback and recommends process improvements to the Process Owners group.

States differ in terms of who fills these roles. While the people who participate in these groups may vary from project to project, success requires clearly defined roles and responsibilities for each group. In addition, communicating well is essential to undertaking such a complex, interdisciplinary project. The accompanying technical report discusses this project management structure in detail on **pages 37-38**.

Developing an integrated financial management system will pay for itself in time, but upfront costs are high.

We determined that an ERP system is the best solution for Washington. ISG performed a detailed benefit/cost analysis based on information provided by state agencies and their own experiences assisting other states in acquiring and implementing ERP systems. This section provides a high-level summary of the benefit/cost analysis. For detailed information, see the section of the technical report starting on **page 40**.

Evaluating alternatives

ISG reviewed the advantages and disadvantages of each alternative solution, discussed in detail on **pages 43 through 53** of the technical report. We determined that an ERP system is the most viable solution at this time.

Software as a Service (SaaS) is an option for operating an ERP system that may be viable in the future. SaaS runs on a cloud infrastructure that is managed and maintained by an outside software vendor. Costs are potentially lower because computing resources are consolidated and shared across multiple customers. However, software customization is limited or in some cases, prohibited, which may make it harder to integrate a SaaS system with other state government systems. Although a financial management SaaS soluation has not yet been tested on a statewide scale, Washington state financial leaders are closely following its technological advances.

Our analysis estimated that an ERP system will pay for itself eight years after starting the project, and five years after implementation. Our analysis estimated the benefits through the 11-year estimating period will be $228 million, and costs of planning, implementing and operating an ERP system will be approximately $172 million, for a net benefit of $56 million. Although the estimated benefits considerably outweigh the costs, the project break-even point is delayed because a majority of the costs occur earlier in the project, with the benefits fully realized later:

- **The benefits** include $95 million of costs that could be avoided by implementing an ERP system, and $133 million of process-improvement benefits. Both types of benefits occur once the ERP system is operational, typically in the third year of the project.

- **The costs** include $98 million for planning and implementation, primarily in the first three years, and $74 million for operations, which begin during the third year of the project.

Exhibit 35 on page 98 of the technical report, provides annual cost and benefit estimates by category.

Exhibit 2 illustrates the distribution of costs over the 11-year estimation period. Costs are higher in the three-year implementation phase, dropping in year 4 when ongoing operational expenses take over. The bump in year 7 is due to an upgrade to keep the ERP system up to date.

Exhibit 2
Distribution of proposed financial management system costs
In millions of dollars
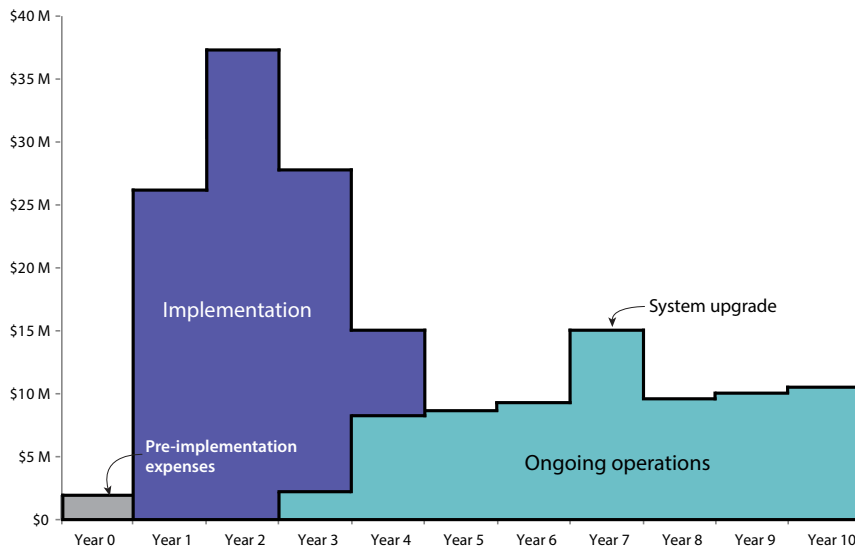
Source: ISG Technical Report.
Note: Implementation costs include $17.6 million for contingency.

Exhibit 3 illustrates the distribution of costs and benefits over the same 11 years. Costs peak early in the project, while the benefits increase sharply after "go live" (when the system is fully operational). The system fully pays for itself at the "break-even" point in year 8.

Exhibit 3
Proposed ERP benefits and costs
In millions of dollars
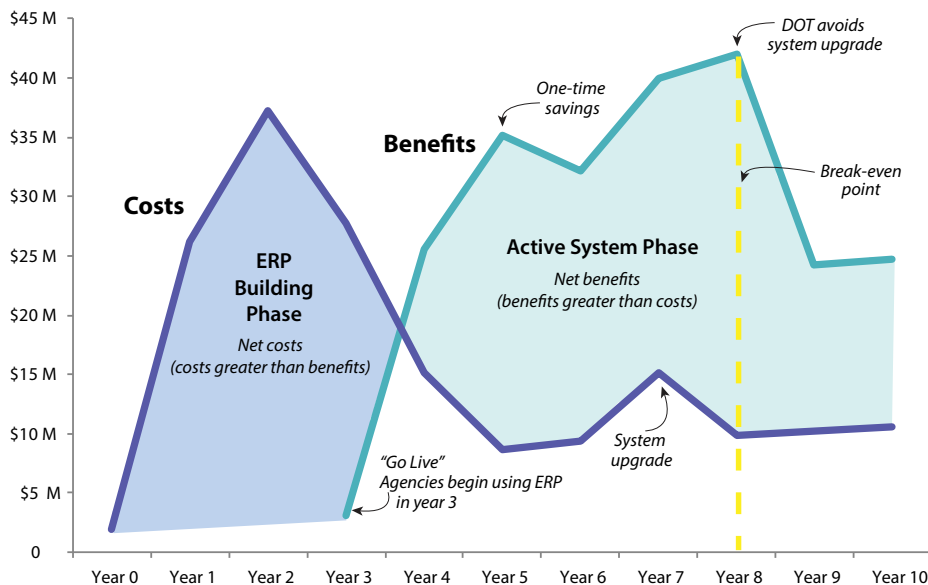
Source: ISG Technical Report.

Implementing an ERP system produces two major types of process improvements: effort- and metric-based.

- Effort-based benefits are activities that would be eliminated or require significantly less effort to perform. Our analysis indicates an ERP system will save one-fourth of the existing effort end-users spend performing financial management activities evaluated as part of this audit.

- Metric-based improvements result from process efficiencies, such as improved inventory management.

Effort-based savings are discussed in detail on **pages 83 through 87 and 89-90** of the accompanying technical report, and metric-based savings, summarized in the box at right, are discussed in detail on **pages 87-88 and 90 through 95**.

ISG made assumptions for the financial analysis based on their experiences assisting other states. These assumptions include:

- Two phases – a pre-implementation phase of twelve months and an implementation phase of two years, followed by one year of integrated vendor support. Cost estimates and the time frame do not include the readiness activities that must take place before pre-implementation. This issue is further discussed below.

- Integration with HRMS, Washington's current human resources/payroll administration system.

- Benefits phased in over a three-year period to account for variations in agency readiness.

- A software upgrade during the seventh year.

- Contingency budget of $18 million during the first four years of the project.

Additional detail on the financial analysis assumptions, including the rationale for these assumptions, may be found starting on **page 55** of the technical report.

Our analysis assumes that readiness activities will have already taken place prior to the pre-implementation phase. Roadmap activities set the stage for readiness, but core agency staff reported that they expect it will take at least two more years to complete preparations for an ERP system. These readiness activities include change management, which will be challenging given the state's decentralized agency culture. These activities will add to the cost of the project, and delay its start. However, it's likely to be money well spent, since proper preparation greatly improves the chance of project completion on time and within budget.

State agency staff said that it will take longer to fully implement an ERP system in Washington. Although preparing and establishing effective project management will help minimize disruptions, agency staff commented that the large number of agency systems to be integrated into a statewide ERP system, combined with the necessary cultural shift, will add complexities that may not have been fully incorporated into the financial analysis. Delays would add to costs, and may postpone the benefits and avoided costs beyond year 3. Anticipating this possibility, our analysis included a 20 percent contingency during project implementation and an additional $7 million to accommodate agency or system phase-in during year four.

> **Metric-based process improvements are estimated to save at least $9.9 million annually**
>
> - Save on the cost of mailing accounts payable remittance advices
> - Improve debt collection
> - Lower accounts receivable balances
> - Lower inventory balances
> - Lower prices for goods and services through statewide procurement.

Estimating the effects of complexity and culture on a project of this magnitude and duration is difficult. The full application of project management leading practices, especially at the Executive Sponsor and Executive Committee levels, may help to minimize these effects and the resulting potential impacts on the financial analysis presented here.

An ERP system could also provide significant management-related improvements. These attributes of an ERP system provide state agencies the information needed to improve performance, but cannot be quantified in a financial analysis. These benefits are described on **pages 103 through 105** of the report, and include:

- Availability of real-time information such as account balances.
- Increased transparency for citizens through easier access.
- User-friendly interfaces.
- Easier installation of add-ons.
- Increased data and reporting accuracy.
- Improved usefulness of information.

As previously mentioned, implementation of leading project management practices will enhance the likelihood of success. State agency financial management leaders recognize that thorough project preparation and planning is an essential first step to successfully acquiring and implementing a new ERP system. To assist them, this report provides guidance for moving forward with an ERP system, described in detail on **pages 107 through 113** of the technical report. This guidance includes project management, staffing, change management/organizational alignment, and software implementation.

Recommendations

To strengthen the state's financial management system, we recommend the Office of Financial Management, Department of Enterprise Services and the Office of the Chief Information Officer take the following actions.

1. Proceed with their plan to modernize the state's financial management system.

State financial leaders recognize the need to modernize the state's financial management system. They have begun preparations for an ERP system that can address current and future statewide and user-agency administrative business needs. Modernizing the system using an integrated approach will reduce the level of technical risk and improve financial management efficiency by streamlining processes and eliminating redundancy. It will also provide more accurate and timely information to decision makers and help them in their efforts to implement process improvements.

2. Create a management structure that promotes strong financial management leadership.

The core agencies recognize the importance of effective management to a project of this magnitude, including the establishment of roles and responsibilities, clear lines of communication, and stakeholder involvement.

Reorganization of central service functions pursuant to legislation in 2011 began a process that must be on-going. Executive leadership and advocacy by the governor's office, agency heads and state-wide elected officials will be needed to establish a structure that provides both strong executive leadership and a venue for stakeholder involvement. Financial management policies and procedures that clarify roles and responsibilities of the Office of Financial Management, Chief Information Officer, Department of Enterprise Services, and state agencies are needed to ensure the success of the project and ongoing operation of the system.

3. Report to the Legislature on the status of their progress in implementing these recommendations by December 2013, and annually thereafter until the project is complete.

What's next

We conducted this performance audit under the authority of the state's performance audit law which was enacted in 2005 through the statewide citizen initiative, I-900. The Joint Legislative Audit and Review Committee (JLARC) and other legislative committees whose members wish to consider findings and recommendations on specific issues review all of our I-900 state government audits and assessments.

Representatives of the State Auditor's Office will report on this performance audit to JLARC's Initiative 900 Subcommittee in Olympia. Please check the state Legislature's website (www.leg.wa.gov) for the exact date, time, and location. The public will have the opportunity to comment at this meeting.

The State Auditor's Office conducts periodic reports to determine what action was taken in response to the audit and may conduct follow-up audits at its discretion.

Appendix A of this executive summary describes the provisions of Initiative 900 and how the audit addressed these provisions.

STATE OF WASHINGTON

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May 7, 2013

The Honorable Troy Kelley
Washington State Auditor
P.O. Box 40021
Olympia, WA 98504-0021

Dear Auditor Kelley:

Thank you for the opportunity to respond to the State Auditor's Office (SAO) performance audit report, "Creating a 21st-century Financial Management System in Washington." To provide this consolidated response, the Office of Financial Management worked with the Office of the Chief Information Officer, Department of Enterprise Services, and participating executive Cabinet agencies including the departments of Corrections, Ecology, Employment Security, Fish and Wildlife, Health, Labor and Industries, Revenue, Social and Health Services, Transportation, and the Health Care Authority.

The audit report highlights the fact that modernized financial management systems offer tremendous opportunities for more efficient and effective management of state resources. Modern systems can enable new capabilities, including automated workflow, less system duplication, and more timely information for decision making. To take full advantage of a project to modernize the state's financial systems, we are focusing first on business transformation efficiencies through process improvement efforts such as Lean practices.

Modernizing the state's financial management systems is a significant undertaking. It is an expensive, multi-year, enterprise-wide project. Thoughtful and thorough planning will be crucial to its success. Steps already taken and in progress provide a starting point for moving forward. Funding has been requested to advance our planning and readiness efforts in the next biennium, which will include establishing a governance framework, conducting a readiness assessment, and developing an implementation strategy and action plan.

We appreciate the information provided in the SAO's report. While it was based on business and technology assumptions that may change as we implement the action plans outlined in our response, it will be useful in our planning process.

The SAO and its contractor, Information Services Group, worked collaboratively with the state agencies involved in this audit, and we thank the audit team for its work.

Sincerely,

David Schumacher
Director

The Honorable Troy Kelley
May 7, 2013
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Enclosure

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      Dale Peinecke, Commissioner, Employment Security Department
      Phil Anderson, Director, Department of Fish and Wildlife
      John Wiesman, Secretary, Department of Health
      Joel Sacks, Director, Department of Labor and Industries
      Carol Kobuke Nelson, Director, Department of Revenue
      Kevin Quigley, Secretary, Department of Social and Health Services
      Lynn Peterson, Secretary, Department of Transportation
      Dorothy Frost Teeter, Director, Health Care Authority

OFFICIAL STATE CABINET AGENCY RESPONSE TO PERFORMANCE AUDIT ON CREATING A 21ST-CENTURY FINANCIAL MANAGEMENT SYSTEM IN WASHINGTON

MAY 6, 2013

This coordinated management response to the audit report received on April 22, 2013, is provided by the Office of Financial Management on behalf of the Office of the Chief Information Officer, the Department of Enterprise Services, and participating executive Cabinet agencies including the departments of Corrections, Ecology, Employment Security, Fish and Wildlife, Health, Labor and Industries, Revenue, Social and Health Services, Transportation, and the Health Care Authority.

RECOMMENDATION 1: To strengthen the state's financial management system, we recommend the Office of Financial Management, Department of Enterprise Services and the Office of the Chief Information Officer take the following actions.

- Proceed with their plan to modernize the state's financial management system.

RESPONSE

We concur with the State Auditor's Office (SAO) recommendation to proceed with planning to modernize the state's financial management system. We appreciate that the SAO's performance audit report supported the need to modernize the state's financial management systems and acknowledged the many benefits. Modernizing the state's financial management system is a business transformation effort that will include reviewing current business practices and ultimately implementing an information technology system that meets the needs of the state.

Assuming the Legislature provides funding for this initiative in the 2013-15 budget, the first step would be to contract with a third-party consultant to provide technical and project management expertise for the planning effort. We assume this resource would be in place by the first quarter of the new biennium.

Action Steps and Time Frame

Though we will rely on the consultant's expertise in shaping our work plan, we expect the first phase of implementation planning activities to include at least the following:

- **Establish a governance framework** — Identify and establish the groups of state leaders and experts with advisory and decision-making responsibilities.

- **Conduct a readiness assessment** — Bring in independent, experienced consulting expertise to evaluate the level of preparedness of each agency, and state government as a whole, to carry out a system replacement project of this scale. The readiness assessment would address:

  o technical readiness
  o functional readiness
  o project readiness
  o cultural readiness
  o resource capacity, and
  o communication efforts.

Our readiness assessment will be guided in part by the information provided in this audit report and lessons learned from our large project implementations and those of other governments.

- **Developing an implementation strategy and action plan** — The readiness assessment would be followed by the development of an implementation strategy which would take into account priority business needs, readiness gaps and implementation challenges. The assessment would provide analysis and recommendations on:

  o Project scope
  o Expected outcome and measures of success
  o Product strategy
  o Project staffing and organization
  o Critical issues
  o Project budget, phasing strategy and timeline
  o Training and communication plans
  o Readiness gaps and closure strategy
  o Financing strategy options
  o Risk mitigation plan

- **Refining the business case** — The assessment and implementation strategy efforts will allow us to refine the business case presented in this report. The refinements will be informed by the selected scope, phasing, timeline and other key implementation choices.

Assuming the funding is provided, our intent is to complete these planning and project preparation efforts by the end of the 2013-15 biennium, or sooner if possible.

RECOMMENDATION 2: State financial leaders recognize the need to modernize the state's financial management system. They have begun preparations for an ERP system that can address current and future statewide and user-agency administrative business needs. Modernizing the system using an integrated approach will reduce the level of technical risk and improve financial management efficiency by streamlining processes and eliminating redundancy. It will also provide more accurate and timely information to decision makers and help them in their efforts to implement process improvements.

- Create a management structure that promotes strong financial management leadership.

RESPONSE

We concur that establishing the appropriate governance structure for this project is one of the key next steps.

Because this project will touch most areas of state government, strong and consistent leadership, effective governance and stakeholder engagement will be critical to success. The state will need to clarify which groups will have decision rights and which will have advisory rights. We need a process that ensures solid decisions and resolves issues clearly and quickly.

The action plan will also identify requirements for project staffing and management as well as establish an organizational structure for the project team.

Action Steps and Time Frame

Establish a governance structure. Assuming the funding is provided, our intent is to complete these planning and project preparation efforts by the end of the 2013-15 biennium, or sooner if possible.

RECOMMENDATION 3: The core agencies recognize the importance of effective management to a project of this magnitude, including the establishment of roles and responsibilities, clear lines of communication, and stakeholder involvement. Reorganization of central service functions pursuant to legislation in 2011 began a process that must be on-going. Executive leadership and advocacy by the governor's office, agency heads and state-wide elected officials will be needed to establish a structure that provides both strong executive leadership and a venue for stakeholder involvement. Financial management policies and procedures that clarify roles and responsibilities of the Office of Financial Management, Chief Information Officer, Department of Enterprise Services, and state agencies are needed to ensure the success of the project and ongoing operation of the system.

- Report to the Legislature on the status of their progress in implementing these recommendations by December 2013, and annually thereafter until the project is complete.

RESPONSE

We agree that, if funded, all interested stakeholders, including the Legislature, should be kept informed about planning progress and project implementation.

Action Steps and Time Frame

The planning effort will include the development of communication plans and project governance and participation structures. Assuming the funding is provided, our intent is to complete these planning and project preparation efforts by the end of the 2013-15 biennium, or sooner if possible.

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

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May 6, 2013

The Honorable Troy Kelley
Washington State Auditor
P.O. Box 40021
Olympia, WA 98504-0021

Subject: Financial Management System Audit

Dear Auditor Kelley:

This letter provides the Department of Natural Resources' (DNR) response to the State Auditor's Office (SAO) Final Draft Performance Audit titled "Creating a 21st-century Financial Management System in Washington." DNR thanks SAO for undertaking this audit.

The audit report highlights several conditions of the current system. DNR agrees that Washington's financial management system does not efficiently meet agency or state business needs, which is evident by the over 100 redundant components which the audit refers to as "shadow systems." DNR also agrees that most of these systems can and should be replaced by a statewide Enterprise Resource Planning System (ERP).

The audit report states that DNR's NaturE system is an accounts receivable system. This is misleading: NaturE is a multi-functional system that was developed to meet DNR's many unique business needs.

NaturE is a client/server based, integrated land management and financial application that accomplishes all of the tasks included in three DNR legacy mainframe applications: *Revenue Management System, Asset Performance System,* and *Timber Sales Contract System.* This suite of applications is referred to as *Revenue, Timber, and Assets.* This suite allows us to create customer invoices, track customer accounts, and process payments to customer accounts. In addition, the suite handles the distribution of funds to specific trusts and counties for the trust lands managed by DNR. It also provides tracking for other DNR assets and leases including but not limited to aquatic lands, communication sites, agriculture (including product-based leases), special use and commercial leases, right of way contracts, and timber sale contracts.

In addition, NaturE provides data to numerous other DNR's reporting modules such as DataMart, State Upland Viewing Tool, Total Resource Allocation Cross-Reference System (also known as TRAXS), Geographic Information System, and Planning & Tracking System, to name just a few.

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Most of these other applications rely on the legal descriptions captured in NaturE to provide additional information on asset tracking details.

NaturE currently contains 22,000 active contracts and 45,000 inactive contracts. Since the sunset of the legacy applications, it is the historical repository for all DNR contracts and easements since Washington Statehood. NaturE also tracks both distribution and reporting of an annual $250 million of trust revenues directly linked to leases and contracts.
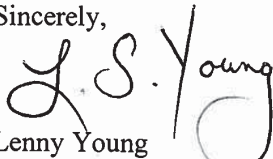
Accordingly, unless a new system meets all of DNR's many and diverse business requirements, DNR will be unable to merge to a statewide ERP. DNR will have to maintain NaturE, and any cost savings attributed to replacing NaturE will not be realized.

We question whether developing an integrated financial system will pay for itself in time. When DNR integrated three mainframe applications into NaturE, we obtained substantial increases in information quality and system functionality. However, we did not obtain any effort related savings. We believe that the audit report likely overestimates effort based savings associated with a 21st Century financial management system. A concern is that this could lead to unwarranted reductions to agency budgets in anticipation of "efficiency savings."

Despite some of our disagreements with the report, we concur with SAO recommending that OFM, the Department of Enterprise Services, and the Office of the Chief Information Officer should proceed with their plan to modernize the state's financial management system, create a management structure that promotes strong financial management leadership, and report to the legislature on the status of their progress in implementing SAO's recommendations.

Thank you for the opportunity to comment on this audit. Your staff was very helpful during DNR's review of the report.

Sincerely,

Lenny Young
Department Supervisor

cc: Peter Goldmark, Commissioner of Public Lands
     Ben Hainline, Department Auditor

Appendix A: Initiative 900

Initiative 900, approved by Washington voters in 2005 and enacted into state law in 2006, authorized the State Auditor's Office to conduct independent, comprehensive performance audits of state and local governments.

Specifically, the law directs the Auditor's Office to "review and analyze the economy, efficiency, and effectiveness of the policies, management, fiscal affairs, and operations of state and local governments, agencies, programs, and accounts." Performance audits are to be conducted according to U.S. General Accountability Office government auditing standards.

In addition, the law identifies nine elements that are to be considered within the scope of each performance audit. The State Auditor's Office evaluates the relevance of all nine elements to each audit. The table below indicates which elements are addressed in the audit. Specific issues are discussed in the Results and Recommendations section of this report.

I-900 Element	Addressed in the audit
1. Identification of cost savings	**Yes.** The audit estimated cost savings of implementing an Enterprise Resource Planning (ERP) system.
2. Identification of services that can be reduced or eliminated	**Yes.** The audit identified administrative processing tasks that would be eliminated by an ERP.
3. Identification of programs or services that can be transferred to the private sector	**No.** The audit did not identify programs or services that could be transferred to the private sector.
4. Analysis of gaps or overlaps in programs or services and recommendations to correct gaps or overlaps	**Yes.** The audit identified gaps and overlaps in financial management governance.
5. Feasibility of pooling information technology systems within the department	**Yes.** The audit identified information technology systems that are candidates for replacement by an ERP.
6. Analysis of the roles and functions of the department, and recommendations to change or eliminate departmental roles or functions	**Yes.** The audit reviewed the roles and functions of core financial management agencies (OFM, DES and OCIO).
7. Recommendations for statutory or regulatory changes that may be necessary for the department to properly carry out its functions	**No.** The audit did not identify any statutory or regulatory changes necessary to improve the state's financial management system.
8. Analysis of departmental performance, data performance measures, and self-assessment systems	**No.** Agency performance was outside the scope of the audit.
9. Identification of best practices	**Yes.** The audit identified leading practices both for financial management systems and financial management governance.

Financial Management System Performance Audit

Presented by:

Information Services Group, Inc.
Public Sector

April 17, 2013

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Contents

Executive Summary

Background and Purpose

In June 2012, the Washington State Auditor's Office engaged Information Services Group (ISG) to perform an analysis of the State's current financial management systems. The overarching purpose of the analysis was to compare and contrast the State's current systems with the potential costs and benefits of successfully moving to a modern, full-featured Enterprise Resource Planning (ERP) system (a suite of fully integrated software applications that are used to perform administrative business functions such as financial accounting, procurement, and grants management) and use the analysis to answer the following four questions:

1. What is the current condition of the State's financial management system and how does it compare with the leading practices found in a modern enterprise resource planning (ERP) system and other states?

2. What are the technical problems or risks associated with the current financial management system?

3. What is the governance and oversight model being used in Washington State financial management? Are there gaps or overlaps in that authority?

4. What are the financial and other impacts of sustaining the current system compared to migrating to a modern ERP system?

Project Approach

ISG utilized its proven Business Case Analysis (BCA) Methodology to conduct this project, which thoroughly addresses all four questions to be answered. ISG has successfully applied its BCA Methodology in assisting ten states, with legacy financial management system environments similar to Washington's, in evaluating the extent to which investing in a statewide ERP system would be business justified.

The phases of our methodology that were used for this work effort are the following:

1. Conduct Project Start-Up Activities

2. Assess Current Strategies and Environment

3. Determine Alternative Strategies to Evaluate

4. Identify and Analyze Costs, Benefits, and Risks

5. Perform Financial Analysis

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6. Evaluate Alternatives

7. Prepare and Submit Final Report

During Phase 2 of our methodology, we performed the fieldwork and analysis necessary to answer the first three questions listed in Background and Objectives section above. During Phases 3 through 6, we performed the fieldwork and analysis necessary to answer the fourth question listed in the Background and Objectives section.

For more information on our methodology and a crosswalk that maps our methodology to the questions that were answered by this work effort, please refer to Appendix A.

Alternative Solutions to be Considered

Although the initial scope of this engagement was to compare and contrast the State's existing financial management system with a modern ERP system, we discussed and evaluated a number of other alternatives with the SAO, and ISG and the SAO agreed, for this work effort, to evaluate two solutions for addressing the State's future administrative system needs:

- **Status Quo (continue on the State's current path)**

  This alternative is based on the assumption that the State will continue on its current path, whereby the Agency Financial Reporting System (AFRS), Disclosure Forms, Comprehensive Financial Annual Report (CAFR) Database, Statewide Vendor File, Capital Asset Management System (CAMS), Cost Allocation System (CAS), Solomon, Personal Service Contracts Database (PSCD) and Washington Electronic Business Solution (WEBS) will compose the primary financial management system, and agencies will continue to acquire, develop, and use a number of subsystems or "shadow" systems that support administrative operations.

- **Implement ERP**

  This alternative is based on the assumption that Washington will implement a modern ERP system statewide that has a suite of fully integrated financial management software modules to perform administrative business functions within the scope of this project (i.e., financial accounting, procurement, grants management, etc.).

Major Assumptions Pertaining to "Implement ERP" Alternative

Following are key, high-level assumptions pertaining to a statewide implementation of an ERP system upon which this analysis was based.

Scope of an ERP System

As indicated above, an ERP system is a suite of fully integrated software applications that are used to perform administrative business functions such as financial accounting, procurement, and personnel administration (see Appendix C for detailed functionality). What distinguishes

ERP systems from a combination of stand-alone best-of-breed administrative software solutions is the integration that enables more efficient processing and eliminates redundant data entry and reconciliation tasks.

The functionality provided by ERP systems is usually provided in major functional groupings or modules that typically address the major administrative functions within state government. Additionally, certain features, such as automated workflow and electronic approvals, security, reporting, business intelligence and data warehousing, cross all functional modules. It should be noted that a typical statewide ERP system would not replace programmatic systems, such as tax revenue management or Medicaid management information systems.

The following exhibit shows the typical public sector ERP modules and also identifies which modules were included, considered but excluded, or excluded from the scope of this work effort. Human Resources/Payroll functionality is not included in the scope of this work effort.

Exhibit 1 – ERP Modules & Scope of Work

IN SCOPE	
FINANCIAL MANAGEMENT	**PROCUREMENT & LOGISTICS**
General Ledger & Budgetary Control	Traditional Solicitations
Accounts Payable & Travel	Catalog Purchases
Accounts Receivable and Billing	Reverse Auctions
Grants/Project Management	Materials Management
Cost Accounting/Allocation	Commodity Maintenance
Asset Management	Vendor Self-Service
Banking/Cash Management	**LOGISTICS**
FHWA Federal Aid Billing	Warehouse Inventory
Budget Development	**DATA WAREHOUSE / BUSINESS INTELLIGENCE**
CONSIDERED BUT EXCLUDED	**OUT OF SCOPE**
LOGISTICS	**HUMAN RESOURCES & PAYROLL**
Fleet Management	Position Control
Facilities Management	Personnel Administration
	Payroll Administration
	Employee Relations/Perf. Management
	Recruitment/Applicant Services
	Benefits Administration
	Time Reporting
	Employee Leave Accounting
	Employee Self-Service

The assumption of this analysis is that the existing legacy applications used to support statewide financial management functions (e.g., AFRS, CAMS, WEBS) would be replaced with the new ERP system and integrated with Washington's current human resources/payroll administration system, SAP HRMS. All non-higher education state agencies would utilize this new fully integrated ERP system to meet their financial management and HRMS administrative business needs. Higher education institutions that have their own financial management and HRMS systems would continue to operate autonomously, sending summaries of payroll and financial transactions into the new ERP system via electronic interfaces.

Assumed ERP Implementation Phasing and Timeline

For the purposes of this analysis, it was assumed that the implementation would be a so-called "Big Bang" deployment (i.e., all ERP functionality within scope would be deployed to all agencies within scope simultaneously). Other states have successfully utilized other deployment approaches (e.g., phased in functionality, phased in agencies, or a combination of the two), and State leadership should revisit the deployment strategy prior to starting an actual implementation. The exhibit below presents the assumed phasing of an ERP project for this analysis.

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Exhibit 2 – Anticipated Project Timeline

FY - 0						FY - 1												FY - 2												FY - 3												FY - 4					
7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6

| Phase 1 Pre-Implementation Planning and Acquisition | | | | | | Phase 2 Implementation | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Requirements & RFP | Vendor Response | Evaluation / Demo / BAFO / Award Contract | Plan | Design | | Build | | | Test / Train | | | Go Live | Post Implementation Support | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
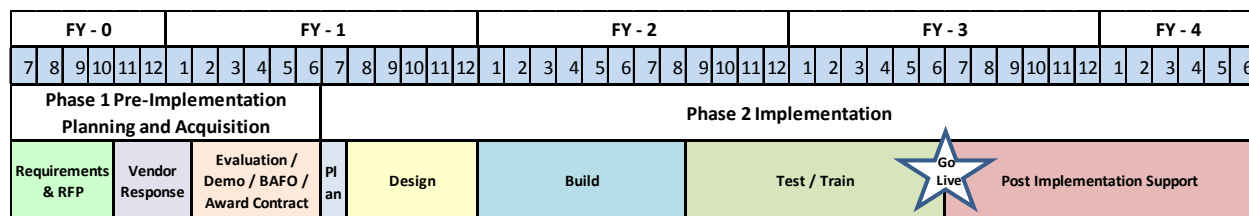
As the timeline above indicates, it is assumed that the project will be conducted in two (2) sequential phases:

- **Phase 1: Pre-Implementation Planning and Acquisition**

    This phase will be a one-year effort to initiate planning and to acquire ERP software and associated implementation services.

- **Phase 2: Implementation**

    This phase will be a two-year effort to implement financial management, procurement, and logistics functionality. Immediately following go-live will be a 12-month vendor-provided post-implementation support effort.

Note that these assumptions were required for ISG to produce this report and may not necessarily be the scope, deployment order, and timeline ultimately used for the actual ERP implementation project. Also note that for certain aspects of this report, an assumption was made that the ERP initiative would start on July 1, 2013, in order to provide a reference point from which to base other, related estimates included in our report, and thereby, maintain an internal consistency for those related estimates. The estimates included in the report represent a "what-if" analysis. State leadership has not made any commitments to start an ERP project.

Key Findings

As a result of our analysis of the State's current financial management systems, which is based on interviews with key stakeholders from 12 participating agencies, review of system documentation provided by agencies, survey responses, and interviews with other states that currently operate a modern ERP system, we identified the following key findings:

Current condition of the State's financial management system

- The State currently provides very limited system support for the statewide Procurement process. As a result, the Department of Enterprise Services (DES) lacks the system tools necessary to effectively enforce agencies' use of statewide negotiated contracts. In addition, the existing financial system lacks the ability to track the State's procurement spend by commodity codes to perform important data-driven Spend Analysis, which leads

to opportunities for negotiating better contracts at lesser cost. Often, uncovering opportunities in just a few commodities can save the State millions of dollars.

▪ The ability to provide statewide automated procurement functionality to track, approve, and coordinate/consolidate statewide procurement activities will be essential to the implementation of Procurement Reform as outlined in ESSB 5931 and HB 2452. Otherwise, without the proper tools for the central purchasing agency to provide effective oversight, agencies can simply continue to procure goods and services independently (i.e., order, receive, and pay for goods and services) .

▪ The State maintains numerous stand-alone procurement contract databases (e.g., Enterprise Contract Management System [ECMS], Sole Source Contracts Database [SSCD]) to track and monitor various types of contracts as mandated by the State Legislature. The lack of integration between purchasing, accounts payable and other critical functional areas is a major disadvantage to state agencies, creating extensive manual effort to rekey data and continuously reconcile systems to ensure accuracy; all efforts that could be eliminated by an ERP system and redirected to more meaningful tasks.

▪ Washington's Electronic Business System (WEBS), an Internet-based vendor registration and bid notification system, provides very limited vendor self-service functionality. For example, WEBS does not provide an online vendor payment inquiry function for vendors to use. Instead, vendor payment inquiries are managed by the Statewide Payee Desk. By providing more extensive self-service capabilities that are commonly found in today's ERP systems, the State could recapture a significant amount of State employee time that could be redirected toward higher value activities.

Technical problems or risk associated with the current financial management system

▪ While we cannot predict if or when a catastrophic event might occur, the State's vulnerability to system disruptions will increase significantly over time as the number of employees familiar with the State's current systems become eligible for retirement. According to Washington's HRMS workforce profile data for fiscal year 2012, 47% of state employees are 50+ years of age. The loss of these employees will make the current systems more difficult to maintain and increase the risk of system failure. The current systems were developed using older technology that is inflexible, and the systems have been modified extensively. Recent graduates just initiating their careers want to work with current technologies, and will be reticent or unable to support the current systems.

▪ With the State's current systems written in older programming languages that are very inflexible and modified extensively over the years; it is becoming difficult, time-consuming, and costly to perform system changes to address emerging business requirements and new legislative mandates.

  ▪ Much of the State's financial management system data originates and resides in various "stand-alone" systems. Because these systems are not integrated, the same data is entered multiple times into different systems, leading to the potential for data entry errors. Data maintained in independent databases or "shadow" systems (i.e., an

agency-managed system that includes missing or duplicate functions of the central statewide system) can also produce inconsistent information. This fragmented environment results in a lack of data standardization and can cause agencies and central authorities to not "speak the same language".

- Agencies do not interface all of their accounting transactions to the statewide financial management system (AFRS). As a result, additional applications have been developed such as Disclosure Form to recapture accounting details for the preparation of the State's Comprehensive Annual Financial Report (CAFR).

- Many agencies and institutions have developed or procured their own "shadow" systems as a result of statewide system not providing the necessary functionality needed at the agency's level. As a result, there are approximately 150 operational interfaces that must be managed, maintained, and reconciled across the State at both the statewide and agency/institutional levels.

- Many of the existing statewide administrative systems are difficult to use as they lack the modern, Windows-based, common user interfaces that system users are accustomed to using (e.g., e-mail, office applications). Often State employees must work with several of these systems, and each system has its own unique "look and feel".

Governance and oversight

- Although no specific Washington financial management system governing body exists at this time, Office of Financial Management (OFM), DES and Office of the Chief Information Officer (OCIO) are working jointly to develop a new governance approach that will take advantage of the functional realignment brought about by ESB 5931. In the meantime, OFM, DES, OCIO and the Office of Human Resource Director coordinate in defining priorities and initiatives/projects for the financial management system enhancements. OFM includes funding in the budget once OCIO/CIO approves IT projects. In the meantime, OFM, DES, OCIO and the Office of Human Resource Director employ a non-hierarchical, collaborative approach to governance and oversight of the financial management system.

- Advisory bodies exist for statewide IT (CIO Forum) and financial management (Financial Management Advisory Council), and HR/payroll communities to facilitate exchange of information between OFM/OCIO/DES and agencies, including soliciting input and feedback regarding policies, standards, procedures and statewide initiatives.

Financial and other impacts of sustaining the current system

- The State could potentially realize a significant return on an investment in the acquisition, implementation, and operation of a Statewide ERP system. ISG estimates that the cost to acquire, implement, and operate a Statewide ERP system during the 11-year analysis period (Year 0 through Year 10) would be approximately $172.0 million. These ERP costs would be offset by $95.3 in Avoided Systems Costs plus $132.8 million in Process-Improvement Benefits/Savings, resulting in a Net Benefit of $56.0 million (refer to the "Total" column in the exhibit below).

Exhibit 3 - Schedule of Estimated Net Costs and Benefits/Savings from Implementing ERP ($ millions)

					Fiscal Years									
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	**Total**
	ERP Costs	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
Costs	Pre-Implementation Costs (Planning & Acquisition Support)	(1.9)	-	-	-	-	-	-	-	-	-	-	**(1.9)**
	Implementation Costs	(0.0)	(22.9)	(31.8)	(23.6)	-	-	-	-	-	-	-	**(78.2)**
	Implementation Contingency	-	(3.3)	(5.5)	(2.0)	(6.8)	-	-	-	-	-	-	**(17.6)**
	Ongoing Operating Costs (excludes end user costs)	-	-	-	(2.2)	(8.3)	(8.7)	(9.4)	(15.2)	(9.8)	(10.2)	(10.6)	**(74.3)**
	Total ERP Costs	**(1.9)**	**(26.2)**	**(37.2)**	**(27.8)**	**(15.1)**	**(8.7)**	**(9.4)**	**(15.2)**	**(9.8)**	**(10.2)**	**(10.6)**	**(172.0)**
Benefits	**Avoided Systems Costs**												
	Ongoing Systems Costs	-	-	-	2.9	5.9	6.1	6.2	6.3	6.5	6.6	6.8	**47.3**
	Future Investments in Current Systems and Planned/Anticipated New Systems	-	-	-	0.3	0.5	1.5	9.6	17.0	18.6	0.3	0.3	**47.9**
	Total Avoided Costs	**-**	**-**	**-**	**3.2**	**6.4**	**7.6**	**15.8**	**23.3**	**25.1**	**6.9**	**7.0**	**95.3**
	Process-Improvement Benefits												
	Effort-Based Benefits	-	-	-	-	2.3	4.7	4.8	4.9	5.0	5.1	5.2	**32.3**
	Metric-Based Benefits	-	-	-	-	17.0	23.0	11.6	11.9	12.1	12.3	12.6	**100.5**
	Total Process-Improvement Benefits	**-**	**-**	**-**	**-**	**19.3**	**27.8**	**16.5**	**16.8**	**17.1**	**17.5**	**17.8**	**132.8**
	Total Benefits	**-**	**-**	**-**	**3.2**	**25.7**	**35.3**	**32.3**	**40.1**	**42.2**	**24.4**	**24.9**	**228.0**
Net	**Net Analysis: ERP Costs less Benefits**												
	Net (ERP Cost less Benefits/Savings)	(1.9)	(26.2)	(37.2)	(24.6)	10.6	26.7	22.9	24.9	32.4	14.2	14.2	**56.0**
	Cumulative Net	(1.9)	(28.0)	(65.3)	(89.9)	(79.3)	(52.6)	(29.7)	(4.8)	27.6	41.8	56.0	
	Break-even Year									27.6			
	PV of Net@ 3% per annum	(1.9)	(25.4)	(35.1)	(22.5)	9.4	23.0	19.2	20.3	25.6	10.9	10.6	**34.0**
	NPV of Net@ 3% per annum	(1.9)	(27.3)	(62.4)	(84.9)	(75.5)	(52.5)	(33.3)	(13.0)	12.6	23.4	34.0	
	Break-even Year (NPV basis @ 3% per annum)									12.6			
	PV of Net@ 5% per annum	(1.9)	(24.9)	(33.8)	(21.2)	8.7	20.9	17.1	17.7	21.9	9.1	8.7	**22.4**
	NPV of Net@ 5% per annum	(1.9)	(26.8)	(60.6)	(81.8)	(73.1)	(52.2)	(35.1)	(17.4)	4.5	13.7	22.4	
	Break-even Year (NPV basis @ 5% per annum)									4.5			
	IRR (if > 0)									6%	9%	10%	

Please note that the totals in the schedule above may reflect variances due to rounding.

Based on the estimated values in the schedule above, the investment in an ERP system has a net present value (NPV) of $34.0 million for Year 0 through Year 10, assuming a nominal (i.e., inflation adjusted) discount rate of 3% per annum, or $22.4 million, assuming a nominal discount rate of 5% per annum.

We estimate that the investment would reach the break-even point during the 11-year analysis period as follows:

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→ Net-dollar Basis: Year 8 (see the "Break-even Year" row in the schedule above)

→ NPV Basis @ 3% per annum: Year 8 (see "Break-even Year (NPV basis @ 3% per annum)" row in the schedule above)

→ NPV Basis @ 5% per annum: Year 8 (see "Break-even Year (NPV basis @ 5% per annum)" row in the schedule above)

Through Year 8, the nominal Internal Rate of Return (IRR) is 6%, through Year 9, the nominal IRR is 9%, and through Year 10, the nominal IRR is 10%.

Note that an annual net benefit of at least $14.2 million has been calculated for Year 9 and beyond (refer to the "Net (ERP Cost less Benefits/Savings)" row in the schedule above). This net benefit would continue beyond the 11-year measurement period documented in this work effort for some period of time, and could continue for a number of years into the future, assuming the State continued to keep the system relatively current.

Recommended Alternative

ISG recommends that the State select the "Implement ERP" alternative for addressing current and future statewide and user agency administrative business needs. We recommend this alternative because it:

▪ Achieves business process standardization based on best practices, economies of scale, and efficiency gains through the implementation of a single, unified platform for all state agencies;

▪ Resolves much of the fragmentation associated with the State's existing administrative systems environment;

▪ Eliminates funding requests for agency-specific ERP and other administrative "shadow" systems, while allowing higher education to maintain its own ERP solutions that are integrated with other ERP functions such as patient care, student information, learning management, and library systems;

▪ Provides a plan that allows the State to significantly upgrade the functionality and reporting capabilities of its statewide administrative systems and retire the legacy systems (AFRS, CAMS, WEBS) over the next several years;

▪ Provides for significantly enhanced statewide reporting across state government, which will greatly facilitate a "single source of the truth" and taxpayer transparency;

▪ Provides for a statewide procurement system that will be fully integrated with the financial management, asset management, and inventory functions (where appropriate);

▪ Provides for more effective compliance with Section 508 of the Americans with Disabilities Act (ADA) regarding accessibility;

- Provides for better tracking of the State's assets, thus helping agencies and the Legislature in budget planning by identifying replacement costs and schedules; and

- Allows the State to potentially realize a significant return on an investment in the acquisition, implementation, and operation of a Statewide ERP system, as mentioned previously.

Recommendations for Moving Forward with an ERP Implementation

The statewide implementation of the financial management functionality of an ERP system is a significant undertaking. Project preparation and planning is an essential first step to successfully acquiring and implementing a new ERP system, assuming the State elects to move forward with the "Implement ERP" alternative. As with any large, enterprise-wide project, a proven, detailed, and methodical approach should be taken to enhance the likelihood of project success. Based on the results of this analysis and our experience providing project management and project oversight services to other states that have successfully implemented ERP systems statewide, ISG has provided a number of recommendations for the State to consider when making future plans regarding the implementation of an ERP system, and those recommendations are presented in the "Recommendations for Moving Forward with an ERP Solution" section of this report.

Introduction

In June 2012, the Washington State Auditor's Office (SAO) engaged ISG to perform an analysis of the State's financial management system. The purpose of the analysis was to evaluate the current condition, technical problems or risks, and the impacts of sustaining the current system compared to migrating to a modern financial system which contains functions such as financial accounting, procurement, and grants management. The analysis was to be based on answering the following four (4) questions:

1. What is the current condition of the state's financial management system and how does it compare with the leading practices found in a modern enterprise resource planning (ERP) system and other states?

    a. What are the characteristics of Washington's current system?

    b. What are the elements of a leading financial management system? What do other states' financial management systems look like? How does Washington compare?

    c. What plans do Washington policy makers have for closing the gap between the current conditions and leading practices?

2. What are the technical problems or risks associated with the current financial management system?

    a. What are the actual operational/technical risks associated with the state's aging information technology?

    b. If technical risks exist, why do they exist? (e.g., unfunded by the legislature, too many interfaces, independent culture, etc.)

    c. What are the risks of resources (technology, knowledgeable staff, or vendors) not being available for continued system support?

    d. What other types of risks exist that industry best practices monitor and measure? How does Washington's approach to financial system risk management and business continuity management (BCM) compare?

    e. What are the potential impacts to users if the financial system suffered a serious outage? (e.g., loss of revenue; impact on agencies; the public; legislature; risk-based analysis)

    f. If risks are identified, are the entities responsible for managing these systems aware of the risks? If not, why not?

3. What is the governance and oversight model being used in Washington State financial management? Are there gaps or overlap in that authority?

    a. What is the current structure as stated/designed? How does that compare with what's really happening?

b. What are the laws and governance structures for financial management systems of other peer models in both public and private sector entities?

c. What are the leading governance practices for similar organizations (laws, authority, responsibility, organizational structure, and enterprise risk management)?

4. What are the financial and other impacts of sustaining the current system compared to migrating to a modern ERP system?

a. What are the alternative paths to achieve excellence in financial management that might be pursued, and what risks, cost and benefits would those alternative paths entail?

b. What are the inefficiencies of operating the current financial system versus operating a fully integrated modern ERP system?

c. Why are these inefficiencies or other impacts occurring?

d. What are the costs of those inefficiencies that can be quantified and what are the potential impacts?

e. What other conditions exist that could have a negative impact by keeping the current system?

f. What are the potential future cost increases or other impacts from keeping the current system over time?

g. Are there benefits of keeping the existing system as opposed to the cost of migrating to a new ERP system? What value would migrating to a new system add?

This report documents the work effort and results of the analysis performed on the State's financial management system as outlined in the Financial Management Performance Audit, Work Order 0212-WO-K306, Contract 0109-C-K104.014.

Project Approach

ISG utilized its proven Business Case Analysis (BCA) Methodology in performing this project, which thoroughly addresses all four questions. ISG has successfully applied its BCA Methodology in assisting the following states, with legacy financial management system environments similar to Washington's, in evaluating the extent to which investing in a statewide ERP system would be business justified:

- Arizona

- Kansas

- Louisiana

- Minnesota

- Mississippi

- Tennessee

- Texas

- Virginia

- West Virginia

- Wisconsin

The phases of our methodology that were used for this work effort are the following:

1. Conduct Project Start-Up Activities

2. Assess Current Strategies and Environment

3. Determine Alternative Strategies to Evaluate

4. Identify and Analyze Costs, Benefits, and Risks

5. Perform Financial Analysis

6. Evaluate Alternatives

7. Prepare and Submit Final Report

During Phase 2 of our methodology, we performed the fieldwork and analysis necessary to answer the first three questions listed in Background and Objectives section above. During Phases 3 through 6, we performed the fieldwork and analysis necessary to answer the fourth question listed in the Background and Objectives section.

For more information on our methodology and a crosswalk that maps our methodology to the questions that were answered by this work effort, please refer to Appendix A.

The remainder of this report (following the Participating Agencies section below) is structured in the following two primary sections:

- ***What is the current condition of the State's financial systems?*** This major section addresses the questions 1 through 3.

- ***What are the financial and other impacts of sustaining the current system compared to migrating to a modern enterprise resource planning system?*** This major section addresses question 4.

Participating Agencies

In keeping with ISG's methodology, it was determined that 12 of the largest State agencies (e.g., education agencies excluded), herein referred to as the "participating agencies", which make up 86% of the combined total Operating Budget and 76% of the combined FTEs, would

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participate in this analysis (i.e., respond to surveys, participate in interviews, etc.). The 12 participating agencies were the following:

1. Washington State Department of Fish & Wildlife (DFW)
2. Washington State Department of Natural Resources (DNR)
3. Washington State Department of Ecology (ECY)
4. Washington State Department of Enterprise Services (DES)
5. Washington State Department of Labor and Industries (L&I)
6. Washington State Department of Revenue (DOR)
7. Washington State Department of Health (DOH)
8. Washington State Department of Social and Health Services (DSHS)
9. Washington State Employment Security Department (ESD)
10. Washington State Health Care Authority (HCA)
11. Washington State Department of Corrections (DOC)
12. Washington State Department of Transportation (WSDOT)

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What is the current condition of the State's financial systems?

The purpose of this portion of the work effort was to perform an assessment of the State's current financial management systems to address the following questions:

1. What is the current condition of the state's financial management system and how does it compare with the leading practices found in a modern enterprise resource planning (ERP) system and other states?

2. What are the technical problems or risks associated with the current financial management system?

3. What is the governance and oversight model being used in Washington State financial management? Are there gaps or overlap in that authority?

Overall Approach

The key major activities performed in the overall approach were the following:

▪ Conducted interviews with business and technical staff responsible for managing each administrative system;

▪ Conducted an End User Perception Survey to obtain information on certain aspects of the financial management system from the end users of the State's statewide financial management systems. Respondents from the 12 participating agencies included managers, supervisors, and line users;

▪ Reviewed a total of 140 systems in use at 12 participating agencies; and,

▪ Reviewed relevant financial management system documentation provided by DES, OFM, and Participating Agencies.

In addition to the overall approach described above, each section below also provides the relevant detailed approach specific to the related work effort.

Current Environment

Introduction

The purpose of this section of work was to: (1) obtain a high-level understanding of the characteristics of the various existing systems that compose the State's financial management system, then (2) perform an assessment of the characteristics of Washington's current system in light of the elements of a leading financial management system, and then (3) describe the plans Washington policy makers have for closing the gaps between the characteristics of the existing system and those of a leading financial management system.

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This portion of the report provides a brief description of each of the State's existing systems, as well as an overall analysis of the capabilities of those systems, including their strengths and weaknesses, functionality being provided by each system, functionality not being provided, potential process-improvement opportunities, and the degree of interfacing/integration across the various systems.

Approach

Our assessment of the State's current financial management systems environment was based upon our review of more than 140 systems in use at the 12 State agencies included in the scope of our study. Summary information about these systems can be found in Appendix B: Inventory of State Administrative Systems. Of the 140 systems reviewed, 114 systems are candidates for replacement by a full-scope ERP system that includes financial management and procurement functionality. The scope does not include agency programmatic systems, such as tax revenue management or Medicaid management information systems. It is likely that a number of additional financial or procurement systems would be replacement candidates at agencies not included in the study. Major systems identified as candidates for being replaced by an ERP system include:

- Statewide financial management systems, including:

  → Agency Financial Reporting System (AFRS), the statewide financial system,

  → Solomon IV, the statewide accounts receivable system,

  → Capital Asset Management System, the statewide asset management system,

  → Washington Electronic Business Solution (WEBS), the statewide vendor registration and bid notification system, and its related contract management database system, Enterprise Contract Management System (ECMS),

  → Statewide Vendor File (SWV), the State's consolidated payment vendor file,

  → Cost Allocation System (CAS), a cost allocation system developed by DSHS and available to all agencies , and

  → The Allotment System (TALS), the agency's allotment management and review system.

- WSDOT's major financial management systems, including:

  → Transportation Reporting and Accounting Information System (TRAINS), which includes the budget system (TRACS),

  → Capital Program Management System (CPMS),

  → Work Order Authorization (WOA),

  → Contract Administration and Payment System (CAPS),

  → Construction Contracts Information System (CCIS),

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→ Consumable Information System (CIS); and

▪ Other major financial management systems being used by the 12 participating agencies.

Findings

1.a What are the characteristics of Washington's current system?

The State currently uses a system originally developed and marketed by KPMG LLP (KPMG) as the statewide accounting system of record. Accordingly, State agencies and higher education institutions are required to record their financial activities in the system at the level specified in the Statewide Accounting and Administrative Manual (SAAM). This system was installed at the State in the early 1980s and is referred to internally as the Agency Financial Reporting System (AFRS). This system is no longer supported by KPMG.

The Washington State Department of Transportation (WSDOT) is the only agency that maintains its own internal financial management system. WSDOT's system is a mainframe-based system, which is a highly customized version of a system from American Management Systems, Inc. (AMS, now CGI Group, Inc. [CGI]), referred to as the Transportation Reporting and Accounting Information System (TRAINS) by WSDOT staff. The system is no longer supported by the software vendor. The TRAINS system interfaces with AFRS from which vendor payments are issued and payment history files are interfaced back to TRAINS.

Both AFRS and TRAINS are reaching the end of their expected useful lives and are in need of replacement. In particular, TRAINS is supported by State personnel who are nearing retirement eligibility, which leaves the mission-critical system at great risk.

Since many of the financial management business requirements of the agencies are not being met by statewide systems, agencies, including WSDOT, have implemented a significant number of stand-alone "shadow" systems (i.e., systems that are operated by agencies to provide duplicate, and in some cases enhanced, functionality provided by statewide systems), as well as a large number of Excel spreadsheet and small Microsoft Access database systems, to meet their business requirements.

Based on the information we obtained in performing the activities for this phase of work, we outlined the characteristics of Washington's financial management system as follows:

1. The systems that compose the statewide financial management system are primarily either commercial off-the-shelf (COTS) software packages that are no longer supported or enhanced by the vendors, or in many cases, were developed in-house using what is now dated technology. As a result, Washington is left with the responsibility to provide all support and enhancements, which has led to:

   → Systems slowly becoming unsupportable with staff retirements and a lack of up-to-date documentation; and

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→ Functionality of the systems not evolving as it would have if the systems had been vendor supported (e.g., include workflow/online approvals, vendor self-service, e-procurement, etc.).

2. The State agencies' financial management systems are primarily stand-alone systems that have batch interfaces with AFRS. Furthermore, to provide functionally that is needed but is not provided by the core statewide systems, the agencies have implemented a vast array of "shadow" systems and spreadsheets, which are not integrated with the other agency systems or with the core statewide systems. This has resulted in a highly fragmented systems environment and a significant amount of time being spent:

   → Entering the same data into multiple systems;

   → Reconciling data among multiple systems (investigating failed interface transactions, reconciling balance discrepancies between systems, making adjustments in the appropriate systems);

   → Recording and monitoring transactions spread over multiple systems using spreadsheets, paper logs, etc.; and

   → Generating necessary information by having to gather and consolidate data from multiple sources (also results in it taking much longer to obtain information than with an ERP system).

3. The statewide systems, in general, provide rather limited functionality, and provide little or virtually no functionality for a number of key business processes. For example:

   → Grants Management,

   → Warehouse Inventory, and

   → Procurement.

4. The statewide system environment is updated largely in batch mode instead of in real-time. This limitation results in delays between the entry of an action into the system and the availability of the data to the end users. Furthermore, timing differences among systems regarding the frequency and schedule of updates result in inconsistent data throughout the system.

5. Each of the systems that compose the State's financial management system has its own reporting method and capabilities. The inconsistent use of the Chart of Accounts (e.g., multiple uses of AFRS Project field for tracking both project and grant activities) further complicates reporting across the State's enterprise.

6. The existing statewide systems do not support current best practice processes (e.g., automatically encumbering funds for all Purchase Orders to enhance fiscal control) due to the age of the design of the existing statewide systems, along with the systems' somewhat limited functionality.

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7. Each of the statewide systems has its own look and feel. As a result, the cost and complexity of training/cross-training State personnel is increased.

8. The statewide systems lack automated workflow and approval capabilities (e.g., automatic approval for payment if there a valid Invoice, Purchase Order and Goods Receipt). As a result, inefficient manual time and effort is spent routing documents for approval.

9. The security functionality varies from system to system, and some systems have stronger security than others. As a result, more time is required to establish and maintain security than with an ERP system, and the inconsistent application of security across systems provides weaker security than would an ERP system.

For narrative descriptions of the State's major financial management systems that were examined as a part of this work effort please refer to Appendix B.

1.b.1 What are the elements of a leading financial management system?

We consider a modern, full-featured, top-tier ERP system, which a substantial number of states operate today, to be a leading financial management system. An ERP system is a suite of fully integrated software applications that are used to perform administrative business functions such as financial management, Procurement, Payroll, and Human Resource Administration. Additionally, certain features such as automated workflow and electronic approvals, security, reporting, business intelligence and data warehousing are provided across all functional modules.

What distinguishes an ERP system from a stand-alone, best-of-breed administrative software solution is the vendor-developed and maintained integration that enables more efficient processing and eliminates redundant data entry and reconciliation tasks. For a complete list of ERP functionality by module, please refer to Appendix C: Elements of a Modern Financial System.

The following exhibit depicts the functionality that is typically included in an ERP system.

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Exhibit 4 – Full-Scope ERP Functionality

PROCUREMENT & LOGISTICS
- Traditional Solicitations
- Catalog Purchases
- Reverse Auctions
- Warehouse Inventory
- Materials Management
- Commodity Maintenance
- Vendor Self-Service
- Fleet Management
- Facilities Management

FINANCIAL MANAGEMENT
- General Ledger & Budgetary Control
- Accounts Payable & Travel
- Accounts Receivable & Billing
- Grants Management
- Project Management
- Cost Accounting/Allocation
- Asset Management
- Banking
- Cash Management
- FHWA Federal Aid Billing
- Budget Development

Data Warehouse/ Business Intelligence

HUMAN RESOURCES/PAYROLL
- Position Control
- Personnel Administration
- Payroll Administration
- Employee Relations & Performance Management
- Recruitment/Applicant Services
- Benefits Administration
- Time Reporting
- Employee Leave Accounting
- Employee Self-Service

Note: Human Resources/Payroll functionality is __not__ included in the scope of this work effort.

1.b.2 What do other states' financial management systems look like?

In the early 1990s, no states operated an Enterprise Resource Planning (ERP) system. It was in 1994 that the State of Kansas implemented Oracle/PeopleSoft Human Resources (HR), Payroll, and Benefits modules. Then, in 1999, the State of Arkansas and the Commonwealth of Pennsylvania were two of the next states to transition all of its governmental agencies into a single ERP package using SAP R/3. Both states successfully implemented full statewide ERP systems that include Accounting, Payroll, Human Resources, and Procurement functionality.

Today, 43 states(86%), including the State of Washington, have implemented, or are in the process of implementing, an ERP system to meet their statewide human resource and payroll administrative needs and/or finance, procurement, administrative needs. While not all states have implemented a full ERP system that includes both Financial and HRMS, the majority of states have implemented some portion of an ERP solution to meet their statewide administrative needs.

Other States' Financial Management Systems

For the purposes of this analysis, we examined states with ERP financial management systems which include procurement functionality. Using this criteria, we find 25 states or 50% have

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implemented an ERP Financial system. In addition, nine other states or 18% are in the process of implementing an ERP Financial system. Following this trend, 34 states or 68% will operate an ERP Financial system in the near future. This is a trend in our opinion that will continue to grow as states look to find a solution to replace their antiquated financial management systems, which are quickly becoming unsustainable. These antiquated state systems are no longer maintained by software vendors and are written in now obsolete mainframe programming languages. The state technical resources that currently maintain these systems are reaching retirement age and limited replacement resources are available. This is a risk that Washington is approaching with the support of AFRS.

If we analyze other states that currently have no statewide ERP Financial system, we find 16 states, including Washington, using an older mainframe system that will likely need to be replaced in the near future. There are nine states, shown in light blue, that have some form of Financial ERP project underway.

Exhibit 5 - States with a Financial Management ERP System Today
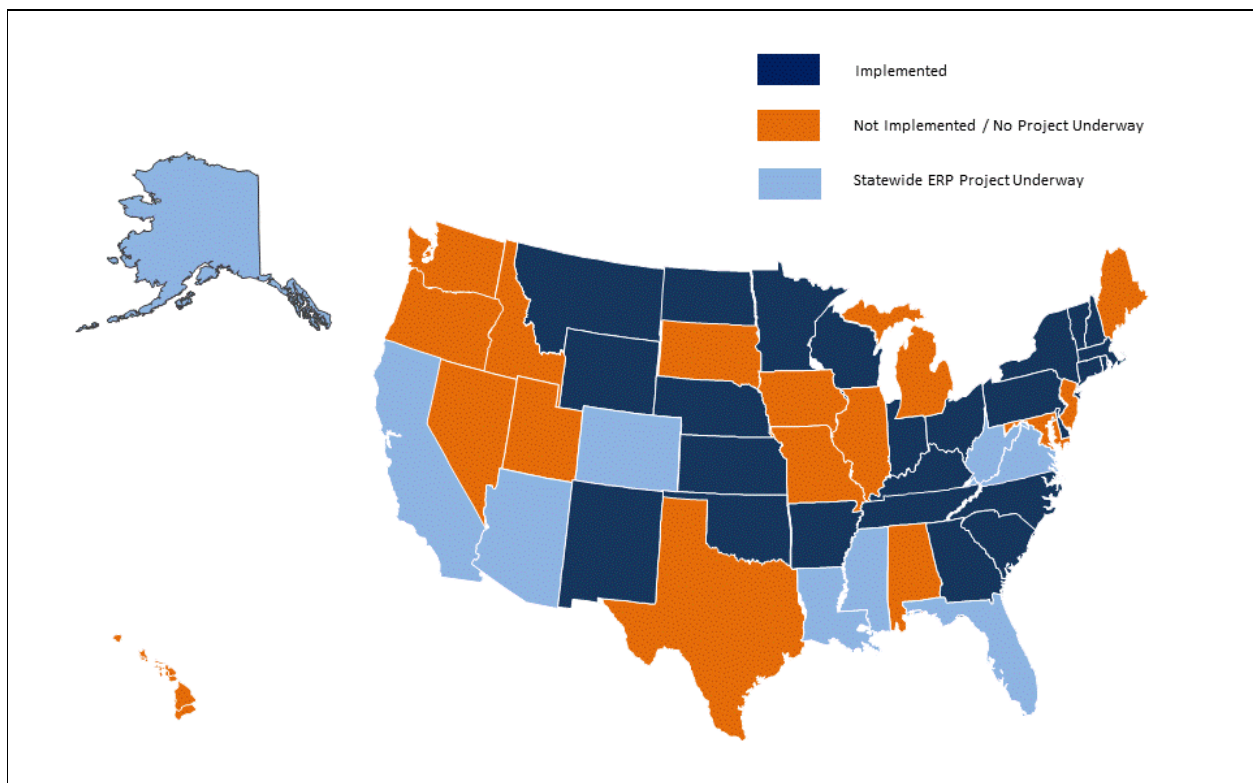
States with Modern ERP Financial Systems

States with a modern ERP Financial system experience significant benefits. Primarily, their ERP system is fully integrated across all financial modules, providing real-time access and processing. Transactions results are immediately available to all system modules throughout the system, which eliminate timing differences throughout the system. Reports are generated

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using a single, up-to-date data source which helps to provide the State's leadership with a "single version of the truth." With robust reporting capabilities, state users are equipped with state-of-the-art reporting tools that enable non-technical end-users to be self-sufficient in performing queries and generating reports to meet their internal and external customers' data needs.

With larger number of states now using ERP systems, ERP vendors provide greater public sector functionality in an effort to meet the requirements of this emerging market. For example, procurement functionality has greatly improved over the past five to ten years with full encumbrance accounting occurring based on automatic creation of a pre-encumbrance when a purchase requisition is approved, automatic creation of an encumbrance and liquidation of the associated pre-encumbrance when a purchase order is approved.

Finally, in addition to the functional benefits, states utilize the most up-to-date development toolset that supports software configuration, customization, troubleshooting, and ongoing maintenance of their ERP Financial system. Although use of the toolset requires specialized training and technical knowledge, the development toolset is typically integrated with the functional ERP software and is supported by the vendor. The development tools are also utilized in establishing workflow, managing security, and in implementing a software upgrade. It is through an ongoing software upgrade program that states receive continuous software improvements and keep their ERP Financial systems current with the latest features and best business practices available.

1.b.3 How does Washington's financial system compare to modern ERP systems?

For the purpose of this analysis, we compared Washington's current financial management system to key characteristics currently offered by a modern ERP system as typically implanted by other states. To facilitate this comparison, we organized ERP key characteristics by functional area and quantified what we consider to be the relative level of functionality Washington's statewide financial management system provides in comparison to the specific ERP key characteristics. Please refer to Appendix D, for this detailed comparison. Provided below is a summary of our comparative analysis:

- Overall - Lacks full integration between core modules including General Ledger, Purchasing, Accounts Payable, Inventory, Asset Management, Project Management, and other modules

- General Ledger & Budget Control - Lacks online real-time budget inquiry tracking pre-encumbrances, encumbrances, expenditures, and remaining spending authority against statewide-level ,agency, grant and project-level established budgets

- Accounts Payable - Lacks automated match feature that ensures an invoice complies with quantity and pricing terms defined in the purchase order and that the goods and services were received in good order (inspection) before a payment is processed

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- Accounts Payable/Purchasing - Lacks automated workflow approval process based on flexible routing criteria such as department codes, amounts, and commodity codes

- Procurement - No statewide procurement system to manage procurement activities across the State

- Warehouse Inventory Management - Lacks the ability to track the establishment, storage, tracking, and disposal of Inventory items

- Project Management - Lacks the ability to establish project budgets with fund source links and the recording of expenditures activity against the project budget by predefined phase, activity, project task, etc.

- Cost Allocation - Lacks flexible and robust CA tool to meet each agency's unique CA needs by accommodating a variety of methods to distribute labor costs to the various programs, projects and grants.

The State has initiatives underway to fill certain gaps in the functionality of the current statewide systems, and descriptions of those underway, as well as planned initiatives, are provided in next section of this document.

1.c What plans do policy makers have for closing the gap between the current conditions and leading practices?

The State does not have a published plan that provides a comprehensive strategy for closing the gap between the current environment and leading practices. Such a plan would be beneficial to the State as it would provide fiscal leadership with forecasting expenditures and would also enable better information in order to approve or disapprove administrative system related budget requests. The State is taking action to address statutory and legal requirements or strategic business needs on a system-by-system or function-by-function basis. All other decisions are being deferred in anticipation of the implementation of the financial management functionality of and ERP system.

One example of this type of decision making is the work to address House Bill 2452 – Procurement Reform.

At the time of this analysis, State leadership is in the process of classifying and prioritizing system changes required by Procurement Reform. As part of this process, personnel are assessing some of the previously discussed Procurement-related financial management gaps. The direction appears to be a two-pronged strategy that involves making modest adjustments to current systems and, then determining which Procurement functions are most suitable for a new administrative system. However, the functions that are deemed most suitable for a new administrative system are not associated with any plan and lack any specificity as to when the function would be implemented. Likewise, small modifications are being made to CAMS but

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the timeline for long-term solutions that would close the major gaps between the current environment and leading practices remains an unknown.

Another example of the system-by-system decision making is the statewide Fleet Management system that DES is planning to implement within the next 18 months. The State is pursuing a Software-as-a-Service solution to make it easier to migrate to a new ERP system.

ESSB 5931 consolidated responsibility at DES for the enterprise financial and administrative systems previously managed by OFM, DOP and GA. DES describes its role as a service provider, working in partnership with state agencies, and under the policy guidance from OFM, in identifying future system improvements to the State's financial systems.

Risks Associated with the Core Financial System

Introduction

The purpose of this section of work was to identify and evaluate the technical risks or problems that exist with the existing core financial system.

This portion of the report represents the assessment findings with regard to core financial system operational/technical risks. Our assessment is based on reviewing relevant core financial system documentation, data obtained from system surveys and interviews with agencies, including DES and OFM.

Approach

The key activities performed during this phase were as follows:

▪ Interviewed participating agencies' business and technical staff responsible for managing the administrative system

▪ Facilitated a total of 20 formal meetings with agencies, including DES and OFM

▪ Leveraged data obtained from End User Perception Survey, included managers, supervisors, and system end users

▪ Leveraged data from the Agency System Survey

▪ Technical risk assessment was focused on central/core systems and considered:

  → Technology Currency

  → Operating Environment/Platform

  → Software and Data Volatility

  → Inter-System Coupling/Interfaces

  → Support Staff Skills & Competencies

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Findings

2.a What are the actual operational/technical risks associated with the State's aging information technology?

The Agency Financial Reporting System (AFRS) is a mainframe financial management system that is no longer supported by its software vendor and is based on dated technologies, and is reaching the end of its expected useful life (~30 years).

AFRS does <u>not</u> appear to be at risk of suffering a major failure but there are risks to data accuracy and timely processing due to the following:

- Nearly 150 inbound/outbound interfaces to other systems

- System change requests – increased from FY10-FY11 from 283 to 383

- Overnight processing problems – during calendar year 2011, AFRS experienced 85 processing problems during off-hours processing

  → 53 were processing environment related (e.g., network, tape drive errors, etc.)

  → 27 were AFRS application related (e.g., missing files, batch job coding errors, etc.)

- Disaster recovery testing determined it would be difficult to recover within the 72 hour Recovery Time Objective (RTO) requirement

2.b If technical risks exist, why do they exist (e.g., unfunded by the legislature, too many interfaces, independent culture, etc.)?

AFRS does not provide adequate support of agency core financial system requirements. This situation has resulted, over time, in agencies implementing subsystems/"shadow" systems to address the functionality gaps that exist within AFRS. These subsystems/"shadow" systems and their respective interfaces to AFRS have resulted in creating multiple points of potential failure with regard to data errors, processing and coordinating system modifications.

AFRS underlying technology is dated and the ability to acquire and retain technical staff with the requisite skill sets to adequately maintain the system will become increasingly difficult, which continues to increase the risk of system processing interruptions and processing errors as support staff are replaced due to reassignments and attrition.

2.c What are the risks of resources (technology, knowledgeable staff, or vendors) not being available for continued system support?

The time needed to implement modifications to AFRS in order to support new requirements and capabilities will likely increase. We believe that the primary reason for the increase will be the inability to sustain adequate staff having the requisite technical skills to maintain the system due to:

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- The State's technical and functional personnel are nearing retirement eligibility, which is increasing the risk of losing critical working knowledge of the system.

- AFRS is supported using a small number of part-time technical staff, which increases the potential impact of staff attrition.

- Available labor pool for hiring replacement staff with requisite base COBOL/CICS/VSAM technical skills is declining, risking the ability and lead time needed to replace technical staff.

- System knowledge-transfer capabilities for new/replacement staff are limited or are nonexistent, which will increase the risk of replacement staff inadvertently causing system processing interruptions and introducing processing and data errors.

2.d.1 What other types of risks exist that industry best practices monitor and measure?

The primary driver of risk associated with the Washington financial management system is that it is composed of aging IT systems. For the purposes of this analysis, "aging IT systems" refers to applications and infrastructure that may be meeting current financial management needs but are becoming increasingly expensive to operate and may pose certain risks. These risks may affect security or restrict the way the government conducts its business because systems cannot be easily updated to respond to changing business needs flowing from new laws, regulations, or industry standards. The most potentially damaging risk is that an aging critical system could break down and prevent the government from delivering key services to the public, such as issuing checks. While these risks could apply to any IT system, they are far more likely to affect older systems. The table below describes some of the major factors driving risks associated with aging IT systems.

Exhibit 6 – Major Factors Driving Risks in Aging IT systems

Factor	Description
Skills shortage	Fewer staff and contractors have the skills and knowledge to use dated programming languages and source code structures.
Vendor support	Vendors may no longer exist or no longer support older products.
Regulatory compliance	Outdated systems may be difficult to update in order to comply with changing laws, regulations, and industry standards.
Maintenance costs	Costs continue to increase because aging systems are very complex and difficult to maintain, there are few service providers, and parts are scarce and often very costly.
Access to data	Information becomes increasingly cumbersome to extract and analyze as data structures age.
Meeting client	Older systems developed in dated programming languages cannot

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Factor	Description
expectations	feasibly be modified to support modern technologies and meet expectations such as 24/7 availability and workflow.
Security	Legacy systems*, developed in dated programming languages, cannot always be modified to conform to changing security requirements (e.g., meet password complexity requirements).
Green IT initiatives	Older IT systems are generally not energy efficient and are hard to modify in order to reduce their environmental impact.
Disaster recovery	In general, the older the system, the harder it is to recover data after a disaster.
*Legacy systems—Old technology, computer systems or application programs that continue to be used, even though newer technology or more efficient methods of performing a task are now available.	

2.d.2 How does Washington's approach to financial system risk management and business continuity management (BCM) compare?

Washington's approach to financial system risk management and business continuity management is comparable to that found at other public sector organizations utilizing legacy financial systems.

The ability to recover, in the event of a disaster, requires technical and functional staff with comprehensive working knowledge and many years of experience supporting and maintaining the system. Like other public sector organizations in similar situations, Washington's ability to recover the financial system is contingent on the knowledge held by only a handful of support staff. Transferring this critical system knowledge is constrained by weak knowledge-management systems and limited opportunities for training, due to the infrequent number of disaster recovery test performed each year – usually once per year.

2.e What are the potential impacts to users if the financial system suffered a serious outage (e.g., loss of revenue; impact on agencies; the public; legislature; risk-based analysis)?

More probable than a natural disaster is the possibility that failures will occur in the hardware or software of the dated applications that would prevent the applications from functioning properly or being available to end users for an extended period of time. Under this scenario, the following business risks associated with the outages have been identified:

- Ability to process payments to vendors, clients (entitlement programs), and employees (payroll, retirement, and travel) as a result of the following functions not being available:

    → Vendor Maintenance

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→ Printing and issue warrants

→ Processing EFT and ACH files

- Ability to track 1099 payments by vendor to comply with IRS regulations, despite alternate payment processing during disaster

- Ability to procure goods and services

  → Request goods and services

  → Confirm funds availability

  → Grant approvals

  → Issue purchase orders

- Ability to process revenues into the State Treasury

  → Record, and classify monies received

  → Process federal cash drawdown, which is essential to processing payments for Health and Human Services programs (TANF, Medicaid, and other entitlement program payments)

- Ability to issue work orders to track costs related to employees, equipment, and materials incurred as a result of a natural disaster, and then generating subsequent detailed information needed for federal reimbursement purposes

- Depending on the time of the year, ability to issue 1099s to comply with IRS rules and regulations

2.f If risks are identified, are the entities responsible for managing these systems aware of the risks? If not, why not?

DES and OFM are aware of the risks associated with the AFRS system and understand the ability to manage those risks will become more difficult over time. Given the age of the AFRS system and its underlying technology, DES, OCIO and OFM recognize implementing a modern financial management system that addresses current functionality gaps and is based on modern technologies is the only viable means of reducing the level of technical risk associated with the Washington financial management system.

Governance

Introduction

The purpose of this phase of work was to: (1) determine the governance and oversight model being used in Washington State financial management, and (2) identify gaps or overlaps in that authority.

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This portion of the report represents the assessment findings with regard to current Washington State financial management system defined governance and oversight model and governance practices. Our assessment is based on reviewing relevant financial management system and statewide IT governance and oversight documentation (statues, policies and standards), conducting interviews with representatives from the Office of Financial Management (OFM), Office of the CIO (OCIO) and Department of Enterprise Services (DES), and ISG professional experience and insights gained from working with other public sector organizations and 75 of the Forbes Global 100 companies.

Approach

The key activities performed during this phase were as follows:

- Reviewed relevant financial management system documentation to capture governance model key roles, responsibilities and processes. Sources of documentation reviewed included:

  → Engrossed Substitute Senate Bill 5931 (ESSB 5931) (http://apps.leg.wa.gov/billinfo/summary.aspx?bill=5931)

  → OCIO State Technology Manual (http://ofm.wa.gov/ocio/policies/)

  → OFM State Budget policies and instructions (http://www.ofm.wa.gov/budget/)

  → OFM State Administrative & Accounting Manual (http://www.ofm.wa.gov/policy/)

  → Financial Management Advisory Council agendas and meeting materials (http://www.ofm.wa.gov/accounting/fmac.asp)

  → Technology Services Board agendas and meeting materials (http://ofm.wa.gov/ocio/tsb/meetings.asp)

  → CIO Council agendas and meeting materials (http://ofm.wa.gov/ocio/cab/)

- Conducted interviews to gain insight into financial management system governance practices both prior to and after implementation of ESSB 5931. Interviews were conducted with the representatives from OFM, DES and OCIO.

- Identified best management practices that should be implemented within the current governance structure in part by surveying several states to obtain information regarding their financial management system governance structure. Survey responses were received from the following states:

  → State of Arkansas

  → State of Minnesota

  → State of Tennessee

  → State of West Virginia

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- Reviewed governance documentation from the following states:
  - → State of Florida
  - → State of Kansas
  - → State of Texas

Findings

3.a What is the current governance structure as stated/designed? How does that compare with what's really happening?

Current Structure/Design

The current governance structure/design for Washington's financial management system is as follows:

- Governance is administered under a combination of:
  - → Statewide IT and finance policies;
  - → Standards and procedure defined by OFM and the OCIO; and
  - → Statewide IT portfolio/project oversight and approval by the OCIO.
- The OCIO/CIO must approve each IT project/portfolio before OFM will release funding.
- Major IT projects require Technology Services Board (TSB) approval.
- Statewide financial management system operation and maintenance are responsibilities of DES.

The exhibit below depicts the intersection within the respective powers, authorities and responsibilities assigned to OFM, DES, OCIO which defines a framework and collaborative approach to strategic direction setting, oversight and decision making with regard to the Washington financial management system.

Exhibit 7 – Washington Financial Management System Governance
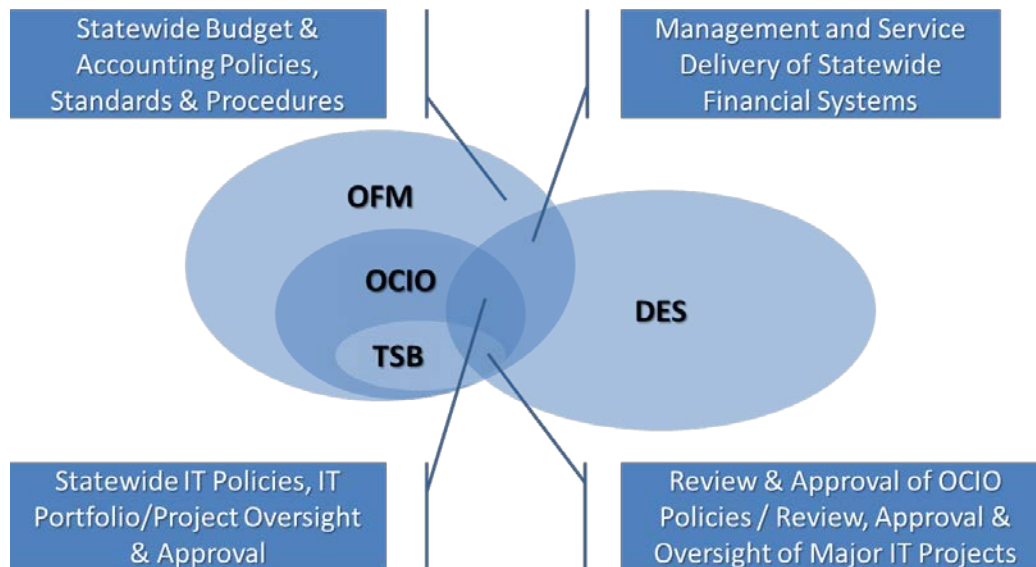
OFM, DES and OCIO work jointly to define priorities and initiatives/projects for the financial management system prior to formal approval by the OCIO/CIO. OFM releases funding once the OCIO/CIO approves the financial management system IT portfolio/projects.

Impact of ESSB 5931

The passage of ESSB 5931 significantly influences the framework for Washington financial management system governance through; (1) creation of DES, and (2) creation of the OCIO within OFM.

Prior to passage of ESSB 5931, the staff responsible for maintaining components of the financial management system were located in OFM (accounting, budget, some contract systems), Department of Personnel (HR and payroll systems) and General Administration (procurement systems). These agencies, with some involvement of state agency users, set priorities and managed the resources allocated to support their components of the Washington financial management system. With the passage of ESSB 5931 the staff responsible for development and maintenance of the financial management systems was transferred to DES. This change allowed the consolidation of financial system management at DES, as well as most of the policy and priority-setting for enterprise financial systems within OFM. [DES sets policy for statewide contracting and procurement activities.]   It also requires OFM and DES to establish governance processes to ensure that DES is supporting enterprise financial systems consistent with OFM direction.

OCIO is charged with establishing the State's strategic technology direction, statewide IT policies and standards, and providing oversight and approval of all information technology (IT) investments and projects across the State using agency IT portfolio management processes. Prior to passage of ESSB 5931 only project classified as being "Level 2 and Level 3" projects

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would have been reviewed and approved by the former Department of Information Services (DIS). Post passage of ESSB 5931 the OCIO/CIO now has a role in the approval and oversight of all agency IT initiatives, including the Washington financial management system related IT initiatives/projects.

Additionally, ESSB 5931 established the Technology Services Board (TSB) which is charged with review and approval of OCIO developed policies, standards and procedures, and the review, approval and oversight of major information technology projects, including major financial management system projects. However, the TSB is still in its formative stage and working through determining its exact role in overall IT oversight/governance. The TSB is currently less engaged with respect to state-wide IT governance than was its predecessor, the Information Services Board (ISB). This is due in part to having only met twice since passage of ESSB 5931 and is currently only scheduled to meet quarterly.

Engagement with Agencies

Advisory bodies exist for statewide IT (CIO Forum) and financial management (Financial Management Advisory Council) , and HR/payroll communities to facilitate exchange of information between OFM/OCIO/DES and agencies, including soliciting input and feedback regarding policies, standards, procedures and statewide initiatives.

Current Governance Practices

With enactment of ESSB 5931, a 'strong CIO' role was created. The CIO has authority to reject, require changes to, or assign funding limits to agency IT initiatives. This includes directing agencies to consider statewide enterprise solutions and platforms, as appropriate. An example of this is the $50 million expenditure limitation placed on the implementation of a new ERP system and student administration system by the Washington State Community Colleges (legislature authorized $100 million for the project). The CIO will assess whether to release the remaining funds ($50 million) upon review of the project's progress after the initial $50 million has been expended.

Although the TSB is charged with the review, approval and oversight of major IT projects, the Board's current quarterly 2-hour meeting schedule is unlikely to be sufficient to provide in-depth oversight of major IT projects. The practical reality is that the CIO/OCIO shoulders the majority of the oversight responsibility for major IT projects. Should the State initiate a project to upgrade or replace the existing financial management system(s), the role and level of involvement of the TSB will need to be clarified under the current governance structure.

While no official Washington financial management system governing body exists at this time, Office of Financial Management (OFM), DES and Office of the Chief Information Officer (OCIO) are working jointly to develop a new governance approach that will take advantage of the functional realignment brought about by ESB 5931. In the meantime, OFM, DES, OCIO and the Office of Human Resource Director are working to define priorities and initiatives/projects for the financial management system enhancements.

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OFM is now working with the Governor's Office, the OCIO and DES to assess the types of structures necessary for the successful short term and long term enterprise financial and administrative system governance.

Lastly, agencies have in the past implemented redundant financial management subsystems to address functional gaps within the statewide financial systems. However, the fiscal crisis brought about by the Great Recession, and its continuing negative impact on revenues and budgets, is curtailing this type of activity within the State. Agencies today simply lack the funding and resources needed to pursue alternate financial management system/subsystem related projects. Faced with needing to address deficiencies and upgrade existing alternate financial management systems/subsystems, agencies are now more open to migrating to a statewide financial management system rather than continue to operate their alternate financial management systems/subsystems. This current reality, coupled with the 'strong CIO' role created under ESSB 5931, has created opportunities to centralize and strengthen the State's financial management system governance.

Governance Structure Gaps and Overlaps

In the course of conducting the analysis, we did not find any gaps in authority or responsibilities. The exhibit below shows the overlaps in responsibilities and authority with regard to financial management system IT governance across DES, OFM, OCIO and the TSB. The legend describes the overlap in responsibilities for each activity.

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Exhibit 8 – Financial Management System IT Governance Summary

Activity	DES	OFM	OCIO	TSB
IT Project Prioritization	❶	❶	❶	
IT Portfolio/Project Approval			❷	❸
IT Portfolio/Project Funding Approval		❺	❹	
Project Oversight	❻	❻	❻	❼

Legend

❶ Joint activity between DES, OFM and OCIO

❷ OCIO authority to request modification, rejects or approves agency IT Portfolio/Projects

❸ TSB authority to approve or reject major IT projects

❹ OCIO authority to set approve or establish contingent project funding criteria (e.g., based on project milestone)

❺ OFM authority to release funding, based on OCIO approval

❻ Joint activity between DES, OFM, and OCIO, with OCIO having primary responsibility

❼ TSB authority to oversee major IT projects

3.b What are the laws and governance structures for financial management systems of other peer models in both public and private sector entities?

Public Sector Peer Models

Generally, within the public sector, governance and oversight over the core financial management system are implemented using committee structures. The executive director of the equivalent OFM agency is generally the system executive sponsor. State CIOs function in a supporting role with respect to financial management system governance, focusing primarily on ensuring compliance with state IT strategy and standards.

Four states (Arkansas, Minnesota, Tennessee, and West Virginia) provided responses to a survey regarding their financial management system environment. Of the respondents, three states established committees for governing their Enterprise Resource Planning (ERP)/financial management system. One of those three states (West Virginia) created an independent ERP board through legislation, with a steering committee providing routine oversight and management of the ERP implementation and management, and performing duties delegated by the board. Only one state (Arkansas) operates with a governance model similar to Washington, with financial management system governance being shared between the CIO and their equivalent OFM agency (Office of Accounting).

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Private Sector Models

Within large private sector organization, generally the Chief Financial Officer (CFO) has primary responsibility over enterprise financial management systems. The CIO usually functions in a supporting role to the CFO with respect to technology strategy, standards and financial management system technical support. Often a shared services organization exists, similar to DES, with financial management system processing and operations responsibilities. Common practice is the establishment of a steering committee to serve as the formal governance body over the enterprise financial management system. Steering committee membership is composed of representation from the IT function, shared services organization and business units. The CFO, as the primary business owner of the financial management system approves, requests changes to or rejects recommendations made by the steering committee.

3.c What are the leading governance practices for similar organizations (laws, authority, responsibility, organizational structure, and enterprise risk management)?

Following are role descriptions associated with financial management system governance best practice:

Executive Sponsor: the business unit executive having the responsibility for ensuring the enterprise receives optimal benefits from an enterprise-wide financial management system. The Executive Sponsor functions as the advocate and champion of the financial management system across the enterprise, works with other business unit executives to address concerns and build support for the system within the enterprise. The Executive Sponsor is a member of the Executive Committee overseeing the enterprise financial management system.

In the public sector, this role is generally filled by the executive director of the equivalent OFM agency.

Executive Committee: provides strategic direction and executive oversight over the charter and agenda of the ERP Steering Committee. The Executive Committee delegates authority to the Steering Committee as deemed appropriate and resolves issues escalated by the Steering Committee. Members include the Executive Sponsor, the enterprise level CIO and a select number of executives from business units. Executive Committee members are charged with acting in the best interests of the enterprise as a whole. This financial management system governing body is critical to effectively address diverse requirements that are found in large enterprises – and must have the full support of the State's CEO/Governor.

In the public sector, the executive committee is generally composed of the CFO, CIO and executive directors from the large agencies, and selected small agencies.

Steering Committee: provides direction, oversight and approval with regard to implementation, ongoing operation, performance and modification of the enterprise financial management system. The committee sets priorities, reviews and evaluates risks and determines the

allocation of resources across the enterprise to support the implementation, ongoing operation, approves system and business processes changes associated with the enterprise financial management system. Recommendations and change requests are submitted to the Steering Committee by the Process Owners and the IT organization responsible for supporting the financial management system. Within the financial management system governance best practice, the cornerstone role is the Steering Committee.

In the public sector, the Steering Committee is generally composed of agency deputy director level staff and IT management staff, who have direct involvement with the use and oversight of the financial management system.

Process Owners: the individuals in the shared services organization and business units who are ultimately responsible for the performance of the business processes supported by a financial management system. Process Owners identify requirements and improvements to financial management system related business processes and system functionality and develop recommendations for review, approval and action by the Steering Committee.

User Group: composed of representatives from the business units or agencies who perform tasks using the financial management system. The User Group representatives provide feedback on the effectiveness and usability of the financial system to Process Owners, including identifying potential improvements in how the system is used to perform tasks.

While the governance roles described above represent best practice, long standing operating practices (e.g., decentralized/federated models, business unit autonomy, etc.), along with political and operating biases, present obstacles to governance best practice implementation within large organizations. Following is an exhibit of financial management system governance role implementations within Washington and other states.

Exhibit 9 – Financial Management System Governance Best Practice Roles

Financial Management System Governance Best Practice Roles	Executive Sponsor	Executive Committee	Steering Committee	Process Owners	User Group
State of Arkansas	●			●	●
State of Florida	●		●		●
State of Kansas	●		●		
State of Minnesota		●	●	●	
State of Tennessee	●		●		
State of Texas		●	●		●
State of Washington	(1)	(2)	(3)	●	●
State of West Virginia			●		

(1) OFM/OCIO Partnership

(2) Existing OFM Executive Committee
(Note: *members limited to OFM only - does not align with best practice*)

(3) New ERP Recommendation Steering Committee
(Note: *committee charter does not align with best practice*)

What are the financial and other impacts of sustaining the current system compared to migrating to a modern enterprise resource planning system?

Approach to Assessing Financial Impact

ISG utilized its proven *Value Pockets*[SM] Return on Investment (ROI) Methodology in conducting this analysis. The phases of our methodology that were used for this portion of the work effort are the following:

3. Determine Alternative Strategies to Evaluate

4. Identify and Analyze Costs, Benefits, and Risks

5. Perform Financial Analysis

6. Evaluate Alternatives

For more information on our methodology, please refer to Appendix A

The BCA methodology involves evaluating the estimated cost of implementing and maintaining a new ERP system vs. the potential benefits/savings from such an implementation, including: (1) retiring current systems and avoiding the implementation and enhancement of planned/anticipated systems, and (2) realizing benefits/savings from process improvements. The exhibit below depicts the primary components of our BCA methodology.

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Exhibit 10 – Primary Components of ISG's Business Case Analysis Methodology

ERP Costs/Risks		ERP Benefits
ERP Costs • Software License • Hardware/Infrastructure • Implementation Services • Upgrades • Ongoing Maintenance & Mgmt. • Training & Change Management • Project & Ongoing Government Staff	**VS.**	**Avoid Certain Systems Costs** • Replace/Retire current systems • Not implement planned systems • Not perform anticipated enhancements/upgrades to existing and anticipated systems once implemented
ERP Implementation Risk		**Realize Process-Improvement Benefits** • *Value Pocket*sm Benefits
		Reduce or Eliminate Risks Associated with Current Environment

The term "Value Pockets^sm" is used to refer to the most likely sources of significant value from process-improvements to be found in each process/functional area within the scope of an implementation.

Each of the major components of this BCA depicted in the diagram above (represented by the boxes: ERP Costs, Avoid Certain Systems Costs, Realize Process-Improvement Benefits, ERP Implementation Risk, and Reduce or Eliminate Risks Associated with Current Environment) is discussed below.

1. ERP Costs

The costs in this category include the estimated costs to acquire, implement, and operate a new statewide ERP system. Also included in the total is the estimated cost of performing a software upgrade of the new system.

For this study, we estimated costs for an 11-year timespan (Year 0 through Year 10).

2. ERP Implementation Risk

Implementation risks and the potential resulting negative impacts on the organization can be categorized as follows:

- Project Cost Risk – the risk that the project results are not delivered within the project's budget;

- Project Schedule Risk – the risk that the project results will not be delivered within the project's planned timeframe; and

- Project Scope Risk – the risk that the project results will not meet the specified business requirements for the system, and as a result, the business will be negatively impacted by the implementation (e.g., needed functionality is not delivered, there are errors in the system, or the system performance is too slow and/or unstable).

3. **Avoid Certain Systems Costs**

The State could potentially avoid incurring certain system-related costs by: (1) retiring existing systems as a result of a new ERP system being put into production, and (2) avoiding costs that would likely be incurred to procure, implement, maintain, and upgrade planned/anticipated systems if a new ERP system were not implemented.

4. **Realize Process-Improvement Benefits**

The State could potentially realize process improvements in a number of functional areas as a result of implementing a new statewide ERP system. Note that only process-improvement benefits that could potentially result from the new implementation are included. We have coined the term "Value Pockets℠" to refer to the most likely sources of significant value (i.e., cost savings and other benefits) to be found in each functional/process area within the scope of a possible new statewide ERP implementation.

In applying our BCA Methodology, we identify dollar-quantifiable (tangible) and non-dollar-quantifiable (intangible) process improvements.

Dollar-quantifiable process-improvement benefits/cost savings or Value Pockets are composed of:

- Improved process outcomes/results (i.e., improve process efficiency), for example:
  → Lowering the cost of goods and services procured; and
  → Decreasing inventory levels and associated carrying costs.

- Reduced cost of process execution (i.e., improved process effectiveness), for example, reassign/reduce headcount full-time equivalents (FTEs) by:
  → Reducing the number of FTEs required to enter data into systems;
  → Reducing the number of FTEs required to generate needed information by no longer being required to obtain and consolidate data from multiple sources (also results in faster and better decision-making);
  → Reducing the number of FTEs required to reconcile data among multiple systems; and
  → Reducing the number of FTEs required to track transactions spread over multiple systems (e.g., avoid maintaining tracking data in spreadsheets, using paper logs).

Our BCA Methodology includes the use of proprietary formulas and calculations that are used to quantify Value Pocket benefits. Savings factors are key variables in these formulas

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and the values that were used for these factors were derived from a variety of sources, including the experiences of other government organizations and estimates made by ISG based on our analysis of the respective processes and our experience in general, as well as, input from State personnel.

Note: Savings from reducing the number of FTEs that perform certain activities can be obtained in ways such as repurposing personnel from redundant and/or unnecessarily labor-intensive activities to valued-added activities and by eliminating unfilled positions. Also, FTE-related savings can be achieved over the long run through retirements and attrition.

Our methodology also identifies non-dollar-quantifiable process-improvement benefits/cost savings (intangible items). Examples include the following:

▪ Reduced cycle times;

▪ Realignment of processes in support of strategic initiative(s);

▪ Increased data and reporting accuracy; and

▪ Improved usefulness of information.

Because of the difficulty or inability to quantify these benefits/savings, we include non-dollar-quantifiable process-improvement benefits/cost savings in the narrative portion of our report only.

5. **Reduce or Eliminate Risks Associated with Current Environment**

Implementing a new ERP system could potentially reduce or result in the State avoiding certain process and/or legacy system risks by, for example, replacing a system(s) that is enabling/supporting a key business process but is at substantial risk of failure due to technical obsolesce, lack of technical support staff with the requisite, but dated, expertise, etc.

Finding for the Financial Impact

4.a What are the alternative solutions to achieving excellence in financial management?

The alternatives listed below were considered for inclusion in the analysis:

▪ Status Quo (Continuation and Enhancement of Existing Administrative Systems)

▪ Custom Development

▪ Enterprise Resource Planning (ERP)

▪ Best-of-Breed" Solution and

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- Software as a Service (SaaS)

The remainder of this section of the report provides a summary of each alternative considered for inclusion in the analysis. The discussion includes the following:

- Description of the solution

- Solution advantages ("Pros")

- Solution disadvantages ("Cons")

- Feasibility of solution

Alternative Solutions

Status Quo (Current Path)

The "Status Quo" alternative is presented as a baseline for comparison with the other alternative. This alternative makes the assumption that the State continues on its current path whereby AFRS is the primary financial system and agencies have a number of subsystems or "shadow" systems that support administrative operations.

No major investments or enhancements will be made to the administrative systems that are currently in place during FY 2014 through FY 2024 for any State agency other than what is currently planned. While there are no planned major investments for most of the agencies participating in this analysis, it is likely that WSDOT will need to make significant investments in its AMS Advantage system over the coming years (or replace that system) and that the Department of Enterprise Services (DES) will make a significant investment in a statewide Procurement system in order to comply with a legislative mandate (2452), a statewide Fleet Management system, as well as perhaps some other significant investments in statewide systems. These planned major investments are discussed in greater detail in our *Financial Analysis and Results* section of the report.

This alternative also assumes that the existing statewide administrative systems (e.g., AFRS, WEBS, CAMS) will remain operational, and will be supported and maintained according to the planned schedule, and that upgrades and enhancements that are known to be required in the future will be made.

- **Pros**

  → No disruption of current business processes

  → Would eliminate the inherent risks associated with changing or upgrading current systems (assumes ongoing maintenance will still occur where applicable)

  → Additional costs would be limited to new statewide systems implemented and operated by DES and new agency-specific systems, as well as annual maintenance and upgrades for existing systems

- **Cons**

    → Current administrative systems lack flexibility and scalability required to meet changing business requirements

    → Current administrative systems are not flexible and require considerable technical resources and time to perform modifications or maintenance

    → No real-time integration within and among the financial and procurement systems at the statewide and agency levels

    → Would fail to take advantage of best business practices inherent in ERP systems

    → Time-consuming reconciling tasks associated with maintaining duplicate data in multiple databases would continue to be required. Reconciling would continue to be required:

    - Between user agency administrative systems

    - Between user agency and statewide administrative systems

    - Between statewide administrative systems

    → Would facilitate the practice whereby State agencies acquire and implement new administrative systems in order to meet agency administrative business needs not being met by existing statewide systems

    → Would lack adequate ad hoc reporting capabilities

    → Would fail to address replacement of legacy statewide and some agency-specific administrative systems that have reached obsolescence

    → Continued expense and complexity associated with supporting and maintaining the numerous automated interfaces required under the current operating environment

- **Feasibility of Solution**

    As stated above, this solution ensures that current Financial, Procurement, and other administrative systems would remain operational in the near term; however, it places the State's strategic direction on hold indefinitely. It is not considered a viable solution for adequately addressing the State's future administrative business process needs.

Custom Development

The "Custom Development" (Custom) option would provide for the in-house development of a new fully integrated, Web-based ERP application that will meet the State's functional and technical system requirements. System programs would be developed using state-of-the-art programming languages, development tools, and development environment. All data would be maintained in a single, uniform database. By moving to an open system architecture, modern tools and design techniques would assist the State in achieving a flexible, interoperable, and modular system, which can meet the future needs of the State.

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- **Pros**

  → Assumed to meet 100% of the State's functional system requirements since the State would control all development efforts

  → System would be designed to provide full integration across the core areas of functionality

  → Would be built in compliance with the State's strategic technology direction

  → State would own the software

  → In-house expertise would be developed

  → May not require reengineering of the State's business processes

  → "Pay as you go" funding approach with no annual maintenance commitments

  → State would have total control – no involvement from software providers or implementation vendors

- **Cons**

  → Would take a minimum of four to six years (possibly longer) to design, develop, properly test, and prepare a custom-developed system for deployment to State government, with a commercially available system the implementation is approximately two years

  → Would require extensive training of existing personnel and/or outside support assistance in the latest software development tools and methodologies

  → The State would solely fund all initial development costs and risks, as well as future ongoing software upgrades and maintenance costs (as opposed to those costs being shared by all of a software vendor's clients that pay annual maintenance costs for commercially-available software)

  → Would require the State to develop the appropriate technical expertise

  → Potentially long period of time to complete the project and realize benefits/savings

  → Likely staff turnover during the project

  → May not develop and utilize business processes based on industry-standard "best practices", which are inherent in commercially-available ERP software

  → Ongoing maintenance and functionality/technology enhancements would have to be completed in-house

  → High risk associated with developing a custom system from scratch

  → No other states have chosen this alternative for upgrading their administrative systems to the level of state-of-the art technology and functional capabilities

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- **Feasibility of Solution**

  Due to the numerous risks associated with a project of this magnitude and the ongoing costs associated with maintaining and enhancing the system for future use, custom development of a new fully integrated statewide system is not considered a feasible alternative and was given no further consideration. We know of no states that are currently or have recently built custom software applications to meet the requirements of a new statewide administrative system.

Best-of-Breed Solution

Increasingly, organizations are looking at commercially-available software solutions' ability to meet specific business requirements as the primary driver in determining the best solution. The "Best-of-Breed" option means that the State would choose the best software product available for each business function and then build the necessary interfacing/integration "points" between such systems. Specifically, the State could focus its efforts on acquiring software and integration services to address its most compelling needs at this time (AFRS), and implement other/integrate existing "Best-of-Breed" solutions to address other administrative systems needs as funding is made available.

- **Pros**

  → Ability to meet a high percentage of the State's business requirements in specific functional areas; potentially greater depth of functionality in these areas

  → Less time required to implement or upgrade the system than a full ERP implementation

  → Typically costs considerably less, initially, than ERP software solutions, though ERP software is often implemented as a component of a "Best-of-Breed" approach

  → Would provide many of the same features commonly found in ERP software (e.g., automated workflow, ad hoc reporting tools, self-service functionality)

  → Would allow the State to take a piecemeal approach to implementing the major ERP system components such as Procurement and Financials

- **Cons**

  → Would require the State to maintain resources skilled in multiple development toolsets and programming languages

  → Would lack "true" integration that would be provided by a single ERP solution, though some "Best-of-Breed" vendors now provide for "integration points" with common ERP systems that allow for "real-time" integration

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→ System-wide technology enablers, such as electronic workflow, ad hoc reporting tools, document management tools, etc. would unlikely be exactly the same across all applications, and this could create integration issues and/or end-user training issues

→ Potentially higher total cost of ownership than an ERP system over time because of the cost of integration, supporting multiple development environments, and managing multiple vendor relationships

→ Time-consuming reconciling tasks associated with maintaining duplicate data in multiple databases when not properly integrated

→ Upgrade paths and support would lack coordination and integration, resulting in less flexibility

▪ **Feasibility of Solution**

ISG considers "Best-of-Breed" to be a potential viable alternative solution for the State of Washington. Under the "Best-of-Breed" option, one possibility would be for the State to acquire an e-Procurement system to address Procurement requirements and an ERP system to address agency and statewide Financial requirements. The new ERP system could be integrated with the new e-Procurement system and the existing HR/Payroll system. The State of Arizona is currently pursuing this alternative because it already had modern solutions for both Procurement and HR/Payroll in place when the Financial system replacement was considered.

Since the State of Washington does not have a modern Procurement system, this option was not recommended.

Enterprise Resource Planning Solution

An ERP system is a suite of fully integrated software modules that are used to perform administrative business functions such as Financial Accounting, Procurement, and Personnel Administration. What distinguishes ERP systems from stand-alone "Best-of-Breed" administrative software solutions is the integration developed and maintained by the ERP vendor that allows for more efficient processing, including the elimination of redundant data entry and system reconciliation.

The functionality provided by ERP systems is usually provided in major groupings or modules. Modules include: Human Resources/Personnel/Payroll, Core Financials, Procurement, etc. Additionally, certain features, such as automated workflow, security, reporting, and the development toolset, support all functional modules. If an ERP system cannot provide the required functionality for a specific area (e.g., Construction Management), then it may be necessary to interface the ERP system with other systems that can provide the required functionality.

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- **Pros**

  → Ability to meet a high percentage of the State's business requirements in specific functional areas; potentially greater depth of functionality in those areas

  → Would allow the State to maintain resources skilled in a single vendor's development toolsets and programming language

  → Would provide real-time integration across multiple functional modules

  → System-wide technology enablers, such as electronic workflow, ad hoc reporting tools, document management tools, etc., are likely to be the same across all applications, and as a result, eliminate, or significantly reduce, integration issues and/or end-user training issues

  → Potentially lower total cost of ownership than a "Best-of-Breed" system over time because of the ERP system's integration and requires fewer development environments

  → Elimination of reconciling tasks associated with maintaining duplicate data in multiple databases

  → Upgrade paths and support provided by one vendor

- **Cons**

  → Typically requires more time to implement than the other alternatives

  → May not provide the best functionality in every area of the software

  → It may require a higher initial capital outlay than other alternatives

- **Feasibility of Solution**

  ISG considers ERP to be a viable alternative solution. Under the "ERP" option, the State would acquire software from one vendor to meet the State's, as well as agencies' procurement and financial management system requirements. Many states that already had a tier 1 HR/Payroll ERP system pursued the path of also acquiring the Financials/Procurement functionality of an ERP system. Kansas, Minnesota and Louisiana all acquired and implemented Financial/Procurement ERP system functionality years after having successfully implemented ERP system HR/Payroll functionality.

Software as a Service (SaaS)

SaaS refers to an arrangement whereby the State would subscribe to using ERP software that runs on a cloud infrastructure that is managed and controlled by the software vendor, not the State. This infrastructure would include network, servers, operating systems, and storage. The ERP software would have limited user-specific application configuration capabilities and would be accessible from various client devices through a thin client interface such as a Web browser.

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- **Pros**

  - → Potentially significantly lower costs and more scalable computing power because computing resources are consolidated and shared across multiple customers

  - → No need to purchase new, rapidly depreciating hardware and software

  - → Reduced initial investment and "pay-as-you-go" financing

  - → Predictability of cash flow

  - → Ability to readily add capacity as needed

  - → Standardization of business processes based on best practices

  - → Reduced need to hire and retain highly skilled (and expensive) technical resources

  - → Regularly scheduled software upgrades and updates typically included in subscription fee

  - → Very high levels of uptime and maintenance that is seamless to the user

  - → Anticipated improved levels of customer service

- **Cons**

  - → A SaaS public sector financial management solution was only recently, or will in the very near future be, released for general availability, and as a result, no state has implemented a SaaS solution to address its financial management system needs

  - → Sensitive data would be maintained outside of a State-maintained facility

  - → Challenges in ensuring an apples-to-apples comparison when evaluating cost of a SaaS offering against traditional ERP bids/internal costs for same service

  - → Typically no customizations are allowed (though limited software configuration is typically allowed)

  - → Risk associated with the possibility of a legislative mandate defining a system requirement that a SaaS solution could not be configured to meet, as it is often the case that SaaS providers limit, or even prohibit, the ability of users to customize the software

  - → System may not support integration with State's single sign-on capabilities

  - → Ongoing payments are required – the State does not have the option of halting annual software maintenance payments in challenging economic times

  - → May be harder to integrate system with other systems within state government

  - → Risk associated with the relative immaturity of SaaS financial management software for the public sector – software may not meet all of the State's functional needs at this time

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▪ **Feasibility of Solution**

The SaaS model for public sector ERP is relatively new, but initial efforts to date are promising, and it appears to provide the potential for significant cost reductions, as compared to the traditional ERP model.

Financial Management and Procurement functionality was only recently made available for public sector consumption, and it has not yet been installed at a public sector site of the size and complexity of the State of Washington. If the State pursues a SaaS solution, it is essential that the State ensure that each proposed SaaS offering can meet the State's current and anticipated future business needs, especially in the areas of Fund Accounting, Cost Allocation, Grants Management, Project Management, as well as other complex Financial, Procurement, and administrative business functions.

Ultimately, the State will have to determine whether the potential cost reductions that could be realized from implementing a SaaS solution, as opposed to pursuing the traditional ERP model, outweigh the possibility of less functionality and the increased risk of implementing a new software product.

Recommendation

Due to the analysis's scope, projected cost and desired completion date, only two alternative paths will be analyzed as part of the analysis:

▪ **Alternative Path 1: Status Quo**

The first alternative path selected for inclusion in the analysis is the Status Quo or remaining on the existing financial system (i.e., no change in strategy). This alternative will be evaluated to the extent necessary for it to serve as a baseline of comparison for the other path. The exhibit below depicts the current state of the central administrative and agency "shadow" systems.

Exhibit 11 – Status Quo Administrative Systems
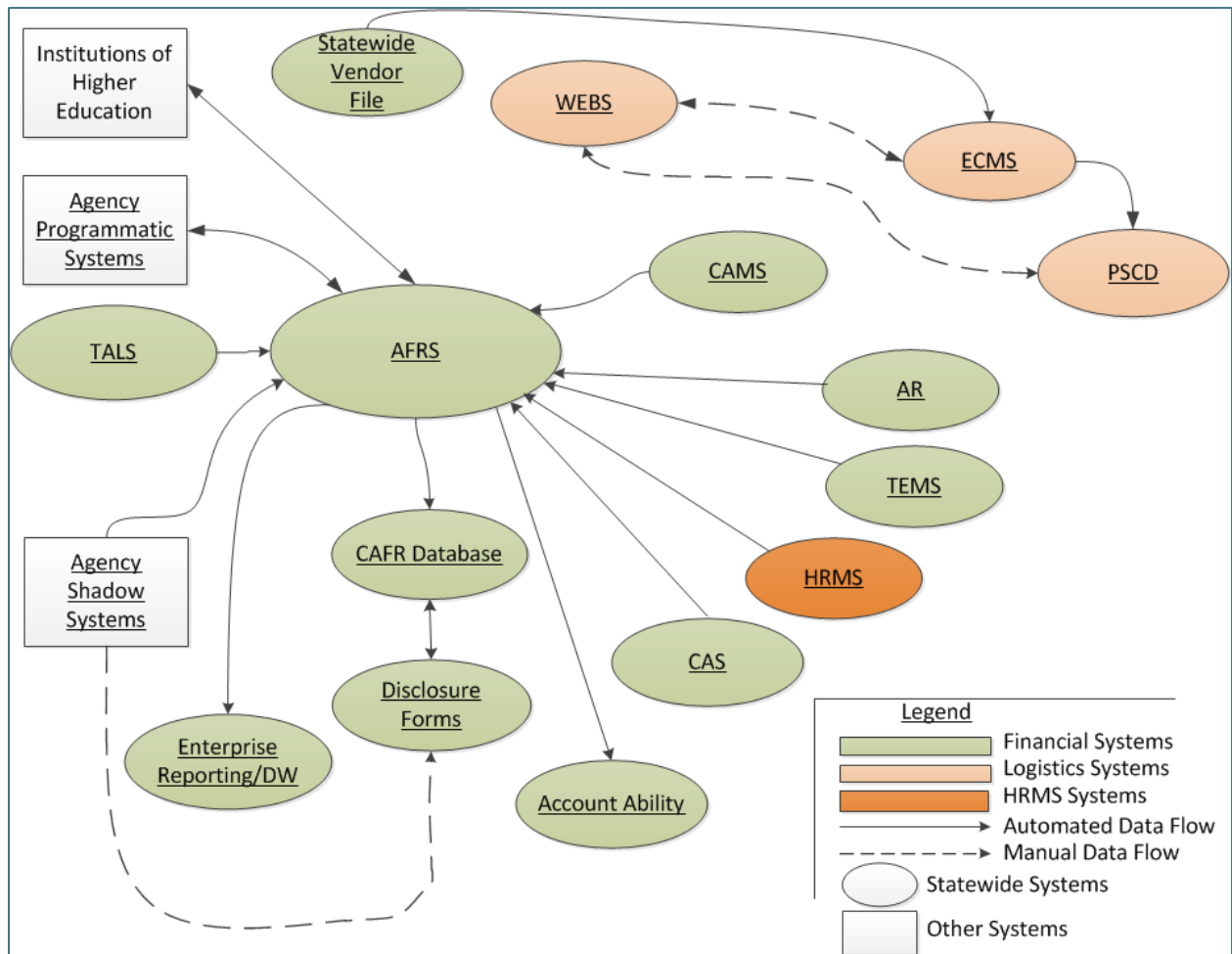
- **Alternative Path 2: Implement an ERP System Statewide**

  Since a number of states have recently completed or initiated projects to improve their financial management systems and all have moved forward with ERP systems, the second alternative selected for inclusion in the analysis is the statewide implementation of the financial management functionality of a new, fully integrated ERP system. The following exhibit represents the administrative systems environment after implementation of the statewide ERP system.

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Exhibit 12 – Administrative Systems Post-ERP Implementation
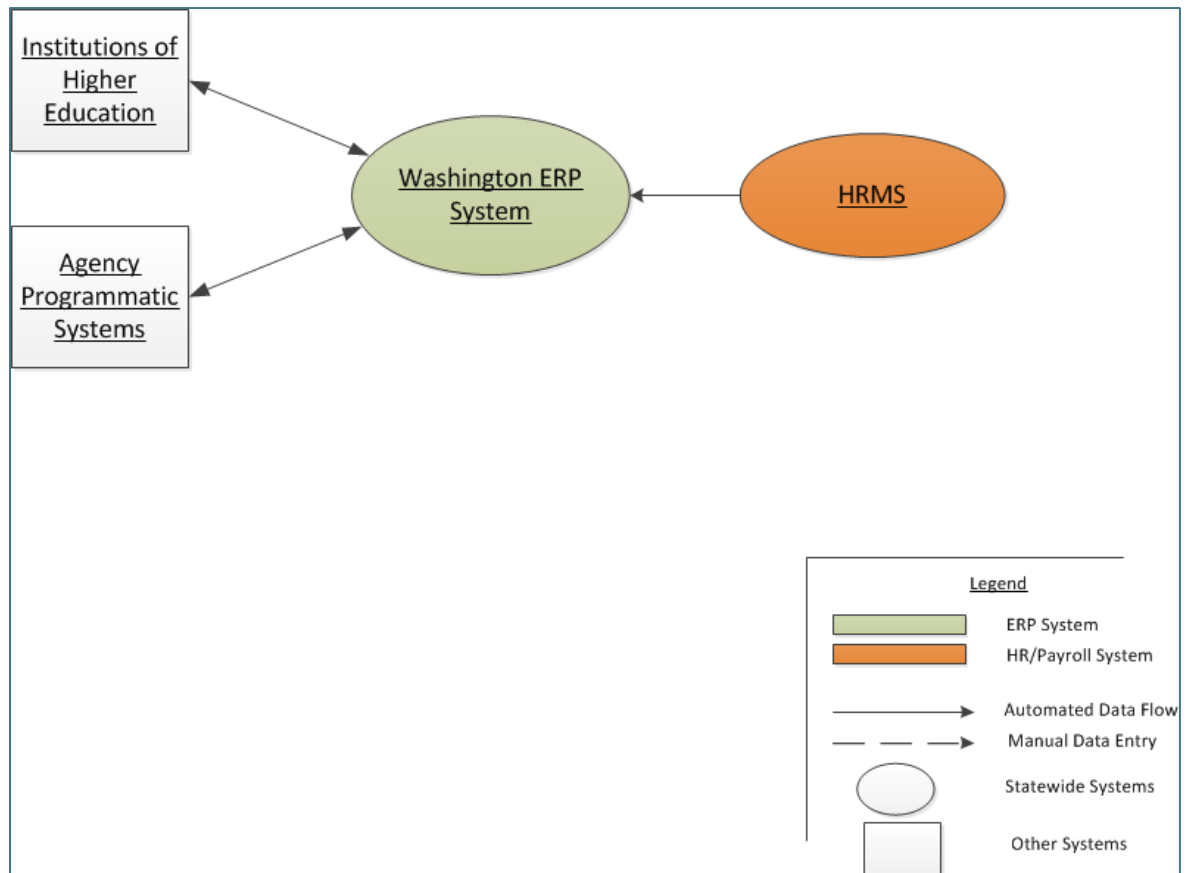
4.b What are the estimated costs of implementing the selected alternative solution(s)?

ISG has significant experience assisting public sector clients in evaluating, selecting, acquiring, and implementing integrated enterprise-wide systems. Our strategy was to rely on this experience, as well as input from State personnel, to develop the cost estimates for this analysis. To develop the actual estimate, we utilized our proprietary estimating model, which incorporates estimating standards/metrics and provides an overall framework for developing estimates of this type.

Approach

The approach taken to estimate the cost of acquiring and implementing the statewide system was to:

- Estimate the number of hours that would be required to implement the functional modules within scope. The estimated number of hours addressed the following services:

  → Project management;

→ Pre-implementation services/project oversight;

→ Financial and procurement software installation, configuration and process reengineering;

→ Human resource and payroll reconfiguration;

→ Custom development, including:

 – Automated interfaces,

 – Software modifications/enhancements,

 – Custom report development,

 – Data conversion and loading,

 – Workflow development, and

 – Forms development;

→ Organizational change management; and

→ End-user training and documentation.

After estimating the total number of consulting hours, we estimated the "loaded" consulting rate for each role assumed to be provided by vendors. The term "loaded rate" refers to a rate that includes labor and travel-related costs. The loaded rate was then multiplied by the total estimated project hours to determine the total cost of vendor-provided implementation services.

For state personnel, we estimated the total hours, applied a benefit-loaded rate, as well as a backfill percentage of 100% to calculate the cost of state personnel. Backfill refers to hiring new personnel to staff the project or to replace agency staff assigned to the project.

▪ Estimate the costs of other services and project components associated with acquiring and implementing the ERP system, which included the following:

→ Application software licenses;

→ Project team training;

→ Technical infrastructure and support for production environment;

→ Technical infrastructure for all non-production environments (e.g., servers, system software, relational database management system, and network);

→ Technical infrastructure and support for a production environment; and

→ Project facilities and equipment.

We also estimated the cost of application software annual maintenance fees, as well as ongoing cost of operating and supporting the system after being put into production. These estimates were based on our experience with similar statewide ERP system implementations.

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After completing the estimate, we compared the results generated by our proprietary estimating model to the actual experiences of other states to validate that our estimate was comparable to what other states of similar size experienced.

Assumptions

Implementing a new financial management and procurement administrative system, with all of the functionality within the scope of this analysis across all agencies, is challenging regardless of the deployment strategy. The primary assumptions pertaining to migrating to an ERP system follow:

Project Timelines of Other States

For the purposes of comparison, the exhibit below lists the timeline strategies that were employed by nine (9) states for their respective statewide ERP projects. Under "Financials/Procurement", "All" means either all organizations or all modules were implemented simultaneously. "Phased" means that either the agencies or modules were implemented under a phased approach. The "Duration" provides the length of the implementation, as well as the post go-live support. If a range is provided, the first number indicates the number of months from inception until the first deployment, and the second number indicates the number of months for the entire implementation. The column on the far right indicates whether there was, or will be, overlap between the Financial modules (FIN) or Human Resources modules (HR) implementation.

Exhibit 13 – State ERP Implementation Duration Schedule

State	Financials / Procurement		Duration		Overlap with HR/Payroll
	Agency Timing	Module Timing	Implementation	Post Go-Live	
Alaska	All	All	24 months	Extended	No
Arizona	All	All	24 months	15 months	No
Arkansas	All	All	15 months	3 months	Yes
Kansas	All	All	24 months	6 months	No
Louisiana*	Phased	All	27 months	3 months	No
Minnesota	All	All	24 months	6 months	No
Mississippi*	All	All	30 months	6 months	Yes
Tennessee	Phased	All	24-33 months	6 months	Yes
West Virginia*	Phased	All	21-27 months	6 months	Yes

*Planned implementation duration does not include time for the acquisition of software and integration services.

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Anticipated Project Timeline

The timeline below was utilized in preparation of the ERP cost estimate. This same two-year or twenty-four (24) month implementation time period was successfully used by the State of Kansas and the State of Minnesota to implement essentially the same scope of functionality as is being considered by the State of Washington. In addition, the National Association of Auditor's Comptrollers and Treasures (NASACT) in its "2012 FINANCIAL SYSTEM SURVEY THE CHALLENGE OF CHANGE" cited two years as the expected implementation time period for a financial system implementation.

Exhibit 14 – Anticipated Timeline for Implementing an ERP System

	Year 1												Year 2												Year 3											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	Implementation																								Post Implementation											
Plan	Design				Build					Test / Train						Go	Support																			
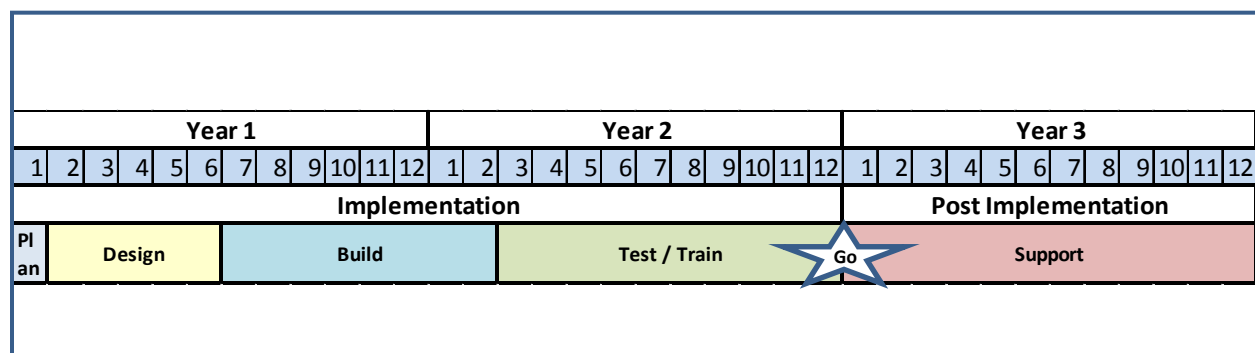
The report assumes that the project will be conducted in two (2) sequential phases:

- **Phase 1**: Pre-Implementation Planning and Acquisition

  This phase will be an effort to initiate planning and to acquire ERP software and associated implementation services.

- **Phase 2**: Implementation

  This phase will be a two-year effort to implement financial management, procurement, and logistics functionality . Immediately following go-live will be a 12-month vendor-provided post-implementation support effort.

Note that these assumptions were required for ISG to produce this report and may not necessarily be the scope, deployment order, and timeline ultimately used for the actual ERP implementation project. Also note that for certain aspects of this report, an assumption was made that the ERP initiative would start on July 1, 2013, in order to provide a reference point from which to base other, related estimates included in our report, and thereby, maintain an internal consistency for those related estimates. The estimates included in the report represent a "what-if" analysis. State leadership has not made any commitments to start an ERP project.

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Estimated Costs

Estimated ERP Costs include the costs to acquire, implement, and operate a new statewide ERP system. As part of ISG's methodology, we performed certain financial analyses to assist the State in evaluating the costs and benefits to be achieved through the implementation of a new statewide ERP system. Additionally, the estimated cost of performing a software upgrade of the new system within the 11-year planning period (Year 0 through Year 10) is included.

The following exhibit presents a summary of the estimated costs to implement, operate, and maintain the ERP system over the 11-year planning horizon. As indicated in the exhibit:

- The estimated cost to acquire, implement, and operate the ERP system is approximately $80 million (refer to rows 1 - 20);

- The ongoing costs to operate and maintain the ERP system are estimated to total approximately $74 million (refer to rows 21 – 29). Note that a software upgrade is assumed to take plane in Year 7 of the estimating period and included in these ongoing cost estimates;

- An estimated contingency amount of approximately $17 million is included in the overall estimate (refer to row 31); and

- The total cost of ownership of the ERP system over the 11-year period is estimated to be approximately $172 million (refer to rows 33 and 35).

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Exhibit 15 – Summary Schedule of Estimated Costs of Migrating To and Operating a Statewide ERP System

Project Phase/Component	Acquire — Year 0 FY' 14	Financials, Procurement & Logistics — Year 1 FY' 15	Year 2 FY' 16	Go-Live — Year 3 FY' 17	Year 4 FY' 18	Year 5 FY' 19	Year 6 FY' 20	Year 7 FY' 21	Year 8 FY' 22	Year 9 FY' 23	Year 10 FY' 24	Total
Implementation												
Pre-Implementation Planning												
ERP Advisory/Oversight	$ 1,612,800	$ -	$ -	$ -	$ -							$1,612,800
State Staff and Benefits (Backfill)	$ 240,384	$ -	$ -	$ -	$ -							$240,384
Systems Integrator -- Pre-Implementation	$ -	$ -	$ -	$ -	$ -							$0
Software Installation, Configuration & Process Reengineering												
Systems Integrator -- Implementation	$ -	$ 11,702,400	$ 19,190,400	$ 13,636,800	$ -							$44,529,600
State Team Members (incl. benefits)	$ -	$ 3,067,144	$ 5,375,129	$ 4,822,538	$ -							$13,264,810
State Agency Support (incl. benefits)	$ -	$ -	$ -	$ -	$ -							$0
Project Oversight	$ -	$ 1,728,000	$ 1,728,000	$ 1,296,000	$ -							$4,752,000
Third Party Integration Support	$ -	$ -	$ 1,152,000	$ -	$ -							$1,152,000
ERP Software												
Team Training	$ -	$ 432,000	$ -	$ -								$432,000
Software License	$ -	$ 4,000,000	$ -	$ -	$ -							$4,000,000
Ongoing Software Maintenance	$ -	$ 880,000	$ 880,000	$ 440,000	$ -							$2,200,000
Technical Infrastructure												
Production & Dev Environment	$ -	$ 438,000	$ 2,894,760	$ 3,121,200	$ -							$6,453,960
Project Development Environment Hosting	$ -	$ -	$ -	$ -	$ -							$0
ERP Project Facilities & Equipment	$ 8,625	$ 640,315	$ 535,868	$ 267,860	$ -							$1,452,668
Subtotal: Implementation	$ 1,861,809	$ 22,887,859	$ 31,756,157	$ 23,584,397	$ -							$ 80,090,223
Ongoing Operations												
Consultant Support for Upgrade	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 5,767,488	$ -	$ -	$ -	$5,767,488
State Staff and Benefits				$ -	$ 4,314,447	$ 4,488,751	$ 4,670,096	$ 4,858,768	$ 5,055,063	$ 5,259,287	$ 5,471,762	$34,118,175
Software Maintenance	$ -	$ -	$ -	$ 440,000	$ 880,000	$ 897,600	$ 915,552	$ 933,863	$ 952,540	$ 971,591	$ 991,023	$6,982,169
Production & Dev Environment			$ -	$ 1,500,000	$ 3,000,000	$ 3,150,000	$ 3,307,500	$ 3,472,875	$ 3,646,519	$ 3,828,845	$ 4,020,287	$25,926,025
ERP Project Facilities & Equipment	$ -	$ -	$ -	$ 267,860	$ 111,394	$ 113,654	$ 118,245	$ 123,023	$ 127,993	$ 133,164	$ 138,543	$1,133,875
Subtotal: Ongoing Operations	$ -	$ -	$ -	$ 2,207,860	$ 8,305,841	$ 8,650,005	$ 9,403,074	$ 15,156,017	$ 9,782,114	$ 10,192,887	$ 10,621,616	$ 74,319,413
Contingency	$ -	$ 3,299,509	$ 5,489,106	$ 1,975,534	$ 6,805,275							$17,569,423
Total Annual Estimated ERP Program Cost	$ 1,861,809	$ 26,187,368	$ 37,245,263	$ 27,767,790	$ 15,111,116	$ 8,650,005	$ 9,403,074	$ 15,156,017	$ 9,782,114	$ 10,192,887	$ 10,621,616	$ 171,979,059
Cumulative ERP Cost	$ 1,861,809	$ 28,049,177	$ 65,294,440	$ 93,062,230	$ 108,173,346	$ 116,823,351	$ 126,226,425	$ 141,382,442	$ 151,164,556	$ 161,357,443	$ 171,979,059	
PV of Total Annual Estimated ERP Program Cost @ 5% per annum	$ 1,861,809	$ 24,940,350	$ 33,782,552	$ 23,986,861	$ 12,431,953	$ 6,777,505	$ 7,016,719	$ 10,771,098	$ 6,620,920	$ 6,570,426	$ 6,520,751	$141,280,943
Cumulative PV of Total Annual Estimated ERP Program Cost @ 5% per annum	$ 1,861,809	$ 26,802,160	$ 60,584,711	$ 84,571,572	$ 97,003,525	$ 103,781,030	$ 110,797,748	$ 121,568,847	$ 128,189,767	$ 134,760,192	$ 141,280,943	

Please note that the total in the schedule above may reflect variances due to rounding.

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State of Washington
Financial Management System Performance Audit
April 17, 2013

Supporting Assumptions

The following assumptions were used as the foundation for developing this cost estimate. This estimate is consistent with the State's assumptions regarding the approach for implementing the statewide ERP system, as documented in this report.

- The implementation project will be conducted in two sequential phases, as discussed above under Anticipated Project Timeline

- The various assumed hourly rates for the different implementation roles for the ERP integrator and the project-oversight contractor, and the associated hours for each role, yield an average hourly, expense-loaded rate of $197.

- The various assumed hourly rates for the different implementation roles for the state personnel, and the associated hours for each role, yield an average hourly, benefits-loaded rate of $44.

- The cost analysis includes only incremental costs for State resources. Currently employed State resources that will work on the ERP project are included in the cost estimate only to the extent their current positions are backfilled/funded.

- The cost estimate reflects that the State will backfill (e.g., hire replacement staff or new staff) approximately 100% of the State team members assigned to the project.

- An average annual inflation rate of 2% was assumed for the 11-year planning period.

- An ERP software upgrade will occur during Year 7 of the project (FY 2021).

- The implementation work effort will be conducted using a ratio of approximately 1.3 State resources for every 1.0 contractor resource.

- ISG's proprietary staffing model was used to develop the cost estimate. Input into the model was based on our experience with similar ERP projects for State and large local governments, and on assumptions provided by the State's project leadership.

Implementation

The following schedule presents the estimated hours that correspond to effort-based costs in the Implementation portion of the Summary Schedule of Estimated Costs of Implementing and Operating Statewide ERP System. More information on the assumptions pertaining to each of these effort-based cost items is provided later in this section of the report.

Exhibit 16 – Estimated Hours that Correspond to Effort-Based Costs

Phases -->	Acquire	Financials, Procurement & Logistics		Go-Live	
Project Phase/Component	**Year 0**	**Year 1**	**Year 2**	**Year 3**	
	FY' 14	**FY' 15**	**FY' 16**	**FY' 17**	**Total**
Implementation					
Pre-Implementation Planning					
ERP Advisory/Oversight	8,640	-	-		8,640
State Staff and Benefits (Backfill)	5,325	-	-		5,325
Systems Integrator -- Pre-Implementation	-	-	-		-
Subtotal	**13,965**	**-**	**-**	**-**	**13,965**
Software Installation, Configuration & Process Reengineering					
Systems Integrator -- Implementation		57,040	98,400	70,320	225,760
State Team Members (incl. benefits)		69,450	127,350	109,800	306,600
State Agency Support (incl. benefits)			-	-	-
Project Oversight		9,280	9,280	6,960	25,520
Third Party Integration Support			7,680	-	7,680
Subtotal	**-**	**135,770**	**242,710**	**187,080**	**565,560**
Total	**13,965**	**135,770**	**242,710**	**187,080**	**579,525**

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Line Item Cost Assumptions

The notes that follow provide an explanation for specific line items in the Summary Schedule of Estimated Costs of Implementing and Operating Statewide ERP System. Note that the summary schedule is divided into two primary sections: (1) Implementation, and (2) Ongoing Operations.

Implementation

Pre-Implementation Planning

ERP Advisory Costs

The services with which the costs in this line item are associated with the first project phase. The services provided by the ERP Advisory Vendor during Phase 1 include the following:

- Mapping and analyzing the State's "As-Is" business processes;

- Documenting ERP functional and technical requirements;

- Developing solicitation document(s) to support the acquisition of ERP software and associated integration services;

- Facilitating the evaluation of proposals received for ERP software and integration services;

- Performing change management planning and communications support; and

- Facilitating contract negotiations between the State and the awarded ERP software and integration services vendor(s).

ISG estimates that the following consulting positions would be required in order to successfully perform the services listed above:

- Project Partner/Project Director

- Project Manager

- Financial Lead

- RFP Development Lead

- Procurement/Logistics/Inventory Lead

During the implementation, the ERP Advisory Vendor consultants will assist in designing the future (To-Be) processes that will be enabled and supported by the new ERP system. For each of the major business processes within the scope of the ERP implementation, the ERP Advisory Vendor will work with State staff and the Systems Integrator in:

- Reviewing the As-Is process analysis that was performed as part of Phase 1;

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- Gaining an understanding of how the ERP system can meet the requirements of the business process through configuration options;

- Determining the method(s) that will be used to fill any gaps between the functional requirements of the process and the ERP system configuration options; and

- Mapping and analyzing the State's To-Be business process.

State Staff and Benefits

The primary activities State subject-matter experts will assist the ERP Advisory Vendor in performing during Phase 1 include the following:

- Mapping and analyzing the State's "As-Is" business processes;

- Identifying ERP functional and technical requirements;

- Providing material for, and reviewing portion of, a solicitation document(s) to support the acquisition of ERP software and associated integration services;

- Participating in the evaluation of proposals received for ERP software and integration services; and

- Assisting with Change Management planning and Communications support activities.

State Procurement and Legal personnel will also be appropriately involved in aspects of the Phase 1 effort.

Software, Installation, Configuration and Process Reengineering

Systems Integrator – Implementation

This cost category includes all Systems Integrator staff work effort required to successfully implement the ERP and third-party software (as necessary) across State government in accordance with the assumed implementation approach described above.

Following is a description of the major component of the Systems Integrator Implementation cost category.

System Configuration and Deployment Services

This category includes the Systems Integrator's effort pertaining to:

- Project management;

- "To-Be" business process design that will be enabled and supported by the acquired ERP system;

- Software configuration in accordance with the defined "To-Be" business processes;

- Testing (participate in unit, integration, system, and stress testing, and support acceptance testing);

- End user training and documentation;

- Knowledge transfer; and

- Deployment (roll-out) support.

Technical Infrastructure Support and Customizations

This category includes the Systems Integrator's effort pertaining to:

- Technical architecture and infrastructure design;

- Database administration;

- Systems programming;

- Security configuration;

- Customizations

  → Forms,

  → Reports,

  → Automated interfaces,

  → Data conversion/loading,

  → Software enhancements, and

  → Workflow configuration;

- Business Intelligence and Data Warehouse implementation and support;

- Testing (participate in unit, integration, system, and stress testing, and support acceptance testing);

- Knowledge transfer; and

- Deployment (roll-out) support.

State Team Members (including benefits)

This cost category includes all State project team members' work effort required to successfully implement the ERP and third-party software (as necessary) across state government in accordance with the assumed implementation approach described above. Following is a description of the major component of the State Team Members cost category.

System Configuration and Deployment

This category includes the State team member's effort pertaining to:

- Project management;

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- "To-Be" business process design that will be enabled and supported by the acquired ERP system;

- Software configuration in accordance with the defined "To-Be" business processes;

- Testing (participate in unit, integration, system, and stress testing, and execute acceptance testing);

- End user training and documentation;

- Knowledge transfer; and

- Deployment (roll-out) support.

Technical Infrastructure Support and Customizations

This category includes the State team members' efforts pertaining to:

- Technical architecture and infrastructure design;

- Database administration;

- Systems programming;

- Security configuration;

- Customizations

  → Forms,

  → Reports,

  → Automated interfaces,

  → Data conversion/loading,

  → Software enhancements, and

  → Workflow configuration;

- Business Intelligence and Data Warehouse implementation and support;

- Testing (participate in unit, integration, system, and stress testing, and execute acceptance testing);

- Knowledge transfer; and

- Deployment (roll-out) support.

State Agency Support (including benefits)

This cost category includes all State staff work effort required to successfully deploy the ERP and third-party software (as necessary) at their respective agencies in accordance with the assumed implementation approach described above. This effort is in addition to the work performed by the State project team members.

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The activities State staff will assist in developing and testing interfaces between the new ERP system and agency systems (the Systems Integrator will be responsible for the ERP side of the interfaces and the agencies will be responsible for the agency-systems side of the interfaces), modifying and/or developing agency-specific processes and procedures to address changes resulting from the implementation of the ERP system, etc.

Project Oversight Support

The ERP Advisory Vendor consultants will also provide project oversight services for the duration of the ERP project. Ongoing project oversight activities include (but are not limited to):

- Facilitating issue and problem resolution;

- Monitoring project timelines and deadlines (including submission of deliverables) per the detailed project plan; variances from the planned schedule must be researched and contingency plans established, where necessary, to ensure that the project remains on schedule;

- Conducting periodic risk assessments and leading risk mitigation efforts;

- Preparing monthly progress reports to project executive management;

- Planning and conducting executive and management briefings;

- Reviewing project deliverables to ensure that they meet standards for deliverables;

- Performing project milestone reviews;

- Scrutinizing the quality of vendor performance;

- Managing contract specifics between vendor and the State (including enforcement of penalties when necessary);

- Monitoring project scope and project budget;

- Delivering periodic written status reports to executive management; and

- Providing overall project guidance and direction.

ISG estimates that the following consulting positions will be required to perform project oversight and staff augmentation services:

- Project Partner/Project Director

- Project Manager

- Financial Lead

- Procurement/Logistics/Inventory Lead

Third-Party Integration Support

There are a number of applications throughout the State that have third-party vendors, instead of State staff, performing system maintenance. It is likely that these vendors will be asked to enhance their systems in order to interface the systems with the new statewide ERP system, as well as assist in developing the requisite interfaces. This line item represents the estimated funding that would be required if the State compensated these vendors for such activities.

ERP Software

Software License

It is estimated that the application software license fee for the new ERP system will be approximately $4.0 million for the financial, procurement and logistics scope. This estimate should not be considered a formal quote.

Ongoing Software Maintenance

Annual software maintenance fees typically range between 17% and 22% of the original software license fee. We estimate that the annual ERP software maintenance fee will be 22% of the software license fee through 2024. Note that these fees for the ERP software implemented during the project, shift from the "Implementation" portion of the cost schedule to the" Ongoing Operations" portion once the phase goes live.

We assume that all annual maintenance fees will begin in the year the ERP software licenses are acquired by the State, be frozen for five years, and then will escalate by a factor of 2% per year.

Technical Infrastructure

Production and Development Environment

This estimate is intended to provide a high-level estimate of data center and infrastructure costs, and is based on ISG's experience with similar statewide and local government ERP projects. It is difficult at this stage of the project to estimate the cost for this category as the ERP software has not been selected nor has the technical platform been fully architected for the statewide ERP system. We estimated these costs based on our experience with similar statewide ERP initiatives.

The hardware and technical infrastructure total estimated cost includes the following cost elements:

- Processors
  - → Application/database server(s) processing hardware

- → Maintenance and server upgrades

- → New server operating system software and server operating system upgrades and maintenance

- Data Storage and Management

  - → Disk/Storage Area Network (SAN) capacity

  - → RDBMS Software

  - → Maintenance

- Systems Management and Security software

  - → Transaction monitoring software

  - → "Middleware" such as gateways

  - → Testing tools and software

  - → Batch scheduling tools and software

- Communications

  - → LAN/WAN upgrades

  - → Telecommunications costs

- Backup/Disaster Recovery

  - → Hardware costs

  - → Software costs

ERP Project Facilities and Equipment

We estimated the cost of ERP Project Facilities and Equipment based on our experience with similar statewide ERP implementation projects and included the following in our estimate:

- Office space for the project team

- Training facilities

- Furnishings – staff workspace

- Furnishings – conference rooms/training rooms

- Computers for project team members

- Phone lines

- Internet (circuits, cabling)

- Copiers/faxes/printers

- Office supplies

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Ongoing Operations

Consultant Support for Upgrade

Based on ISG's prior experience with state and local governments in performing ERP software upgrades, we assumed that it will require approximately 28,800 consultant hours to perform a software upgrade of the new ERP system. This estimate assumes an upgrade of not only the existing technical tools (e.g., report writer) but also an upgrade in the system's functional capabilities. The new system capabilities will likely impact people (e.g., training), processes (e.g., procedures) and technology (e.g., development tools).

State Staff and Benefits

The areas for which costs are included in this category of Ongoing Operations, along with the estimated number of FTEs that will staff each area once the areas are fully staffed, include:

Exhibit 17 – Staffing for Ongoing Operations

Ongoing Operations Area	FTEs
Functional Support	23
Technical Operations and Support	10
Ongoing Training/Help Desk	9
Management of Ongoing Operations	3
Total	**45**

It is assumed that only State resources will fill the positions covered in this cost category. In developing estimates for this category, we took into consideration the staffing levels of other states and ISG's ERP experience. Also, the assumption was made that the best and brightest resources from the implementation Project Team will fill these Ongoing Support/Operations positions.

Software Maintenance

Refer to the assumptions pertaining to Software Maintenance described above.

Production & Development Environment

This is a high-level estimate of ongoing data center and infrastructure costs. It is based on ISG's experience with similar statewide and local government ERP projects. Refer to the assumptions for the Production & Development Environment category in the Implementation section above.

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ERP Project Facilities & Equipment

This category includes our estimate of the annual cost of providing facilities and equipment for the ongoing ERP support effort. The estimates are based on ISG's experience with similar statewide and local government ERP initiatives.

Contingency

A Contingency cost amount has been included to address any additional costs that have not been included in our estimates but could result from uncertain project-related items, conditions, and/or events, based on our experience with a number of other statewide ERP implementation initiatives. For Year 1, Year 2, and Year 3, the annual contingency amount was calculated as percentage of the respective, combined total estimated annual cost of the following Software Installation, Configuration & Process Reengineering cost categories:

- Systems Integrator – Implementation

- State Team Members (including benefits)

- State Agency Support (including benefits)

- ERP Advisory Vendor Project Support

- Third-Party Integration Support

During the acquisition phase, the contingency is 5%, and during the implementation, the contingency is 20% of the estimated cost associated with the above categories. The contingency is 10% of the post go-live costs. The percentages were assigned based on the relative risk and associated dollar value for each project phase. The acquisition phase has the least risk and has the lowest overall dollar value. The most effort, risk and cost occur during the implementation phase; therefore, the highest contingency percentage, 20%, was assigned. Lastly, once the system is operational, the risk decreases; therefore, a factor of 10% was assigned.

The cost estimate is based on the assumption that the system will be deployed to all agencies after a 24-month implementation period. This assumption matches the deployment strategies of both the state of Minnesota and the state of Kansas. Both Minnesota and Kansas can be consider peer states to Washington because both were live on tier-one ERP systems for human resources and payroll administration for many years before moving to implement financial management and procurement functionality. However, it should also be noted that other states have implemented a similar scope as considered in this report, using different deployment strategies, such as phasing functionality and/or agencies as well as implementing the system over a longer period of time than twenty-four months. In recognition of this fact, a contingency amount was added to Year 4 to address the risk of the state utilizing a different implementation strategy.

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4.c What planned/anticipated system costs could potentially be avoided by replacing the State's financial management system?

The State could potentially avoid incurring certain system-related costs by: (1) retiring existing systems and avoiding associated ongoing costs, as well as any necessary modification, enhancements, upgrades, etc., as a result of a new ERP system being put into production, and (2) avoiding costs that would likely be incurred to procure, implement, maintain, and upgrade planned/anticipated systems if a new ERP system were not implemented.

Approach

As described in the Finding for the Financial Impact section of this report, during the **Perform Financial Analysis** phase of our methodology, we net estimated cost savings and other dollar-quantifiable benefits (i.e., Avoided Systems Costs and process-improvement benefits [ISG's *Value Pockets*]) against the estimated 10-year cost of acquiring, implementing, and operating a new ERP system to determine an ROI that investing in the ERP system could potentially yield.

Overall Approach for Estimating Avoided Systems Costs

We employ a two-step process for estimating *Avoided Systems Costs* that includes the following:

1. **Estimate Status Quo Systems Costs**

    During this step, we develop a rough estimate what the State would spend on financial management systems during the next 10 years for ongoing system operations, as well as planned/anticipated investments in systems, if a statewide ERP system were not implemented (i.e., the State were to continue on its current path/status quo).

2. **Estimate Avoided Systems Costs**

    During this step, we determine which of the *Status Quo System Costs* would likely be avoided if the State were to move to a new statewide ERP system.

Each of these two steps, along with the fieldwork results associated with each, is described below.

Detailed Approach for Step 1: Estimate Status Quo Systems Costs

During the course of the meetings conducted with each of the 12 participating agencies in performing the **Assess Current Strategies and Environment** phase of our methodology, we identified, preliminarily, each agency's systems that would likely be replaced/retired if the financial management functionality of an ERP system were implemented statewide.

Following those meetings, ISG's proprietary Systems Costs Survey, prepopulated with the systems we preliminarily identified as likely candidate to be replaced/retired if an ERP system

were implemented statewide, was sent to each of the 12 participating agencies in order to confirm which systems could potentially be replaced/retired, and then captured: (1) the estimated annual cost of operating and maintaining/enhancing each of the systems during the next 10 years, and (2) the planned/anticipated investments in new planned/anticipated systems during the next 10 years that could potentially be avoided if a new ERP system were implemented statewide. Note that DES was asked to respond to the survey from an internal agency perspective, as well as from a core/statewide system perspective.

The agencies responded to the *Systems Costs Survey* with estimated costs for 105 systems. Note that the costs associated with some of the systems that were identified as candidates for being replaced/retired by a new ERP system were not material enough to report (e.g., a Microsoft Access database system that only requires a few hours per year to maintain). Appendix B, Inventory of State Administrative Systems*,* provides a detailed inventory of the current State application systems included in the *Status Quo Systems Costs* analysis.

While the candidate systems that may be replaced by a modern ERP system were reported by the participating agencies, as a first step in acquiring and implementing an ERP system, the agencies should participate in documenting detailed requirements, and then use those requirements to determine whether the identified candidate systems can indeed be replaced. Special focus should be given to WSDOT's construction management systems, DNR's NATURE system, and LNI's accounts receivable collection system.

Fieldwork Results for Step 1: Estimate Status Quo Systems Costs

The results of the *Systems Costs Survey* data-collection effort follow.

Exhibit 18 – Estimated Status Quo Systems Costs
Estimated Cost of Ongoing Maintenance and Operations

Agency	Yr 1 FYE 2012	Yr 2 FYE 2013	Yr 3 FYE 2014	Yr 4 FYE 2015	Yr 5 FYE 2016	Yr 6 FYE 2017	Yr 7 FYE 2018	Yr 8 FYE 2019	Yr 9 FYE 2020	Yr 10 FYE 2021	Yr 11 FYE 2022	Total (FYs 13 - 22 only)
DSHS	252,149	284,858	285,566	285,566	285,566	285,566	285,566	285,566	285,566	285,566	285,566	2,854,948
DFW	192,995	192,995	194,389	194,389	194,389	194,389	194,389	194,389	194,389	194,389	194,389	1,942,494
DNR	484,362	484,362	484,362	484,362	484,362	484,362	484,362	496,888	496,888	496,888	496,888	4,893,723
DOC	75,895	60,466	61,422	61,422	61,422	61,422	61,422	61,422	61,422	61,422	61,422	613,268
DOH	181,967	119,967	119,967	127,967	131,967	167,967	119,967	127,967	131,967	119,967	167,967	1,335,672
DOR	38,447	38,447	38,447	38,447	38,447	38,447	38,447	38,447	38,447	38,447	38,447	384,465
ECY	121,256	121,256	121,256	121,256	121,256	121,256	121,256	121,256	121,256	121,256	121,256	1,212,560
ESD	43,657	43,871	45,341	45,341	45,341	45,341	45,341	45,341	45,341	45,341	45,341	451,942
WSDOT (deflated)	645,879	596,707	599,558	604,858	611,102	620,837	624,984	633,219	642,510	654,358	663,059	6,251,191
Labor & Industries	1,312,016	1,309,933	1,333,547	1,333,547	1,333,547	1,333,547	1,333,547	1,333,547	1,333,547	1,333,547	1,333,547	13,311,858
DES	420,179	347,853	347,853	347,853	347,853	347,853	347,853	347,853	347,853	347,853	347,853	3,478,525
Core Systems	1,591,983	1,588,047	1,588,051	1,588,055	1,588,059	1,588,063	1,588,067	1,588,071	1,588,075	1,588,079	1,588,083	15,880,647
HCA	0	0	0	0	0	0	0	0	0	0	0	0
Total (not inflated)	5,360,785	5,188,761	5,219,758	5,233,062	5,243,311	5,289,049	5,245,200	5,273,965	5,287,260	5,287,112	5,343,816	52,611,293
Total (inflated)	5,360,785	5,292,536	5,430,636	5,553,367	5,675,528	5,839,538	5,906,948	6,058,128	6,194,867	6,318,588	6,514,082	58,784,217
Inflation Rate -->	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%		

Please note that the total in the schedule above may reflect variances due to rounding. Also, note that the estimates submitted by WSDOT were inflated by 3.4% per annum, so the estimates were deflated in order for them to be comparable to the other estimates in the schedule. Also note that HCA did not submit any estimated costs as ISG determined that none of HCA's systems were candidates for being replaced by a new ERP system.

Exhibit 19 – Estimated Status Quo Systems Costs
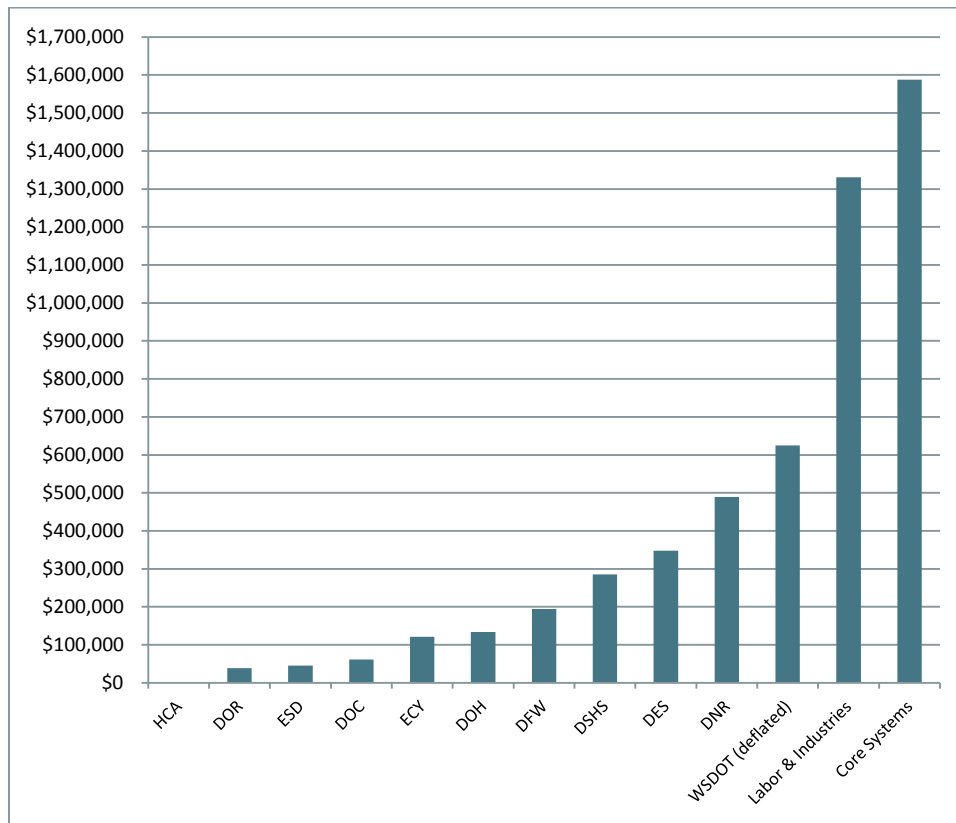### Estimated Average Annual Cost of Ongoing Maintenance and Operations

Exhibit 20 – Estimated Status Quo Systems Costs
Estimated <u>Total Cost</u> of Ongoing Maintenance and Operations for FYs 13-22

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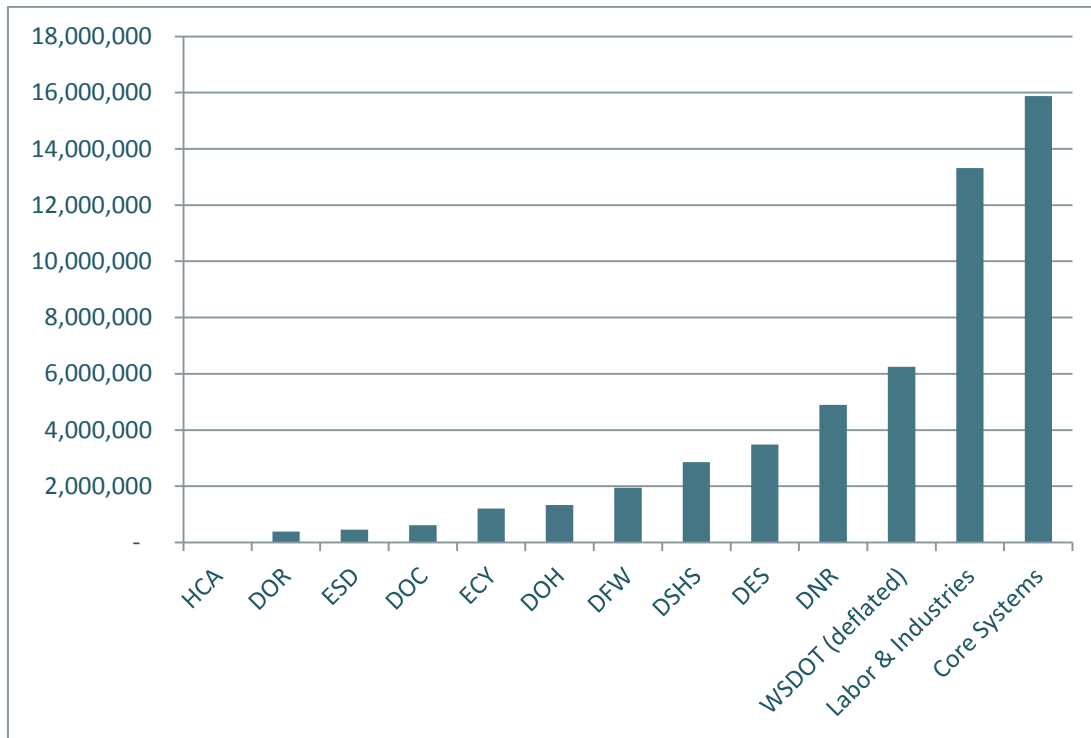
Exhibit 21 – Estimated Status Quo Systems Costs
Total Estimated Planned/Anticipated Investments in Systems

Agency	Yr 1 FYE 2012	Yr 2 FYE 2013	Yr 3 FYE 2014	Yr 4 FYE 2015	Yr 5 FYE 2016	Yr 6 FYE 2017	Yr 7 FYE 2018	Yr 8 FYE 2019	Yr 9 FYE 2020	Yr 10 FYE 2021	Yr 11 FYE 2022	Total (FYs 13 - 22 only)
DSHS	70,000	35,000	82,000	20,000	10,000	10,000	5,000	5,000	5,000	5,000	5,000	182,000
DFW	-	168,000	168,000	168,000	168,000	168,000	168,000	168,000	168,000	168,000	168,000	1,680,000
DNR	-	-	-	-	-	-	-	-	-	-	-	-
DOC	59,792	-	-	-	-	-	-	-	-	-	-	-
DOH	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	6,900	69,000
DOR	-	-	-	-	-	-	-	-	-	-	-	-
ECY	-	20,000	40,000	187,100	500,000	50,000	-	-	-	-	-	797,100
ESD	-	-	-	-	-	-	-	-	-	-	-	-
WSDOT	236,404	223,158	222,495	222,495	222,495	222,495	222,495	1,026,141	9,403,309	16,712,648	18,341,395	46,819,124
Labor & Industries	242,168	-	-	277,323	-	-	45,000	232,323	-	45,000	-	599,646
DES	-	-	-	-	-	-	-	-	-	-	-	-
Core Systems	-	-	-	-	-	-	-	-	-	-	-	-
HCA	-	-	-	-	-	-	-	-	-	-	-	-
Total (not inflated)	615,264	453,058	519,395	881,818	907,395	457,395	447,395	1,438,364	9,583,209	16,937,548	18,521,295	50,146,870
Total (inflated)	615,264	462,119	540,378	935,792	982,193	505,001	503,839	1,499,656	9,614,091	16,981,424	18,560,692	50,585,184
Inflation Rate -->	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	

Please note that the total in the schedule above may reflect variances due to rounding. DES/OFM was not able to estimated planned/anticipated investments costs in systems.

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Financial Management System Performance Audit
April 17, 2013

WSDOT prefers and supports the effectiveness of a statewide ERP system led by OFM and DES; however, note that the planned/anticipated investment amounts for WSDOT presented in the exhibit above include an assumed $45.5 million investment in an ERP system to replace WSDOT's existing, aging, financial management systems (i.e., TRAINS), spread over the fiscal years of 2019 through 2022. The $45.5 million investment was not inflated. WSDOT has not made plans to make this investment and is only including this rough order-of-magnitude estimate in this work effort as: (1) it is likely that WSDOT would replace the financial management systems with an ERP system at some point within the next 10 years if the State does not go forward with a statewide ERP system within that time frame (A WSDOT ERP investment can serve as the first phase approach to a statewide ERP system implementation), and (2) not including this assumed estimate would result in WSDOT's contribution to the Avoided System Cost estimate for this analysis being understated; the implementation of a statewide ERP system of the scope included in this work effort would negate the need for WSDOT to make this assumed investment.

The amount of the assumed estimate, along with the distribution of the investment amounts, is based on estimates included in the Critical Application Feasibility Study (feasibility study) commissioned by WSDOT in 2009. We believe the estimated $45.5 million cost contained in the feasibility study is in line with recent, comparable ERP experiences of Departments of Transportation in other states. If WSDOT does decide to move forward with an ERP implementation to replace TRAINS at some point in the future, the estimated cost will need to be revalidated.

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Exhibit 22 – Estimated Status Quo Systems Costs
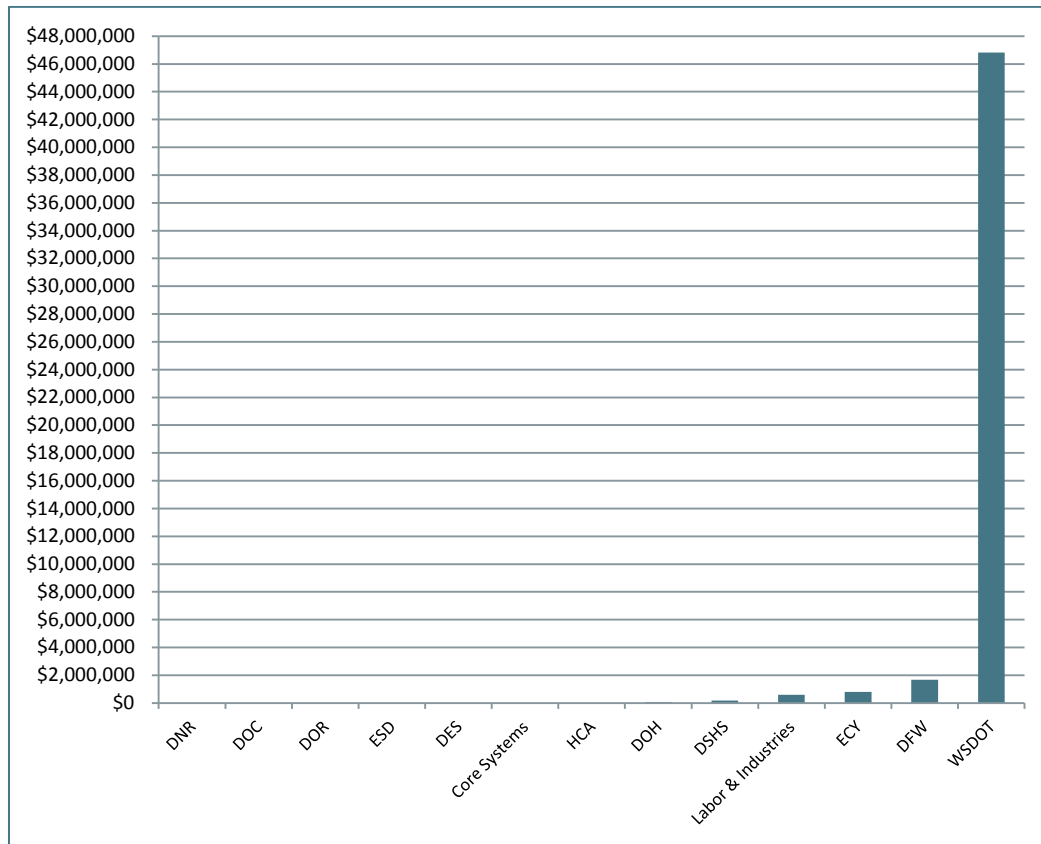## Estimated Total Planned/Anticipated Investments in Systems for FYs 13-22

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Exhibit 23 – Estimated Status Quo Systems Costs
Estimated Total Systems Costs

Agency	Yr 1 FYE 2012	Yr 2 FYE 2013	Yr 3 FYE 2014	Yr 4 FYE 2015	Yr 5 FYE 2016	Yr 6 FYE 2017	Yr 7 FYE 2018	Yr 8 FYE 2019	Yr 9 FYE 2020	Yr 10 FYE 2021	Yr 11 FYE 2022	Total (FYs 13 - 22 only)
DSHS	322,149	319,858	367,566	305,566	295,566	295,566	290,566	290,566	290,566	290,566	290,566	3,036,948
DFW	192,995	360,995	362,389	362,389	362,389	362,389	362,389	362,389	362,389	362,389	362,389	3,622,494
DNR	484,362	484,362	484,362	484,362	484,362	484,362	484,362	496,888	496,888	496,888	496,888	4,893,723
DOC	135,687	60,466	61,422	61,422	61,422	61,422	61,422	61,422	61,422	61,422	61,422	613,268
DOH	188,867	126,867	126,867	134,867	138,867	174,867	126,867	134,867	138,867	126,867	174,867	1,404,672
DOR	38,447	38,447	38,447	38,447	38,447	38,447	38,447	38,447	38,447	38,447	38,447	384,465
ECY	121,256	141,256	161,256	308,356	621,256	171,256	121,256	121,256	121,256	121,256	121,256	2,009,660
ESD	43,657	43,871	45,341	45,341	45,341	45,341	45,341	45,341	45,341	45,341	45,341	451,942
WSDOT (deflated)	882,283	819,864	822,052	827,352	833,597	843,332	847,479	1,659,360	10,045,819	17,367,006	19,004,454	53,070,314
Labor & Industries	1,554,184	1,309,933	1,333,547	1,610,870	1,333,547	1,333,547	1,378,547	1,565,870	1,333,547	1,378,547	1,333,547	13,911,504
DES	420,179	347,853	347,853	347,853	347,853	347,853	347,853	347,853	347,853	347,853	347,853	3,478,525
Core Systems	1,591,983	1,588,047	1,588,051	1,588,055	1,588,059	1,588,063	1,588,067	1,588,071	1,588,075	1,588,079	1,588,083	15,880,647
HCA	0	0	0	0	0	0	0	0	0	0	0	0
Total (not inflated)	5,976,050	5,641,819	5,739,152	6,114,879	6,150,705	5,746,444	5,692,595	6,712,329	14,870,469	22,224,660	23,865,111	102,758,162
Total (inflated)	5,976,050	5,754,655	5,971,014	6,489,159	6,657,721	6,344,538	6,410,787	7,557,783	15,808,958	23,300,012	25,074,774	109,369,401
Inflation Rate -->	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	

Please note that the total in the schedule above may reflect variances due to rounding.

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Exhibit 24 – Estimated Status Quo Systems Costs
Estimated Total Systems Costs for FYs 13-22

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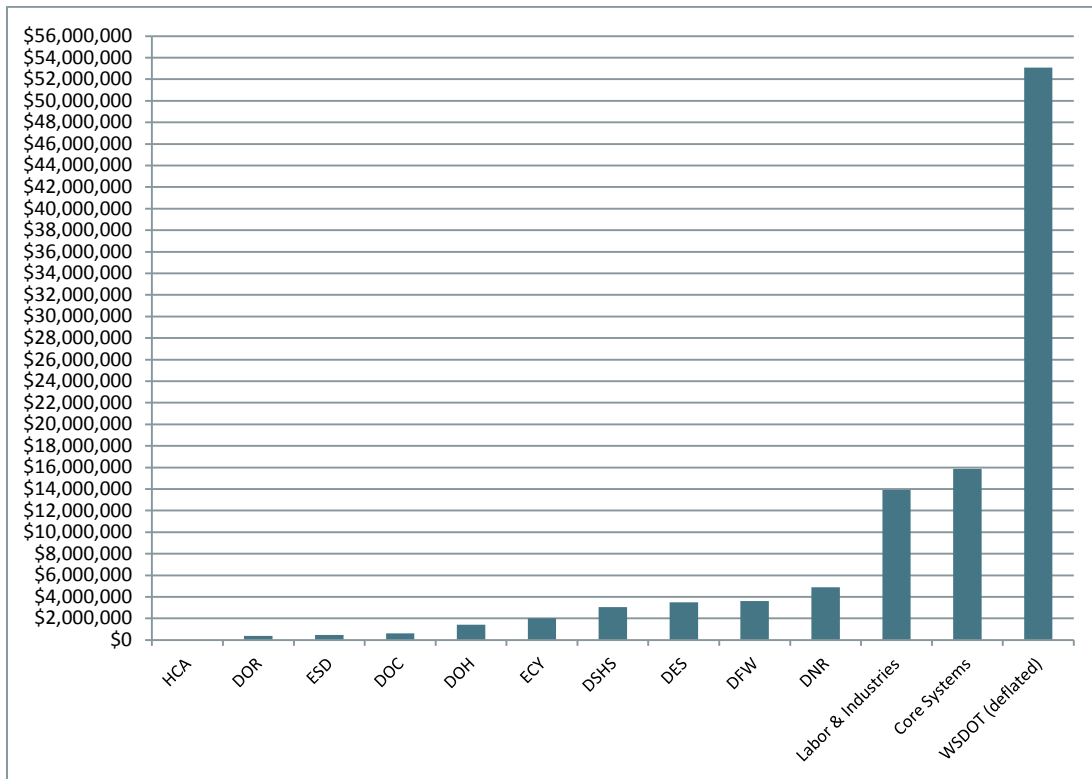
Detailed Approach for Step 2: Estimate Avoided Systems Costs

Avoided Systems Costs are the estimated *Status Quo Costs* that would likely not be incurred if an ERP system were implemented statewide, based on the timing of the assumed go-live schedule for the ERP system.   Note that the *Estimated Avoided Systems Costs* schedule below contains essentially the same cost information as the *Estimated Status Quo Systems Costs – Estimated Total Systems Costs* schedule above, <u>except</u> that the costs that would still be incurred if a statewide ERP system were implemented have been removed from the *Avoided Systems Costs* schedule below, as they would not be avoided.

Fieldwork Results for Step 2: Estimate Avoided Systems Costs

The results of the *Avoided Systems Costs* analysis follow.

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Exhibit 25 – Estimated Avoided Systems Costs

Agency	Yr 1 FYE 2012	Yr 2 FYE 2013	Yr 3 FYE 2014	Yr 4 FYE 2015	Yr 5 FYE 2016	Yr 6 FYE 2017	Yr 7 FYE 2018	Yr 8 FYE 2019	Yr 9 FYE 2020	Yr 10 FYE 2021	Yr 11 FYE 2022	Total (FYs 13 - 22 only)
DSHS	-	-	-	-	-	147,783	290,566	290,566	290,566	290,566	290,566	1,600,610
DFW	-	-	-	-	-	181,194	362,389	362,389	362,389	362,389	362,389	1,993,138
DNR	-	-	-	-	-	242,181	484,362	496,888	496,888	496,888	496,888	2,714,094
DOC	-	-	-	-	-	30,711	61,422	61,422	61,422	61,422	61,422	337,823
DOH	-	-	-	-	-	87,434	126,867	134,867	138,867	126,867	174,867	789,770
DOR	-	-	-	-	-	19,223	38,447	38,447	38,447	38,447	38,447	211,456
ECY	-	-	-	-	-	85,628	121,256	121,256	121,256	121,256	121,256	691,908
ESD	-	-	-	-	-	22,671	45,341	45,341	45,341	45,341	45,341	249,377
WSDOT (deflated)	-	-	-	-	-	421,666	847,479	1,659,360	10,045,819	17,367,006	19,004,454	49,345,783
Labor & Industries	-	-	-	-	-	666,774	1,378,547	1,565,870	1,333,547	1,378,547	1,333,547	7,656,833
DES	-	-	-	-	-	173,926	347,853	347,853	347,853	347,853	347,853	1,913,189
Core Systems	-	-	-	-	-	794,031	1,588,067	1,588,071	1,588,075	1,588,079	1,588,083	8,734,405
HCA	-	-	-	-	-	0	0	0	0	0	0	0
Total (not inflated)	-	-	-	-	-	2,873,222	5,692,595	6,712,329	14,870,469	22,224,660	23,865,111	76,238,385
Total (inflated)	-	-	-	-	-	3,172,269	6,410,787	7,557,783	15,808,958	23,300,012	25,074,774	81,324,583
Inflation Rate -->	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	

Please note that the total in the schedule above may reflect variances due to rounding.

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4.d What are the potential process-improvement benefits (Value Pocket Benefits) that could potentially be realized from implementing a new statewide financial management system?

Approach

If the financial management functionality of an ERP system were implemented statewide, the State could potentially realize certain process-improvement benefits, some of which could be sizeable/material and which can be credibly dollar-quantified at a rough order of magnitude level. As indicated previously, ISG performed major steps of the *Value Pocket*[sm] *Benefits Analysis* component of the **Identify and Analyze Costs, Benefits, and Risks** phase of its proven Business Case Analysis (BCA) methodology to dollar-quantify the potentially most significant of those process-improvement benefits; those benefits are referred to as *Value Pockets*, a term coined by ISG.

As described in the Finding for the Financial Impact section of this report, during the **Perform Financial Analysis** phase of our methodology, we subtract estimated cost savings and other dollar-quantifiable benefits (i.e., process-improvement benefits [ISG's *Value Pockets*] and Avoided Systems Costs) from the estimated multi-year cost of acquiring, implementing, and operating a new ERP system to calculate the net benefit that investing in the ERP system could potentially yield.

Overall Approach for Estimating Value Pocket Benefits

We employ a four-step process for estimating *Value Pocket* benefits that includes the following:

1. **Identify Applicable *Value Pockets***

   During this step, we identify the significant, dollar-quantifiable, process-improvement benefits that could potentially be realized from implementing the financial management functionality of a modern ERP system statewide.

2. **Conduct ISG's *Value Pocket* Survey and Analyze the Results**

   During this step, we: (1) conduct ISG's *Value Pocket* Survey, (2) compile and analyze the survey's results, and (3) follow up with the respondents, as appropriate.

3. **Estimate *Value Pocket* Benefits**

   During this step, we apply ISG's *Value Pocket* Savings Factors to the *Value Pocket* Survey results in order to dollar-quantify the savings/benefits that could potentially be realized from the statewide implementation of an ERP system.

4. **Determine the Assumed Timing of the Realization of the Estimated *Value Pocket* Benefits**

   During this step, we determine the assumed timing of the realization of *Value Pocket* benefits during a multi-year planning period, which is typically 10 years. The *Value Pocket*

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benefits will not begin to be realized until some period of time after the assumed ERP system has been placed into production, as the ERP system would enable the achievement of the *Value Pocket* benefits.

Each of these four steps, along with the fieldwork results associated with each, is described below.

1: Identify Applicable Value Pockets

During this step, we identified *Value Pockets* that: (1) appeared to be applicable to the State's existing financial management technology environment, (2) could be credibly dollar-quantified, and that (3) the dollar-quantified amounts would likely be material.

ISG's *Value Pocket* analysis includes two types of *Value Pockets*:

1. **Effort-Based *Value Pockets***

   Effort-based *Value Pockets* are activities that would be eliminated, as well as activities that would likely require significantly less effort to perform, if those activities were supported by the functionality of a modern, fully integrated ERP system.

2. **Metric-Based *Value Pockets***

   Metric-based *Value Pockets* are not based on the number of hours of effort (and associated compensation) required to perform *Value Pocket* activities but on the values of other metrics (e.g., dollar balances, postage costs).

During the course of the meetings conducted with each of the 12 participating agencies in performing the **Assess Current Strategies and Environment** phase of our methodology, we identified the *Value Pockets* that would likely be applicable to the State's financial management technical environment, assuming an ERP system were implemented statewide. In identifying these benefits, we drew from the sizable, proprietary inventory of *Value Pockets* that ISG has built over the years in performing statewide ERP evaluation efforts similar to what is required for this portion of the performance audit.

Results for Identify Applicable Value Pockets

As describe above, some *Value Pockets* are effort-based, while others are metric-based. The results for Step 1 for each of these two types of *Value Pockets* are presented below.

Effort-Based *Value Pocket* Results

We identified 80 effort-based Value Pockets, as summarized by functional area in the table that follows.

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Exhibit 26 – Number of Effort-Based Value Pockets Identified by Functional Area

Functional Area	Number of Effort-Related Value Pockets
Accts Payable	11
Accts Receivable/Billing	6
Asset Management	5
Budget Development	7
Cash Management	4
Cost Allocation	5
GL & Budgetary Control	9
Grants Management	6
Inventory	5
Procurement	17
Project Accounting	5
Total	**80**

A description of each of the 80 effort-based *Value Pockets* can be found in the excerpts from the *Value Pocket* Survey that are contained in Appendix E. Following are descriptions of some of the 80 *Value Pocket* activities included in the *Value Pocket* Survey.

For each of the 11 financial management functional areas within the scope of the analysis and addressed by the survey, we collected data on 4 *Value Pockets* activities that are typically performed in a fragmented financial management software application environment such as Washington's (i.e., not a fully integrated software application environment provided by an ERP system):

- Generating ad hoc and standard reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" systems, etc.). These processing tasks include:

  → Extracting data from multiple sources

  → Compiling and reviewing data

  → Formatting data into the reports

  → Distributing the reports

  We specified in the survey that this *Value Pocket* activity only applied to situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.

- Tracking transactions spread over multiple systems (e.g., avoid having to keep track transactions using spreadsheets, paper logs, etc.). We specified in the survey that this *Value Pocket* activity only applied to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.

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- Researching, troubleshooting, and reconciling transactions and data across multiple systems (central system, agency tracking system, etc.). These processing tasks include:

  → Investigating failed interface transactions

  → Reconciling balance discrepancies between systems

  → Making adjustments in the appropriate system(s)

  → etc.

  We specified in the survey that this *Value Pocket* activity only applied to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.

- Manually entering the same data into a "shadow" system(s) that is also entered into a primary system (i.e., only include time spent entering data into a secondary/"shadow" system(s), but do not include time spent entering data into the primary system).
  We specified in the *Value Pocket* Survey that this *Value Pocket* activity only applied to situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.

Some of the *Value Pocket* activities that were specific to a functional area (i.e., in addition to the aforementioned four [4] *Value Pocket* activities) and that had the most reported effort are included in Appendix F.

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2: Conduct ISG's Value Pocket Survey and Analyze the Results

We provided an overview of, and answered question pertaining to, the Value Pocket Survey during a meeting with the primary contact for each of the participating agencies, among others. We explained that the survey was being conducted in order to collect data that would serve as input into ISG's Value Pocket calculations. Following the meeting, we: (1) developed and issued the survey, which included the Value Pockets that had been identified, (2) answered questions the respondents had as they competed the survey, and then (3) compiled and analyzed the responses to the survey. Once the survey responses were received and reviewed, we followed up with the respondents regarding their responses, as appropriate.

Results for Conduct ISG's Value Pocket Survey and Analyze the Results

ISG's *Value Pocket* Survey has two primary sections, one for each *Value Pocket* type: (1) effort-based *Value Pockets*, and (2) metric-based *Value Pockets*. The results for each of those two sections are presented below.

Effort-Based *Value Pocket* Results

The estimated total combined hours and associated compensation collected via the *Value Pocket* Survey, summarized by functional area, are presented below.

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Exhibit 27 – Estimated Total Hours and Associated Compensation for Effort-Based Value Pockets
Results from Value Pocket Survey

Functional Area	Totals Submitted via the Value Pocket Survey	
	Approximate Total Hours Worked on Value Pocket Activities in this Functional Area Each Year	Approximate Total Compensation for Work Performed on Value Pocket Activities Each Year
Accts Payable	141,707	$ 4,750,528
Accts Receivable/Billing	28,014	$ 839,137
Asset Management	4,962	$ 239,475
Budget Development	107,941	$ 5,235,378
Cash Management	8,180	$ 364,645
Cost Allocation	3,676	$ 143,914
GL & Budgetary Control	23,403	$ 1,307,771
Grants Management	7,882	$ 285,764
Inventory	2,250	$ 93,916
Procurement	77,835	$ 2,741,405
Project Accounting	3,532	$ 144,155

Total Hrs & Associated Comp.	**409,380**	**$ 16,146,090**
Total FTEs & Avg. Comp. per FTE	**227.4**	**$ 70,993**

Please note that the total in the schedule above may reflect variances due to rounding.

Note that the amounts in the table above correspond to the estimated total amount of effort spent each year performing the *Value Pocket* activities, <u>not</u> the estimated hours and associated compensation that could potentially be saved/avoided/redirected as a result of implementing the financial management functionality of an ERP system statewide. The estimated potential *Value Pocket* benefits are presented in a section hereinafter.

Metric-Based *Value Pocket* Results

The combined estimated results from the *Value Pocket* Survey for metric-based *Value Pockets* are presented in the table that follows.

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Exhibit 30 – Estimated Values for Metric-Based Value Pockets
Results from Value Pocket Survey

Seq #	Value Pocket Benefit Type*	Functional Areas	Value Pockets	Combined Survey Results
1	E	Accounts Payable	Approximate annual total dollar value of vendor discounted terms on invoices offered but not taken	$ -
2	E	Accounts Payable	Approximate total dollar amount spent during fiscal 2012 using a Procurement Card (p-card)	$ 66,673,224
3	E	Accounts Payable	Approximate annual dollar amount currently set-off annually *(This only applies to agencies making payments to vendors who also owe the State for receivables)*	$ 19,000
4	E	Accounts Payable	Approximate annual cost to mail Remittance Advices (postage only)	$ 111,684
5	E	Accts Receivable / Billing	Approximate dollar amount of charge-offs each year *(Only answer this question if your agency lacks a truly integrated AR system with workflow functionality found in modern ERP systems that is used to manage bad debts)*	$ 13,724,498
6	W	Accts Receivable / Billing	Average annual Accounts Receivable balance *(Only answer this question if your agency does not utilize a truly integrated, full-featured Accounts Receivable system with modern ERP functionality that could help improve data accuracy, visibility, and related communication, which in turn could help reduce the aggregate AR balance, thereby lowering the interest cost of carrying AR)*	$ 353,373,139
7	W	Grants Management	Approximate increase in average investable cash balances resulting from automatically creating grant draw-downs. *(This only applies to agencies that do not have an automated method to draw-down federal funds)*	$ -
8	W	Inventory Management	Average annual Inventory balance *(This only applies to agencies that have inventory management requirements [e.g., warehouse] but do not utilize a full-featured, integrated Inventory Management system and does not apply to Repair Parts Inventory which is addressed elsewhere)*	$ 51,250,542
9	E	Procurement	Approximate annual cost to mail Purchase Orders (postage only -- labor captured in "Effort-Related Data" tab) *(Do not answer if your systems enables you to send POs electronically and you only mail POs to a small percentage of total PO recipients)*	$ 2,035

*Value Pocket Benefit Type

- E   Expense reduction
- W   Working capital reduction

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3: Estimate Value Pocket Benefits

During this step, we estimated the *Value Pocket* benefits by applying *Value Pocket* Savings Factors to the data we collected during Step 2. Some of the *Value Pocket* Savings Factors are intuitively obvious (e.g., all of the effort currently devoted to system reconciliations that would no longer be required after the implementation of a full-integrated ERP system would be saved/avoided), and others are based on ISG's experience with statewide implementations of ERP systems. We then evaluated the results of the analysis for reasonableness and made adjustments, as appropriate.

Results for Estimate Value Pocket Benefits

As indicated previously, we analyze two types of *Value Pocket* benefits: (1) effort-based *Value Pocket* benefits, and (2) metric-based *Value Pocket* benefits. The results for each of those two types of *Value Pocket* benefits are presented below.

Effort-Based *Value Pocket* Results

It is important to note that we only included an agency's response pertaining to a *Value Pocket* activity if the agency could potentially save at least 1.0 FTE of effort for the *Value Pocket* activity annually, based on the application of the applicable *Value Pocket* Savings Factor to the data collected for that *Value Pocket* activity via the *Value Pocket* Survey. As a result of applying the aforementioned "at least 1.0 FTE" filter to the data, only 18 of the 80 (approximately 23%) effort-based *Value Pockets* had estimated savings that were greater than zero, and therefore, were included in the benefits/savings results.

The results for Step 3, summarized by functional area and filtered by the "at least 1.0 FTE" criterion described above, are presented in the table that follows.

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Exhibit 31 – Estimated Savings for Effort-Based Value Pockets
Results of Value Pocket Savings Factors Being Applied to the Results from the Value Pocket Survey

Functional Area	Totals Submitted via the Value Pocket Survey		Estimated Annual Value Pocket Savings Based on Adjusted Totals Submitted		
	Approximate Total Hours Worked on Value Pocket Activities in this Functional Area Each Year	Approximate Total Compensation for Work Performed on Value Pocket Activities Each Year	Estimated Hours Savings	Estimated FTE Savings	Eatimated $ Savings
Accts Payable	141,707	$ 4,750,528	45,014	25.0	$ 1,589,838
Accts Receivable/Billing	28,014	$ 839,137	1,800	1.0	$ 44,859
Asset Management	4,962	$ 239,475	-	-	$ -
Budget Development	107,941	$ 5,235,378	35,105	19.5	$ 1,674,923
Cash Management	8,180	$ 364,645	2,610	1.5	$ 133,032
Cost Allocation	3,676	$ 143,914	-	-	$ -
GL & Budgetary Control	23,403	$ 1,307,771	4,691	2.6	$ 254,160
Grants Management	7,882	$ 285,764	-	-	$ -
Inventory	2,250	$ 93,916	-	-	$ -
Procurement	77,835	$ 2,741,405	11,335	6.3	$ 445,459
Project Accounting	3,532	$ 144,155	1,994	1.1	$ 72,375
Total Hrs & Associated Comp.	**409,380**	**$ 16,146,090**	**102,549**	**57.0**	**$ 4,214,646**
				Estimated $ Savings as a % of Total $ Submitted -->	
Total FTEs & Avg. Comp. per FTE	**227.4**	**$ 70,993**			**26%**

Please note that the total in the schedule above may reflect variances due to rounding.

As indicated in the table above, our analysis resulted in the estimation that approximately 57.0 FTEs of effort is spent annually performing effort-based *Value Pocket* activities could potentially be saved/avoided/redirected if the financial management functionality of an ERP systems were implemented statewide. The associated annual compensation for the 57.0 FTEs equates to approximately $4.2 million.

Note that the estimated *Value Pocket* dollar savings benefits of approximately $4.2 million are approximately 26% of the $16.1 million of total compensation submitted via the *Value Pocket* Survey. This is in line with the estimated benefits percentage from other *Value Pocket* analyses we have performed for other states that we were assisting in evaluating moving from an IT application environment very much like Washington's to a modern, statewide ERP system.

Metric-Based *Value Pocket* Results

The combined estimated benefits/savings that could potentially be realized from the metric-based *Value Pockets* for which data were collected via the *Value Pocket* Survey are presented in the table that follows.

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Exhibit 32 – Estimated Savings for Metric-Based Value Pockets
Results of Value Pocket Savings Factors Being Applied to the Results from the Value Pocket Survey

Seq #	Value Pocket Benefit Type*	Functional Areas	Value Pockets	Combined Survey Results	Savings Factors	Estimated Onetime Benefit	Avg. Annual Interest Rate	Estimated Annual Savings
1	E	Accounts Payable	Approximate annual total dollar value of vendor discounted terms on invoices offered but not taken	$ -	20.0%			$ -
2	E	Accounts Payable	Approximate total dollar amount spent during fiscal 2012 using a Procurement Card (p-card)	$ 66,673,224	0.0%			
3	E	Accounts Payable	Approximate annual dollar amount currently set-off annually *(This only applies to agencies making payments to vendors who also owe the State for receivables)*	$ 19,000	10.0%			$ 1,900
4	E	Accounts Payable	Approximate annual cost to mail Remittance Advices (postage only)	$ 111,684	50.0%			$ 55,842
5	E	Accts Receivable / Billing	Approximate dollar amount of charge-offs each year *(Only answer this question if your agency lacks a truly integrated AR system with workflow functionality found in modern ERP systems that is used to manage bad debts)*	$ 13,724,498	10.0%			$ 1,372,450
6	W	Accts Receivable / Billing	Average annual Accounts Receivable balance *(Only answer this question if your agency does not utilize a truly integrated, full-featured Accounts Receivable system with modern ERP functionality that could help improve data accuracy, visibility, and related communication, which in turn could help reduce the aggregate AR balance, thereby lowering the interest cost of carrying AR)*	$ 353,373,139	5.0%	$ 17,668,657	2.0%	$ 353,373
7	W	Grants Management	Approximate increase in average investable cash balances resulting from automatically creating grant draw-downs. *(This only applies to agencies that do not have an automated method to draw-down federal funds)*	$ -				
8	W	Inventory Management	Average annual Inventory balance *(This only applies to agencies that have inventory management requirements [e.g., warehouse] but do not utilize a full-featured, integrated Inventory Management system and does not apply to Repair Parts Inventory which is addressed elsewhere)*	$ 51,250,542	5.0%	$ 2,562,527	2.0%	$ 51,251
9	E	Procurement	Approximate annual cost to mail Purchase Orders (postage only -- labor captured in "Effort-Related Data" tab) *(Do not answer if your systems enables you to send POs electronically and you only mail POs to a small percentage of total PO recipients)*	$ 2,035	50.0%			$ 1,017
10 (data not obtained via Value Pocket Survey)	E	Procurement	Reduction in cost of goods and services purchased statewide *(ERP's catalog/contract eProcurement functionality will help to reduce "maverick" spend and improved spend intelligence, resulting in the State being better able to leverage its purchasing power, and thereby reduce costs)*	$ 808,500,000	1.0%			$ 8,085,000
		Total				**$ 20,231,184**		**$ 9,920,832**

*Value Pocket Benefit Type
  E   Expense reduction
  W   Working capital reduction

Please note that the total in the schedule above may reflect variances due to rounding.

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As indicated in the table above, estimated <u>onetime</u> metric-based *Value Pocket* benefits total approximately $20.2 million. These onetime benefits represent cash balances tied up as working capital that could be released if certain working capital balance sheet accounts such as Accounts Receivable and Inventory could be better managed, and thereby be reduced, using the functionality of a modern, full-featured ERP system. The reduction in these working capital account balances would essentially be incremental cash available (i.e., cash inflows) to the State, and were included as such in the cash flow analysis in this report (refer to 4.f Results of Financial Analysis).

An example of a onetime benefit is the reduction in inventory balances (see item 8 in table above). The full-featured inventory functionality of a modern ERP system (e.g., the ability to set automatic reorder points for inventory items when they drop to a specified level) would improve the accuracy of, and visibility into, inventoried items and enable agencies to maintain lower safety stock levels and carry less obsolete inventory; both of which would result in the State buying less inventory, thereby reducing cash outflows, and lowering inventory balances.

Also as indicated in the table above, estimated <u>ongoing</u> annual metric-based *Value Pocket* benefits total approximately $9.9 million.

<u>Following is information regarding the last *Value Pocket* in the table above (#10): Reduction in the cost of goods and services purchased statewide:</u>

The estimated dollar benefit for this *Value Pocket* is the estimated savings from the reduction in the cost of goods and services procured by the State that could potentially be realized from the implementation of the catalog/contract eProcurement functionality of a modern, fully integrated ERP system. This functionality would enable State employees to shop via a Web browser for goods/services maintained in catalogs that contain items the State has on contract, and these catalogs would have the State's negotiated prices, terms, etc., as well as commodity-level data in them. These catalogs could be inside the State's firewall and/or at vendors' sites, in which case, the State employee would "punch-out" to shop the external catalogs. A requisition would automatically be created for the items the State employee selects when he/she checks out, and the requisition would have commodity-level data in it from the catalog. The system would electronically route the requisition via workflow technology for approval, and if approved, the requisition could generate a purchase order (PO) for the item(s), and the PO could then be sent electronically to the vendor. Purchases could also be made via State purchasing-cards using the new system.

The reduction in the cost of goods and services would come from the following two (2) sources:

(1) Improved Spend Intelligence

The enhanced spend intelligence that would be gained by capturing more commodity-level data on items that are procured would enable the State to leverage its purchasing power and put the State in a significantly stronger negotiating position with vendors.

(2) Reduced "Maverick" Spend (i.e., in general, purchases made that are not in compliance with State policy, and in particular, not utilizing contracts the State has negotiated with

vendors). The new system's ease of use, along with State mandated and enforced use of the system, would result in State agencies procuring more goods and services through favorable contractual agreements the State has negotiated with vendors.

We have evaluated and included this *Value Pocket* in most of the business case analyses we have perform for implementing a statewide ERP system; in certain cases, this *Value Pocket* is not applicable. The steps in our standard process for dollar-quantifying this *Value Pocket* benefit are as following:

▪ **Identify relevant goods and services categories**

We work closely with a state's Procurement personnel to identify the categories of goods and services that would likely be good candidates for being strategically sourced but that have not already been strategically sourced. Strategic sourcing involves performing a thorough analysis of the procurement history and anticipated future procurement activity for the goods/services, and then the resulting spend intelligence is used to negotiate favorable statewide contracts.

▪ **Compile the amount of expenditures for the identified relevant goods and services**

For the identified relevant goods and services, we identify and compile the dollar expenditures for the procurement transactions with commodity coding at level that is not low/detailed enough to sufficiently understand what was procured, and thereby, be able to effectively manage that spend.

▪ **Apply ISG's *Value Pocket* Savings Factor**

We work with the state's Procurement personnel to determine the *Value Pocket* Savings Factor percentage to apply to the estimated relevant sped. In working with various states' Procurement personnel, we have determined that the identified relevant spend could easily be reduced by 1% to 3% if that spend were brought under better management, enabled by improved spend intelligence.

We were not able to perform ISG's standard detailed analysis of this *Value Pocket* benefit as the State could not provide the data needed to perform the analysis, and as a result, have developed a high-level, conservative, comparative estimate based on our experience analyzing this *Value Pocket* benefit for other states.

Following is the result of our comparative analysis.

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Exhibit 33 – Comparative Analysis of Value Pocket Benefit
Reduction in the Cost of Goods and Services Purchased Statewide

State	2011 Expenditures ($ millions)	Estimated Relevant Spend ($ millions)	Relevant Spend as a % of 2011 Expenditures	Savings Factor	Estimated Annual $ Savings ($ millions)
#1	$ 14,778	$ 300	2.0%	1.0%	$ 3.0
#2	$ 32,082	$ 320	1.0%	2.5%	$ 8.0
#3	$ 21,492	$ 261	1.2%	3.0%	$ 7.8
#4	$ 30,174	$ 758	2.5%	1.0%	$ 7.6
WA	$ 32,340	$ 809	2.5%	1.0%	$ 8.1

As indicated in the table above, we have estimated the State's annual dollar benefit for this Value Pocket to be $8.1 million ("Estimated Annual $ Savings"). First, we developed a high-level estimate of the State's relevant spend, and then we applied a Value Pocket Savings Factor to the estimated relevant spend to develop an estimated dollar benefit for this Value Pocket. The specific steps we took in performing this analysis follow:

- Identified certain states for which we have analyzed this *Value Pocket* benefit to use for comparison purposes

- Populated all of the entries in the table above <u>except</u> for those in the following columns for Washington:
  → Estimated Relevant Spend
  → Relevant Spend as a % of 2011 Expenditures
  → Savings Factor
  → Estimated Annual $ Savings

  Note that the values in the "2011 Expenditures" column are the estimated "Total State Expenditures—Capital Inclusive" for fiscal year 2011 from a report issued by the National Association of State Budget Officers (NASBO) entitled "State Expenditure Report – Examining Fiscal 2009 – 2011 State Spending"

- Estimated relevant spend for Washington by applying an assumed "Relevant Spend as a % of 2011 Expenditures", based on the derived percentages for the comparative states, to

Washington's estimated 2011 expenditures from the NASBO report in order to arrive at an "Estimated Relevant Spend" amount. We used the percentage at the upper end of the comparative range, 2.5%, given Washington's lack of commodity-code information, which would prevent the State from effectively managing much of its spend.

- Applied a conservative *Value Pocket* Savings Factor of 1% to the estimated relevant spend for Washington to calculate an "Estimated Annual $ Savings" amount of $8.1 million.

4: Determine the Assumed Timing of the Realization of the Estimated Value Pocket Benefits

During this step, we determine the assumed timing of the realization of the estimated *Value Pocket* benefits during a multi-year planning period, which is typically 10 years. The assumed timing of this realization is a function of: (1) the assumed timing of when certain ERP functionality would be implemented for certain agencies, and (2) the assumed amount of time it would likely take for the respective enhanced functionality to yield the estimated benefits; the *Value Pocket* benefits would not begin to be realized until some period of time after the assumed ERP system had been placed into production, as the ERP system would enable the achievement of the *Value Pocket* benefits.

In keeping with the understanding that it would take some amount of time after ERP functionality is implemented before the relevant *Value Pocket* benefits would be realized, it is assumed that estimated *Value Pocket* benefits would be realized for an agency after the agency goes live on the pertinent ERP system functionality as follows:

Time Period	% of *Value Pocket* Benefits Realized
1st year following go-live	0%
2nd year following go-live	50%
3rd and remaining years following go-live	100%

Also note that it is assumed that most of the effort-based *Value Pocket* benefits would be realized over time through attrition, employee retirement, reassignment to approved but unfilled positions, and the like.

Results for Determine the Assumed Timing of the Realization of the Estimated Value Pocket Benefits

The summarized results from the fieldwork for Step 4 are presented in the table that follows.

Exhibit 34 – Estimated Realization of Value Pocket Benefits
($ millions)

Inflation	Value Pocket Category	Yr 0 FY 2014	Yr 1 FY 2015	Yr 2 FY 2016	Yr 3 FY 2017	Yr 4 FY 2018	Yr 5 FY 2019	Yr 6 FY 2020	Yr 7 FY 2021	Yr 8 FY 2022	Yr 9 FY 2023	Yr 10 FY 2024	Total
Not Inflated	Effort-Related *Value Pockets*				-	2.1	4.2	4.2	4.2	4.2	4.2	4.2	**27.4**
	Ongoing Annual Metric-Based *Value Pockets*				-	5.0	9.9	9.9	9.9	9.9	9.9	9.9	**64.5**
	Onetime Metric-Based *Value Pockets*				-	10.1	10.1	-	-	-	-	-	**20.2**
	Total (not inflated)	**-**	**-**	**-**	**-**	**17.2**	**24.3**	**14.1**	**14.1**	**14.1**	**14.1**	**14.1**	**112.1**
Inflated @ 2% per Annum	Effort-Related *Value Pockets*	-	-	-	-	2.3	4.7	4.8	4.9	5.0	5.1	5.2	**32.3**
	Ongoing Annual Metric-Based *Value Pockets*	-	-	-	-	5.6	11.4	11.6	11.9	12.1	12.3	12.6	**77.5**
	Onetime Metric-Based *Value Pockets*	-	-	-	-	11.4	11.6	-	-	-	-	-	**23.0**
	Total (inflated)	**-**	**-**	**-**	**-**	**19.3**	**27.8**	**16.5**	**16.8**	**17.1**	**17.5**	**17.8**	**132.8**

Please note that the total in the schedule above may reflect variances due to rounding. Also note that an assumed 2% per annum inflation factor has been applied to the estimated Value Pocket benefits.

4.f Results of Financial Analysis

Approach

In **Perform Financial Analysis** phase of our methodology, the estimated, dollar-quantifiable cost components of a potential new ERP system are weighed against the estimated, dollar-quantifiable systems savings and process-improvement benefits of the new system (i.e., process-improvement benefits [ISG's *Value Pockets*] and Avoided Systems Costs) to calculate the net benefit that investing in a new, fully integrated ERP system could potentially yield. During this phase, we perform standard financial analyses of dollar-quantifiable net benefits/savings, including:

- Net Present Value (NPV)

- Internal Rate of Return (IRR)

- Break-even Point

The results of our analysis are presented in the schedule that follows.

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Exhibit 35 – Schedule of Estimated Net Costs and Benefits/Savings from Implementing ERP
($ millions)

		Fiscal Years											Total
		2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
	ERP Costs	Yr 0	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7	Yr 8	Yr 9	Yr 10	
Costs	Pre-Implementation Costs (Planning & Acquisition Support)	(1.9)	-	-	-	-	-	-	-	-	-	-	(1.9)
	Implementation Costs	(0.0)	(22.9)	(31.8)	(23.6)	-	-	-	-	-	-	-	(78.2)
	Implementation Contingency	-	(3.3)	(5.5)	(2.0)	(6.8)	-	-	-	-	-	-	(17.6)
	Ongoing Operating Costs (excludes end user costs)	-	-	-	(2.2)	(8.3)	(8.7)	(9.4)	(15.2)	(9.8)	(10.2)	(10.6)	(74.3)
	Total ERP Costs	**(1.9)**	**(26.2)**	**(37.2)**	**(27.8)**	**(15.1)**	**(8.7)**	**(9.4)**	**(15.2)**	**(9.8)**	**(10.2)**	**(10.6)**	**(172.0)**
Benefits	**Avoided Systems Costs**												
	Ongoing Systems Costs	-	-	-	2.9	5.9	6.1	6.2	6.3	6.5	6.6	6.8	47.3
	Future Investments in Current Systems and Planned/Anticipated New Systems	-	-	-	0.3	0.5	1.5	9.6	17.0	18.6	0.3	0.3	47.9
	Total Avoided Costs	**-**	**-**	**-**	**3.2**	**6.4**	**7.6**	**15.8**	**23.3**	**25.1**	**6.9**	**7.0**	**95.3**
	Process-Improvement Benefits												
	Effort-Based Benefits	-	-	-	-	2.3	4.7	4.8	4.9	5.0	5.1	5.2	32.3
	Metric-Based Benefits	-	-	-	-	17.0	23.0	11.6	11.9	12.1	12.3	12.6	100.5
	Total Process-Improvement Benefits	**-**	**-**	**-**	**-**	**19.3**	**27.8**	**16.5**	**16.8**	**17.1**	**17.5**	**17.8**	**132.8**
	Total Benefits	**-**	**-**	**-**	**3.2**	**25.7**	**35.3**	**32.3**	**40.1**	**42.2**	**24.4**	**24.9**	**228.0**
Net	**Net Analysis: ERP Costs less Benefits**												
	Net (ERP Cost less Benefits/Savings)	(1.9)	(26.2)	(37.2)	(24.6)	10.6	26.7	22.9	24.9	32.4	14.2	14.2	**56.0**
	Cumulative Net	(1.9)	(28.0)	(65.3)	(89.9)	(79.3)	(52.6)	(29.7)	(4.8)	27.6	41.8	56.0	
	Break-even Year									27.6			
	PV of Net@ 3% per annum	(1.9)	(25.4)	(35.1)	(22.5)	9.4	23.0	19.2	20.3	25.6	10.9	10.6	**34.0**
	NPV of Net@ 3% per annum	(1.9)	(27.3)	(62.4)	(84.9)	(75.5)	(52.5)	(33.3)	(13.0)	12.6	23.4	34.0	
	Break-even Year (NPV basis @ 3% per annum)									12.6			
	PV of Net@ 5% per annum	(1.9)	(24.9)	(33.8)	(21.2)	8.7	20.9	17.1	17.7	21.9	9.1	8.7	**22.4**
	NPV of Net@ 5% per annum	(1.9)	(26.8)	(60.6)	(81.8)	(73.1)	(52.2)	(35.1)	(17.4)	4.5	13.7	22.4	
	Break-even Year (NPV basis @ 5% per annum)									4.5			
	IRR (if > 0)									6%	9%	10%	

Please note that the total in the schedule above may reflect variances due to rounding.

As indicated in the schedule above, the estimated cost to acquire, implement, and operate a statewide ERP system during the 11-year analysis period (Year 0 through Year 10) would be approximately $172.0 million. Also as indicated in the schedule above, those ERP costs would be offset by $95.3 million in Avoided Systems Costs plus $132.8 million in process-improvement benefits/savings, resulting in a net benefit of $56.0 million (refer to the "Total" column in the table above).

Based on the estimated values in the schedule above, the investment in an ERP system has a NPV of $34.0 million for Year 0 through Year 10, assuming a nominal discount rate (i.e., adjusted for inflation) of 3% per annum, or $22.4 million, assuming a nominal discount rate of 5% per annum.

We estimate that the investment would reach the break-even point during the 11-year analysis period as follows:

- Net-dollar Basis: Year 8 (see the "Break-even Year" row in the schedule above)

- NPV Basis @ 3% per annum: Year 8 (see "Break-even Year (NPV basis @ 3% per annum)" row in the schedule above)

- NPV Basis @ 5% per annum: Year 8 (see "Break-even Year (NPV basis @ 5% per annum)" row in the schedule above)

Through Year 8, the nominal IRR is 6%, through Year 9, the nominal IRR is 9%, and through Year 10, the nominal IRR is 10%.

Note that an annual net benefit of at least $14.2 million has been calculated for Year 9 and beyond (refer to the "Net (ERP Cost less Benefits/Savings)" row in the schedule above).

We took a cautious approach (i.e., not underestimating the cost or overestimating the benefits) to estimating ERP Costs, as well as Avoided Systems Costs savings and process-improvement (Value Pocket) benefits. Our cautious approach included using conservative cost factors (e.g., higher hourly rates, number of modification hours, State backfill percentage) as well as conservative benefit factors (e.g., lower savings factors, including savings from only 12 agencies).

- **ERP Costs**

   We believe all of our estimates of the costs to acquire, implement, and operate a statewide ERP system, with the functional and organizational scope of this analysis, are conservative; plus, we included a contingency amount of $17.6 million in the estimates to address any additional costs that have not been included in our estimates but could result from uncertain project-related items, conditions, and/or events, based on our experience with a number of other statewide ERP implementation initiatives.

- **Avoided Systems Costs**

   We believe the estimate of Avoided Systems Costs savings is very conservative as:

   → 12 agencies, collectively representing approximately 86% of the State's non-higher education operating budget, participated in the analysis and provided future system-cost estimates; therefore, the resulting estimate of Avoided Systems Costs is understated as any additional savings that could come from the remaining agencies retiring systems and avoiding planned systems were not included;

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→ 6 of the 12 participating agencies provided estimates of additional planned investments in financial management systems (i.e., investments in upgrades/enhancements, replacement systems, additional new systems, etc.) for FY 2013 through FY 2022, collectively totaling $5.1 million (inflated at 2% per annum) for the 10-year period, excluding the assumed $45.5 million investment by WSDOT for an ERP system to replace the agency's existing TRAINS system. Most significantly, DES and OFM were not able to provide estimates of future planned investments in the statewide financial management systems. Given the limited response from some agencies regarding the estimates of these investments/costs, and based on our experience in other states, we assume that the actual total system costs that could potentially be avoided is far greater than the amounts derived from the total cost estimates provided by the agencies; and

→ In conducting the financial analysis, estimated Avoided Systems Costs benefits/savings were assumed to be realized at 0% the 1st year following ERP go-live, 50% the 2nd year following ERP go-live, and 100% each year thereafter.

▪ **Process-Improvement Benefits (*Value Pocket* Benefits)**

As with the Avoided Systems Costs savings estimates, we believe the estimate of process-improvement benefits is highly conservative as:

→ 12 agencies, collectively representing approximately 86% of the State's non-higher education operating budget, participated in the analysis and provided input to the estimate of process-improvement benefits; therefore, the estimate is understated as any additional potential process-improvement benefits that could come from the remaining agencies were not included;

→ Not all of the total estimated effort-based process-improvement benefits were included in the financial analysis as some of the reported hours (and associated compensation) are: (1) significant in total but are the accumulation of small amounts of time spread across multiple agencies for some of the *Value Pocket* activities, or (2) small amounts in total that would not likely pose an opportunity for reducing the estimated amount of effort that would be required from State resources to perform certain processes. To address these two situations, we did not include estimated effort-based benefits/savings for a *Value Pocket* activity unless the calculated saving of hours for the *Value Pocket* activity, for a given agency, was at least 1.0 FTE of effort for the *Value Pocket* activity annually; and

→ Some of the participating agencies' current systems do not track the detailed data requested or provide information sufficient to make a reasonable estimate of effort, which may in turn cause levels of efforts performing financial management activities to be underestimated.

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In conducting the financial analysis, estimated process-improvement benefits were assumed to be realized at 0% the 1st year following ERP go-live, 50% the 2nd year following ERP go-live, and 100% each year thereafter.

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4.g Recommended Alternative Solution

Given the two alternatives that were identified (Status Quo and Implement ERP), we recommend that the State proceed with the ERP alternative as its solution for addressing current and future statewide and user agency administrative business needs. While there would be some advantages of continuing on the State's current path (i.e., the Status Quo alternative), such as being able to avoid making a sizeable cash outlay to acquire and implement an ERP system and to avoid the disruption/distraction such an implementation would cause on the State's employees and business operations, those advantages would be far outweighed by the benefits of implementing an ERP system.

Under the Implement ERP alternative, existing legacy applications used to meet statewide financial management, Procurement, Logistics, and other administrative needs (e.g., AFRS, Solomon-AR, CAS, CAMS, WEBS, and ECMS) would be replaced with the new, fully integrated administrative system. All State agencies would utilize the ERP system to meet virtually all of their administrative business needs.

Our recommendation of the Implement ERP alternative is based on the following:

- The State could realize a significant future financial return on its investment in a statewide ERP system, as indicated in the results of the financial analysis performed as part of this analysis (see **4.f Results of Financial Analysis** section of this report):

- Break-even point reached in the sixth fiscal year following the go-live year on a net-cash basis, and also in the sixth fiscal year following the go-live year on a NPV basis

- Annual net benefit of at least $14.2 million for Year 8 (FY 2022) and beyond

- NPV of $34.0 million for Year 0 through Year 10, assuming a discount rate of 3% per annum, or $22.4 million, assuming a discount rate of 5% per annum

- IRR of 6% through Year 8 (FY 2022), 9% through Year 9 (FY 2023), and 10% through Year 10 (FY 2024)

Furthermore, we believe the aforementioned financial metrics were derived using a highly conservative approach, and as a result, may not fully reflect the benefits that can be achieved (refer to the **4.f Results of Financial Analysis** section of this report):

- The ERP costs estimates are reasonable, accurate, and conservatively high to avoid a negative outcome and also includes a contingency amount of $17.6 million

- The System Savings and the *Value Pocket* (process-improvement) Benefits that offset the ERP costs are both highly conservative, as described in detail in the **4.f Results of Financial Analysis** section of this report. For example:

  → Only 6 of the 12 participating agencies provided estimates of additional planned investments in financial management systems (i.e., investments in

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upgrades/enhancements, replacement systems, additional new systems, etc.) for FY 2013 through FY 2022, collectively totaling $5.1 million (inflated at 2% per annum) for the 10-year period, excluding the assumed $45.5 million investment by WSDOT for an ERP system to replace the agency's existing TRAINS system. Most significantly, DES and OFM were not able to provide estimates of future planned investments in the statewide financial management systems

→ In conducting the financial analysis, estimated process-improvement benefits were assumed to be realized at 0% the 1st year following ERP go-live, 50% the 2nd year following ERP go-live, and 100% each year thereafter

▪ Introducing new functionality available in a modern ERP system could significantly improve the efficiency and effectiveness of a number of key business processes, as the current statewide systems, in general, provide rather limited functionality, and provide little or virtually no support for a number of key business processes. For example, the current financial system lacks an automated procure-to-pay functionality for the purchase of goods and services. It lacks real-time budget check on transactions to confirm availability of funds avoiding overspend of allotment and department budgets. It also lacks the ability to track the State's procurement spend by commodity codes to perform important data-driven spend analysis, which leads to more capabilities and savings opportunities for negotiating better contracts at lesser cost. Often times, uncovering opportunities in just a few commodities can save millions of dollars. An ERP system would eliminate many of the existing major gaps in functionality and enable the replacement of a wide variety of fragmented, manually-intensive processes, as an ERP system would provide standardized end-to-end business process support that is built on "best practices" for the public sector. The estimated dollar value of specific process-improvement benefits that could be credibly dollar-quantified can be found in the **Analysis of Dollar-Quantifiable Process-Improvement Benefits (ISG's *Value Pocket*ᔆᴹ Analysis)** section of this report.

Following are examples of significant, intangible, non-dollar quantifiable process-improvement benefits that could be realized from the implementation of a modern ERP system statewide.

→ Currently, the Grants Management processes of the participating agencies are manually-intensive, involving data entry into, and processing via, various agency-specific "shadow" systems. Many of the necessary Grant Management activities would all be performed within the ERP system and stored in the ERP system's central database, which would reduce the effort required to perform those activities.

→ Agencies that have Inventory Management requirements either lack an Inventory Management system or have dated Inventory Management systems that lack many of the features included in modern ERP systems. The full-featured, integrated Inventory Management functionality of a modern ERP system, including functionality to set automatic reorder points, could improve inventory accuracy and visibility and help agencies maintain lower, more appropriate levels of various inventory items. As a

result, agencies could potentially maintain lower safety stock levels (a result of reduced risk of incurring stockout events) and carry less obsolete inventory, all of which would contribute to reducing inventory balances and lowering the interest cost of carrying inventory.

→ The State provides very limited system support for the statewide Procurement process. As a result, the statewide Purchasing Department at DES lacks the tools necessary to mandate and enforce agencies use of statewide negotiated contracts. A modern ERP system would support the entire Procurement process, which is currently very manually-intensive. A key feature of a modern ERP system is catalog/contract eProcurement functionality which could help avoid so-called "maverick" spend (i.e. the practice of purchasing goods and services [usually independently] outside of the enterprise's established, negotiated purchasing contracts) and improve spend intelligence, resulting in the State being better able to leverage its purchasing power, and thereby significantly reduce its cost of goods and services Furthermore, an ERP would provide an electronic three-way match of invoice, purchase order, and receiving report, reducing the use of paper documents and processing time, and allowing staff to focus their efforts on exception resolution.

→ AFRS does not provide automated matching (3-way or 4-way matching), agencies match documents manually. In addition, there is no automated workflow approval process for AP transactions.   Modern ERP systems have automated Workflow Management functionality built into them which enable more efficient processing and control of documents through automated workflow routing, reviews, approvals, and online inquiries on the status of transaction document. This functionality would help reduce bottlenecks in the approval process, and enable more efficient document filing and retrieval.

→ ERP systems typically provide a sophisticated suite of reporting tools, which, combined with having all ERP data in a single database, would significantly improve information for management decision-making and would enable real-time access by agencies to information that would improve management responsiveness; information would be much more accessible, timely, accurate, consistent, and meaningful/useful. ERP systems also typically have Data Warehouse and Business Intelligence components/functionality that can import data from sources outside the ERP system and be used for historical and trending reporting on financial and operational data. Additionally, the Data Warehouse is typically a key component in taxpayer transparency initiatives.

→ The service level of a number of services provided to the State's internal customers and external customers (i.e., citizens and stakeholders) would be enhanced through the Web-based, self-service functionality of the ERP system. This functionality would make certain information readily available to the customers via the Inter/Intranet, reducing the amount of time customers would have to wait to receive a service. Furthermore,

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this functionality could expand the hours during which some services would be made available.

▪ The limited functionality provided by the existing statewide systems has led to a proliferation of agency-specific "shadow" systems that were acquired or developed in order to meet functional needs not met by the statewide systems. Agencies have spent, and will likely continue to spend, significant amounts on developing and acquiring "shadow" systems if the State continues on its current path—the Status Quo alternative (refer to the Avoided Systems Costs section of this report for estimated future costs). Furthermore, end users are required to work with a wide variety of disparate systems, each with a different look and feel; this also makes training far more difficult than it would be using an ERP system with a common look and feel across all functional modules. Note that more than 100 existing applications currently used by the 12 participating agencies could be replaced by the new ERP system. (See Appendix B – Inventory of State Administrative Systems).

▪ The aforementioned proliferation of agency-specific "shadow" system has resulted in a highly fragmented software application environment (i.e., a large number of systems that exchange data via a host of manual and automated interfaces) that, in itself, causes a significant number of inefficient tasks to be performed on an ongoing basis. Many of these inefficiencies could be completely eliminated by having "true" system-wide integration that is built and maintained by the ERP vendor. Some of the inefficiencies caused by this fragmented environment are the following:

→ Generating ad hoc and standard reports that require retrieving data from multiple sources (e.g., central systems and agency "shadow" system, etc.). These processing tasks include:

– Extracting data from multiple sources

– Compiling and reviewing data

– Formatting data into the reports

– Distributing the reports

→ Tracking transactions spread over multiple systems in order to be able to ascertain the status of the transactions (e.g., avoid having to keep track transactions using spreadsheets, paper logs, etc.)

→ Researching, troubleshooting, and reconciling transactions and data across multiple systems (central system, agency tracking system, etc.). These processing tasks include:

– Investigating failed interface transactions

– Reconciling balance discrepancies between systems

– Making adjustments in the appropriate system(s)

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→ Manually entering the same data into a "shadow" system(s) that is also entered into a primary system such as AFRS

▪ The State could realize a number of significant benefits, as well as eliminate certain risks associated with its dated technology, by moving to the more modern technology of a new ERP system. Keep in mind that AFRS is a mainframe-based system that was implemented approximately 30 years ago and has not been supported by its vendor for a number of years, and that WSDOT's TRAINS accounting system, also a mainframe-based system, is a highly customized version of a software package that was implemented more than 20 years ago and is no longer supported by the software vendor. The lack of the availability of vendor support for AFRS and TRAINS, among other administrative systems used by the State, leaves all modification and maintenance of those systems to State personnel or contractors.

→ The statewide systems, as well as some of the agency-specific "shadow systems", are difficult to use as they lack the modern, Windows-based, common user interfaces that system users are accustomed to using (e.g., e-mail, office applications, Internet browsing), which negatively impacting the performance of a number of processes. An ERP system provides a common Windows-based graphical user interface (GUI) across all of its functional modules, which provides user-friendly features such as pull-down menus, point-and-click operation, pop-up windows, scroll bars, radio buttons, streamlined navigation between functions, and on-line help to assist in the users' learning and ongoing use of the system.

→ For many of the State's dated systems, it is not possible to "plug-and-play" (i.e., install a device or application that automatically recognizes or discovers a hardware component in a system) new (and even not so new) technologies (e.g., Internet-based technologies, bar coding) that could significantly improve the performance of a number of processes. This "plug-and-play" capability would be enabled by a new ERP system.

→ It can be difficult and costly to modify the many of the State's systems in order to meet new requirements, as the changes require "hard-coding" (i.e., changes must be made to the actual computer code). With an ERP system, it would be possible to make many commonplace modifications by merely changing system-configuration data table entries.

→ Technologies upon which some major systems, such as AFRS, are based are becoming technologically obsolete and will become increasingly difficult to replace over time.

The State is at risk that it will not be able to secure the resources necessary to maintain some of its major systems, such as AFRS, in the future. The existing State staff with the skills needed to maintain AFRS, for example, are rapidly approaching retirement. In addition, technology professionals in the early stages of their careers have not been trained in the technologies required to support these dated system; plus, these professionals want to work with current technologies, not the State's dated technologies.

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Success Factors for Moving Forward with an ERP Solution

Project preparation and planning is an essential first step to successfully acquiring and implementing a new ERP application across the State of Washington. As with any large, enterprise-wide project, a detailed and methodical approach must be taken to enhance the likelihood of success. Based on the results of the business case analysis and our experience providing project management and project oversight services to other states that have successfully implemented statewide ERP systems, ISG provides the following series of recommendations to the State of Washington to consider when evaluating future ERP plans.

Project Management

- **Experienced Project Management** – Due to the complex integration aspects of implementing an ERP system statewide, prior public sector ERP experience is a critical success factor. It is imperative that the State's Project Manager have previous experience in implementing ERP systems in the public sector. Because very few individuals have both solid project management skills and ERP public sector implementation experience, we have found the use of a state project manager who has experience managing large projects, together with a firm experienced in providing independent project management services on public sector ERP projects, to be a successful combination.

- **Well-Defined Project Scope** – To reduce the likelihood of costly change orders and to ensure that the project is completed on time and on budget, the State must carefully define and control project scope. A clear, well-defined statement of work (SOW) must be created and included in the request for proposal. A thorough and detailed SOW not only documents the functional and implementation scope and timeline, but also outlines roles and responsibilities for both the State and the implementation vendor. We recommend the SOW be developed, in conjunction with the State, by a firm experienced in developing an ERP SOW for large governmental entities. During the implementation, this firm should utilize a detailed project work plan and budget to control "scope creep", and rigorously follow a structured scope control process to ensure that the awarded vendor meets all of its commitments.

- **Ensure the ERP System is Perceived as a Business Transformation Project and not an IT Project** – Enterprise-wide acceptance of the new ERP system is a crucial prerequisite to the State's project success. The project should, therefore, be led by a State functional team, consisting of carefully selected senior personnel who represent each of the broad functional areas to be addressed by the ERP transformation. Further, the project must receive strong executive sponsorship and include project participation by user agency subject matter experts (SME). This approach not only encourages acceptance of the new ERP system, but also initiates important knowledge transfer to agency users, a crucial component of overall project success.   In addition, as part of the project

governance structure, the core agency functional stakeholders must have a strong voice in making project decisions. The IT organization should provide the technical knowledge and support (and, at times, the project management) for the ERP project.

Staffing

- **Dedicate Proper Level and Number of Full-time Employees to the Project Team** – To avoid costly change orders or project delays, and to meet State staffing commitments as defined by the statement of work, the State should commit to providing dedicated project team members on a full-time basis. The State must commit to recruiting the best and most knowledgeable resources to the project team and should plan to provide incentives for keeping them. The user agencies need to fully understand and support the commitment being made and that some project resources may be asked to stay as part of the ongoing support organization. It is our experience that clients often meet their commitments from a "numbers" standpoint, but fail to provide the skill levels needed to ensure the project's success. For example, user agencies sometimes volunteer less productive staff instead of their best performers, out of fear that they may never return. The software is too complex and the business changes too dramatic to trust the project to anyone other than the best and most knowledgeable State resources.

- **Ensure Adequate Knowledge Transfer** – To avoid open-ended reliance on consultants to support for the system after "go-live", the State should ensure that the ERP vendor's implementation methodology actively transitions the consultants' role from building the system to mentoring the State staff who will be responsible for the system after the consultants leave. In addition, the State's resources must be available when needed and must have the types of skills required for their given project role. ERP projects frequently experience inadequate knowledge transfer and thus continue to rely on consultants to provide ongoing support for the system. It is not uncommon for consulting resources to continue providing post-implementation support to a government for several years after "go live".

- **Qualified Implementation Consultants** – To mitigate the risk of project delays or even project failure, the State must ensure the awarded vendor's implementation consulting team has thorough knowledge of the ERP software to be implemented and/or knowledge of public sector operations. We recommend, approximately one month into the project work plan, that each State project team member be surveyed to ensure that their assigned consultant(s) have gained their confidence and have established a good working relationship with them. Consultant team changes should be made based on survey results, and monitoring should continue as the work progresses.

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Change Management/Organizational Alignment

- **ERP Governance –** Adopt governance best practice roles to ensure effective oversight and demonstrate the importance of the financial management system and provide the necessary visibility into the performance of the governance process supporting implementation and ongoing operation of an ERP solution. Key best practice roles include: Executive Sponsor, Executive Committee and Steering Committee. The Executive Sponsor will champion, advocate and build executive level state-wide support for the ERP solution. The Executive Committee includes a select number of executives from state agencies will make-up the Executive Committee and be charged with providing strategic direction and oversight of the ERP solution, from the perspective of what is in the best interests of the state at an enterprise level. Finally, the Steering Committee will focus solely on the ERP solution and associated business processes, allocating sufficient time to understand issues, consider/debate alternatives and arrive at decisions and recommendations that balance enterprise level benefits and individual agency needs.

- **Ensure Executive Support** –Strong executive management support and commitment across the State is paramount to the success of the State's ERP project; any perceived or real lack of support will almost certainly ensure the project's failure.   We recommend that project governance documents (e.g. project charter) are drafted and signed by the sponsoring State executives. Project governance defines (at a minimum) project sponsorship roles and responsibilities, key success criteria, and standards under which the project will operate. Widespread communication of executive support is essential to obtaining buy-in from all levels of the organization, especially since ERP systems generate extensive change across the enterprise. Executive support must be provided by the user agency leadership as well as central agency leadership. Accordingly, we recommend a change management effort that includes an executive outreach program to establish meaningful communication with user agency executive leadership on a consistent basis for the project duration.

- **Ensure Elected Officials Buy-in to ERP Project** – To reduce overall project cost, risk, and customizations, it is important to ensure the buy-in of elected officials. ERP systems often include functionality which resides organizationally under an elected official who has an option to participate in the system, but who typically cannot be compelled to do so. When elected officials choose to not participate, additional effort and funding are required to build interfaces between the ERP system and the legacy system under the elected official's purview. Such customizations add project risk, increase project costs, and "break" the integration and best practice efficiencies inherent in ERP systems.

- **Provide Adequate Change Management and Communications to the End User Community** – Organizational change impacts can disrupt the project implementation effort and system acceptance, decrease employee productivity, and increase employee stress and anxiety. These impacts can and must be recognized and actively managed. It

is a common miscalculation for organizations to underestimate the level of change management required as part of an ERP implementation. Most ERP projects that fail do so because the human aspects of the project fall short – not because the system does not work as designed. The new system will drive the implementation of new business processes that may radically change the work environment and job tasks of employees. We recommend that the State hire a firm experienced with ERP Change Management to lead State personnel with proven strategies for solving the complex problems related to end user resistance to ERP.

- **Sufficient End User Training and Support** – It is essential that the State deliver sufficient end user training and support to ensure that end users can do their jobs efficiently and effectively soon after the ERP system goes live, and that important business process efficiencies are realized across the State. Care must be taken to properly staff the training function, especially if a "train-the-trainer" approach is to be used. Additionally, end user training must be provided on a "just in time" basis before the system goes "live". Finally, comprehensive training evaluation must be implemented to measure the effectiveness of the training to end users. Only through an evaluation of the training efforts can improvements to the overall ERP training program be realized.

- **Thorough Knowledge of GAAP Accounting** – It is essential that the State's financial staff have the appropriate GAAP accounting knowledge to process agency transactions in the new ERP system. In the public sector, it is not uncommon for employees with basic bookkeeping skills (but no formal GAAP accounting educational background) to be promoted into key financial management roles over time (especially in smaller agencies). Due to the implementation of GASB 34 (which requires a thorough knowledge of accrual and modified accrual accounting) and the fact that most ERP systems are no longer transaction code driven (in which a user could enter a code for a particular accounting event and the system would assign the proper debit and credit), ISG has found that some financial staff require additional training in basic governmental accounting principles. We recommend the State add a basic governmental accounting principles class to the overall ERP training curriculum to ensure users are equipped with both the software application skills and accounting knowledge to be successful in the new ERP system.

Software Implementation

- **Adopt Best Practice Business Processes and Limit Modifications to the Software** – To avoid costly future ERP software upgrades, it is in the best interest of the State to adopt the delivered best practice business processes and to limit modifications to the software. In early governmental ERP projects, a heavy emphasis was placed on modifying the software to better meet the perceived needs of governmental entities. Extensive modifications to the ERP software increase project risk, lead to project cost and time overruns, and often impair the ability to upgrade the software to future

product releases. ERP functionality for the public sector has matured in recent years and governments have begun to embrace process change by adopting the best practices found in today's ERP systems. This has resulted in a significant decrease in the amount of customizations to the underlying software code. We recommend the State utilize software best practices to the maximum extent possible and that all customization requests be scrutinized to determine if the gap can be met through alternative (non-customization) means or if the requirements can be eliminated. As part of the project organizational structure, a change control board (CCB) should be established to review and approve each customization. If the customizations are approved by the CCB, the customizations, to the fullest extent possible, must be completed without changes to the underlying base code so as not to impede the application of future software upgrades.

▪ **Reasonable Implementation and Deployment Timelines** – To avoid cost overruns, unwarranted project risk, and scaled-back functionality, the State should avoid unreasonable implementation and deployment timelines. ERP vendors are now promoting accelerated implementation methodologies to reduce implementation costs. However, the timelines associated with an accelerated approach may be unrealistic given the degree of change that must be absorbed across the entire State enterprise. The State needs to ensure that enough time is provided to adequately design the new ERP system and fully understand the impacts of that design. Additionally, the State must ensure that adequate time is given for testing the new system and for providing training to end users whose job roles may change substantially. If and when the State moves forward with a new administrative system, the fundamental timeline assumptions included in this audit should be reconfirmed.

▪ **Limit Migration of Old Data** – To reduce implementation cost and project risk, the State should limit the migration of old data to the new ERP system. Often governments spend substantial amounts of money to migrate large volumes of data that are seldom used and/or are not applicable to the new account coding structure. The more data that is converted from the legacy system, the greater the risk and cost to the ERP project. We recommend the State review and develop a data archive and data conversion strategy document that provides a preliminary assessment of all the data sources, indicating which data will be converted into the new ERP system and which data will be converted to a data warehouse or some other information storage medium that allows information to be archived and retrieved through cost-efficient means. In addition, data conversion is a task often performed by State personnel as a means to reduce overall project cost, with the additional benefit that they understand the legacy data to be converted. Therefore, care must be taken to ensure that appropriate State personnel will be available and adequate time is assigned for data conversion activities.

▪ **Prepare for Production Operations** – Care should be taken to ensure that the organization has the capability to adequately maintain the system and provide end user support after "go live". Detailed planning for this responsibility will reduce risk and cost

in the immediate aftermath of "go live". We recommend that State functional and technical ERP project personnel transition to the Production Operation organization to provide help desk and production support services. In addition, the State might consider creating a SWAT team to provide agencies with one-on-one support at their location on an as-needed basis. The SWAT team would be composed of State ERP Project Team members, who have become subject matter experts (SMEs) in the ERP system. This additional support would be available to agencies for the time period immediately after "go-live" and help ensure agencies are successful in transitioning to the new ERP system. The cost estimate includes 12 months of operation support.

▪ **Prepare for Report Development** – To ensure that agency reporting needs are met, we recommend the State fund some number of ad hoc report developers for a period of time after "go live". Most public sector ERP projects have greatly under-estimated the need for custom reports to meet the end user's reporting needs. The ERP vendors also oversell the ad hoc reporting capabilities within their systems. While the ad hoc reporting tools are very powerful, we have not observed that the typical end user in government entities is developing their own ad hoc reports.

▪ **Sufficient Contract Accountability** – Some governments that have implemented ERP systems have not been able to hold the prime contractor accountable for project results. There are two primary reasons for this problem: the usage of a "time and materials" payment plan and/or the client's failure to meet its commitments to the project (e.g., failure to provide client subject matter experts, failure to resolve issues on a timely basis).

To help alleviate this concern, we recommend that State hire a firm experienced with ERP contract negotiations to assist in:

→ Drafting a comprehensive contract and statement of work (SOW) with the vendor that is results-based and ties vendor payments to deliverables and project milestones.

→ Monitoring the State's system requirements on an ongoing basis to ensure that the system is designed and configured to meet the client's business requirements. As part of acceptance testing, the system must properly meet each requirement as documented in the functional matrices.

→ Opposing the deferral of any issues affecting cost to the design phase. By doing so, the State reduces its negotiating leverage.

→ Withholding a large retainage (approximately 15%) and not releasing the retainage for payment until the software has been accepted by the client (based on established acceptance criteria in SOW) and the initial three-month post-implementation support period has expired.

→ Finalizing ERP vendor and State responsibilities for:

  – Forms,

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- Reports,

- Interfaces,

- Data conversion,

- Workflow development, and

- Enhancements.

→ Closely monitor the State's progress against the project plan to ensure all the State's commitments per the statement of work are being met.

Appendix A: ISG's Business Case Analysis Methodology

In performing this audit, we utilized our proven, proprietary Business Case Analysis (BCA) Methodology (Methodology), tailored to meet the scope of services described in the State's Work Request. Our Methodology is composed of eight (8) major phases, and all of the activities and tasks described in the State's Work Request were performed within the phases of our Methodology. Note that Phase 7, Formulate Funding Strategy, was <u>not</u> included in this work effort. Also, please note that in some cases, only certain aspects of the phases of our Methodology were used to perform the activities specified in the Work Request.

The phases of our Methodology are depicted in the diagram that follows.

Exhibit 36 – ISG Public Sector's Business Case Analysis Methodology

Note: The Project Management and Quality Assurance components of Phase 1 continue through project completion.

A crosswalk between the four (4) questions to be addressed by this project and the phases of our Methodology is presented below.

Crosswalk of Questions to Phases of ISG's Methodology

Questions to be Answered	Phases of ISG's BCA Methodology
1. What is the current condition of the State's financial management system and how does it compare with the leading practices found in a modern enterprise resource planning (ERP) system and other states?	▪ Assess Current Strategies and Environment
2. What are the technical problems or risks associated with the current financial management system?	
3. What is the governance and oversight model being used in Washington State financial management? Are there gaps or overlaps in that authority?	
4. What are the financial and other impacts of sustaining the current system compared to migrating to a modern ERP system?	▪ Determine Alternative Strategies to Evaluate ▪ Identify and Analyze Costs, Benefits

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Questions to be Answered	Phases of ISG's BCA Methodology
	and Risks
	▪ Perform Financial Analysis
	▪ Evaluate Alternatives

Each phase of our methodology is described below.

Phase 1: Conduct Project Start-Up Activities

To ensure that we had a clear understanding of the State's goals and objectives for the project, we began this project, as we do with all projects, with a formal, structured planning process. The purpose of this phase is to establish expectations and formalize a work plan that will encompass all phases and activities of the project and will guide our activities through the life of the project. This phase also includes the work effort associated with establishing a project management framework which will be used through project completion.

Phase 2: Assess Current Strategies and Systems

The purpose of this phase is to obtain a high-level understanding of the State's various existing administrative systems within the scope of this effort by performing an overall analysis of the capabilities of the systems, including their strengths and weaknesses, functionality being provided by each system, functionality not being provided, potential process-improvement opportunities, as well as the degree of interfacing/integration across the various systems. It is during this phase that we identify systems, functions, and processes at the agencies that augment the State's financial system or operate in parallel with the financial system and identify, preliminarily, systems that would be candidates to be replaced/retired if a new ERP system were implemented. Further analysis of those candidate systems is performed during **Phase 4: Identify and Analyze Costs, Benefits, and Risks** of our Methodology.

Phase 3: Determine Alternative Strategies to Evaluate

Although the initial scope of this engagement was to compare and contrast the State's existing financial management system with a modern ERP system, we discussed and evaluated a number of other alternatives with the SAO, and ISG and the SAO agreed, for this work effort, to evaluate two solutions for addressing the State's future administrative system needs:

- **Status Quo (continue on the State's current path)**

  This alternative is based on the assumption that the State will continue on its current path, whereby the Agency Financial Reporting System (AFRS), Disclosure Forms, Comprehensive Financial Annual Report (CAFR) Database, Statewide Vendor File, Capital Asset Management System (CAMS), Cost Allocation System (CAS), Solomon, Personal Service Contracts Database (PSCD) and Washington Electronic Business Solution (WEBS) will compose the

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primary financial management system, and agencies will continue to acquire, develop, and use a number of subsystems or "shadow" systems that support administrative operations.
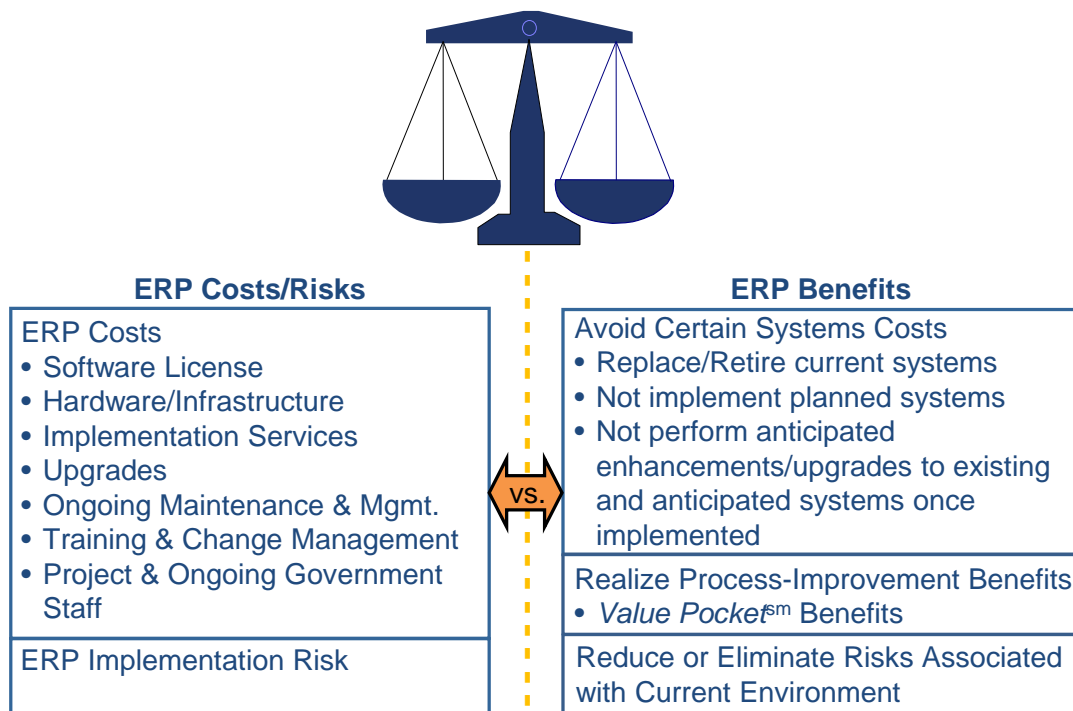
- **Implement ERP**

  This alternative is based on the assumption that Washington will implement a modern ERP system statewide that has a suite of fully integrated financial management software modules to perform administrative business functions within the scope of this project (i.e., financial accounting, procurement, grants management, etc.).

Phase 4: Identify & Analyze Costs, Benefits & Risks

During this phase, we evaluate the estimated cost of transitioning the State from the existing legacy system environment to a new ERP system vs. the potential benefits/savings from such an implementation, including: (a) retiring current systems and avoiding the implementation of planned/anticipated systems, and (b) realizing benefits/savings from process improvements that could result from the ERP system/alternative solution implementation. The primary elements of this phase are depicted in the diagram that follows.

Exhibit 37 – Comparison of Costs, Benefits, and Risks

ERP Costs/Risks

ERP Costs
- Software License
- Hardware/Infrastructure
- Implementation Services
- Upgrades
- Ongoing Maintenance & Mgmt.
- Training & Change Management
- Project & Ongoing Government Staff

ERP Implementation Risk

vs.

ERP Benefits

Avoid Certain Systems Costs
- Replace/Retire current systems
- Not implement planned systems
- Not perform anticipated enhancements/upgrades to existing and anticipated systems once implemented

Realize Process-Improvement Benefits
- *Value Pocket*[sm] Benefits

Reduce or Eliminate Risks Associated with Current Environment

Phase 5: Perform Financial Analysis

In performing the financial analysis, the estimated, dollar-quantifiable cost components of a potential new system are weighed against the estimated, dollar-quantifiable systems savings and process-improvement benefits of the new system to calculate the project's estimated return on investment, generally over a 10-year estimating horizon. During this phase, we

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perform standard financial analyses of dollar-quantifiable costs and benefits/savings, adjusted for risk, including:

- Net Present Value (NPV)

- Internal Rate of Return (IRR)

- Payback Period

Phase 6: Evaluate Alternatives

During Phase 6, we further evaluate the strategic alternative paths, taking into consideration the costs, benefits, and risks of each path, and make a recommendation regarding which Alternative Path we believe would be the best overall choice for the State.

Phase 7: Formulate Funding Strategy

During this phase, we develop a funding model to support the acquisition, implementation and ongoing operations of the ERP system, utilizing the data collected by the State regarding the ERP system costs and anticipated benefits and cost avoidances.

The Funding Model Report addresses the opportunities and restrictions associated with OMB Circular A-87, Attachment C and other federal directives.

As indicated previously, Phase 7 was <u>not</u> within the scope of this work effort.

Phase 8: Prepare and Submit Final Report

Based on the results of the work performed, we worked closely and cooperatively with the SAO in writing the report. Furthermore, the report was indexed to the supporting work papers.

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Appendix B: Inventory of State Administrative Systems

This section provides descriptions the State's major financial management systems that were reviewed as a part of this work effort. This appendix is organized into two sections. The first section contains the high-level narrative descriptions of the statewide administrative systems. Because WSDOT has its own financial management system, this section also contains information about their major administrative systems. The second section contains an inventory of the participating agencies' financial management systems.

Section 1 Statewide and WSDOT Administrative Systems

This section describes the existing statewide administrative systems as well as the existing WSDOT systems that are candidates for replacement by the new ERP system. The figure below provides a Participating Agency to Statewide System Crosswalk.

Exhibit 38 – Participating Agency to Statewide System Crosswalk

SYSTEM	DES	DFW	DNR	DOC	DOH	DOR	DOT	DSHS	ECY	ESD	HCA	L&I
AFRS/Financial Toolbox	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Statewide Vendor File	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Enterprise Reporting/Web Intelligence	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Disclosure Forms	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1099-Reporting (Account Ability, 1st Yr. in use)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Travel and Expense Management	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓
Accounts Receivable	✓	✓	✓		✓		✓	✓	✓		✓	
Capital Asset Management System	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	
Cost Allocation System								✓			✓	
Personal Service Contracts Database	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Washington's Electronic Business Solution	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

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Agency Financial Reporting System (AFRS)

The Agency Financial Reporting System (AFRS) is a comprehensive financial management information system used on a statewide basis to meet the accounting and reporting needs of large and small agencies. State agencies and higher education institutions are required to record their financial activities in AFRS at a minimum level as required by the Statewide Accounting and Administrative Manual (SAAM).   AFRS provides the core general ledger, accounts payable, and budget allotment management functionality. In addition, AFRS is the primary data source for the State's Comprehensive Financial Annual Report (CAFR).

KPMG created the mainframe Statewide Accounting and Reporting System (STARS) and added a relational database to create the Relational Statewide Accounting and Reporting System or R*STARS. In the early 1980's, the State initiated a project to implement STARS and the system came to be known by the project name AFRS. AFRS was designed to comply with the State and local governments accounting requirements established by the American Institute of Certified Public Accountants (AICPA) and the Government Finance Officers Association (GFOA). AFRS is no longer supported by a software provider, and key State employees that provided technical support for AFRS have been lost through attrition. Furthermore, the significant customizations instituted to meet the State's dynamic requirements exacerbate the difficulty in continuing to support AFRS.

Despite the lack of vendor support, the OFM statewide financial systems staff continues to make enhancements to AFRS in response to the state's emerging needs. Unfortunately, dated technology and lack of flexibility presents challenges to creating a modern or complete enterprise system; and therefore has the following challenges:

- Data must often be rekeyed between financial and administrative systems because agencies maintain multiple "shadow" systems to accommodate business needs (accounts receivable, capital asset management, cost allocation, etc.).

- Data is not easily integrated, and financial staff must engage in extensive efforts to provide their agency's enterprise data, which in turn is forwarded to OFM, where the efforts continue.

- Since reports are not automated and agencies use different naming conventions for their data, it is difficult to determine whether reports are comparable from one period to the next.

Solomon IV

Solomon IV, a system that was acquired by Microsoft Corporation, is the statewide Accounts Receivable system that is maintained by DES. The system currently supports eight agencies with some of the larger agencies being State Patrol, Department of Agriculture, and Consolidated Technology Services. It is notable that none of the 12 agencies participating in this analysis use Solomon, indicative of the fragmented nature of Accounts Receivable functionality in the State. Solomon was implemented in 1997 and is no longer supported by a

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commercial vender. DES staff supporting the application describe it as a fragile system that is definitely coming to the end of its useful life. The application is highly customized; therefore, enhancements to the systems are difficult to make. Due to the fragile condition of the system, no major enhancements have been attempted for several years. The Solomon application continues to be proposed for replacement but other priorities consistently take precedence.

Capital Asset Management System (CAMS)

AFRS does not support an Asset Management module. The OFM has stewardship of the Capital Asset Management System (CAMS) application, which is used by approximately 78 state agencies to track and account for their capital assets. The CAMS application was implemented in 1983 and is a COBOL/CICS application that uses VSAM files as its database. Some of the major issues described by business and technical staff interviewed are (1) tracking asset history information, (2) producing ad hoc asset data queries, and (3) tracking assets by location which is critical for performing their year-end physical inventory. As a result, many agencies maintain their own "shadow" Asset Management systems to meet their needs. Seven of the 12 participating agencies use their own "shadow" system:

- Department of Revenue (DOR),

- Department of Fish & Wildlife (DFW),

- Department of Natural Resources (DNR),

- Department of Enterprise Services (DES),

- Department of Labor & Industries (L&I),

- Employment Security Department (ESD), and

- Department of Corrections (DOC).

Cost Allocation System (CAS)

AFRS does not support a Cost Allocation module. OFM currently maintains the Cost Allocation System (CAS); a COBOL/CICS application that was originally designed and built in 2003 for the DSHS. The Cost Allocation System is integrated with AFRS. It creates a fiscal month Cost Allocation plan from information entered by users AFRS tables. CAS does not use an indirect rate; the Agency's direct and overhead expenditures are cost allocated as incurred. Daily, all expenditures are cost allocated to Cost Objectives which are State Assistance Programs or Federal Grants. The inability of the Cost Allocation System to manage multiple cost allocation types and rules make widespread use of the application in the future very unlikely.

Washington Electronic Business Solution (WEBS), Enterprise Contract Management System (ECMS), and Databases that Support the State's Procurement Function

Washington Electronic Business Solution (WEBS)

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Washington's Electronic Business Solution (WEBS) is a Vendor Registration and Bid Notification system. The system provides vendors with the opportunity to register on the WEBS application via the internet and provide information on the types of goods and services they wish to provide to the State. When State agencies issue a solicitation, a notification is sent to all relevant, registered vendors. While WEBS is a valuable vendor management tool that encourages vendor participation and the competitive bid process, the State of Washington lacks a system that provides the necessary tools to manage their statewide Procurement activities efficiently and effectively.

Enterprise Contract Management System (ECMS)

The Enterprise Contract Management System (ECMS) is a Web-based application for tracking and monitoring all agency contracts. While agencies are required to file contracts in Personal Services Contract Database (PSCD), tracking and monitoring is performed in ECMS. The ECMS application was acquired from the Department of Labor and Industries in 2004 as an interim solution. ECMS interfaces with Statewide Vendor File (SWV) to allow users to select vendors. Agencies do not track Chart of Accounts information on contracts entered in ECMS, although the system does have this capability.

Statewide Procurement Databases

In addition to WEBS, DES has created several Contract Management databases to track statewide contract activities as mandated by the Washington State Legislature.

- The Client Services Contract Database (CSCD) is a central database of client service contracts designed to assist agencies that award most of the State's client service contracts in coordinating their contract oversight activities. Client services are defined in RCW 39.29.006(2) as, "services provided directly to agency clients including, but not limited to, medical and dental services, employment and training programs, residential care, and subsidized housing."

- The PSCD is used by all State agencies to electronically file and report to OFM their awarded Personal Services Contracts, and architectural and engineering contracts. RCW 39.29 requires legislative and executive review of personal (consulting) services prior to start of work. Executive review is conducted by DES and is based on contract filings submitted by state agencies for specific categories of personal service contracts and amendments.   PSCD supports all state agencies.

  The PCSD has been modified to meet sole source and emergency contract filing requirements under RCW 39.26. Sole source and emergency contracts are filed with DES exclusively through the Sole Source Contracts Database (SSCD). SSCD was developed to automate many of the tasks associated with filing sole source and emergency contracts. The database is available **only** to state agencies and institutions of higher education.

- One recent study, IDEA: Procurement Improvement, issued in July 2011, identified the following limitations to the State's Procurement system, which are still valid today:

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- *No standardized commodity coding*. The State maintains no common database of what it spends through contracts, in part because each agency uses a different coding system to identify goods and services purchased. Furthermore, the State is not able to advertise for goods and services on statewide or multiple State systems with a common vocabulary that the vendor community supports. A common, statewide coding system, if coding were done at a sufficient level of detail, could improve the State's ability to consolidate the State's spend, and thereby leverage the State's purchasing power, resulting in a lower cost of goods and services.

- *No consolidated purchasing*. The study found that less than 15 percent of State's spending on goods and services is done by aggregated or central contact. If the State were to code purchases consistently across the State and at a sufficient level of detail, enabling the State to leverage its purchasing power as described above, the State would be able negotiate better prices, which could then be turned into statewide contracts that all agencies could use, as well as local governments and other political subdivisions, further increasing the State's purchasing power.

- *Outdated Procurement systems*. Many similar Procurement functions (sourcing, contracting, inventory and payment processes) are handled separately and manually, resulting in duplicated data entry, high error rates and wasted time tracking documents. Furthermore, a statewide Procurement system will support better integration and budgetary controls in the accounting system.

- *Inconsistent Procurement policies*. Procurement policies are not consistent across agencies and redundant, inconsistent and inefficient contracting laws contribute to vendor and agency confusion.

- *Poor management of consumable inventory*. The study found State agencies maintain more than $51 million in consumable inventory in warehouses. Better supply chain management is needed to decrease expenditures on unnecessary inventory.

Statewide Vendor File (SWV)

OFM recently consolidated all State agencies' vendors into a central electronic file for all State agencies to use for processing vendor payments. This allows vendors to receive payments from all participating state agencies by direct deposit, the State's preferred method of payment. In the past, vendors were set up multiple times based on the number of agencies with which a vendor might be engaged. This consolidation project was a three-year effort to complete. The SWV only contains payment vendors and does not address bid/procurement vendors (i.e., vendors that have not yet received a payment from the State).

The Allotment System (TALS)

TALS supports the development of an agency's capital and operating allotment packages online. It supports the allotment development, management, review, reporting, and monitoring needs

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for State agencies, the Legislature, OFM, and the public. Agency allotments can be developed at any level of detail to allow for detailed analysis.

Washington State Department of Transportation Major Administrative Systems

WSDOT has implemented a number of administrative systems to provide required functionality not supported by the existing statewide systems. Through a series of interviews with WSDOT staff and the review of two feasibility studies conducted by WSDOT – *DOT: Critical Applications Modernization & Implementation Strategy, December 2005*, and *Critical Applications Implementation Feasibility Study, June 2009* – the following major administrative systems were identified as likely candidates for replacement by a full ERP system implementation.

Transportation Reporting and Accounting Information System (TRAINS)

TRAINS is a mainframe system implemented in 1991. It provides accounting support for all of WSDOT's revenues, expenditures, receipts, disbursements, resources, and obligations. It is a highly customized version of an American Management Systems, Inc. (AMS, now CGI Group, Inc. [CGI]) software package. This application also includes the budget system that is known as TRACS.

In general, the WSDOT budget development, maintenance, and reporting functions are very difficult to manage and require extensive manual effort by staff. Budgets are prepared using data retrieved manually from many sources. For programs that choose to use organizational-level budgets, staff must enter budgets two times into TRACS: (1) to create allotment budgets and (2) to create organizational level budgets. There is no automatic crosswalk in TRACS to rollup lower-level organizational budgets to the high-level allotment budgets. Furthermore, TRAINS/TRACS does not transfer budget data to AFRS. As a result, allotments are manually loaded into TALS, OFM's statewide budgeting systems.   Lastly, the TRACS budget system does not include budget or expenditure information for projects. Therefore, project budgeting is done in the Capital Program Management System (CPMS).

Capital Program Management System (CPMS)

CPMS is a mainframe system implemented in 1987. CPMS supports the development, monitoring, managing, and delivering of WSDOT's capital construction program; but it does not include budget information by fiscal year or biennium. This presents challenges for reporting, which often requires manual analysis of data to determine expenditures' reporting period. In addition, the budget staff created a Microsoft Access database to relate and track CPMS data to TRAINS data.

Labor Collection and Distribution System/Payroll (Labor)

Labor is a mainframe system implemented in 1981. The system processes employee hours worked, leave taken, and financial (cost accounting) details associated with labor hours for

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WSDOT employees and WSF Merit 1 employees. Data from this system is provided to the Human Resource Management System (HRMS) to support payroll processing.

Washington State Ferries Labor System (Ferries Labor)

Ferries Labor processes employee hours worked, leave taken, and financial (cost accounting) details associated with labor hours for *WSF Merit 5* employees. The application is a sister system to the WSDOT Labor application. Data from this system is provided to HRMS application to support payroll processing.

Work Order Authorization (WOA)

WOA facilitates funding approval of preliminary engineering, right-of-way and construction expenditures for all projects in the highway construction program. This application provides an online workflow-driven process for requesting authorization of work orders or additional funding for work orders. The application, however, is not integrated with TRAINS or CPMS, and, as a result, requests fully approved in WOA must still be manually entered into CPMS and TRAINS.

Contract Administration and Payment System (CAPS)

CAPS is one of two critical applications that support the management of construction contracts. This system maintains administrative and payment information about highway and ferry construction contracts and creates payment vouchers to pay contractors.

Construction Contracts Information System (CCIS)

CCIS is also used to help manage construction contracts. This system is mainframe based with client server components. It tracks construction contract details such as start dates and end dates, percent of the project complete, fair hiring practices, fair wage rates, and percent of work sublet.

Consumable Information System (CIS)

CIS tracks consumable inventory for the Motor Vehicle Fund (MVF), Washington State Ferries (WSF), and maintenance. It handles orders, receipts, issues, physical inventory, and adjustments to inventory.

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Section 2 Inventory of State Administrative Systems

This appendix contains an inventory of existing and planned State administrative systems identified throughout our State administrative systems assessment. While the existing and planned systems that may be replaced by a modern ERP system were reported by the participating agencies, as a first step in acquiring and implementing an ERP system, the agencies should participate in documenting detailed requirements, and then use those requirements to determine whether the identified candidate systems can indeed be replaced. The following is provided for each system listed:

▪ System Owner,

▪ System Name,

▪ System Description/Function, and

▪ Comments regarding Potential Replacement by ERP.

			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
1	DES/OFM	Agency Financial Reporting System (AFRS)	AFRS is the state-owned accounting system used by all state agencies and higher-education institutions in the state of Washington. AFRS is a legacy mainframe financial system that has been in production for over 25 years. Serves as the official financial book of record for the state. Also includes processing state warrants, electronic fund transfers and state vendor file.	Replace by ERP
2	DES/OFM	Financial Toolbox	The Financial Toolbox is a web-based application that enables users to prepare transactions on an Excel spreadsheet and send them directly to AFRS. It can be used for recurring payments, cost distributions and many other types of transactions. The Financial Toolbox allows for immediate notification of the AFRS transactions interfaced by allowing the user to select one of three reports listing these transactions. This product is offered free of charge to any interested Agency.	Replace by ERP
3	DES/OFM	CAFR Production Database	Data warehouse application that receives monthly financial data extracts from AFRS, cumulatively becoming the annual data source once all reporting periods are loaded into the database. State financial consultants query the database and export results into spreadsheets or pre-defined CAFR templates.	Replace by ERP BI/Data Warehouse
4	DES/OFM	Disclosure Form	Web-based application used for collecting information from state agencies that facilitates the preparation of Washington's Comprehensive Annual Financial Report (CAFR) by the Office of Financial Management (OFM).	Replace by ERP BI/Data Warehouse

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		Inventory of State Administrative Systems		
#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
5	DES/OFM	Travel Expense Management System (TEMS)	In house developed application for preparation, approval, and payment of travel reimbursement requests. The system is accessed through the state Intranet or Internet and provides electronic tools to the requestor/preparer, the approver and the fiscal staff. Users are authorized by their agency.	Replace by ERP
6	DES/OFM	Solomon AR	Accounts receivable system that feeds data to the general ledger within AFRS. Agencies enter all accounts receivable information into the system, i.e. billings to vendors and money received. The system then electronically updates the balances in the general ledger. This system contains all the details to accounts receivable.	Replace by ERP
7	DES/OFM	Disbursement Reporting System (DRS)	DRS, a subsystem of AFRS, is a payment history system that provides agencies access to their AFRS payment data. Agency-selected data is retained an average of 18 months. This data can be viewed online or through various reporting options. DRS also provides IRS Form 1099-MISC reporting and agency Office of Minority and Women Owned (OMWBE) reporting capabilities. DRS was decommissioned in, and agencies' 1099 reporting was provided by Account Ability for, fiscal year 2012.	None

			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
8	DES/OFM	Time Management System (TMS)	TMS is a time collection and labor distribution system. TMS collects information from Washington state's human resource system that is administered at Washington State Department of Enterprise Services. Within TMS, an employee codes hour for each project worked. In addition, leave is entered. TMS then reconciles the total hours input with actual hours.	None - Replaced by TLA
9	DES/OFM	AFRS Data Download System (ADDS)	ADDS provides financial information from AFRS in a relational database design for downloading to agency servers for internal agency applications. ADDS is continuing to be supported "as is", and will not be expanding its customer base.	None
10	DES/OFM	Enterprise Reporting (ER)	A common reporting framework for Washington State's financial, administrative and performance information. Enterprise Reporting provides a set of enterprise-wide tools that enable self-service reporting, ad-hoc query, analysis, and presentation of statewide financial reporting, ad-hoc query, analysis, and presentation of statewide financial	Replace by ERP BI/Data Warehouse

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			Inventory of State Administrative Systems	
#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
11	DES/OFM	Budget Development System (BDS)	BDS allows development of the agency's operating and transportation budget requests on-line. BDS supports multiple budget versions so agencies can easily develop various scenarios. Security levels are built in to ensure that only users with the appropriate level of authority have the ability to make changes after records are locked. BDS captures all elements of a budget decision package including expenditure, staffing, and revenue estimates as well as incremental performance changes. Agency budgets can be developed at any level of detail to allow for detailed analysis of requests or translation into allotment data after the budget has been enacted.	Replace by ERP
12	DES/OFM	Capital Asset Management System (CAMS)	CAMS provides for the control, accounting, and reporting of agency-fixed assets and capital leases. Information entered into the system is compliant with state asset accounting policies and provides the basis for statewide consolidation of fixed asset information to support preparation of state financial statements.	Replace by ERP
13	DES/OFM	Capital Budget System (CBS)	CBS allows development of the agency's capital budget request on-line. CBS supports multiple budget versions so agencies can easily develop various scenarios. A project estimation tool is available within the application that calculates the necessary costs for completing a capital project including automatic calculations for inflation factors, taxes, etc. Security levels are built in to ensure that only users with the appropriate level of authority have the ability to make changes after records are locked.	Replace by ERP

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
14	DES/OFM	Client Services Contract Database (CSCD)	CSCD is a central statewide database of all client service contracts/contractors that can be used by agencies to better coordinate their contract oversight activities. Agencies provide the data through automated data/extract feeds from agencies with existing databases. For those without a database an interface is provided to enter the information directly into the database.	Replace by ERP
15	DES/OFM	Cost Allocation System (CAS)	CAS is a mainframe product integrated with AFRS. The CAS uses AFRS screens and edits. The CAS creates a fiscal month Cost Allocation plan from user entered AFRS tables. The CAS does not use an indirect rate; the Agency's direct and overhead expenditures are cost allocated as incurred. Daily all expenditures are cost allocated to Cost Objectives which are State Assistance Programs or Federal Grants.	Replace by ERP
16	DES/OFM	Enterprise Financial Reports	Enterprise Financial Reports deliver AFRS, CAFR, Disclosure Forms, Financial Statements, TEMS and other financial information over the state intranet or Internet via Enterprise Reporting. The financial reports database is updated nightly with detail financial transactions from AFRS and is retained for at least five biennia. Requested reports with account coding filtering capability are available within minutes and are downloadable right into spreadsheets. Customers have many different report templates to choose from several major report categories.	Replace by ERP BI/Data Warehouse

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		Inventory of State Administrative Systems		
#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
17	DES/OFM	Personal Services Contract Database (PSCD)/ Sole Source Contracts Database (SSCD)	PSCD is used by all state agencies to electronically file and report to OFM their Personal Services Contracts, and architectural and engineering contracts they award. Note that this system has been modified to meet sole source and emergency contract filing requirements. SSCD is used by all state agencies to electronically file and report all sole source and emergency contracts that are required to be filed with DES.	Further Analysis Required
18	DES/OFM	The Allotment System (TALS)	TALS allows development of the agency's capital and operating allotment packages on-line. Supports the allotment development, management, review, reporting, and monitoring needs for state agencies, the Legislature, OFM, and the public. Agency allotments can be developed at any level of detail to allow for detailed analysis. Security levels are built in to ensure that only users with the appropriate level of authority have the ability to make changes after records are locked.	Replace by ERP
19	DES/OFM	Statewide Vendor File	DES maintains a central vendor file for Washington State agencies to use for processing vendor payments.	Replace by ERP
20	DES/OFM	Washington's Electronic Business Solution (WEBS)	Washington's Electronic Business Solution (WEBS) is an Internet vendor registration and bid notification system. The system offers has a website where vendors can register to receive government bid notifications.	Replace by ERP

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		Inventory of State Administrative Systems		
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
21	WSDOT	Transportation Reporting and Accounting Information System (TRAINS)	Accounts for all WSDOT revenues, expenditures, receipts, disbursements, resources and obligations. This system is a highly customized version of an American Management Systems (AMS) software package. TRAINS also contains the budgeting subsystem, TRACS	Replace by ERP
22	WSDOT	Construction Administration and Payments System (CAPS)	Maintains administrative and payment information about highway and Ferry construction contracts.	Replace by ERP
23	WSDOT	Labor Collection / Payroll Expenditure Reporting (Labor)	Collect and process data for employee hours worked, leave taken, and financial details associated with labor hours	None - Replaced by TLA
24	WSDOT	Transportation Asset Reporting and Tracking System (TARTS)	Tracks & reports on depreciation of department assets.	Replace by ERP
25	WSDOT	Consumable Inventory System (CIS)	Tracks consumable inventory for MVF, WSF, and maintenance. Handles orders, receipts, issues, physical inventory, and adjustments to inventory.	Replace by ERP
26	WSDOT	Minor Cap	Tracks equipment location and depreciates equipment for reporting to Statewide Asset Reporting System. Records physical inventory results	Replace by ERP

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
27	WSDOT	Purchase Card	Purchase Card Management System (PCMS) is a Web application used statewide to manage the transactions made thru WSDOT Purchase cards. PCMS gets Transaction information from the Bank daily and users can add Work order, coding and other related information; approve, review, authorize or reject any transactions. The users can export accounting data to TRAINS	Replace by ERP
28	WSDOT	Construction Contracts Information System (CCIS)	CCIS automates the tracking of construction contract data and provides an accessible reporting system for headquarters and the districts	Replace by ERP
29	WSDOT	Capital Program Management System (CPMS)	Supports development, monitoring, managing and delivering WSDOT's highway capital construction program	Replace by ERP
30	WSDOT	Contract Agreement Tracking System (CATS)	Tracks consultant agreements, task, and supplemental budget allocations and management reserve fund allocations for WSF	Replace by ERP
31	WSDOT	Statewide Transportation Improvement Program (STIP)	Lists planned projects for federal funding	Further Analysis Required

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			Inventory of State Administrative Systems	
#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
32	WSDOT	Work Order Authorization (WOA)	Provides for funding approval of preliminary engineering, right of way and construction expenditures for all projects in the highway construction program	Replace by ERP
33	DOR	Financial Information System (FIS)	FIS provides the budget office the ability to combine and summarize allotment, estimated expenditures, actual expenditures, and FTE utilization information to management. This system uses AFRS data in a read-only manner	Replace by ERP
34	DOR	Inventory Control Systems (ICS)	Process field orders to track inventoriable assets. Also processes property transfers and provides functionality to allow for the assigning of inventoriable assets to employees. CAMS is the official system of record and ICS is used to manage the agency's inventoriable assets	Replace by ERP
35	DOR	Travel Voucher System (TVS)	Travel reimbursement request system	Replace by ERP
36	DFW	Vehicle Mileage Tracking System (VMTS)	Web-based online entry system used to collect and track vehicle mileage as well as distribute	Replace by ERP

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		Inventory of State Administrative Systems			
#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
37	DFW	Cash Receipts System	Cash receipts system	Replace by ERP
38	DFW	Chart of Accounts (COA)	Manual Spreadsheet to track DFW chart of accounts	Replace by ERP
39	DFW	Revenue Management (RM)	Manual spreadsheet to track DFW revenues	Replace by ERP
40	DFW	Consumable Inventory	Consumable Inventory system used to track caps, jacks, etc.	Replace by ERP
41	DFW	State Utilities Database (SUDS)	Access database to track utilities cost as part of Governor's sustainability effort	Replace by ERP

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
42	DFW	AP Travel	Manual spreadsheet to track travel advance request, and voucher payment system	Replace by ERP
43	DFW	Facilities Lease Payments	Facilities lease system to track facilities lease schedules and lease payments. Tracked in SUDS not a separate system	Replace by ERP
44	DFW	Vendor and Contract Payments	Manual process for processing invoices, ensuring proper documentation is submitted and approved. Payments submitted to AFRS via Financial Toolbox. This is real not a system, only a process	Replace by ERP
45	DFW	Central Phone Mgt. Systems	Web based database used to track land lines, mobile devices, and scan cards to track billings from DES to DFW; then allocate to departments via user assigned	Replace by ERP
46	DFW	Use Tax Database	Access database used to track purchase where no tax was charged to agency. Use Financial toolbox to generate payment to DOR; then enter into DOR's tax database manually	Replace by ERP

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
47	DFW	ASAP Federal Draw System	Federal Draw system DFW uses Spreadsheet system to track expenditure and revenue by grant (agreement)	Replace by ERP
48	DFW	EPIC Capital Asset System	Capital asset tracking system used in lieu of CAMS. Primarily used for physical inventory and CAFR reporting	Replace by ERP
49	DFW	Agency Purchasing	Manual spreadsheet system for issuing field orders.	Replace by ERP
50	DFW	Contract & Payment System	Manual system for tracking contracts and payments	Replace by ERP
51	DFW	CAPS Financials	Agency budget system maintains budget at detail level which then feeds TALS	Replace by ERP

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#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
52	DFW	Federal Aid & Funds Management System	Manual spreadsheet system for tracking federal contract expenditures	Replace by ERP
53	DFW	Capital Billing & Labor Cost System	Cost allocation system used to allocate overhead cost to Master Indexes that received the benefits	Replace by ERP
54	DFW	Web Works Fleet Management	Web Works is an equipment tracking system. TERO is the vendor providing the system	Replace by ERP
55	DFW	Indirect Cost Plan	Manual spreadsheet process based on information received from AFRS	Replace by ERP
56	DFW	Wild System	Point of Sales system that tracks revenue depositing directly into State Treasury with correct coding	Replace by ERP

The table is titled **Inventory of State Administrative Systems**.

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
57	ECY	Accounts Receivable System (AR)	AR system is an AFRS subsidiary for all Ecology receivables, except loans receivables	Replace by ERP
58	ECY	Agency Data Database System (ADDS)	Provides lookup tables for AFRS data for Ecology applications	Replace by ERP
59	ECY	CASHIERING	Processes payments received along with refund adjustments	Replace by ERP
60	ECY	Document Management System (DMS)	Tracks legal dockets (orders, penalties, etc.) issued by Ecology enforcement employees	Further Analysis Required
61	ECY	Purchasing Tracking System (PTS)	Automated purchasing process for all Ecology, including forms, approvals, and tracking	Replace by ERP

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Inventory of State Administrative Systems				
#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
62	ECY	Computerized Auto Reporting System (CARS)	CARS tracks trip mileage, maintenance, and driver information for Ecology vehicles	Replace by ERP
63	ECY	Automated Leave eForm (ALF eForms)	ALF allows employees to submit leave request to their supervisors to approval. Ecology timekeepers use the ALF leave reports to manually compare to TMS to help minimize mistakes with time entry	None - Replaced by TLA
64	ECY	Billing and Revenue Tracking System (BARTS)	Produces invoices and tracks payments made on the invoices	Replace by ERP
65	ECY	Contracts, Grants, & Loans Payables (CG&P)	Tracks contracts, grants, and loans payments made	Replace by ERP
66	ECY	Grants Receivable Systems (GRS)	Federal grants tracking system	Replace by ERP

		Inventory of State Administrative Systems		
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
67	ECY	Toxics Cleanup Program (TCP)	TCP is a cost recovery tracking system	Further Analysis Required
68	DES	Agency Billing System (ABS)	Provide an automated billing system allowing programs to create, edit and set up recurring invoices and credit memos using a maintained agency customer and division location/address database. Electronic Invoice and E-mail Notification. Enhancements allow customers to receive and view GA program invoices (except CMS) online reducing payment processing time	Replace by ERP
69	DES	Computron A/R System (AXS-One)	Vendor Package - Accounts Receivable system	Replace by ERP
70	DES	A/R Reports	Supplemental application to support Computron by providing additional reports used by staff	Replace by ERP
71	DES	Cost Allocation Rate Program (CARP)	Agency budgeting system (agency staff view only)	Replace by ERP

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
72	DES	Electronic Voucher Form (EVF)	Provides the agency an electronic way to make payments to vendors. The information is entered into the system and then goes through 3 approval processes before it is automatically sent to AFRS. Payments are processed faster and more accurately	Replace by ERP
73	DES	Performance Measurement System	Provides a system to track and monitor agency and business unit target and actual measurable data in relation to their business plan goal objectives. This system will insure a consistent, accurate collection and reporting of actual achieved measurable against target values	Replace by ERP
74	DES	Budget Toolbox	Plan will be to have tools to help users update tables without the help of developers. This is just a project currently. First tool: Analyst Assignment Interface	Replace by ERP
75	DES	Assets/Assets 2000.mdb	Application stores fixed assets and depreciation information. Subsystem Asset Services has been added	Replace by ERP
76	DES	Customer Data Sets	used to set-up adds, changes, deletes to customers who wish to get raw billing and inventory records	Replace by ERP

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
77	DES	Solomon AR/GL	Agency's Accounts Receivable and GL System	Replace by ERP
78	DES	Technology Acquisition Services (TAS) (Leasing)	Bills leasing equipment	Further Analysis Required
79	DES	Warrant Cancellation	Used for Warrant register entries	Replace by ERP
80	DES	Technology Acquisition Services (TBS) (Brokering)	Bills Brokered equipment	Further Analysis Required
81	DES	AP Imaging	Imaging applications, document management, and accounting information capture for Accounts Payable. Includes ELT.mdb for cash reporting purposes	Further Analysis Required

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Inventory of State Administrative Systems				
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
82	DES	Kofax Ascent Capture	Scanner software used by Application. Extender for AP Imaging	Further Analysis Required
83	DES	CTS P&L	Used to generate trial and actual P&L	Replace by ERP
84	DES	Application Extender	OTG, tied to Field Order process	Replace by ERP
85	DES	HRDIS (DSD Accounting)	Information worker software (vertical): Used by DSD employees to manage data associated with charging back agencies for training	Replace by ERP
86	DES	Solomon (2 apps - TDS/OFM)	Information worker software (vertical): used by accounts receivable personnel at finance to import AR data from mainframe, produce agency invoices, and exports compatible files to the Solomon system	Replace by ERP

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
87	DES	(D) Great Plains	Accounting software	Replace by ERP
88	DES	Business Management System	Manage all business processes within the MMC program including inventory replenishment, warehouse operations and billing. (Currently used for OSPI food deliveries)	Replace by ERP
89	DES	Financial Contracts	Tracks and manages personal services contract for GA	Replace by ERP
90	DES	FIRMS Database	Manage the small works roster and emergency response. The AE Reference Listing Module provides project managers with an online version of the AE Reference Listing. The users can specify specific criteria to pull the listing and then they can rank the firms that are returned	Replace by ERP
91	DES	Public Disclosure System	DES application for managing request for public records (125 Request per year)	Replace by ERP

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
92	DES	Purchasing and Contract Administration Purchase Orders	Entry and maintenance of vehicle purchase requisitions, purchase orders and purchase order changes for vehicles	Replace by ERP
93	DES	Purchasing Contract Management System	Maintain and store contract, buyer, commodity and other information. Vendor information is downloaded from WEBS. Single Purchase Requisitions are submitted through PCMS. The Contract Usage Module tracks who uses PCA Contracts and provides summary information about how much they spent. The Online Contract Listing Module provides customers with self- serve access to PCA contract information, prices, etc. via the web. The Online Contract Usage Module provides state contract vendors an online form to report quarterly contract sales. Data entered by the vendors will update the CUS database directly and eliminate redundant entry. This process would eliminate the paper process currently in place	Replace by ERP
94	DES	Contracts Database	Web, Access, and SQL application which stores and images contract information for all DIS contracts with vendors (e.g., not statewide master contracts). Facilitates alerts	Replace by ERP
95	L&I	Front Counter	This is an application that is used to process all money received through the mailroom application, field offices, and credit card payments	Replace by ERP

			Inventory of State Administrative Systems	
#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
96	L&I	AIMS Vendor Pay system	This is an accounts payable system used to process journal vouchers to AFRS via batch submission through an FTP process	Replace by ERP
97	L&I	AIMS Cash Receipts	This system supports the processing of cash receipts and is used to track checks coming into the L&I mailroom and cashier, and it is also used to build deposits to send to AFRS	Replace by ERP
98	L&I	Spending Plan Application (SPA)	SPA allows agency budget staff to report on spending projections. Staff utilizes the SPA web application to facilitate tracking allotments, actual charges, and projected expenditures for each program index code in each respective division	Replace by ERP
99	L&I	ARC	The Accounts Receivable Collection (ARC) application is a centralized web-based system and database to hold the agency's accounts receivable information	Replace by ERP

		Inventory of State Administrative Systems		
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
100	L&I	FIRS	FIRS is an interactive reporting system used by budgeting to report against L&I's book of business. The application uses L&I's specific AFRS information downloaded to the L&I data-warehouse which currently resides on SQL Server 2008. FIRS provides a more user friendly interface for developing reports allowing the user to select from one of four main categories; Trend, Summary, Status and Variance (Long Sheet). The application allows the user to select from a number of criteria and sort sequences for both current and past biennium	Replace by ERP BI/Data Warehouse
101	L&I	Asset Tracking System (ATS)	ATS is used to track agency assets. It integrates with the ZENworks application to track software assets as well. WiseTrack is a purchased asset tracking system acquired in 2003	Replace by ERP
102	ESD	TEAMS - Time Reporting	Tracks time worked, leave and holiday taken, account codes to charge for work performed, and approval by employees and supervisors of the timesheet detail submitted each pay period. Calculates cost distribution by percent based on regular time worked and account codes charged. Determines amounts to compensate employees for calculations not provided by HRMS (e.g. occasional dual language and hourly paid holidays)	None - Replaced by TLA

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
103	ESD	HRDB - Agency Data Mart	Provides payroll detail with cost distribution by account codes from HRMS. Used as the source for labor distribution corrections to AFRS for unique detail used in the Unemployment Insurance program's federal budgeting requirements. Also used for internal reporting	Replace by ERP BI/Data Warehouse
104	ESD	FinancialDB - Agency Data Mart	Provides expenditure and revenue data from AFRS. Account coding detail used in conjunction with employee payroll detail to provide labor distribution corrections to AFRS for the Unemployment Insurance program's federal budgeting requirements. Also used for internal reporting	Replace by ERP BI/Data Warehouse
105	ESD	CAS - Cost Allocation	The ESD Cost Allocation System (ECAS) allocates costs from cost pools to projects on a monthly basis in accordance with the cost allocation plan negotiated between the Employment Security Department (ESD) and the U.S. Department of Labor	Replace by ERP

			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
106	ESD	Fixed Assets (AKA Remedy)	Tracks agency fixed assets as required by State, federal and agency policies. System provides reporting of acquisitions, depreciation and disposed assets to AFRS	Replace by ERP
107	ESD	FOS - Field Order System	Generates: field orders to procure goods and services from vendors. Tracks order and accounting details for each order. Produces a purchase request for the vendor, receiving report for the customer and request for a fixed asset property tag when needed for entry into the Fixed Asset System. The agency pays vendors through AFRS after performing a manual 3-way match (order, evidence of receipt and invoice)	Replace by ERP
108	ESD	Accounts Receivable Manual Tracking	No system exists for administrative receivables. The agency maintains small receivables using Excel spreadsheets or Access databases for annual reporting to AFRS	Replace by ERP
109	ESD	Grants Management Manual Tracking	Grants management is a mission-critical function for the agency. ESD is the recipient of numerous grants and also grants funds to other entities. ESD uses the project field in AFRS and manual Excel spreadsheets to track grants extending beyond a single biennium. Grants may be in place up to 5 years and have varied starting and ending dates	Replace by ERP
110	DOH	ADDS Data	ADDS data is a daily download of AFRS data from ER/Ad hoc. This information is used as the base for Cost Allocation system, Financial Services Contract Monitoring system, ADDS Gopher, and ADDS Reporter	Replace by ERP BI/Data Warehouse

		Inventory of State Administrative Systems		
#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
111	DOH	ADDS Gopher	The ADDS Gopher provides transaction level reports for every Program Index and Project. Every DOH expenditure is individually listed. Expenditures can be summarized by vendor, contract, or Sub-Sub Object. Or they can be listed chronologically. Advanced features include a searchable database of more than 10 years of transactions with user specified criteria	Replace by ERP BI/Data Warehouse
112	DOH	ADDS Reporter	The ADDS Reporter provides account level summary information useful for determining allotments, expenditures, and account balances. It also includes budget status reports to show if a program's monthly expenditures are greater or less than the amount budgeted	Replace by ERP BI/Data Warehouse
113	DOH	Attendance Portal	Application presents a centralized location for leave entry and attendance reporting	None - Replaced by TLA
114	DOH	Financial Contract Monitoring System (FCMS)	FCMS is a tool for monitoring expenditures and balances remaining on financial contracts. Contract amounts, encumbrances, expenditures and running balances are shown for all DOH contracts involving financial obligations. FCMS manages federal grant awards and reimbursements for grant expenditures	Replace by ERP
115	DOH	ILRS	Records and tracks licensing of health care practitioners and disciplinary actions associated with them and associated fees	None - Not Replaced by ERP

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
116	DOH	ILRS On-line/Consumer payment	System that allows certain licenses to renew and pay the associated fees for their credential online	None - Not Replaced by ERP
117	DOH	JVXFER Revenue Windows Client	JVXFER is a utility for entering AFRS transactions using the AFRS Batch Interface. It has largely been replaced by the AFRS Toolbox, (an OFM system)	Replace by ERP
118	DOH	NSF App	This application tracks Non-Sufficient Funds (NSF) check written to the DOH to pay fees associated with renewing of licenses in the medical profession or paying for services from DOH	None - Not Replaced by ERP
119	DOH	Remit Plus Windows Client	Application to manage and capture images of remittances to DOH. It also creates deposits for the bank and creates capture files for program areas within DOH	None - Not Replaced by ERP

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		Inventory of State Administrative Systems		
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
120	DSHS	Windows Allotment Reporting Program (WARP)	WARP is used throughout the year for programs to prepare allotments, review their allotments, and ultimately get their allotment into TALS/ AFRS. It is a standalone program which users install on their physical machine and edit databases get updated with legislative action (typically 1x a year). WARP is both a tool to build allotment packets, but also to review and summarize the allotments in ways which are useful for fiscal staff to review and ultimately approve allotments to ensure that legislative intent is met	Replace by ERP
121	DSHS	Facilities Management System (FMS)	FMS (Facilities Management System) is the primary system used by RCS for all licensing and certification of long-term care residential providers, including assisted living, adult family homes, ICF/ID and certified supported living. Enforcement and compliance data, as well as visit information for assisted living and adult family homes is contained. The system is not used as a financial management system, but does contain information about a provider's eligibility to be licensed, contracted, and amounts of annual fees that are due based on the number of beds for which they are licensed and/or certified	None - Not Replaced by ERP
122	DSHS	Grant Management System (GMS)	GMS is designed to provide an automated process for: (1) preparing, processing, and reconciling draws, (2) reviewing historical information related to draws, (3) prepare a federal claim and review previously filed claims, (4) reconcile a grant, (5) record and track potential Liabilities, (6) record notes on grants and draws, and (7) review basic information (contact names and phone numbers) for LOCs and grants	Replace by ERP

Inventory of State Administrative Systems				
#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
123	DSHS	ACH Debit – Automated Clearing House Debit	Used by DSHS programs to collect payment (e.g., collect child support payments)	Replace by ERP
124	DSHS	CAT – Cash Adjustment Tool	Used by OAS Cash Unit to transfer payments between various systems including CARS, CRS, RPS, PC Cash, and ProviderOne. It is also used for processing payments returned from the bank, sending or receiving JV's between agencies or within DSHS, making bank adjustments due to incorrect amounts, and transferring lockbox deposits	Replace by ERP
125	DSHS	CRT – Cash Receipt Tool	Intake for all DSHS cash receipts is done by DCS. For non-DCS cash receipts, DCS uses Opex scanners and Expert RPS and sends images and cash data to OAS. Unassigned payments are loaded to CRT for resolution by OAS Cash Unit. This includes assigning payments to OFR accounts/invoices, to suspense accounts, to non-receivables, and to AFRS coding only. The last step is to provide DCS with the bank deposit amount and rejected checks. DCS performs the bank deposit via Check 21 ICL transmission to the bank and OST courier when there is cash tender. OAS enters the A8 Cash Receipt in TM$	Replace by ERP

Inventory of State Administrative Systems				
#	System Owner	System Name	System Description/Function	Comments regarding Potential Replacement by ERP
126	DSHS	EFT – Electronic Funds Transfer	Used by DSHS programs to transfer funds into client bank account in lieu of issuing a warrant	Replace by ERP
127	DSHS	Expert RPS – Expert Remittance Processing System	The ExpertRPS solution is used to process payments directed to OFR for approximately 12 lines of business. The ExpertRPS solution was originally installed in 1993. DCS took over the front-end processing in 2010. That transition involved discontinuing use of NCR 7780 MICR encoding equipment in favor of the OPEX AS3690i extraction and scanning equipment	Replace by ERP
128	DSHS	PC Cash – Cash Processing System	PC Cash is a cash receipt management tracking and reporting system used to process institutional receipts received by DSHS	Further Analysis Required
129	HCA	Oracle Financials	Used by the IT department to net or summarize transactions before sending to AFRS	None - Not Replaced by ERP
130	DOC	EIS – Budget	Budgetary reporting application that pulls information from Web Intelligence and AFRS database. DOC maintains budgetary control through operational leaders. Financial information and Operational leader information is merged and analyzed for data integrity and spending or transfer authority of allocated funds	Further Analysis Required

		Inventory of State Administrative Systems		
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
131	DOC	Data Cube - DW	The Data Cube, using Microsoft Analysis Services, SQL Server 2008 R2, is designed for Health Services to provide detailed data related to offender healthcare. Information from multiple agency and statewide systems is used to analyze offender healthcare services, staff costs, goods and services to enable the Department to provide clinical and financial cost information of an offender. Data will be pushed from DOC applications and Statewide applications to include; OBIT, CIPS, OMNI, HRMS and AFRS	None - Not Replaced by ERP
132	DOC	AFRS Security Database	This is a simple access database that helps us maintain internal control over AFRS access electronically. The base file for the database is a G38 AFRS Security file that is compared to HRMS	Replace by ERP
133	DOC	G38 - DW	Multiple files from G38 are put into a various access databases to assist with the AFRS vendor file, Subsidiary accounts, Transcodes, and AFRS Security	Replace by ERP
134	DOC	TRACKS - Procurement	DOC Purchasing System that records product, delivery and approval processes and produces an official Purchase Order	Replace by ERP
135	DNR	Nature	Administrative system that provides the ability to create customer invoices, track customer accounts, and record payments against customer accounts. Also, system contains legal descriptions and asset data that is accessed and reported on by other DNR administrative systems.	Replace by ERP

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			Inventory of State Administrative Systems	
#	**System Owner**	**System Name**	**System Description/Function**	**Comments regarding Potential Replacement by ERP**
136	DNR	FES	AP system developed in-house. Tracks additional programmatic information than AFRS	Replace by ERP
137	DNR	CAS	DNR's cost allocation system. Primarily allocates trust and proprietary funds	Replace by ERP
138	DNR	FASTER	Fleet management system	None - Not Replaced by ERP
139	DNR	AMMS	Warehouse management system that tracks inventory and billing interface to CAS	Replace by ERP
140	DNR	Labor Reporting System (LRS)	Manual time and leave tracking system	None - Replaced by TLA

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Appendix C: Elements of a Modern Financial System

Following are descriptions of each functional area included in the assumed scope of a statewide ERP system initiative for this work effort:

Financial Management Functionality

General Ledger and Budgetary Control

The General Ledger is an integrated central repository of statewide financial data. Numerous types of financial transactions are recorded in the General Ledger, both directly and through data received from other ERP modules and from interfacing external systems. The General Ledger is the key function used for financial reporting. The Chart of Accounts is established and maintained in the General Ledger. Additionally, budgetary control is established and enforced through this function. Traditionally, this function is implemented first as most other functions require some interaction with the General Ledger.

Additionally, the General Ledger provides:

- Journal entry processing;

- Recurring transaction generations;

- Interfund/interagency journal vouchers;

- Interfund/interagency billings and receivables;

- Month-end and year-end closing;

- Fund accounting;

- Encumbrances and Pre-encumbrances; and

- Operating budgets.

Accounts Payable

The Accounts Payable function addresses the various means by which the State pays for goods and services. This function records liabilities and payments and performs the automated matching process, which matches the vendor invoice to the original purchase order and the receiving report. The automated match ensures that the invoice complies with quantity and pricing terms defined in the purchase order and that the goods and services were received in good order. Before a payment is processed, a successful "match" must be completed and sufficient budget must exist to cover the payment. The Accounts Payable function shares the vendor file with the Procurement function. Accounts Payable functionality includes:

- Invoice processing;

- Automated matching process (Purchase Order [PO], Receiving Report, Invoice);

- Disbursement and remittance processing (warrant/check printing, direct deposit, and handling);

- Refund processing;

- Payment holds;

- Discounts;

- Banking information;

- Payment authorization;

- Processing cancelled and stale dated warrants;

- Trust account processing;

- Payment information requests;

- Automated bank reconciliation;

- Form 1099 processing; and

- Procurement/payment card processing.

Accounts Receivable and Billing (includes Cash Receipting)

The Accounts Receivable function is a fully integrated component of the ERP system. The Accounts Receivable function creates invoices, establishes receivables, and records payments received. This function creates and maintains a customer file and accounts for all transactions effecting specific customer accounts. Through ERP integration, the Accounts Receivable function automatically updates the summary Accounts Receivable balances in the General Ledger.

Accounts Receivable functionality includes:

- Customer maintenance;

- Billing/Invoicing;

- Debt set-off;

- Interagency billings;

- Cash receipts processing; and

- Point-of-sale transaction processing.

In addition, the Accounts Receivable function will provide limited collection functionality, including the ability to automatically generate dunning notices.

FHWA Federal Aid Billing

The Federal Highway Administration (FHWA) Federal Aid Billing function is designed to support billing of FHWA and other third parties, such as the Federal Transit Agency (FTA), and other states and local political subdivisions for their share of the cost of transportation projects.

The FHWA Federal Aid Billing function will maintain the details about project participation agreements with FHWA and other third parties, and integrate with the FHWA Federal Management Information System (FMIS) to support establishment and modification of participation agreements.

The FHWA Federal Aid Billing function will accommodate a complete Accounts Receivable cycle, including billing entry, billing and cash receipt (drawdown functionality) to reconcile to expenditures billed. It will identify and accumulate eligible project costs for billing and automatically bill eligible costs based on various business rules. It will also electronically interface with FMIS and potentially other third-party systems to create and transmit the bill.

Budget Development

The ERP Budget Development function enables the development of a state's budget at the agency (operating) and the statewide (allotment) levels. Budget Development integrates with the Human Resources modules to facilitate salary projections and the General Ledger to upload budget data for budgetary control. This module is intended to support the analysis of historical expenditure and budget data, allow "what if" analyses, salary and position budgeting, salary projections, and other types of forecasting.

Additionally, the Budget Development module provides Word Processing and Publishing functionality to support the development of the Governor's budget submissions.

Budget Development functionality required by sophisticated governments has been the "weak link" in ERP systems in the past; so many governments have addressed their budget preparation needs through electronic spreadsheets or third-party Budget Development applications. That said, there have been significant functional enhancements to the Budget Development modules in ERP systems in recent years to make them viable solutions for potentially meeting statewide and agency-specific Budget Development needs.

Grants Management

Grants Management includes functionality to manage the full life cycle of a grant from the application process through initiation, grants accounting, ongoing reporting and closeout.   This includes situations in which an agency is both a grantee and a grantor.

Grant Management capabilities support the establishment of a grant budget and the recording of expenditure activity against the grant budget and predefined grant budget categories. These

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capabilities also allow for the reporting of grant activity by period or over the life of the grant award.

Other Grants Management capabilities allow for the recording of detailed information about each grant, grant application activity, as well as grant drawdown activity. In addition, grantees of grants can provide required reporting submissions electronically via the Web.

Project Management

The Project Management functionality addresses the recording, tracking, and reporting of financial data for projects and contracts. This function typically supports the key processes for operating and capital projects, including budget development, project development, execution, and project closure.

The Project Management function typically supports the establishment of a project budget (which is typically linked to a funding source), and the recording of expenditure activity against the project budget (by predefined project task or activity). These modules also allow for the reporting of project activity by period or over the life of the project.   The Project Management function also includes the ability to maintain and track against a high-level project schedule and integrate with other scheduling tools such as Oracle Primavera.

Cost Accounting/Allocation

The Cost Accounting/Allocation function supports the development of the annual Statewide Cost Allocation Plan (SWCAP). The purpose of the SWCAP is to allocate administrative and other indirect costs to services provided and programs operated by the State. Additionally, the SWCAP is used to burden federally funded programs with their reasonable, allowable, and allocable share of these administrative and indirect costs. As a result, the State's SWCAP must be approved by the Division of Cost Allocation of the United States Department of Health and Human Services.

This function supports statewide and agency-level Cost Accounting/Allocation requirements to distribute indirect and administrative costs. Agencies are faced with the problem of accurately charging direct and indirect costs to programs, projects, and grants. Agencies employ a variety of methods to distribute labor costs to the various programs, projects and grants. Integration with the Time Reporting and Payroll Administration modules will provide the cost accounting/allocation function with the time and labor cost information it needs to accurately charge labor costs to the appropriate programs, projects, and grants.

This labor-related data can also be used as an allocation base to allocate non-labor costs. In addition, the Cost Accounting/Allocation function will capture non-financial statistical data (e.g., square footage, number of employees, kilowatt hours, miles of road, etc.) that is also used to allocate non-labor-related costs.

Asset Management

The Asset Management function is used to capture and maintain information associated with the organization's leased, capitalized, and non-capitalized assets. Information maintained by this function includes acquisition cost, asset type, anticipated useful life, location, asset description, model number, serial number, insurance information, and replacement cost.

The Asset Management function provides the ability to track assets for both internal control and financial reporting purposes. This function provides automatic "flagging" of goods as potential capitalized and controllable assets based on specified parameters (selected object codes and threshold amounts) to reduce the possibility of capital assets going unrecorded. This function also provides the ability to define what assets will need to be depreciated, as well as the method of depreciation appropriate for each asset.

Asset Management functionality includes:

- Asset additions and maintenance;

- Disposal, retirement, and theft of assets;

- Surplus property;

- Asset depreciation;

- Physical inventory;

- Capital projects;

- Capital leases; and

- Warranties and service.

Travel

The Travel function is intended for use in processing travel advances, settling travel advances, processing travel card payments, and reimbursing employees for travel expenses.

Cash Management

The Cash Management function processes all cash transactions. Cash payments are made by warrant/check, EFT, and wire transfer. Cash receipt transactions are recorded as agencies receive cash and make deposits to centralized or local bank accounts. Each of these transactions is processed by the cash management function.

Cash Management also maintains a history and status of all payment transactions. This information is made available online to State agencies and to vendors through vendor self-service, which allows agencies to easily respond to inquiries concerning the status of vendor payments and provides vendors with the ability to check the status of their own payments.

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Additionally, the Cash Management function provides the capability to fix the State's cash position each day, develop cash projections, and support the identification of cash requirements for both the long and short term. The Cash Management function also performs the Cash Management Improvement Act (CMIA) calculation to support the drawdown of Federal funds.

Procurement and Logistics Functionality

Procurement

The Procurement function provides support for traditional Procurement functions, such as Requisitioning, Solicitations, Purchase Order processing, Contract Management, and Goods and/or Services Receipt. Vendor and Commodity Maintenance are also addressed in this module.

The Procurement function also provides support for e-Procurement initiatives, such as Web-based vendor registration, online catalog procurements, "pushing" of procurement opportunities to vendors based on the commodities serviced, and Web-based solicitations.

The Procurement function will automate and integrate the entire Procurement process, from Purchase Requisition through the Receipt of Goods and Services. It will also provide for full accounting integration (e.g., automatic creation of a Pre-encumbrance when a Purchase Requisition is approved, automatic creation of an Encumbrance and liquidation of the associated Pre-encumbrance when a Purchase Order is approved).

Vendor Self-service functionality allows vendors to perform specific functions through the Web, including the following:

- Register as a vendor to the State;

- Maintain authorized data elements (e.g., goods/services they provide by commodity, contact information);

- Submit proposal responses electronically for select procurements conducive to electronic bid submission; and

- View the status of transactions (e.g., Purchase Order issued, Goods Receipt, Invoice Receipt, and Payment Request).

Warehouse Inventory

The Warehouse Inventory function supports the establishment, storage, tracking, and disposal of inventory items, automated inventory replenishment at predefined reorder points, and recording of all inventory activity. The Warehouse Inventory function is typically integrated with the Purchasing and Accounts Payable functions, and checks the General Ledger for funds availability when replenishing goods in inventory.

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This function will only be used by organizations that maintain warehouse inventories.

Fleet Management

The Fleet Management function provides an enterprise-wide repository for managing all of the fleet and equipment units, while providing flexibility for managing fleet and equipment either centrally or at the agency level. The Fleet Management function supports a wide range of fleet and equipment types, ranging from passenger vehicles, light duty trucks, buses, and all-terrain vehicles to construction and agricultural equipment.

The Fleet Management function provides a comprehensive fleet inventory, warranty and preventive maintenance scheduling, work order management, parts history, and repair history. It also provides labor tracking/analysis, downtime analysis, fuel management/ analysis, and tire management.

The Fleet Management function supports the management of multiple enterprise or agency-level motor pools and provides support for costing and billing of agencies and third parties for Fleet Management services.

Note: The Fleet Management function is not within the scope of this analysis as DES plans to have statewide Fleet Management system implemented within the next 18 month. It is our recommendation that an analysis be conducted to determine whether to integrate/interface the Fleet Management system implemented by DES with a new ERP financial management system or replace it with the ERP's delivered Fleet Management module, which will already be fully integrated across all ERP Financial modules.

Facilities Management

The Facilities Management function provides a repository to support managing a range of facilities owned and operated by the State.

The Facilities Management function maintains an inventory of facilities, sub-facilities, systems, and sub-systems. The Facilities Management function can provide a tool for tracking building, facility and other space needs of State agencies. It also supports tracking of utility and other operating costs at a facility or sub-facility level. This functionality provides the State with better information to evaluate the total cost to own or operate a facility, and enables more accurate comparisons of facility alternatives.

The Facilities Management function supports tracking warranties and preventive maintenance, scheduling maintenance work crews, managing problem reporting from State employees and the public, and managing work requests, work orders and work reporting. It also tracks keys and security cards and manage parking assignments and parking priority lists.

System-Wide Functionality

Security

Security is used to regulate who has access to what information. ERP systems typically offer a comprehensive security function that provides for:

- User log-in;

- Row level (record) security;

- Data field level security;

- Restricted access to specific screens or processes;

- Object security; and

- User group security.

Workflow

Workflow functionality allows for the establishment of business rules, roles, and routings that are used to route electronic documents (e.g., Purchase Requisition, Employee Timesheet) to proper supervisors and management for approval. Governments most often use workflow in conjunction with Procurement and Personnel Administration processes. Workflow facilitates an organization's transition to a "paperless" environment. To work properly, workflow typically requires configuration and a degree of standardization of approval processes across the enterprise. For this reason, the workflows, including decentralized/centralized approval steps that are implemented, must be business-justified.

Reporting

ERP systems typically provide a suite of reporting tools that are used to develop ad hoc reports and online queries.

- Core business reports to support day-to-day business functions (e.g., payroll register, check register);

- Control reports generated to ensure the operational integrity of the ERP business functions (e.g., control totals, record counts);

- Typical federal and state government reporting requirements;

- Predefined reports that are automatically generated and distributed (available from end users' desktops); and

- Self-service reports and downloads that are either predefined and selected (pulled by the user) or created ad hoc from a prepopulated user-friendly database structure using user-friendly report tools.

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Data Warehouse and Business Intelligence

More and more governments are utilizing Data Warehouses and supporting Business Intelligence tools to address their enterprise reporting requirements. These data repositories collect data from the ERP system and other external data sources after being normalized. Various financial reports can then be generated from the Data Warehouse. Additionally, the Data Warehouse is typically a key component in addressing taxpayer transparency initiatives.

Technology Enablers

In addition to providing fully integrated functionality across State government, other leading elements of an ERP system lie within the technology enablers that support the system. Key technology enablers found in ERP software include:

Integration with a Common Database

The most distinguishing factor of an ERP system is its integration across all system modules. Alternatively, the current environment utilizes separate stand-alone statewide administrative systems and agency "shadow" systems to address business needs not being met by the existing statewide systems. Some legacy systems include automated interfaces to simulate a limited level of integration.

Integration in an ERP system is supported by a single database across all functions (or a set of fully integrated databases). In this way, data elements (e.g., account codes) are not duplicated when used for more than one purpose. With no duplication, every function has access to the most recent information, and once any change is made, it is immediately available to all functions.

Real-Time Processing

Many of the current administrative systems perform a majority of their transaction processing via batch jobs that process only a few times a day or during a nightly batch run. This limitation results in delays between entry of an action into the system and availability of the data for use by the end user. In contrast, ERP systems use real-time (or near real-time) processing, so transaction results are immediately available to all system modules. Reports are generated using a single, up-to-date data source that helps to provide the State's leadership with a "single source of the truth."

Increased Functionality/Best Business Practices

Today's ERP systems provide a considerable amount of functionality to meet governmental financial management, procurement, asset management, human resources/payroll, and other

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administrative business needs. The application modules that often compose ERP systems have been designed in accordance with industry-standard best business practices.

While best practices have not been defined by any governing body or research firm for the private or public sector, such practices have evolved over time with each new software release and have been validated with each ERP implementation. Best practices, together with the flexibility provided by other technology enablers inherent in ERP software today, allow governments to conduct their administrative business processes in a more efficient and effective manner. Best practices promote standardization of business processes across government, and it is critical that the State embrace these practices in order to implement the ERP software with minimal customization. Some simple examples of best practices found in ERP systems include:

- Asset Management module "sweeping" the Accounts Payable module for potential capitalized and controllable assets based on specified parameters (selected object codes and threshold amounts) to reduce the possibility of capital assets going unrecorded;

- Electronic three-way match of invoice, purchase order, and receiving report reduces the use of paper documents and processing time, and allows staff to focus their efforts on exception resolution;

- Distribution of the automated requisitioning function eliminates the paper requisition document; sourcing rules and workflow ensure compliance with pre-defined procurement rules and approval paths to ensure the lowest cost for goods and services purchased and reduce maverick (off-contract) spending by the participating organizations;

- Web-based vendor self-service functionality allows vendors to select the commodities they service as part of vendor registration and maintenance; bid opportunities are then automatically sent to all vendors that service the commodity to be purchased. Additionally, small vendors get access to bid opportunities they might not otherwise know about; and

- Vendor access to self-service payment information reduces staffing required to answer vendor inquiries.

Web-Based/Open Architecture

Today's leading ERP solutions are designed to be accessed through the use of an industry-standard Web browser. Vendor products are transitioning to a "pure Web-based" architecture whereby no code resides on the client other than the Web browser. Web-based ERP solutions result in easier deployment and lower costs of IT infrastructure, network administration, and information access.

As ERP functionality matures, the need will arise to grant access to those individuals not traditionally considered users of ERP systems, such as vendors, mobile managers, and all employees for self-service functions, to name a few. A Web-based system facilitates providing

this access at a lesser cost to the State. End users can gain access to the ERP system at any time as long as he/she has access to a Web browser and the proper security authorizations.

The leading ERP systems also comply with open architecture standards. Open architecture provides a means whereby the ERP system can be linked to specific "best-of-breed" software if the need arises (e.g., possibly to meet Fleet Management requirements). Open architecture also provides the ability to interface the ERP system to common desktop "office suite" applications (see Desktop Software Integration below).

Scalability

Scalability allows the State to size its system components to meet its ever-changing business needs. Increased capacity can be added, upgraded or removed as computing needs change, without substantial changes to the application. Scalability considerations include increasing memory, adding additional processors, and installing additional disk storage.

Portability

Portability provides the flexibility for application software systems to run on multiple hardware platforms or provides built-in capabilities for switching between platforms without requiring additional customization, thus allowing the State to adapt the system to the State's technical landscape as it changes over time.

Graphical User Interface

ERP systems utilize a graphical user interface (GUI) that provides user-friendly features similar to other office functions on the user's desktop, such as intuitive icons, pull-down menus, point-and-click navigation, pop-up windows, scroll bars, radio buttons, the use of color for clarity and emphasis, and tool bars to assist in the user's learning and ongoing use of the system. They also provide online help menus and online documentation, as well as screens that can be customized to user roles, to enhance the end user experience. The same interface and commands are used for all functions, thereby facilitating training for users that access multiple functions and functional areas.

Extensive Development Toolset

ERP systems provide for a single (often proprietary) toolset to support software configuration, customization, troubleshooting, and ongoing maintenance of the system. Although use of the toolset requires specialized training and technical knowledge, the development toolset is typically integrated with the functional ERP software and is supported by the vendor. The development tools are also utilized in establishing workflow, managing security, and in implementing a software upgrade.

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Application Modularity

An ERP system consists of a series of application modules (e.g., General Ledger, Accounts Payable, Purchasing, Asset Management, and Payroll). A breakdown of typical modules is described above in the sections titled financial management Functionality and Procurement and Logistics Functionality. Some of these application modules are designed to work in stand-alone mode if necessary, though some modules require that other modules be in place to fully utilize the functionality provided. This modular approach allows governments to selectively implement ERP functionality based on functional need, priorities, funding availability, and staff availability to implement and support the system. The entire ERP solution may be built on a piecemeal basis. Additionally, the government can substitute a third-party solution in lieu of a specific ERP module if necessary to meet a specific business need.

Security

ERP systems provide a robust security function across all ERP modules, including role-based security, screen and field level security.

Drill-Down Capability

ERP drill-down capabilities allow an end user to drill down on a field on a screen or report through successively lower levels of detail all the way to the initial entry source document.

Comprehensive Audit Trail

ERP systems provide online access to a comprehensive history of all changes made to a record in the system.

Desktop Software Integration

ERP systems provide the ability to easily extract data from the ERP system into common desktop "office suite" applications such as the Microsoft Office suite for data manipulation and analysis. Most ERP software also supports the import and export of data to/from the ERP system, which can facilitate the uploading and downloading of information from different systems or sources.

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Appendix D: Comparison to Modern Administrative System

For the purpose of this analysis, we compared Washington's current financial management system to key characteristics currently offered by a modern ERP system that a majority of states operate today. To facilitate this comparison, we organized ERP key characteristics by functional area and quantified what we considered to be the relative level of functionality Washington's statewide financial management system provides in comparison to the specific ERP key characteristic. The indicators are defined as follows:

0 = Current system provides no functionality compared to a modern ERP system

4 = Current system provides full functionality compared to a modern ERP system

The relative degree of comparable functionality between no functionality and full functionality is depicted as 1 = Low, 2 = Medium, and 3 = High.

General Ledger

ERP Key Characteristics	Washington Financial System	Comments
Full GL integration with Purchasing, Accounts Payable, Inventory, Asset Management, Project Management, and other modules	1	- AFRS lacks integration with other statewide system - No statewide Purchasing system with integrated contracts, requisition, Procurement, and Receiving functionality; - CAMS is a stand-alone system - No statewide Inventory system; agencies operate their own "shadow" system as needed, updating AFRS GL on a periodic basis
Centrally established and maintained Chart of Accounts integrated to support all ERP system modules	2	- AFRS limited Chart of Accounts fields does not support Agency-specific use and statewide reporting needs (e.g., AFRS Project field used to record Project and Grant activities by agencies - Agencies' stand-alone systems are updated manually with Chart of Account values
Automatic creation of recurring Journal Voucher (JV) transactions based on flexible user-defined calendars	2	Financial Toolbox batch-upload utility provides some assistance in processing recurring JV transactions – user manually retrieve previously upload file, updates the file, as needed, and then, uploads the modified file

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ERP Key Characteristics	Washington Financial System	Comments
Interfund/interagency journal vouchers functionality	4	▪ AFRS provides interfund/interagency journal voucher functionality
Interfund/interagency billings and receivables functionality	4	▪ AFRS provides interfund/interagency journal voucher functionality
Establish control budgets (appropriation and allotment) at a statewide level and agency organization level (organizational, program) grant, project level	1	▪ AFRS provides the ability to enter allotment, program, and project budgets for tracking purposes only
Real-time budget control to ensure transactions are verified on real-time basis against established budgets	1	▪ AFRS does not provide real-time budget control against established budgets ▪ AFRS allows expenditures to exceed established budgets. OFM monitors agencies' budgets via Enterprise Reporting and notifies an agency when a budget is exceeded

ERP Key Characteristics	Washington Financial System	Comments
Online real-time budget inquiry tracking pre-encumbrances, encumbrances, expenditures, and remaining spending authority against statewide-level ,agency, grant and project-level established budgets	1	▪ AFRS does not provide real-time budget inquiry tracking pre-encumbrance, encumbrances, expenditures, and remaining spending authority (RSA) against statewide-level and agency-level established budgets ▪ Agencies use Enterprise Reporting for budget inquiry purposes. Inquiry is limited tracking revenues and expenditures, and excludes pre-encumbrances and encumbrances.

Accounts Receivable (AR) and Billing (BI)

ERP Key Characteristics	Washington Financial System	Comments
Full AR & BI integration with General Ledger, Grants Management, Contracts, Project Management, and other modules	0	▪ No statewide AR system that fully integrates with General Ledger, Grants Management, Contracts, Project Management, and other modules ▪ Statewide Solomon AR system is used by approximately eight agencies; other agencies operate their own AR "shadow" systems, updating AFRS periodically (e.g., monthly, quarterly, or yearly)

ERP Key Characteristics	Washington Financial System	Comments
Automated billing/invoicing processing, which includes interagency billings	2	▪ Automated billings are processed in Solomon AR system, AFRS is updated periodically (e.g., monthly, quarterly, or annually) by agencies
Cash receipt processing and reporting	3	▪ Solomon AR provides cash receipt processing, but requires manual dual entry of deposit into AFRS
Generate dunning notices and AR account summary reporting	4	▪ Statewide Solomon AR system provides dunning notices and AR account summary reporting
Debt Set-off functionality that identifies and offsets a customer's receivable balance with that customer's payable balance (i.e., offsets the amount the State owes a customer with the amount the customer owes the State)	0	▪ Statewide Solomon AR statewide system does not provide Debit Set-off functionality

Accounts Payable

ERP Key Characteristics	Washington Financial System	Comments
Full AP integration with Purchasing, Inventory, Asset Management, General Ledger, and other modules	0	▪ No statewide AP system that fully integrates with Purchasing, Inventory, Asset Management, General Ledger, and other modules
Automated match process that ensures an invoice complies with quantity and pricing terms defined in the purchase order and that the goods and services were received in good order (inspection) before a payment is processed	0	▪ No statewide AP system that provides statewide automated match process (e.g., 3-way match [invoice, purchase order, receiving report] or 4-way match [invoice, purchase order, receiving report, and inspection])

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ERP Key Characteristics	Washington Financial System	Comments
Automated workflow approval process based on flexible routing criteria such as department codes, amounts, and commodity codes, for example	0	▪ AFRS does not provide AP automated workflow approval process
Disbursement and remittance processing such as warrant/check printing, direct deposit, and handling, which is based on each vendor's setup	4	▪ DES currently handles disbursements and remittance processing on behalf of agencies ▪ The Statewide Vendor (SWV) file designates vendor payment method (e.g., direct deposit, check, etc.) ▪ A vendor's payment method can be overwritten in AFRS at the time of voucher entry
Automated recurring voucher processing based on flexible end-user defined calendars	2	▪ Financial Toolbox batch-upload utility provides some recurring AP voucher functionality – user manually retrieve previously upload file, updates the file, as needed, and then, uploads the modified file
Processing travel advances, settling travel advances, processing travel card payments, and reimbursing employees for travel expenses	3	▪ Travel Expense Management System (TEMS) provides all functions related to travel processing with the exception of the issuance of a travel advance. The issuance and tracking of a travel advance is done manually outside of TEMS

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ERP Key Characteristics	Washington Financial System	Comments
Procurement Card processing includes automated downloading into AP module from Procurement Card provider to ensure efficient and accurate payment processing	2	▪ Automated download of Procurement Card charges is currently available, but not directly into the AFRS AP system. Users currently download Procurement Card charges to a spreadsheet where users complete account coding, and then use Financial Toolbox to upload data into AFRS
Payment authorization functionality, which includes placing vendor payments on "hold", as needed	4	▪ Statewide Vendor file provides functionality for placing vendors on "Hold", as needed
Automated bank reconciliation, which significantly reduces the effort required to reconcile large transaction volumes	0	▪ AFRS does not provide automated bank reconciliation process to reconcile cash accounts in AFRS
1099 year-end processing and handling in compliance with IRS rules and regulations	4	▪ Account Ability system will be used for the first time for 1099 year-end processing and handling FY 2012

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Asset Management

ERP Key Characteristics	Washington Financial System	Comments
Full AM integration with General Ledger, Procurement, Inventory Management, Project Management, and other modules.	0	▪ CAMS does not provide full integration with General Ledger, Procurement, Inventory Management, Project Management, and other modules
Full featured AM functionality to track and maintain leased, capitalized, and non-capitalized assets	1	▪ CAMS is a stand-alone Asset Management system used to track the State's leased, capitalized, and non-capitalized assets ▪ CAMS does not provide adequate reporting to meet agencies' needs. Many agencies maintain their own AM "shadow" systems to track capital and non-capital assets and only report their change in assets in AFRS on a yearly basis for CAFR purposes
Track asset additions, disposals, retirements, and thefts	2	▪ While CAMS does provide basic tracking of asset additions, disposal, retirement, and thefts, it does not provide user-friendly reports on the additions, disposals, retirements and thefts of assets.
Automatic "flagging" of goods as potential capitalized and controllable assets based on specified parameters (selected object codes and threshold amounts) to reduce the possibility of capital assets going unrecorded	2	▪ Neither CAMS nor AFRS provide this automatic "flagging" of goods as potential capital or controllable assets based on specific parameters

ERP Key Characteristics	Washington Financial System	Comments
Ability to define what assets will need to be depreciated, as well as the method of depreciation appropriate for each asset	3	▪ CAMS provides depreciation functionality; AFRS is updated with depreciation expense manually via journal entry.
Generates reports by location for year-end physical inventory, containing detailed information such as acquisition cost, asset type, location, asset description, model number, serial number, insurance information, and replacement cost	2	▪ CAMS does not currently track assets by location. Many agencies use their own AM "shadow" systems to track items at a greater level of detail

Warehouse Inventory Management

ERP Key Characteristics	Washington Financial System	Comments
Full Inventory Integration with General Ledger, Purchasing, Accounts Payable and Budget modules	0	▪ AFRS does not provide statewide Warehouse Inventory Management functionality. Many agencies maintain their own Warehouse Inventory Management systems and only record summary inventory balances in AFRS on a periodic basis
Tracks the establishment, storage, tracking, and disposal of Inventory items	0	▪ No statewide Warehouse Inventory Management is currently provided
Automated Inventory replenishment at predefined reorder points, and recording of all Inventory activity	0	▪ No statewide Warehouse Inventory Management is currently provided

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Procurement

ERP Key Characteristics	Washington Financial System	Comments
Vendor Self-service functionality allowing vendors to perform specific functions via Web such as: (1) register as a vendor to the State, (2) maintain authorized data elements (e.g., goods/service they provide by commodity, contact information, etc. (3) submit proposals responses electronically, and (4) view the status of transactions (e.g., purchase orders issued, goods received, invoices received, and payment issuance)	2	▪ WEBS provides Vendor Self-service functionality, with the exception of submitting proposals electronically and viewing the status of transactions (e.g., purchase orders issued, goods received, invoices received, and payment issuance)
Online Catalog Procurement of goods and services based on pre-negotiated statewide contracts	1	▪ OFM maintains several statewide contract databases (PSCD, ECMS, and CSCD) primarily to meet legislative reporting requirements. With the lack of a statewide Procurement system, there are no system edits to enforce agencies' compliance with statewide Procurement rules and regulations
"Pushing" Procurement opportunities to vendors based on commodities serviced	4	▪ WEBS provides "pushing" Procurement opportunities to vendors based on commodity codes
Electronic submission of vendor proposals	0	▪ No statewide Procurement system that supports electronic receipt of proposals
Automates and integrates Procurement process, from Purchase Requisition to the Receipt of Goods and Services.	0	▪ No statewide Procurement system that supports automated or integrated Procurement processes

ERP Key Characteristics	Washington Financial System	Comments
Full accounting integration (e.g., automatic creation of an Encumbrance and liquidation of the associated Pre-encumbrance when a Purchase Order is approved)	0	▪ No statewide Procurement system that provides automated or integrated purchasing processes
Status inquiry of transactions (e.g., Purchase Order issued, Goods Receipt, Invoice Receipt, Payment Requested).	0	▪ No statewide Procurement system that provides status inquiry of transactions

Project Management

ERP Key Characteristics	Washington Financial System	Comments
Full PM integration with General Ledger, Procurement, Accounts Payable, Accounts Receivable/Billing, and Asset Management	2	▪ AFRS does not provide statewide Project Management functionality that is fully integrated with General Ledger, Procurement, Accounts Payable, Accounts Receivable/Billing, and Asset Management Instead, agencies use the Project field at the General Ledger level to track cost on a limited basis
Record, track, and report financial data by period or over the life of the project or contract	1	▪ AFRS provides limited recording, tracking and reporting functionality through the use of the Project chartfield
Establish project budgets with fund source links and the recording of expenditures activity against the project budget by predefined phase, activity, project task, etc.	1	▪ AFRS does not provide project budget with fund source linking functionality to record expenditures against a project budget

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ERP Key Characteristics	Washington Financial System	Comments
Ability to integrate with other Project Management Scheduling tools which is typical for Department of Transportation (DOT) organizations	1	▪ WSDOT currently uses various stand-alone PM Scheduling tools.
Functionality to meet State Transportation Improvement Program (STIP) requirements as determined by the Federal Highway Administration (FHWA)	0	▪ WSDOT utilizes a manual process for developing the Statewide Transportation Improvement Program (STIP) as required by the Federal Highway Administration (FHWA).

Cost Accounting/Allocation

ERP Key Characteristics	Washington Financial System	Comments
Full CA Integration with the Time Reporting and Payroll modules to provide the Cost Accounting/Allocation function with the Time and Labor cost information it needs to accurately charge labor costs to the appropriate programs, projects, and grants	1	▪ The CAS system provides a custom Cost Allocation methodology designed and built for DSHS and currently used by few other agencies. CAS is not easily configurable to accommodate Cost Allocation methodologies other than originally programmed
Flexible and robust CA tool to meet each agency's unique CA needs by accommodating a variety of methods to distribute labor costs to the various programs, projects and grants	1	▪ The CAS system only designed to meet the needs of DSHS and HCA
Cost Accounting/Allocation functionality to capture non-financial statistical data (e.g., square footage, number of employees, kilowatt hours, miles of road) that can also be used to allocate non-labor-related costs	0	▪ The Cost Allocation System (CAS) does not provide this type of reporting/allocation functionality. ▪ WSDOT cost allocation system is antiquated and inflexible, as a result: ▪ WSDOT is currently conducting a detailed system review of the LABOR system in conjunction with the Time, Leave, and Attendance (TLA) team

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ERP Key Characteristics	Washington Financial System	Comments
		▪ WSDOT would like to see one cost allocation tool that can manage multiple allocation types and rules to accommodate all agencies needed

Cash Management

ERP Key Characteristics	Washington Financial System	Comments
Full CM integration with General Ledger, Accounts Receivable, Cash Receipts, Accounts Payable and other modules	0	▪ AFRS does not provide full CM integration with General Ledger, Accounts Receivable, Cash Receipts, Accounts Payable and other modules
Maintains history and status of all payment transactions, which is available online to agencies and vendors through Vendor Self-service	1	▪ Payment information is not available to vendors through Vendor-Self-Service. Instead, vendors must call OFM Help Desk to inquiry on detail payment information

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ERP Key Characteristics	Washington Financial System	Comments
Provides capability to report on the statewide cash position each day, develop cash projections, and support the identification of cash requirements for both short term and long term	1	▪ AFRS does have the ability to provide reporting for book balance each day. It does not have the ability to provide cash projections or support identification of cash requirements for short term or long term. However, the Treasury Management System (TM$) tracks both cash and book balance
Performs the Cash Management Improvement Act (CMIA) calculation to support the drawdown of Federal funds	0	▪ DES does not support an enterprise solution that can perform the CMIA calculation for the drawdown of Federal funds

Grants Management

ERP Key Characteristics	Washington Financial System	Comments
Full life cycle Grants Management, from the application process through initiation, Grants Accounting, ongoing reporting and closeout.	0	▪ No statewide system that provides full life cycle Grants Management
Establish grant budget and the recording of expenditure activity against the grant budget and predefined grant budget categories	1	▪ Agencies currently utilize the AFRS project field at the General Ledger level to track grant expenditures
Record and track detailed information about each grant, as well as grant drawdown activities	0	▪ No statewide system available to record and track detailed information about each grant and cash drawdown activities

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ERP Key Characteristics	Washington Financial System	Comments
Enables grantees to provide required reporting submissions electronically via the Web	0	▪ No statewide system is available to provide functionality that enables State grantee reporting submissions electronically via the Web

Appendix E: Inventory of *Value Pockets* Surveyed

Exhibit 39 – Effort-Based Value Pockets

Value Pocket Number	Functional Area	*Value Pocket* Activity
1	Accts Payable	Manually entering Invoice data into a primary AP system (i.e., only include time spent entering data into a primary system[s], but do not include time spent entering data into a second/"shadow" system that would be replaced by an ERP system).
2	Accts Payable	Entering recurring payments into agency payment systems (i.e., entering the recurring payments from scratch each time a payment is to be made and not being able to use system functionality to automatically generate recurrent payments). This only applies to agency-specific "shadow" systems that: (1) would be eliminated by the implementation of the statewide ERP system, and (2) do not have to capability to set up and then process recurring payments automatically.
3	Accts Payable	Entering recurring payments into the central system. This only applies to central systems that do not have to capability to set up and then process recurring payments automatically.
4	Accts Payable	Processing vendor inquiries regarding the status of payments. This only applies to agencies that do not currently have a system with vendor self-service functionality in which vendors inquire into status online.
5	Accts Payable	Performing the matching process. This only applies to agencies that have systems that lack the capability to automatically (electronically) match goods or services receipt to the purchase order and invoice.
6	Accts Payable	Manually distributing P-Card charges from a centrally charged account to actual areas (i.e., department, program, and grant) that incurred the expenditures.
7	Accts Payable	Processing transactions relating to reimbursement and advances for employee travel. This only applies to agencies that do not have systems that provide this employee self-service functionality.
8	Accts Payable	Generating ad hoc and standard Accounts Payable reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.

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Value Pocket Number	Functional Area	*Value Pocket* Activity
9	Accts Payable	Tracking payment transactions spread over multiple (central system and agency AP) systems (e.g., avoid having to keep track transactions using spreadsheets, paper logs, etc.) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
10	Accts Payable	Researching, troubleshooting, and reconciling payment transactions and data across multiple systems (central system, agency "shadow" systems, etc.). These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
11	Accts Payable	Manually entering the same data into a "shadow" system(s) that is also entered into a primary AP system (i.e., only include time spent entering data into a secondary/"shadow" system[s], but do not include time spent entering data into the primary system). As an example, reconciling procurement card transaction detail to central system and procurement transactions in agency shadow systems. This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
12	Accts Receivable / Billing	Customer billing. This only applies to agencies that bill customers manually or through an off-line system, instead of billing via an integrated Accounts Receivable system.
13	Accts Receivable / Billing	Calculating and applying late charges. This only applies in cases where the current system(s) does not automatically calculate and apply late charges.
14	Accts Receivable / Billing	Generating ad hoc and standard Accounts Receivable reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
15	Accts Receivable / Billing	Tracking AR transactions spread over multiple AR/Billing systems (e.g., avoid having to keep track transactions using spreadsheets, paper logs, etc.) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.

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Financial Management System Performance Audit
April 17, 2013

Value Pocket Number	Functional Area	*Value Pocket Activity*
16	Accts Receivable / Billing	Researching, troubleshooting, and reconciling transactions and data across multiple systems (central system, agency AR system, etc.). These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) • etc. This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
17	Accts Receivable / Billing	Manually entering the same data into a "shadow" system(s) that is also entered into a primary AR system (i.e., only include time spent entering data into a secondary/"shadow" system[s], but do not include time spent entering data into the primary system). This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
18	Asset Mgmt	Calculating and maintaining asset depreciation, as well as manually entering the resulting accounting entries into accounting and tracking systems. This only applies in cases where depreciation must be calculated and entered manually.
19	Asset Mgmt	Generating ad hoc and standard Asset Management reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
20	Asset Mgmt	Tracking transactions spread over multiple AM systems (e.g., avoid having to keep track of transactions using spreadsheets, paper logs, etc.). This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
21	Asset Mgmt	Researching, troubleshooting, and reconciling transactions and data across multiple systems (central system and agency-specific AM system, etc.). These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) • etc. This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.

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Value Pocket Number	Functional Area	Value Pocket Activity
22	Asset Mgmt	Manually entering the same data into a "shadow" system(s) that is also entered into a primary AM system (i.e., only include time spent entering data into a secondary/"shadow" system[s], but do not include time spent entering data into the primary system). This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
23	Budget Dev.	Developing and maintaining appropriation budgets. This is the amount of time spent in developing and maintaining the agency's appropriation budget -- preparing and distributing historical data; collecting and compiling data; performing what-if analyses; entering data into the central system and other systems; and managing the appropriation budget during the fiscal year.
24	Budget Dev.	Developing and maintaining agency operating budgets. This is the amount of time spent in developing and maintaining the agency's operating budget -- preparing and distributing historical data; collecting and compiling data; performing what-if analyses; entering data into agency "shadow" systems; and managing the operating budget during the fiscal year.
25	Budget Dev.	Developing and maintaining agency capital budgets. This is the amount of time spent in developing and maintaining the agency's capital budget -- preparing and distributing historical data; collecting and compiling data; performing what-if analyses; entering data into central system and other systems; and managing the capital budget during the fiscal year.
26	Budget Dev.	Generating ad hoc and standard Budget Development reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
27	Budget Dev.	Tracking transactions spread over multiple systems (e.g., avoid having to keep track transactions using spreadsheets, paper logs, etc.) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
28	Budget Dev.	Researching, troubleshooting, and reconciling transactions and data across multiple systems. These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) • etc. This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.

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Value Pocket Number	Functional Area	*Value Pocket* Activity
29	Budget Dev.	Manually entering the same data into a "shadow" system(s) that is also entered into a primary Budget system (i.e., only include time spent entering data into a secondary system[s], but do not include time spent entering data into the primary system). This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
30	Cash Mgmt	Generating ad hoc and standard Cash Management reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
31	Cash Mgmt	Tracking transactions spread over multiple systems (e.g., avoid having to keep track transactions using spreadsheets, paper logs, etc.) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
32	Cash Mgmt	Researching, troubleshooting, and reconciling transactions and data across multiple systems. These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) • etc. This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
33	Cash Mgmt	Manually entering the same data into a "shadow" system(s) that is also entered into a primary system (i.e., only include time spent entering data into a secondary/"shadow" system[s], but do not include time spent entering data into the primary system). This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
34	Cost Allocation	Manually distributing labor costs. This includes determining the amount to allocate, identifying the organizational unit that will receive the allocation, and manually inputting the journal voucher to move the costs.

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Value Pocket Number	Functional Area	*Value Pocket* Activity
35	Cost Allocation	Generating ad hoc and standard Cost Allocation reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
36	Cost Allocation	Researching, troubleshooting, and reconciling transactions and data across multiple systems (central system, agency Cost Allocation system, etc.). These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) • etc. This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
37	Cost Allocation	Tracking transactions spread over multiple Cost Allocation systems (e.g., avoid having to keep track transactions using spreadsheets, paper logs, etc.) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
38	Cost Allocation	Manually entering the same data into a "shadow" system(s) that is also entered into a primary Cost Allocation system (i.e., only include time spent entering data into a secondary/"shadow" system[s], but do not include time spent entering data into the primary system). This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
39	GL & Bud Ctrl	Monitoring actual vs. budget status of expenditures (real-time budget checking and integrated encumbrance accounting). This only applies to agencies that do not have systems with real-time budget checking and integrated encumbrance accounting.
40	GL & Bud Ctrl	Developing and maintaining chart of accounts in agency "shadow" systems (e.g., spreadsheets, databases, COTS, etc.).
41	GL & Bud Ctrl	Closing the books each month (but asking for an annual estimate for this activity). This is the amount of time spent performing system-related tasks pertaining to the preparation of financial statements, such as distributing data, compiling data, etc.).
42	GL & Bud Ctrl	Performing year-end close. This is the amount of time spent performing system-related tasks pertaining to the performing the year-end close, such as distributing data, compiling data, etc. This only applies to agencies that do not have integrated systems for performing these year-end closing activities.
43	GL & Bud Ctrl	Preparing CAFR report. This is the amount of time spent performing system-related tasks pertaining to the preparation of the CAFR report, such as distributing data, compiling data, etc.).

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Value Pocket Number	Functional Area	*Value Pocket* Activity
44	GL & Bud Ctrl	Generating ad hoc and standard reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
45	GL & Bud Ctrl	Tracking transactions spread over multiple systems (e.g., avoid having to keep track transactions using spreadsheets, paper logs, etc.) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
46	GL & Bud Ctrl	Researching, troubleshooting, and reconciling transactions and data across multiple systems. These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) • etc. This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
47	GL & Bud Ctrl	Manually entering the same data into a "shadow" system(s) that is also entered into a primary GL & Budgetary Control system (i.e., only include time spent entering data into a secondary/"shadow" system[s], but do not include time spent entering data into the primary system). This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
48	Grants Mgmt	Setting up grants, processing change orders, and closing grants
49	Grants Mgmt	Manually processing Grant draw-downs
50	Grants Mgmt	Generating ad hoc and standard Grants Management reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.

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Value Pocket Number	Functional Area	*Value Pocket* Activity
51	Grants Mgmt	Researching, troubleshooting, and reconciling Grant Accounting transactions and data across multiple systems (central system, agency Grant tracking system, etc.). These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) • etc. This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
52	Grants Mgmt	Manually entering the same data into a "shadow" system(s) that is also entered into a primary Grant system (i.e., only include time spent entering data into a secondary/"shadow" system[s], but do not include time spent entering data into the primary system). This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
53	Grants Mgmt	Tracking Grant Accounting transactions spread over multiple systems (e.g., avoid having to keep track of transactions using spreadsheets, paper logs) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
54	Inventory	Processing inventory reorders. This only applies to agencies that have Inventory Management requirements (e.g. warehouse) but do not utilize a full-featured, integrated Inventory Management system.
55	Inventory	Generating ad hoc and standard Inventory reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
56	Inventory	Tracking transactions spread over multiple Inventory systems (e.g., avoid having to keep track transactions using spreadsheets, paper logs, etc.). Process the transactions pertain to: after award/order/reorder through issuance/disposition. This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
57	Inventory	Researching, troubleshooting, and reconciling Inventory transactions and data across multiple systems (e.g., central system, agency Inventory system, etc.). These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.

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Value Pocket Number	Functional Area	*Value Pocket* Activity
58	Inventory	Manually entering the same data into a "shadow" system(s) that is also entered into a primary Inventory system (i.e., only include time spent entering data into a secondary/"shadow" system[s], but do not include time spent entering data into the primary system). This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
59	Procurement	Processing purchase requests. This only pertains to agencies that do not use a system that enables State employees to submit an online requisition, obtain approval via workflow technology, and optionally, pre-encumber the funds in the State's accounting system.
60	Procurement	Creating POs manually. Only respond to this question if your agency creates a significant portion of its POs manually (e.g., does not have a system with functionality that creates POs from Requisitions in the system that results in only a small percentage of POs being created manually).
61	Procurement	Printing, and then faxing and mailing Purchase Orders. This only applies to agencies that do not have systems with the eProcurement functionality of a modern integrated system that enables the agencies to auto-fax POs and attach POs to e-mail messages.
62	Procurement	Receiving procured assets in agency Asset Management systems, as well as in agency Procurement systems. This only applies to agencies that use a system that (1) does not have functionality to establish asset receiving record information when the assets are sourced and information about the assets is carried forward in the system, and (2) would be eliminated by the implementation of a statewide ERP system.
63	Procurement	Receiving procured Inventory items in agency inventory systems, as well as in agency Procurement systems. This only applies to agencies that use a system that (1) does not have functionality to establish receiving record information when the items are sourced and information about the Inventory items is carried forward in the system, and (2) would be eliminated by the implementation of a statewide ERP system.
64	Procurement	Receiving procured commodities (i.e., non-asset and non-inventory items) in agency Procurement systems. This only applies to agencies that use a system that does not have functionality to establish receiving record information when the items are sourced, and information about the items are carried forward in the system.
65	Procurement	Processing formal (i.e., published) solicitations through procurement life cycle (requisition through award). These processing tasks include: • Identifying and notifying registered vendors of the solicitation • Distributing the solicitation--posting on the Web, mailing, etc. • Receiving and recording vendor responses • Tabulating/scoring vendor responses • Notifying vendors of award decision • Documenting award information This only applies to agencies that do not have systems that provide automated support for the tasks listed above.

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Value Pocket Number	Functional Area	Value Pocket Activity
66	Procurement	Processing informal solicitations (i.e., solicitations not published but performed via phone call, e-mail, etc.) -- through procurement life cycle (requisition through award). These processing tasks include: • Identifying and contacting vendors about the solicitation • Receiving and recording vendor responses • Tabulating/scoring vendor responses • Notifying vendors of award decision • Documenting award information This only applies to agencies that do not have systems that provide automated support for the tasks listed above.
67	Procurement	Reconciling open purchase orders. This not only applies to central procurement and accounting systems but also applies to agency-specific Procurement systems that would be eliminated by the implementation of the statewide ERP system.
68	Procurement	Processing vendor records, including registering vendors and updating vendor information. This not only applies to central procurement and accounting systems but also applies to agency-specific Procurement systems that would be eliminated by the implementation of the statewide ERP system.
69	Procurement	Processing purchase order status inquiries This applies to agency delegated spend, not requisitions processed by the Purchasing Division.
70	Procurement	Entering information into systems regarding Web purchases made for "discount off catalog" contracts.
71	Procurement	Processing new contracts (i.e., setting them up on systems, etc.).
72	Procurement	Generating ad hoc and standard Procurement reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
73	Procurement	Tracking Procurement transactions spread over multiple systems (e.g., avoid having to keep track transactions using spreadsheets, paper logs, etc.) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.

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Value Pocket Number	Functional Area	*Value Pocket* Activity
74	Procurement	Researching, troubleshooting, and reconciling Procurement transactions and data across multiple systems (central system, agency Procurement tracking system, etc.) -- (process the transactions pertain to: after requisition through award). These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) • etc. This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
75	Procurement	Manually entering the same Procurement data into a "shadow" system(s) that is also entered into a primary Procurement system (i.e., only include time spent entering data into a secondary/"shadow" system[s], but do not include time spent entering data into the primary system). This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
76	Project Acct	Setting up projects, processing change orders, and closing projects.
77	Project Acct	Tracking Project Accounting transactions spread over multiple systems (e.g., avoid having to keep track transactions using spreadsheets, paper logs) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.
78	Project Acct	Generating ad hoc and standard Project Accounting reports that require retrieving data from multiple sources (e.g., central system and agency "shadow" system, etc.). These processing tasks include: • Extracting data from multiple sources • Compiling and reviewing data • Formatting data into the reports • Distributing the reports This only applies to: (1) time spent generating reports not included in unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.
79	Project Acct	Researching, troubleshooting, and reconciling Project Accounting transactions and data across multiple systems (i.e., central system, agency Project Accounting system). These processing tasks include: • Investigating failed interface transactions • Reconciling balance discrepancies between systems • Making adjustments in the appropriate system(s) This only applies to agency-specific "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would likely be eliminated by the implementation of the statewide ERP system.

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Value Pocket Number	**Functional Area**	*Value Pocket* **Activity**
80	Project Acct	Manually entering the same data into a "shadow" system(s) that is also entered into a primary Project Accounting system (i.e., only include time spent entering data into a secondary/"shadow" system[s], but do not include time spent entering data into the primary system). This only applies to: (1) time spent performing duplicate data entry that is not addressed by unshaded *Value Pocket* activities for this functional area, and (2) situations in which this duplicate effort would be eliminated by the implementation of the Statewide ERP system.

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Exhibit 40 – Metric-Based Value Pockets

Value Pocket Number	Functional Area	*Value Pocket Activity*
1	Accounts Payable	Approximate annual total dollar value of vendor discounted terms on invoices offered but not taken
2	Accounts Payable	Approximate total dollar amount spent during fiscal 2012 using a Procurement Card (p-card)?
3	Accounts Payable	Approximate annual dollar amount currently set-off annually *(This only applies to agencies making payments to vendors who also owe the State for receivables)*
4	Accounts Payable	Approximate annual cost to mail Remittance Advices (postage only -- labor captured in "Effort-Related Data" tab)
5	Accts Receivable / Billing	Approximate dollar amount of charge-offs each year *(Only answer this question if your agency lacks a truly integrated AR system with workflow functionality found in modern ERP systems that is used to manage bad debts)*
6	Accts Receivable / Billing	Average annual Accounts Receivable balance *(Only answer this question if your agency does not utilize a truly integrated, full-featured Accounts Receivable system with modern ERP functionality that could help improve data accuracy, visibility, and related communication, which in turn could help reduce the aggregate AR balance, thereby lowering the interest cost of carrying AR)*
7	Grants Management	Approximate increase in average investable cash balances resulting from automatically creating grant draw-downs. *(This only applies to agencies that do not have an automated method to draw-down federal funds)*
8	Inventory Management	Average annual Inventory balance *(This only applies to agencies that have inventory management requirements [e.g., warehouse] but do not utilize a full-featured, integrated Inventory Management system and <u>does not</u> apply to Repair Parts Inventory which is addressed elsewhere)*
9	Procurement	Approximate annual cost to mail Purchase Orders (postage only -- labor captured in "Effort-Related Data" tab) *(Do not answer if your systems enables you to send POs electronically and you only mail POs to a small percentage of total PO recipients)*

Appendix F: Selected Value Pocket Activities Specific to a Functional Area

Exhibit 41 – Effort-Based Value Pockets Identified

Functional Areas	*Value Pocket* Activities	How Process Inefficiencies are Addressed by an ERP System
Accounts Payable	Processing vendor inquiries regarding the status of payments	Currently, agency personnel respond to vendor inquiries regarding the status of their payments from the State, via e-mail and telephone. A sizeable portion of that effort could be avoided/reduced by implementing the Vendor Self-Service functionality via which vendors would have the ability to inquire into the status of their payments online.
	Performing the matching process	In order to obtain approval for the payment of an invoice, State personnel manually gather and match the associated purchase order, invoice, and receipt evidence (e.g., packing slip) documents. ERP systems provide the capability to automatically (electronically) match information regarding the receipt of goods/services to information regarding the associated purchase order and invoice, thereby significantly reduce the amount of effort required to perform the matching process.
Accounts Receivable	Customer billing	Currently, some of the participating agencies bill customers manually or through an off-line system, instead of billing via the integrated Accounts Receivable system functionality of an ERP system, which would reduce the amount of effort required to perform the billing process.
	Calculating and applying late charges	Some of the participating agencies calculate late charges via "shadow" systems (e.g., spreadsheets) and then manually apply the late charges a customer's account. An ERP system provides the capability to automatically calculate and apply late charges, all within the ERP system, which would require less manual effort than the current process.
Asset Management	Calculating and maintaining asset depreciation, as well as manually entering the resulting accounting entries into accounting and tracking systems	Currently, a number of the participating agencies manually calculate and record depreciation. Depreciation would be automatically calculated and recorded by a modern ERP system, and as a result, the process to calculate and record depreciation would require significantly less effort than the current process.
	Time spent manually entering AM data into a secondary "shadow" systems	Currently, a number of the participating agencies maintain a secondary stand-alone AM "shadow" systems, which requires them to manually rekey AM information. AM information would be entered once in an ERP system and information would be reused by other integrated modules (e.g., Purchasing, Asset Management, and General Ledger modules).
Budget	Developing and maintaining:	Typically, multiple "shadow" systems (e.g., spreadsheets) are used to

Functional Areas	*Value Pocket* Activities	How Process Inefficiencies are Addressed by an ERP System
Development	(1) appropriation budgets, (2) agency operating budgets, and (3) agency capital budgets (presented as three [3] *Value Pocket* Survey questions). This is the amount of time spent in developing and maintaining the agency's appropriation budget: ▪ Preparing and distributing historical data ▪ Collecting and compiling data ▪ Performing what-if analyses ▪ Entering data into the central system and other systems ▪ Managing the budget during the fiscal year	collect, compile, and analyze budget data, and there are several exchanges and analytical iterations of data within agencies, as well as between the agencies and the State's central budgeting entities, which involves a significant amount of manual effort. Modern, integrated ERP systems enable end users to access the system from different locations and make updates to a single database. This would be a significant improvement in efficiency over developing and maintaining budget information using multiple spreadsheets/systems and data files.
Cash Management	No *Value Pocket* Survey questions for this functional area other than the four (4) questions described above that applied to all functional areas	No *Value Pockets* specific to this functional area were analyzed.
Cost Allocation	Manually distributing labor costs. This includes determining the amount to allocate, identifying the organizational unit that will receive the allocation, and manually inputting the journal voucher to move the costs	Currently, most of the participating agencies do not utilize the statewide Cost Allocation System as the allocation rules are rigidly designed for DSHS, and therefore, do not provide the flexibility to be used by other State agencies. An ERP system would provide a single cost allocation tool with the flexibility to configure allocation rules based on each agency's needs (i.e., each agency defines its cost pools, targets and basis to allocate cost). The ERP cost allocation functionality would allow agencies statewide to operate one cost allocation system to meet their unique needs, and thereby, reduce the amount of effort required to perform the process. Further, the knowledge base for defining rules (cost allocation pools, targets, and basis) would become universal, and thereby, easier to support statewide.
General	Developing and maintaining	In order to keep the account-code structure of agency "shadow" systems

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Functional Areas	*Value Pocket* Activities	How Process Inefficiencies are Addressed by an ERP System
Ledger & Budgetary Control	chart of accounts (COA) in agency "shadow" systems (e.g., spreadsheets, databases, COTS, etc.) that would be replaced/eliminated by a new ERP system	in sync with that of the State's central accounting system, agencies either download COA information from the State's central accounting system and then import (and reconcile) that COA information into the "shadow" systems or manually enter the COA information into "shadow" systems. Implementing a statewide ERP system would result in the elimination of many of the agencies' "shadow" systems, and therefore, eliminate the effort required to keep the account structure of "shadow" systems in sync with the State's central accounting system.
	Performing year-end close. This is the amount of time spent performing system-related tasks pertaining to the performing the year-end close, such as distributing data, compiling data, etc.	Currently, the year-end accounting-close process involves inputting and reconciling data from multiple agency "shadow" systems into the State's central accounting system. Implementing a statewide ERP system would eliminate many of agency "shadow" systems and result in having much of the data needed to perform the close process in a central database, and this would eliminate a significant amount of effort that is currently required to perform the accounting-close process.
Grants Management	Setting up grants, processing change orders, and closing grants	Currently, the grants-management processes of the participating agencies are manually-intensive, involving data entry into, and processing via, various "shadow" systems. Many of the necessary grant-management activities would all be performed within the ERP system and in the ERP system's central database, which would reduce the effort required to perform the process.
Inventory Management	Processing inventory reorders	Currently, many of the participating agencies must enter all of the order details to reorder inventory items as if the reorder were an original order. The Inventory Management functionality of a modern ERP system would only require that a few data elements be changed to place a reorder instead of having to enter all of the data elements of an original order as is now required.
Procurement	Processing purchase requests	Currently, the participating agencies process purchase requests in a variety of ways, with varying levels of automated assistance. In general, the process in manually-intensive. Using a modern ERP system would require less effort than currently required as the ERP system would enable State employees to submit an online requisition, obtain approval via workflow technology, and optionally, pre-encumber the funds in the State's accounting system, all performed within the ERP system.
	Creating POs manually	Many of the participating agencies create a significant portion of their purchase orders (POs) manually. With a modern ERP system, POs would be created automatically from purchase requisition information already in the system, which would result in significantly less effort being required to create POs; a much smaller number of POs would have to be created manually.

Functional Areas	*Value Pocket* Activities	How Process Inefficiencies are Addressed by an ERP System
	Printing, and then faxing and mailing Purchase Orders	Currently, many of the participating agencies print POs and the fax or mail to POs to vendors. With a modern ERP system, agencies would be able to auto-fax POs, as well as attach POs to e-mail messages.
Project Accounting	Setting up projects, processing change orders, and closing projects	Typically, the agencies' processes for setting up projects, processing change orders, and closing projects involve multiple "shadow" systems and are manually-intensive. Implementing a modern ERP system statewide would result in the elimination of many of those "shadow" systems as the ERP system functionality would support many of the processes currently supported by the "shadow" systems. Less effort would be required using an ERP system as a result of having to work with fewer systems and having the enhanced Project Accounting functionality provided by the ERP system.

Metric-Based *Value Pocket* Results

Ten (10) metric-based *Value Pockets* were identified, which are listed in the exhibit that follows.

Exhibit 42 – Metric-Based Value Pockets Identified

Seq #	Functional Areas	*Value Pockets* Metric	How an ERP System Could Improve Process Efficiency and Effectiveness
1	Accounts Payable	Approximate annual total dollar value of vendor discounted terms on invoices offered but not taken	The full-featured Accounts Payable functionality of a modern ERP system could enhance the State's ability to take advantage of discounts offered by vendors through simple voucher entry that automatically calculates vendor discounts and payment due dates (e.g., based on an invoice received date, goods received date, or a user-specified date).
2	Accounts Payable	Approximate total dollar amount spent during fiscal 2012 using a Procurement Card (p-card)	This information was obtained in order to assist in estimating the last *Value Pocket* benefit in this table (#10). A note on P-Cards: they are a proven way to manage and save time and money by streamlining the labor and time-intensive purchasing process. Although the State currently uses P-Cards, ERP offers a fully integrated P-Card process that allows bank charges to be automatically downloaded to a voucher template and then routed for payment approvals.

Seq #	Functional Areas	*Value Pockets* Metric	How an ERP System Could Improve Process Efficiency and Effectiveness
3	Accounts Payable	Approximate annual dollar amount currently set-off annually	Currently, the dollar amount(s) the State owes a certain vendor and the dollar amount(s) that vendor owes the State are maintained in different databases, making it difficult to identify set-off opportunities. With a modern ERP system, these amounts would be in a single, logical database, which would enhance the State's ability to avoid paying vendors when those vendors owe the State more -than the State owes them. The set-off amount is calculated during the Accounts Payable payment process. Balances due to vendors that are also customers are netted out of any Accounts Receivable balances for the same trading partners. The netting calculation rule can be optional; it can be overruled to allow full AP voucher amount issued for payment.
4	Accounts Payable	Approximate annual cost to mail Remittance Advices (postage only)	Currently, most Remittance Advices are mailed to vendors by DES. A modern ERP system's Vendor Self-Service functionality would enable vendors to update certain aspects of their information and view relevant content via the ERP system, including Remittance Advices. In addition, vendors can specify to have remittance advice slips automatically e-mailed to their designated representatives using Vendor Self-Service functionality, thus substantially reducing annual postage charges related to Remittance Advice distribution.
5	Accts Receivable / Billing	Approximate dollar amount of charge-offs each year	Through the integrated functionality of a modern ERP system, the State could manage collection efforts more effectively, generating Accounts Receivable Aging reports with AP invoices cross-referenced, automatically generating customer dunning letters, and applying AP and AR invoices, to reduce the amount of AR charge-offs.
6	Accts Receivable / Billing	Average annual Accounts Receivable balance	Agencies were only to provide responses to this metric if they do not utilize a full-featured, integrated Accounts Receivable system to manage AR. The fully integrated, full-featured Accounts Receivable functionality of a modern ERP system, would allow the State to manage receivables and automate the tasks of invoicing customers and collecting payments. There are several time-saving features such as defaulting of customer information on entry, discounts, and due date calculation. Through AR reporting and inquiry screens, the State can monitor customer balances, pending documents, check aging, and view other customer-related information, thereby reduce AR carrying balances

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Seq #	Functional Areas	*Value Pockets* Metric	How an ERP System Could Improve Process Efficiency and Effectiveness
7	Grants Management	Approximate increase in average investable cash balances resulting from automatically creating grant draw-downs	Currently, most of the participating agencies create grant draw-downs manually. The automated grant draw-down functionality of a modern ERP system would enable some agencies to submit bill for federal funds more frequently, thereby increasing the agency's average investable cash balances and the associated earnings on those balances.
8	Inventory Management	Average annual Inventory balance	Agencies were only to provide responses to this metric if they do not utilize a full-featured, integrated Inventory Management system to manage inventory. The full-featured, integrated Inventory Management functionality of a modern ERP system, including functionality to set automatic reorder points, could improve inventory accuracy and visibility and help agencies maintain lower, more appropriate levels of various inventory items. As a result, agencies could potentially maintain lower safety stock levels (a result of reduced risk of incurring stockout events) and carry less obsolete inventory, all of which would contribute to reducing inventory balances and lower the interest cost of carrying inventory.
9	Procurement	Approximate annual cost to mail Purchase Orders (postage only -- labor captured in "Effort-Based Data" tab)	Currently, most agencies mail Purchase Orders to vendors. If an agency prints and then either faxes or mails POs to vendors, that agency could save postage costs by using the eProcurement functionality of a modern, integrated ERP system that would enable the agency to auto-fax POs and attach POs to e-mail messages.
10 (data not obtained via Value Pocket Survey)	Procurement	Reduction in cost of goods and services purchased statewide	A modern ERP system's catalog/contract eProcurement functionality could help reduce so-called "maverick" spend and improve spend intelligence, resulting in the State being better able to leverage its purchasing power, and thereby reduce its cost of goods and services (see more information on this *Value Pocket* benefit below).

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