



Center for Technology in Government

---

## **Public ROI - Advancing Return on Investment Analysis for Government IT Case Study Series**

### **The Washington State Digital Archives**

**Anthony M. Cresswell  
G. Brian Burke**

Center for Technology in Government  
University at Albany, SUNY  
187 Wolf Road, Suite 301  
Albany, NY 12205  
Phone: (518) 442-3892  
Fax: (518) 442-3886  
<http://www.ctg.albany.edu>

This material is based upon work supported by SAP. Any opinions, findings, conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of SAP.

© 2006 Center for Technology in Government  
The Center grants permission to reprint this document provided this cover page is included.

**This Page Intentionally Left Blank**

## TABLE OF CONTENTS

<b>Introduction .....</b>	<b>1</b>
<b>The Washington State Digital Archives .....</b>	<b>2</b>
<b>Context Factors .....</b>	<b>3</b>
Historical Context.....	3
Institutional Context .....	4
Political Context .....	5
<b>Initiation .....</b>	<b>5</b>
Vision .....	6
Mobilizing Support and Resources .....	6
Making the Case to Stakeholders .....	6
Developing a Technology Strategy .....	8
<b>Where It is Now .....</b>	<b>9</b>
<b>PROI Perspectives and Approaches .....</b>	<b>11</b>
The Overall Value Proposition .....	11

**This Page Intentionally Left Blank**

# Introduction

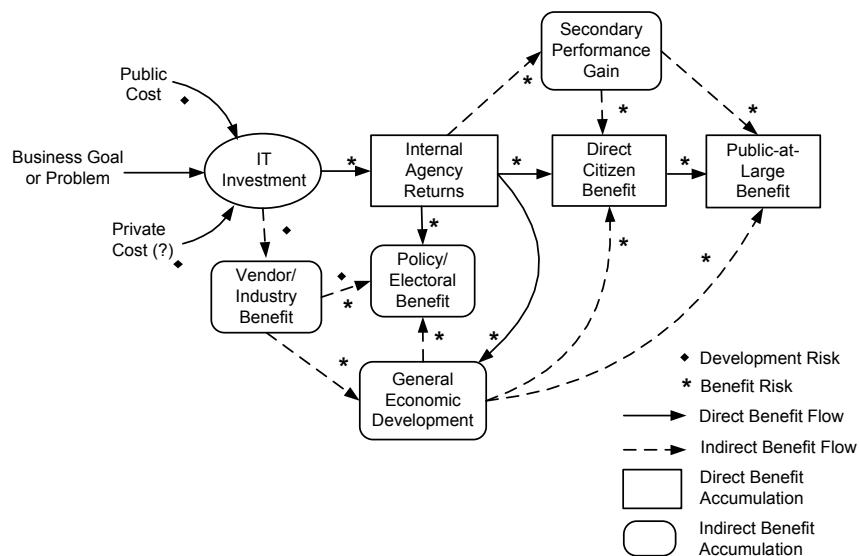
This case and the others in this series examine how government IT investments come to deliver value to the public, what we call public return on investment (Public ROI). The cases are part of a larger project to develop a new framework for assessing public returns to government IT investment. The results of these case studies and related research are featured in a white paper that presents the framework and recommendations for conducting public ROI assessment for government IT projects. All five case study reports and the white paper are available at CTG's Web site.<sup>1</sup>

In each of the case studies, we examine how the IT investment was conceived and developed, with particular attention to the role of public value in the process. We take the view that government IT investment generates public value two ways:

- By improving the value of the government itself from the perspective of the citizens, and
- by delivering benefits directly to persons, groups, or the public at large.

The first way is based on the idea that, assuming a government has benign intentions, the better it functions overall, the better off its citizens will be. The government is an asset to the community or nation that delivers a wide range of values. Internal improvements enhance its value to the public. Returns of value to citizens and the public at large can be described as financial, political, and social. Financial returns result from lowering the cost or increasing the efficiency of government as well as delivering direct financial benefits to the citizens. Political returns consist of increasing government fairness, transparency, legitimacy, etc., or giving advantage to elected officials or citizens. Social and psychological returns include increased social status, new relationships or opportunities, increased safety, trust in government, and economic advantage. These concepts of public value guide the data collection and presentation of the case results.

The case studies examine public value of returns to government IT investment, including the nature of the returns themselves and the mechanisms to produce them. We do this by considering the links between investment goals, implemented systems, government performance, and public returns as represented in Figure 1 (below).



**Figure 1. Public ROI Value Propositions**

<sup>1</sup> View and download copies of the white paper and case study reports at [www.ctg.albany.edu/projects/proj](http://www.ctg.albany.edu/projects/proj).

The public returns from the investment can flow from the internal improvements in the agency resulting in returns to individual citizens and the public at large (the main flow through the center). Other returns can flow to the political system and the economic environment (below the center), or through effects on other agencies (secondary performance gains). This general view of public returns informs the case studies and helps summarize the results.

The case studies were conducted through site visits and interviews with the participants in each project, combined with review of project documents and other evidence. We are indebted to Sam Reed, Washington Secretary of State and the members of his staff, especially Adam Jansen, Steve Excell, and Jerry Handfield for their generous participation in the interviews and hospitality during our time in Olympia. The findings and views expressed in this report, however, are those of the authors alone and do not reflect the policies or views of the participants or the State of Washington.

## The Washington State Digital Archives

Washington State's investment in digital archiving for government records provides a highly focused and successful example of pursuing public value through information technology. The job of collecting, preserving, and providing access to the records of government is central to the mission of Washington's Office of Secretary of State. That mission recognizes the fundamental importance of government record keeping in a democratic society. That is also the foundation of the public value proposition guiding the Digital Archives program: the state has the

constitutional and statutory mandate to preserve and provide access to records of enduring legal and historical significance.<sup>2</sup> The State Archivist, Jerry Handfield made the public value quite clear, saying "Making records accessible to the public is the major function of a democracy."

The growth of electronic records in government agencies in the 1990's presented a challenge to the State Archives' ability to fulfill its mission, because it lacked an effective program and the technology to deal with records in new digital formats. The Washington State Digital Archives (WSDA), a program within the Office of Secretary of State, was created in response to that challenge. It was initiated by the Office of the Secretary of State, with initial planning begun by the then State Archivist in March of 2000. The initiative was made a priority in 2001 by the newly elected Secretary of State Sam Reed, and was included in the Secretary of State's 2001-2007

Strategic Plan. The project was subsequently supported by the state legislature and included in the State of Washington's 2001-2003 Capital Budget. Construction of the physical hub of the WSDA in Cheney, Washington, began in January 2003.

The WSDA is more than a building. Concurrent with construction planning, exploration began to find the best programmatic and technological approaches to collecting and processing the electronic content intended for the WSDA. Beginning in mid-2001, this research explored a wide range of technologies and

From the Digital Archives Web site:

*"The Washington State Digital Archives is the nation's first archives dedicated specifically to the preservation of electronic records from both State and Local agencies that have permanent legal, fiscal or historical value.*

*Located in Cheney, WA on the Eastern Washington University campus, the new facility was designed from the ground up to host this technically complex program. The Web interface and database storehouse were custom designed specifically for the Digital Archives to hold the unique and very important electronic records found throughout the state, and to provide simple, straight forward access to researchers.*

*The Digital Archives includes a state of the art research room, complete with computer research stations, a high tech presentation classroom and a world-class data center."*

<sup>2</sup> *Washington State Digital Archives Feasibility Study*. Olympia, WA: Office of the Secretary of State, August 2004, p. 1 (<http://www.digitalarchives.wa.gov/staticcontent/Feasibility%20Study.pdf>).

techniques for collection, access, and preservation. The results led to the custom development of a Web interface and database design that blended the latest technologies with traditional archival theory to create a first-of-its-kind digital records repository for state government. The grand opening of the facility and the repository occurred on October 4, 2004. The goal of the program was to make the historical electronic records of Washington's state and local governments easily accessible, from anywhere, at anytime. Adding records to the WSDA began with a pilot program transferring marriage records from three counties along with the historic census and naturalization records from the State Archives and State Library. The WSDA will grow through a seven year, four phase process, designed to eventually collect digital records from all Washington state and local governments, building to a storage capacity of over 800 terabytes of data. This case study reports how the initial vision and value proposition were carried out through a complex political and technical process to a functioning digital archiving program and facility delivering the promised public value.

## Context Factors

### Historical Context

The public value proposition for the WSDA has both deep historical roots and links to current conditions. The archival and preservation value of the WSDA is rooted in the historical role of government as record keeper, while the digital contribution is linked to more current technological developments. The public value of archiving and preserving government records is central to the public value of government itself. State and local governments in the US are the keepers of the authentic and legally binding records of major social and economic activities of the people and of the government itself. The public depends on government records to establish and maintain personal identity, property ownership, citizenship, marriage, and even ancestry. Responsibility for the creation, legitimacy, and integrity of these and many other kinds of public records has been the concern of state and local governments from colonial times in the US. The trust in government that is central to democracy depends on the integrity and legitimacy of records of elections, laws, court decisions, budgets, etc. Long-term preservation is central to the value of birth and death records, land records, and many others that retain their significance over many generations. Thus the public value of effective archiving is woven into the fabric of government and of social and economic life. The fact that in stable societies the role of government in this regard is often taken for granted does not diminish the importance of the archiving and preservation function.

The digital aspects of public value for the WSDA are an extension of the historical value proposition. The growing adoption of IT systems by Washington state and local governments greatly expanded the volume of records created in digital form. Washington state has long been recognized as a leader and innovator in IT development and adoption, so the emergence of digital records may have been a bit faster there than in other locales, but the process has been a general one in US state and local government. However, these IT developments began and developed slowly, in a largely unplanned way, without standards or general recognition of the particular preservation problems posed by digital records. While paper record management and archiving provisions were well developed before the WSDA project, the digital counterparts were not. In addition, digital record growth was not consistent across local governments, and not well integrated with state IT development or planning. As a result, according to Office of the Secretary of State estimates, the State of Washington is missing more than half of its electronic records. Archivists believe that many of these documents, including letters from former Governors and other elected officials, as well as ancestral records, may never be recovered.<sup>3</sup> Lack of digital archiving capabilities also precluded providing Web-based public access to records and historical material.

This was the situation prior to the election of Sam Reed as Secretary of State in 2000. During his preceding five terms as Thurston County Auditor (County Clerk in other states), Reed had direct experience with the challenges of electronic records. In 1995, his office began creating digital records that they wanted to store in the State Archives. In spite of the potential value of digital archiving at the state

<sup>3</sup> See Mach 23, 2006 Secretary of State news release at [http://www.secstate.wa.gov/office/osos\\_news.aspx?i=QoJVZIT9w8Ook0XBsKqb7Q%3d%3d](http://www.secstate.wa.gov/office/osos_news.aspx?i=QoJVZIT9w8Ook0XBsKqb7Q%3d%3d).

level, however, when presented with a disk containing some of these records, the State Archives staff did not have any digital archiving capabilities at that time, and were unable to accept the disk. Because the potential value had become quite clear to Thurston County Auditor Reed, it was an understanding he carried with him into this new statewide position. He pointed out that, "If Abraham Lincoln wrote the Gettysburg Address on a laptop we may not have it today," He also noted that, "Electronic records have been disappearing at an alarming rate because we've had no means to preserve them. These are records we need to make public policy, to conduct day-to-day business, and to prepare for the future."<sup>4</sup>

In the period leading up to Secretary Reed's election, appreciation for the value of digital technology had been growing generally in both state and federal government as well. By 2000, Washington state had developed a reputation as a pioneer in digital government innovation. In *Governing* magazine's 1999 survey of state government IT performance, Washington was the only state to receive a grade of A.<sup>5</sup> The State Archivist at the time of Reed's election had pioneered work developing computer-based record management and location capabilities. But this work was aimed more at improving current access to government records and did not extend to a digital archiving program. The financial value of record preservation was highlighted when the State of Washington won a \$4.5 billion settlement as one of the states participating in the tobacco litigation of the late 1990's. The success of the state's claim depended in part on its ability to retrieve records from the 1940's and before.

At the federal level, Congress appropriated \$99.8 million in December 2000 to begin development of an overall digital archiving strategy for the nation. At that time, however, the emphasis was not on state and local government records.<sup>6</sup> Thus by late 2000, the situation in Washington state was conducive to a digital archiving initiative for government, but there was not a specific program or strategy in place. Secretary Reed's election in the fall of 2000 provided the needed catalyst for a digital archiving program to begin.

## **Institutional Context**

The public value of record keeping is rooted in the institutional and legal core of Washington state government. The Washington Secretary of State is independently elected state-wide and second in line of succession to the Governor.<sup>7</sup> He is the state's chief elections officer, chief corporations officer, and supervisor of the State Library and Archives. His constitutional and statutory duties make the Office of Secretary of State the most logical site for a digital archiving initiative. The key statutory duties with respect to digital archiving are:

- Collecting and preserving the historical records of the state, and making those records available for research;
- coordinating implementation of the state's records management laws.

Each of the records that result from the exercise of these responsibilities carries great social and economic consequences, for the parties directly connected to the records as well as for overall public trust in government and public order.

The relationship between state and county government in Washington is central to the public value proposition because both the content and development strategy of the WSDA are tied to the counties. County governments are creatures of the state. In legal and institutional terms, Washington's 39 counties are subordinate to the state, and form the basic unit of local government.<sup>8</sup> And the great majority of

<sup>4</sup> See October 4, 2004 Secretary of State news release at [http://www.sectstate.wa.gov/office/osos\\_news.aspx?i=zHTsICZdWYmm4l8INJnhPw%3d%3d](http://www.sectstate.wa.gov/office/osos_news.aspx?i=zHTsICZdWYmm4l8INJnhPw%3d%3d).

<sup>5</sup> Katherine Barrett and Richard Greene, "Grading the States 1999: A Management Report Card." *Governing.com*, Feb., 1999 (<http://www.governing.com/gpp/1999/gp9intro.htm>).

<sup>6</sup> This program, known as the National Digital Information Infrastructure and Preservation Program (NDIIPP), initiated a specific effort aimed at improving digital preservation capabilities for state and local government in 2005. (<http://www.digitalpreservation.gov>).

<sup>7</sup> All US state constitutions provide for the function of a secretary of state, but office holders vary in title and may be appointed or elected.

<sup>8</sup> In the US constitutional system, state governments have what is referred to as "residual powers," i.e., all powers that are not specifically allocated to the Federal government or delegated to local governments by state constitutions and statutes. Article X of

records to be archived originate at the county level. As the general government unit, the county is responsible for originating, recording, and preserving records of births, marriages, deaths, elections, land ownership, court actions, business licenses, and some of the other record keeping listed previously in the Secretary of State's responsibilities. The county-level records are the official versions of these documents. But the responsibility for long-term preservation and access to these records is shared with the Secretary of State, in part through the Secretary's records management function.<sup>9</sup> A digital archiving capability thus supports the institutional roles of both state and county governments, which were the basis for the development strategy.

## Political Context

The opportunity for Secretary Reed and his staff to move from a vision of the value of digital archiving to a successful digital archiving initiative depended on some major strategic factors. Perhaps the most important was the political resources of the Secretary of State. These derived in part from his close association with County Auditors, having been elected one for five terms, and his activities in the statewide County Auditors Association. As locally elected officials, County Auditors are in a strong political position, with close constituency ties, frequent and significant contact with voters, and linkages to their local legislators. As Secretary Reed pointed out, "Every legislator has an auditor in his home district." Thus the Auditors were in a position to have a powerful role in any initiative affecting their record operations, either as an ally or an opponent. A second important condition was Secretary Reed's status as a constitutional officer. This put him in a position to set his own priorities and begin a major project on his own initiative. Thirdly, he was newly elected and enjoying the "honeymoon" period in which the legislature was more likely to be receptive to his initiatives than in subsequent years. In addition, his chairmanship of the Washington Territorial Sesquicentennial (1853-2003) Commission provided a statewide platform for advocating improved archiving of and access to historical material and public records in digital form.

## Initiation

From the beginning of this initiative, the Secretary of State and his staff were clear that the primary value of a statewide digital archives was public service, not cost savings. The service value extended to a broad range of citizens, as well as state and local government agencies. The Office of the Secretary of State and the State Archives staff were thoroughly committed to their constitutional role as custodians of the publics' records. They recognized that they needed to apply archival information science principles to digital media in order to provide easier and more permanent access to the records. The WSDA would simply be an extension of the existing State Archives itself into the digital domain, with new information technology as the enabler.

The main responsibility for initiating the project and communicating the value and strategy for the WSDA resided with Secretary Reed and a few key staff members. Steve Excell, Assistant Secretary of State, had the main management responsibility for the project. The team included the State Archivist, and later the lead technology developer, Adam Jansen. The State Archivist at the time of Secretary Reed's election, Phillip Coombs, was active in the early stages of the WSDA initiative, but died in mid-2001. Jerry Handfield, the former Indiana State Archivist, was hired shortly thereafter and became a key part of the WSDA project team.

---

the US Constitution states: "The powers not delegated to the United States by the Constitution, nor prohibited by it to the states, are reserved to the states respectively, or to the people."

<sup>9</sup> The WSDA feasibility study states: "The Secretary of State's Division of Archives and Records Management is mandated by statute to insure the proper management and safeguarding of public records and facilitating citizen and government accessibility (RCW 40.14.020). This mandate encompasses a wide range of responsibilities including centralizing the archives of the state of Washington, developing retention schedules and insuring the maintenance and security of all state public records regardless of format." (p. 10)

## **Vision**

The initial vision for the WSDA was a broad one, seeking both enhanced public value and improved government operations and efficiency. The vision was to fulfill the state's record keeping mandate for emerging digital materials, while improving customer service at the local level and enhancing efficiency for the overall system of records preservation and access. The customer base is broad, including the local County Auditors, state agencies, and all the citizens, businesses, and civic organizations that use public records for legal and commercial transactions or historical and genealogical research. The scope of the initiative would ultimately include the full range of state and local records of enduring legal and historical significance, combined with enhanced technology for digital access and long-term preservation.

## **Mobilizing Support and Resources**

To translate this vision into a reality, the WSDA would have to become both a physical entity, with the necessary storage, access, and preservation technologies, and also a new system for collecting and processing the potentially enormous volume of records of archival importance. Digital archiving would require a transformation in both the technology and the business processes of record keeping. Both are costly and complex to achieve, requiring considerable financial and political support to develop and operate the WSDA itself and transform the business processes and information flows that provide the content. In the words of the Assistant Secretary of State Steve Excell, it was necessary to "create a tipping point for the cost benefit analysis for the agencies that would be our partners." That would include convincing the legislature to provide the financial support and the partner agencies to implement the new flows of information. If the value of the WSDA's new capabilities did not appear to exceed the costs, neither the political support nor the financial resources would be forthcoming.

The financial part of the problem required skillful marshalling of legislative support. Secretary Reed and his staff were realistic in their expectations, given the low priority typically assigned to public records access or digital archiving in the competition for capital funding. So they devised an alternative funding solution. The first part was to add an additional dollar surcharge to the document recording fee collected by the County Auditors. This would provide the revenue for the auditors to access the WSDA's digital archiving capability without impacting their local budgets. With the help of stakeholders (described below), Secretary Reed persuaded the legislature to approve the additional surcharge, thus creating a revenue stream to support development and operations.<sup>10</sup> The capital to build and equip the WSDA was acquired by arranging to borrow against this revenue stream in the private capital market using Certificates of Participation.<sup>11</sup> The legislation was approved and the fee implemented by early 2002. Following that, the capital financing of the WSDA was approved in December of that year.

## **Making the Case to Stakeholders**

To marshal their support, Reed and his team had to make both the government and public value proposition clear to the stakeholders. The team asked the County Auditors what record series was in highest demand in their counties. Making them available in digital form and Web accessible would free server space and relieve significant foot traffic in county offices. Secretary Reed and his team also worked to enlist state agency support by highlighting how the WSDA could relieve state agencies of growing digital record management and preservation responsibilities. The public value message was carried to the Heritage Caucus, a group of state legislators and other elected officials, state heritage, cultural and lands agencies and non-profit organizations that meets weekly to discuss local and state history. Local historical societies and genealogy researchers were enlisted to lobby for the greatly improved access and preservation the WSDA would provide for their activities. Genealogist became particularly strong supporters, many of whom currently volunteer to help archive family history records.

---

<sup>10</sup> For details on this legislation and the Digital Archives funding plan see Section V.f. Financing Plan for the Digital Archives, *Washington State Digital Archives Investment Plan* at <http://www.digitalarchives.wa.gov/staticcontent/Investment%20Plan.pdf>

<sup>11</sup> Certificates of Participation differ from general obligation bonds in that they are loans against a specific state revenue source rather than the "full faith and credit" of the state itself.

The WSDA team was required to deal with most agency stakeholders through two boards of the state's Department of Information Services, the Information Services Board (ISB) and the Customer Advisory Board (CAB). Approval of the 15 member ISB, composed of state legislators and executives from state agencies, was necessary for the WSDA and all large state IT projects. The CAB brings customers and stakeholders together to review and advise on projects, particularly in the planning and design phases. The WSDA team was thus required to first convince stakeholders in the CAB of the project's value, and then present a full project plan to the ISB for ultimate approval.

Working with the CAB was where the value of the WSDA came into conflict with the potential costs of transforming the archiving process. The initial plan presented to the CAB was for the WSDA to choose a digital content management system for the sending agencies to use in collecting and preparing digital records for the WSDA. That plan met with substantial resistance. The counties and state agencies did not want to have a new system imposed on them, with all the attendant costs of the new systems and changeover. Neither did they want to take on responsibility for the archiving process. Some agencies said they would go to the legislature to have the program abolished, or simply delete the records rather than deal with some new, high cost archiving system. After months of deliberation, the WSDA team agreed to avoid any new technology that would require the agencies to install any new systems or make radical changes to their current record keeping processes. Whatever the new technology would be, it would place the burden on the WSDA of accommodating its intake process to the existing record systems in the agencies. This concession to maintain the WSDA's value to the agency partners, while reducing the cost to them, allowed the planning and legislating process to move forward.

Some important issues that arose during the WSDA project team's work with the stakeholders through the ISB and CAB are shown below in Table 1. State regulations required that all large IT projects, like the WSDA, be evaluated by the Department of Information Services (DIS). This review examines benefits to stakeholders and risk management. Table 1 includes examples of the policy, technology, and management risks identified and the WSDA project team's plans to mitigate these risks.<sup>12</sup>

**Table 1. Examples from the WSDA Risk Management Plan**

Risk	Impact	Likelihood of Occurring	Mitigation Plan Example
Local and state government client agencies may demonstrate some resistance to archiving of electronic records	High	Medium	The state legislation governing archives will be revised with participation from all stakeholder groups to ensure their understanding of requirements for archiving electronic records and that the requirements are doable. With client agency involvement in development of the rules, we anticipate a sense of ownership on their part and an additional desire to participate. The Secretary of State will meet with management of state and local agencies, working with them to determine which records are of archival value and the method by which they will be transmitted to the Digital Archives. Processes will be established to allow for transmittal of records with a minimum of manual intervention, and instead focus on automated processes that will require initial set up only.

<sup>12</sup> Both documents are available on the Washington State Digital Archives Web site at <http://www.digitalarchives.wa.gov/Content.aspx?txt=background>.

<b>Table 1. Examples from the WSDA Risk Management Plan</b>			
<b>Risk</b>	<b>Impact</b>	<b>Likelihood of Occurring</b>	<b>Mitigation Plan Example</b>
There is no universal content management system used by state and local government client agencies. Lack of a universal system necessitates more manual and less automated systems for capturing, managing and preparing data for inclusion in the archives so that the data can be easily searched and retrieved.	Medium	Medium	The agency will not immediately impose universal use of a content management system. The Digital Archives will utilize a combination of off-the-shelf applications, sound data structure and processes, use of content management software at the Digital Archives and manual processes to manage and prepare the data. The agency will continue to work with client agencies in how to manage their content.
Inability to import and use legacy data due to outdated technology	Low to Medium	High	At a minimum, the Digital Archives will be able to convert data to the lowest common denominator (ASCII). The Digital Archives plan also includes a legacy equipment lab that can be used for conversion and/or use of outside commercial conversion services if necessary. The percentage of unreadable data will decrease over time.

## **Developing a Technology Strategy**

Delivering the value of digital archiving for the agency partners and the public required both an accessible repository and a way to populate it, i.e., both a place and a process. The planning and development for these two components went forward in parallel. Once the financing arrangements were completed in early 2002, the plans for the repository itself went forward. Early discussions took place with Washington State University about siteing the facility, but the University later declined. Secretary Reed then approached the administration of Eastern Washington University with the same proposition, which they accepted. With a site and financing in place, planning and construction continued through late 2002 and 2003.

Developing the process and supporting technology took much longer. Once the “no top-down mandate” compromise with the CAB was decided in 2002, the WSDA team began searching for suitable technology solutions. The constraints embedded in that compromise were quite limiting. According to Adam Jansen, “We need to have as minimal an impact on state agencies’ and local governments’ main operation as we possibly can. They are not mandated, they aren’t funded, they do not have the staff resources to deal with this.” The record archiving process and its supporting technology had to accommodate the enormous diversity in data systems and formats existing in the counties and state agencies.

The search for a workable solution extended well into 2004. Early in that year the state hired a consulting firm with digital archiving experience to transform the existing plans and requirements into a formal feasibility study to present to the ISB. The firm, Glasshouse Technologies, began in March of 2003 and submitted their report the following June. The report contained detailed cost and performance estimates for the repository and details of the facility layout and phasing in of record acquisition. The report did not, however, describe the information processing methods to be used to actually acquire the digital content of the WSDA.

The actual solution employed resulted from consultations between Adam Jansen and Microsoft. By early 2004, Microsoft had developed Web services and their BizTalk application to the point that it could possibly serve as the record acquisition platform. With assistance from Microsoft staff, the WSDA team and technical staff developed a system design that could accommodate the diversity among record senders and maintain consistent content formatting and data standards for the WSDA content itself. The system consists of a relatively simple Web services application running on the sender's server and the BizTalk server to handle the reception of records at the WSDA. An MOU for each record series (birth records, etc.) establishes the data standards and metadata to be provided by the sender. The Web services application creates an encrypted XML version of the record with metadata and sends it to the BizTalk server, where it is converted to the standard format and archived. The XML wrapper and encryption preserve the record's integrity and security. The sender's legacy systems are not affected. As Jansen put it, "we went to the agencies and told them we don't care how you give us the data, but give it to us consistently. We will build everything around what you send us and take it all in." This approach, according to Excell, had the counties "singing our praises," and quite willing to participate in the project.

The WSDA investment plan was approved by the ISB in September of 2003. By June of the following year, the Office of the Secretary of State had selected and begun implementing the final technology solution. By that time, construction and equipping of the facility in Cheney were well underway. The way was then open for the grand opening on October 4, 2004, and proceeded with the phase-in of record acquisition, which is still underway.

## Where It is Now

As of May 2006, the WSDA holds over 5.9 million online records and is steadily increasing the number available to the public. More than 1,000 searches are conducted on the WSDA Web site daily, and the numbers continue to climb. The WSDA holds a wide range of material from birth, marriage, death, census, military and naturalization records, to historic records like the State Constitution and the first election results in the Washington Territory. In fifteen years, the WSDA is expected to enable citizens to access from their home computers up to 800 terabytes (the equivalent of 200 billion pages of text) of public records and history.

The value of the WSDA to the public and to the cooperating agencies is enhanced by the technology employed as well. The tailoring of the archiving and access system locally, and the use of shared source software along with commercial off-the-shelf 'tools' reduced costs and facilitated maintenance and enhancements. The only proprietary software 'tools' being used are Microsoft SQL Server and Microsoft BizTalk. The costs were kept within budget for the first year by avoiding maintenance, licensing, and update charges because of the largely in-house developed solution. The value is also enhanced by the encryption and authentication technologies built into the archiving process. These technologies provide agencies with the ability to order certified record copies electronically and maintains the legal and evidentiary value of the digital versions of the records.

The performance of the technical infrastructure developed for archiving appears to be quite capable of delivering the promised value (see Table 2 below for details). During March, 2006, the WSDA added over 750,000 new public records and converted approximately 2.5 million images (equivalent to approximately 2.5 million pages) and made them available to the citizens of Washington State from any location in the world with Internet access. The ability to access these records has clear value not only to Washington citizens, but also to state and local government agencies in Washington. The WSDA is providing both backup storage of invaluable, often irreplaceable public records and has shifted the long-term preservation burden of another 1 million records from state and local government agencies to the WSDA. The magnitude of these values is evidenced by the number of searches and documents retrieved by both citizens and government agencies. For the month of April 2006, over 81,000 searches were conducted and over 32,000 documents were retrieved.

**Table 2. Washington State Digital Archives Statistics for Month of April 2006**

<b>Activity</b>	<b>Total Number</b>
Total Records in the System	<b>5,927,037</b>
New Records Added	752,320
New Images Converted	2,525,349
Searches Conducted This Month	81,712 (2,723 Avg. /Day)
Records Retrieved This Month	32,910 (1,097 Avg. /Day)

In initial proof of concept testing in 2005, the systems converted 97% of the legacy file formats without change in format or function. In addition, ingestion of Web site material and email was successful. The system spidered the 5,000+ page Secretary of State Web site remotely in eight minutes and remotely ingested email from Novell, Groupwise, and Microsoft Exchange servers. In addition, the facility provides classroom and research space for ongoing professional education and improvements.

The WSDA delivers value to local governments as well. During the month of April 2006, approximately 7,500 marriage records were accessed via the WSDA from 13 counties. The county auditor offices across these 13 counties thus had the opportunity to dedicate personnel and other resources to tasks other than having to handle 7,500 over-the-counter requests for marriage records. In addition, according to Lisa Goldsworthy, records manager for the Snohomish County Auditor, the WSDA is “an excellent place to back up our data and images and potentially use as a disaster recovery resource.” The county is currently sending only marriage records, they anticipate sending all of its electronic data and images to the WSDA by the end of the year. Goldsworthy also notes that, “For Snohomish County, having a secondary resource in the form of the Digital Archives to provide access to our public records is beneficial and provides further opportunity to dedicate personnel and other resources to tasks other than handling requests for marriage records.”

From a political perspective, returns have been substantial. Sam Reed was elected Secretary of State for a second term in 2004. Upon reelection, Secretary Reed thanked his many supporters to include an “effective grassroots organization in all 39 counties, including 31 County Auditors in both political parties.”<sup>13</sup> These same stakeholders were key to the success of the WSDA. The Secretary of State and the rest of his WSDA project team invested heavily in time and resources serving the needs and concerns of the County Auditors. It seems clear that that effort resulted in a very direct if not quantifiable political return for the Secretary.

During his reelection campaign, Secretary Reed emphasized a number of successes and achievements from his first term. He highlighted the opening of America’s first state government digital archives and the placing of Washington historical records and publications online for the first time as two examples of his administration’s record progress.<sup>14</sup> In addition, the Secretary of State and other members of the WSDA team pointed out that lessons learned from the management of the WSDA project directly contributed to the success of other IT-enabled initiatives. Lessons learned from the WSDA project were carried over into the Secretary of State’s Voter Registration Database project. According to Assistant Secretary of State, Steve Excell, “We learned from the WSDA project that the top-down approach didn’t work. The stakeholders in both projects told us the same thing: you got to show me some benefits.” Based on the lessons learned from the WSDA project, the Voter Registration Database project team was able to apply this approach immediately, rather than after months of stakeholder deliberations as occurred early in the WSDA project. This saved time and resources. Most importantly, according to Steve Excell, the success of the WSDA project resulted in less oversight from the state Department of Information Services, allowing the database to be online on schedule and met the federal deadline under the Help America Vote Act. That act required all states to use a single, centralized database to manage voter registration and to verify the identity of each applicant. Many of other states did not meet that deadline. The success of both of

<sup>13</sup> For more information on Sam Reed’s reelection campaign for Secretary of State see <http://www.samreed.org/default.aspx>.

<sup>14</sup> For more information see [http://www.samreed.org/issues\\_1.aspx](http://www.samreed.org/issues_1.aspx).

these initiatives directly support Reed's ability to fulfill his constitutional responsibilities and political role as the state's chief elections officer and supervisor of the State Library and Archives.

## ROI Perspectives and Approaches

### The Overall Value Proposition

Part of the feasibility study and the investment plan presented to the ISB was a summary statement of the both citizen and state and local government benefits expected from the WSDA (See Table 3). This table of benefits captures the WSDA project team's initial vision and expected value of the WSDA to both the government and citizens. In addition, it also captures the benefits that the WSDA project team needed to communicate to the state and local government agencies that were keepers of public recorders in order to mobilize their support and participation.

<b>Table 3. Benefits of the Digital Archives to Both Citizens and State and Local Government from the WSDA Feasibility Study and Investment Plan<sup>15</sup></b>			
<b>Cost Savings</b>	<b>Cost Avoidance</b>	<b>Cost Recovery</b>	<b>Intangible Benefits</b>
	Legal fines and sanctions	Copies of certified records	Improved public access
	Growth in storage facilities for paper records	State recoveries from lawsuits and settlements (e.g. Tobacco settlement)	Legal compliance
			Public trust in government
			Preservation of state history
			Staff efficiency
			Improved record security

The absence in this table of attention to cost savings and the little attention given to cost avoidance or recovery emphasizes the strong public value orientation of this initiative. The identification and apparent emphasis on the "intangible" citizen and government benefits is unusual in government IT projects generally. Even most of the cost avoidance and recovery items mentioned are related to the intangible benefits. Moreover, the way the intangible benefits are stated does imply fairly direct ways that they can be documented and in some cases measured (see Table 2 above). The improved level of access can be measured in both user behavior and in the proportion of any record series available remotely. The value of improved historical preservation and improved records security are more difficult to quantify, but were clearly an important citizen as well as government value in this case. Simply archiving large volumes of state records and email, which would otherwise have been destroyed, is a demonstration of preservation value and providing a backup storage capability for state and local government agencies is a demonstration of security value.

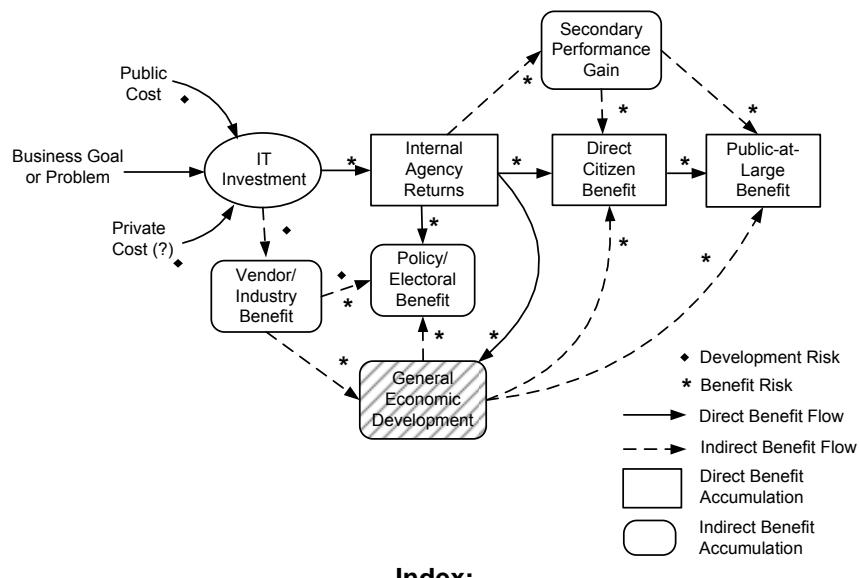
The fact that over 100 amateur genealogists have volunteered to transcribe thousands of family history records for the WSDA is strong evidence that a specific public value is associated with the preservation part of the WSDA. Documentation and analysis of this kind of public activity can be an important part of the overall assessment of public returns. According to Secretary Reed, "Vital decisions in government are now reached through e-mail conversations and electronic document transfers. Many of these seemingly insignificant records have been erased with the delete button and lost forever. The WSDA now captures and preserve all of these valuable interactions for our future generations, giving us the technological ability to preserve for our children what previous generations have done for us."<sup>16</sup>

<sup>15</sup> Copies of the WSDA Feasibility Study and Investment Plan can be viewed and downloaded at <http://www.digitalarchives.wa.gov/Content.aspx?txt=background>.

<sup>16</sup> See March 23, 2006 Secretary of State news release at [http://www.secstate.wa.gov/office/osos\\_news.aspx?i=QoJVZIT9w8Ook0XBsKqb7Q%3d%3d](http://www.secstate.wa.gov/office/osos_news.aspx?i=QoJVZIT9w8Ook0XBsKqb7Q%3d%3d).

When viewed overall, the WSDA project demonstrates a strong connection between the initial high-level public value proposition that motivated the project and its realization in the performance of WSDA itself. The ability to maintain that connection over the four plus years of the initiative is an important achievement given the inherent complexity of the problem, the vagaries of politics, and often-tortuous path of IT innovation. Part of the reason for the evident public value of the results is the simplicity of the basic logic: namely that preserved records are inherently valuable to the public. The value is self-evident to the key players in the process and is a widely accepted assumption. The key conflicts over the term of the project were not in what the value was or how to demonstrate it, but rather how to keep the cost of implementation in acceptable bounds. Moreover, there was clearly a direct logical connection between the desired value and the basic technology needed to achieve the value return: if digital records require digital archiving, and if archiving all records is the state's legal responsibility, then the state must create a digital archives. The complexities of operationalizing these concepts did not distract the planners and leaders from the basic underlying logic. The benefits to the government agencies can also be demonstrated in fairly straightforward ways: local cost savings due to shifting of the access point for many types of records from a county office to the Web, efficiency gains in business processes, etc. But these just enhance the overall demonstration of public value.

As shown in Figure 2 below (modified from Figure 1 in the introduction), in terms of the overall value proposition for public returns, there appear to be considerable returns of almost all types. The returns to the state and local governments are represented in the internal agency returns and secondary performance gains below. Direct citizen returns are evident in greater access to their own and public records generally, as well as in enhanced transparency, accountability, and trust in government. These are benefits to individual citizens (e.g., genealogists) and the public at large. Vendor and local industry returns were documented in the collaboration between the State and Microsoft in developing the new information sharing and archiving capabilities. Also, there were clear political returns to Secretary of State Sam Reed and his administration as evident in his election to a second term in 2004. Since the WSDA delivers value to County Auditors as well, it is plausible that some of them received some political returns in the form of electoral support as a result of improved local services or improved records access. A survey of auditors or citizens by county could be used to document such returns.



**Figure 2. Types of Documented and Potential Returns**

The remaining issue of returns to general economic development is shown as shaded in the Figure 2. Types of Documented and Potential Returns above because no direct evidence of this kind of return was available. However it is highly plausible that general economic development returns could be documented with appropriate methods. Access to land records, for example, are an important part of real estate sales and development. Improving access to these records is of substantial value to buyers, sellers, brokers, and developers. This was mentioned by the Snohomish County Auditor in reference to the booming housing market in his county, but no additional data on these indirect returns was available. The public value in the form of returns to individuals or firms in these and other commercial transactions, such as business licensing, employing digital records can be substantial. A simple set of surveys of users of these records would be sufficient to document returns of these types.

What may be the most important public return may also be the most difficult to assess: the public satisfaction and cultural and historical value from public record preservation and access. This does, however, remain a focus of attention of the Secretary of State, as illustrated in a March 3, 2006 press release. In that release, Secretary Reed commends lawmakers for further protecting the record of government, "I commend the Legislature for recognizing that these publications must be preserved and accessible to protect the record of government...The Digital Age has caused a flood of these electronic state publications that document how state government conducts business." "This Legislation helps to further secure our history for future generations."