



Office of Historic Preservation

California Historical Resources Information System

Service Delivery Model Analysis
and Recommendations Project

Final Report

April 20, 2015



1585 Terrace Way, Suite 543, Santa Rosa, CA 95404
www.TheResultsGroup.com • (707) 577-0818

Contents

1. Introduction	1
1.1 The CHRIS	1
1.2 The Service Delivery Model Project.....	2
2. Project Premises and Policy Issues	3
2.1 Project Premises.....	3
2.2 Policy Issues.....	3
3. Stakeholder Perspectives	4
3.1 Stakeholders.....	4
3.2 Customer Satisfaction.....	4
4. The Service Delivery Model	5
4.1 A Range of Viewpoints and Sources of Expertise	5
4.2 Envisioning the Future: A Narrative of the Model.....	5
4.3 Making the Vision a Reality	6
5. Alternative Structures to Support the Service Delivery Model	7
5.1 Business and Financial Model	7
5.2 Technology Infrastructure	7
5.3 CHRIS Staffing Levels	8
5.4 Governance and Management of the CHRIS.....	8
5.5 A Cost-Effective Organizational Structure	9
6. Service Delivery Model Recommendations	11
6.1 The Structural Model.....	11
6.2. Governance and Management of the CHRIS.....	11
6.3 The Digitization Process.....	11
6.4 Implementing New Technology.....	12
6.5 Transition Planning.....	12
7. Addressing Concerns Regarding IC Consolidation	13
7.1 Student Internships	13
7.2 Special Services to Local Government.....	14
Appendix A. About the Nine Information Centers	16
Appendix B. Mission and Legal Obligations	17
Appendix C. Federal Definition of Technical Assistance, Public Participation and Education	19
Appendix D. Financial Analysis	20
Appendix E. Project Information Gathering Methodology	23
Appendix F. Requirements for State Owned/Controlled Data	24
Appendix G. Illustrative Technology Architecture	26
Notes to the Text	31

1. Introduction

1.1 The CHRIS

Under the auspices of the California Office of Historic Preservation (OHP) and the State Historic Preservation Officer (SHPO), the California Historical Resources Information System (CHRIS) maintains an inventory of historical resource information, particularly focusing on archaeological resources and historic buildings, structures, and objects (collectively referred to as historical resources) throughout California. Its inventory includes records maintained and managed, under contract, by nine regional Information Centers (ICs) affiliated with public universities, as well as the statewide Historical Resources Inventory (HRI) database maintained by OHP.

The CHRIS is perhaps the most extensive of any of the inventories managed by SHPOs across the country. Not only is California is the third largest state in terms of geographic area, but in addition the California Environmental Quality Act (CEQA) requires historic resource consideration on a wide range of projects, which generates more archeological site surveys and resource records than are required in any other state.¹ The CHRIS contains information on more than 400,000 historical resources. By comparison in Texas, the second largest state, the SHPO-maintained inventory contains information on approximately 100,000 historical resources. Montana is the fourth largest state; its Cultural Resource Information System (CRIS) contains information on approximately 80,000 resources.

California's model for storing and providing access to historical resources information has evolved over the years. Since the establishment of what is now called the CHRIS, the number of Information Centers (ICs) has fluctuated, including a recent reduction from 10 to nine. Each IC manages cultural resource information for its region, as well as some statewide information. See Appendix A for a listing of the counties in each IC's region.

The CHRIS is in the process of converting from paper records (maps, resource records and reports, and other documents) to a digital inventory consisting of GIS maps, an inventory database, and electronic document files. Several ICs have fully digitized their individual inventories or will have done so very soon; the others are in process. Within two to three years,²

depending on available funding to complete the digital conversion, the CHRIS will have a single statewide digital inventory. Once that is accomplished, it will be technologically possible to provide access to this inventory online as well as at physical IC locations.

California's SHPO and State Historical Resources Commission (SHRC) recognize that a digital inventory enables the CHRIS to serve its customers and stakeholders in new ways. Some possibilities have already been explored at one or more ICs, illustrating the potential for improved customer service. The analysis and recommendations contained in this report take into account these innovative CHRIS initiatives. Furthermore, this report identifies a number of issues regarding CHRIS operations, most of which are addressed by the recommended Service Delivery Model. However, it should be noted that OHP, and in particular the SHPO, is fully aware of these issues and has already taken significant steps to address them.

A "Double Bottom Line"

The CHRIS plays a central role in the preservation of California's cultural resources, and performs a key function as part of the national historic resources preservation system under the auspices of the federal government (for additional information see Appendix B). The nine ICs operate on a not-for-profit basis, reinvesting any accrued revenue into the CHRIS. On the other hand, like a for-profit business, customers provide the vast majority of ICs' revenue. The CHRIS depends upon those revenues for its survival and its ability to improve its operations over time. In addition to fee revenue, the ICs receive an annual grant from the OHP totaling approximately \$90,000-\$100,000 distributed amongst all centers, which is approximately 5% of the current total annual costs of all ICs.

Thus, the CHRIS has a "double bottom line" like many fee-for-service based nonprofit organizations, government agencies, and quasi-government entities. Examples of these organizations are numerous – from hospitals, to educational institutions, to Joint Powers Authorities (JPAs) throughout California. They exist to meet public needs but their government funding, if any, covers only a portion of operating costs. The dual nature of these organizations requires them to continually balance the needs of their paying customers with the interests of other stakeholders.

Responsibilities Delegated to the ICs

OHP has delegated to the ICs a major portion of the responsibility to:

Manage, maintain, expand, and provide access to the CHRIS inventory.

In addition, the ICs have taken on additional responsibilities. Most provide the following to a greater or lesser extent:

- Work with their host university to add value to the department with which the IC is associated. Most ICs provide internship opportunities for graduate and/or undergraduate students, and access to the inventory at little or no cost for professors, researchers, and students.
- Activities to promote historic preservation, ranging from public events to encouraging local planning agencies to require historic resources consideration for projects they approve.
- Provide Non-Confidential Summary Records Searches (also called “Project Reviews,” “Planner Searches,” or “Quick Checks”) for local government agencies at low cost.
- Technical assistance, public participation, and public education (referred to as “public outreach”). The federal definitions of these activities are set forth in Appendix C.

1.2 The Service Delivery Model Project

OHP has engaged The Results Group to look forward to the point in the future when the statewide digital inventory is in place and ready to be accessed electronically by IC and OHP staff, customers, other stakeholders, and the public. The **Service Delivery Model Analysis and Recommendations Project** envisions a model that will:

- Support continual updating and expansion of the CHRIS inventory, including potentially incorporating inventories currently maintained by other government agencies.
- Provide efficient, timely, consistent, high quality, cost-effective services to CHRIS customers.
- Ensure data security and the protection of confidential cultural resource information.
- Provide for the long-term viability of the CHRIS and its ability to continue fulfilling its mission as circumstances change over time.

Refinements to the Project Approach

The Four Alternative Structures. Originally The Results Group was tasked with assessing four alternative structures and recommending which would best support the future service delivery model. Those four alternatives were based on 10, five, one IC, and a no-IC option (OHP would operate the CHRIS). However, early in the project OHP and the consultants determined that it would be most useful to redefine the four alternative structures as follows:

- 9 ICs (the current number)
- 6 ICs
- 2-4 ICs
- 1 IC

This change was made in consideration of several factors. The 10 IC model was changed because the actual number of ICs was reduced to nine with the closure of the IC in San Bernardino. The “No Information Centers” alternative was determined by OHP to be problematic for a number of reasons, and thus was eliminated. Given these two changes, the four alternatives were adjusted as shown above in order to provide a more informative analysis.

Financial Analysis and Modeling. The Results Group originally embarked on a detailed analysis of IC financial data over the past 3-5 years, hoping to build an electronic model that could be adjusted to reflect multiple scenarios. However, as described in Appendix C, the nine ICs’ budgeting and financial systems are completely independent, and deal with numerous factors that differentially affect each IC’s revenue and expenses. As a result, most comparative analyses are of limited value.

Therefore the consulting team, in consultation with OHP, has charted a course of financial modeling based on typical costs for an operation like an IC. This includes utilizing market rates to establish costs such as rent, the top manager’s salary, and so forth. In actuality this approach is preferable, given that the current arrangements between ICs and their hosts is subject to change at any time, and such changes in recent years have had a dramatic effect on the finances and fiscal viability of several ICs. Thus, the analysis in this report is, unless otherwise indicated, based on predictable cost factors, not current IC financial structures.

2. Project Premises and Policy Issues

2.1 Project Premises

The analysis and recommendations presented in this report are based on the following premises:

- Recommended changes to the CHRIS service delivery model are geared towards the point in time when the inventory is fully digitized and resides on a single statewide technology platform. Full digitization is defined as completion of Phase Two as presented in the CHRIS Modernization and Sustainability Plan.³
- The service delivery model must support continuous expansion of the inventory and enable the CHRIS to provide efficient, timely, consistent, high-quality and cost-effective services.
- The CHRIS will ensure data security and appropriately limit access to confidential historical resource information.
- The CHRIS will continue to be supported primarily by fees. However, a new fee structure will be developed, with a more transparent rationale connecting the specific fees to the costs of maintaining the CHRIS Inventory and providing CHRIS services.
- Although a long-term goal of the CHRIS is to provide online access to inventory data to qualified users, analyzing the ultimate management structure that should be put in place when online access is available was determined to be beyond the scope of this study.
- Provide technical assistance and assist users in effectively accessing and using the system. This may be by telephone or electronically; it need not require local offices or in-person contact.
- Screen applicants for confidential data access and assess levels of access within the system.
- Provide non-confidential information to the public and confidential information to qualified users with appropriate security constraints.
- Continue to conduct records searches for qualified users; however, that service may diminish over time if the demand for it declines once the information is available online.
- Continue to provide Non-Confidential Summary Records Searches as appropriate. However, the fees charged for this service must cover the cost of providing the service.
- Encourage electronic submission of resource records and reports, at least for the near future. Ultimately electronic submission of resource records and reports may be required.
- Continue to have a close association with Universities. However, the terms of current affiliations with universities need to be evaluated.

2.2 Policy Issues

The Results Group identified several policy questions that are fundamental to the design of the service delivery model, and the SHPO provided policy guidance in these areas. Thus the project is based on the following leadership direction.

In the future the CHRIS will:

- Maintain the existing CHRIS inventory.
- Input and quality control incoming data.
- Provide physical locations across the state with computers for users to access the inventory. Because users will have access to digital records from the inventory and the option to request a records search conducted by CHRIS staff, having computers available for in-person use will not be as necessary.
- Provide project-specific historical resources management recommendations.
- Provide access to regional historic railroad maps, atlases, obscure publications, etc. If possible, these materials will be digitized and made a part of the CHRIS inventory. Otherwise, they will be transferred to appropriate repositories such as libraries and local archives.

3. Stakeholder Perspectives

The scope of work for this project distinguishes between customers and other stakeholders. This is an important distinction, given that primary fee-paying customers provide the vast majority of the revenue that supports CHRIS operations, and have well-formed opinions and expectations regarding the CHRIS and the services it provides to them. However, in developing its future service delivery model, the CHRIS must also consider the needs and interests of other stakeholders.

3.1 Stakeholders

The future service delivery model will, according to OHP, continue to be funded primarily by customer fees (although the structure and nature of the fees is likely to change). Consolidation of ICs will also result in the grant funds made available by OHP being divided among fewer centers.

While there are a number of stakeholder groups who use the ICs and have an interest in their structure and services, a small sub-group of stakeholders account for a disproportionate amount of IC income.

For purposes of this project, those customers who pay the bulk of these fees, or organizations that could potentially become substantial customers if the CHRIS service delivery model were to meet their needs, are designated as the “primary sources of fees.” The term “stakeholders” is inclusive of customers who are the primary sources of fees and all other categories of users and interested parties.

Stakeholders

- Cultural Resources Management (CRM) and Environmental Compliance firms and cultural resource professionals.
- Project proponents, developers, engineering and architecture firms, public and private utilities.
- Federal and state government agencies.
- Native American tribes and individuals.
- Individuals and organizations interested in historic resources preservation.
- Researchers, students, and the academic community.
- Local government agencies.
- Employees of OHP and the ICs.
- The general public.

Primary Sources of Fees

- Cultural Resources Management (CRM) and Environmental Compliance firms and cultural resource professionals.
- Project proponents, developers, engineering and architecture firms, public and private utilities.
- Federal and state government agencies.⁴

3.2 Customer Satisfaction

In designing a future service delivery model it is important to identify and address issues and shortcomings inherent in the current model. To identify those issues and shortcomings, The Results Group conducted in-depth interviews with more than 40 stakeholders, including conducting individual interviews with IC Coordinators and also a meeting with them as a group. In addition, a half-day symposium on the CHRIS was attended by stakeholders, IC Coordinators, and OHP staff. The following issues were cited most often. (In a previous project with OHP, The Results Group conducted interviews with a similar set of stakeholders and many of the same issues were raised at that time.)

- Customers find the current fee structure difficult to understand and lacking a rational justification.
- Some projects span the service areas of more than one IC. Having to submit information requests to multiple ICs for a single project is inconvenient.
- The nine ICs do not utilize a common service delivery model or provide consistent customer service; they differ in terms of turnaround time for records searches, staffing standards and use of interns, hours of operation, service delivery options, and work product standards.
- The primary customers of the CHRIS, many of whom utilize historical resources inventories in neighboring states, find California’s technology capability lacking. For example, the neighboring states of Nevada and Arizona have their cultural resources database available online, and qualified users can download digital data from a GIS map over the web with a secure web-in.

4. The Service Delivery Model

4.1 A Range of Viewpoints and Sources of Expertise

The primary focus of this project is to develop a vision of the future – a Service Delivery Model that enables the CHRIS to fulfill its mission and responsibilities most effectively when a statewide digital inventory is in place. In developing this model, The Results Group has taken into account many viewpoints regarding the services the CHRIS should provide and how they should be provided (see Appendix D). The consulting team’s interviews with customers and stakeholders focused largely on this topic, as did interviews and meetings with IC Coordinators, meetings with the SHPO and OHP staff, as well as interviews with some of the SHRC Commissioners and discussion at a meeting of the SHRC. The consulting team has also taken a deep dive into the current CHRIS service delivery model, not only during the course of this project but in three previous projects involving ICs over the past five years.

In order to better understand the CHRIS and identify best practices relevant to its work, the team has reached out to other experts – academics, nonprofit agencies similar in size to the ICs, and executives in state agencies that have between 4 and 50 regional offices throughout California. Extensive research into other states’ historical resources systems has also yielded interesting information.

The consulting team has also drawn upon team members’ experience. Two team members each served for more than two decades in state executive positions responsible for budgeting and finance, business operations, and information technology in multiple State departments (including CalFire, Employment Development Department, and Health Services); another team member has served as the Controller/CFO for several nonprofit organizations serving fee-paying customers and the public.

The consulting team has worked closely with the SHPO and OHP staff to develop the future CHRIS service delivery model. It is designed first and foremost to fulfill the core responsibility of the CHRIS, which is to:

Manage, maintain, expand, and provide access to the CHRIS inventory.

It also takes into consideration the other functions that some or all of the ICs perform, such as:

- Providing internship opportunities for graduate and/or undergraduate students, and access to the

inventory at little or no cost for professors, researchers, and students.

- Promoting historic preservation through a range of activities, from public events to encouraging local planning agencies to require historic resources consideration for projects they approve.
- Providing Non-Confidential Summary Record Searches for local government agencies at low cost.

4.2 Envisioning the Future: A Narrative of the Model

The expectations of the CHRIS are changing. Its customers, stakeholders, and the public are accustomed to their banks, online retailers, and even the public library providing 24 hour online access, online technical assistance, user accounts that enable customers to track their usage history, and so forth. The following narrative envisions a future CHRIS that more closely meets customer expectations.

The Vision. The year is 2017. The CHRIS maintains its statewide inventory electronically, including GIS maps, an inventory database, and electronic document files (PDF versions of resource records and other documents).

The CHRIS statewide inventory is accessible in digital format, possibly online, along with other helpful information for professionals and the public. Qualified users securely access confidential information, while other users and the general public have access to more general information. Many regular customers choose to subscribe for an annual fee (and may also incur per-use charges for some additional services), and normally conduct records searches from their desktops. Other customers opt to purchase access to information episodically, and are charged per-use fees that reflect the actual cost to deliver those services. Some customers choose to call upon the expertise of CHRIS staff to perform records searches (including, occasionally, subscription customers when they do not have time to do the work themselves or require the expertise of CHRIS staff).

Records search requests are submitted online, and the submission form requires customers to provide information that expedites the data entry process for CHRIS staff. Because the staff person conducting the records search accesses a statewide inventory (ICs no longer have separate regional inventories), customers are able to request a records search for any part of the

state from any one of the ICs. This enables the CHRIS to manage the statewide workload by allocating work to the ICs based on their staff availability at that time (number of requests they are currently processing, etc.).

Because significantly less time is required to conduct an electronic records search (as opposed to utilizing paper maps and documents), searches are typically provided on a one- or two-day basis. Urgent requests are accommodated based on an enhanced fee structure (for instance, in a critical wildfire situation, state and federal firefighting agencies are provided assistance in real time through a web conferencing platform).

Not only are records search requests submitted online, most professionals submit resource record data to the CHRIS electronically as well, including GIS shape files, properly structured database information, and PDF documents. Thus, this workload is able to be distributed to ICs based not on local geography, but in a manner that achieves the most efficient processing.

Technology has transformed IC procedures and staffing. The CHRIS utilizes an industry-standard management information system (MIS) that:

- Maintains an up-to-date database of customers and other stakeholders.
- Enables electronic processing of records search requests, from initial submission to delivery of the search results.
- Generates an invoices for services rendered, if applicable.
- Provides aggregate data and standards reports regarding services provided to customers, financial performance, etc. Using this information the CHRIS is able to design its fee structure based on the actual cost to provide different levels of service.

As these enhancements to the CHRIS and its service delivery model have been put in place, organizations that previously opted out of the CHRIS have engaged with OHP to develop a more collaborative relationship. For example, agencies responsible for management of federal and state land in California have arrangements to exchange information in their separate inventories, and several have merged their inventories into the CHRIS and become primary customers.

In addition to managing and providing access to the CHRIS inventory, statewide programs have been

established under OHP management to accomplish the following:

- *Educating Future Professionals.* The CHRIS has worked with partners in academia to develop new methods for educating students regarding the role and functions of the CHRIS (e.g., how to access the statewide inventory, conduct records searches, and provide information and technical assistance to users). In the future, the CHRIS may develop a broader educational program that can be applied in both host educational institutions and have application in non-host academic archaeology and public history programs. This might include the use of webinars and other online tools. It could also include coursework that provides students extensive hands-on experience performing the tasks of CHRIS staff throughout the information cycle (from receiving and entering data into the inventory, to conducting record searches, to collecting fees) as well as answering inquiries from the public.
- *Historic Preservation Education.* The statewide historic preservation education program includes:
 - Technical assistance for local agencies regarding the consideration of historical resources within their jurisdictions during the environmental review process. This program has been developed in relationship to the Local Government Assistance program of the OHP so that it does not duplicate OHP functions and services.
 - Programs to inform and educate stakeholders on the CHRIS Inventory and its effective access and use.

4.3 Making the Vision a Reality

Achieving the vision will require:

1. Establishing a more robust governance structure and streamlining the management of the CHRIS.
2. Redesigning the current organizational structure (OHP and nine contracted ICs).
3. Developing a workplan and timeline to complete the digital conversion of the CHRIS inventory, establish new organizational and management structures and smoothly transition to them, implement new technology systems, revise the fee structure, and so forth.

Each of these major undertakings is explored in subsequent sections of this report.

5. Alternative Structures to Support the Service Delivery Model

The vision described in the previous section moves the CHRIS closer to being able to meet its stakeholders' expectations. However, the fundamental changes described in the vision will have a profound impact on the structure of the CHRIS – its business and financial model, technology architecture, staffing model, and organizational structure.

5.1 Business and Financial Model

IC Revenue vs. Expenses. Currently, an IC's financial health is determined primarily by two factors:

1. The number of resource records and reports submitted for addition to the CHRIS inventory, which generates workload but no revenue.
2. The number of records searches and other services requested by paying customers.

An IC that receives a relatively large amount of data to enter into the system but has relatively less customer revenue will inevitably struggle financially. This has been the case for at least one IC for many years. On the other hand, some ICs historically have had relatively low data submission in relationship to revenues, and have built up substantial financial reserves. In short, the current financial model creates "haves and have-nots" among the nine ICs.

The development of a statewide digital inventory allows the CHRIS to manage both of these factors. As data submissions and records search requests are received, the workload can be distributed among the ICs. For example, if at a given time one IC has a high workload and turnaround times are becoming longer, new records search requests can be shifted to an IC that has a low workload. On a system-wide basis this enables effective workload management, reduced turnaround time, and improved customer service.

Revenue Sources. As some of the ICs have become digitized, customers' purchasing patterns have changed. Based on this experience, the following changes are likely to occur in the future.

- **Subscription Revenue.** Once a statewide digital inventory is available, some customers will opt to pay a subscription fee to access the CHRIS inventory at their own location. It is interesting to note that in San Diego, the first center to operate with a fully digitized inventory and ancillary electronic business processes, subscriptions currently provide more than 25% of annual revenue. However, given the

variations in the types of services requested by different types of customers, this may not be a reliable predictor of future CHRIS subscription revenue.

- **Priority and Emergency Records Searches.** Customers pay a premium for expedited records searches (a 50% fee increase for priority searches, and 100% for emergency searches, although the latter represent less than 1% of total records searches). With a fully digitized CHRIS the number of expedited record searches is likely to diminish. Staff time to conduct a records search will be reduced, and presumably a decreased turnaround time will reduce the need to request expedited searches. Also, subscription customers will not need to request IC searches, priority or otherwise. To illustrate the potential impact of this change, in San Diego the number of expedited records searches is far lower than at other ICs (8% versus 33% on average). This could result in significant lost revenue – in FY 2013-14, expedited searches generated an estimated \$100,000-200,000 in revenue to the CHRIS.⁵

As customers' purchasing patterns change, which may significantly impact CHRIS revenue, OHP and the SHRC will need to reconsider how the fee structure will continue to support the majority of CHRIS operating costs.

5.2 Technology Infrastructure

Currently, the IT infrastructure at the nine ICs lacks consistent data security protocols and physical security measures (hardware security, building access, etc.), backup procedures, and operational recovery capabilities. Its data management falls short of State of California requirements for State-owned or controlled data, particularly confidential information (see Appendix E). In addition, it utilizes a variety of desktop applications to manage customer information, invoicing and fee collection, financial management, and so forth.

To put in place a secure, reliable, up-to-date IT system that allows segregated access to qualified versus non-qualified users will require:

- Network hardware and connectivity.
- Software, including licenses (typically based on number of users).

- Building and computer system security.
- Staff with knowledge to address daily IT issues and work with vendors providing repair and maintenance.
- Vendor(s) providing system repair and maintenance.

Appendix G outlines a potential future IT architecture for the CHRIS. As common sense would indicate, putting this infrastructure in place in nine locations will be more complex and costly than in three ICs or one.

5.3 CHRIS Staffing Levels

Once the CHRIS inventory is digitized, several factors will reduce the number of staff required to perform the functions of the CHRIS:

- Currently, most ICs dedicate significant staff time to digitization (converting paper records to digital format, including GIS mapping, database entry, document scanning, etc.). Once Phase One and Two digitization has been completed, these staff resources will no longer be needed. (A few may remain to scan reports, if OHP chooses to conduct an ongoing digitization of those documents. Alternatively, it is likely that OHP will adopt a policy that those documents will be scanned and digitized as they are requested, requiring minimal staff time). Currently, it is conservatively estimated that 10-20% of IC staff resources are dedicated to digital conversion.
- Those ICs that have completed digitization (i.e., staff routinely perform records searches at their computers by accessing the digital inventory) report that the time required to complete a records search is far less than for a paper-based search, and that overall staffing requirements for records searches decreased by at least 20-25%. Industry norms for IT projects that convert from paper to digital processing indicate a probable 25-35% reduction in staffing. Thus, it is reasonable to estimate that, conservatively, the total number of staff required to perform records searches may be reduced by 15-30%.
- Increasingly, professionals submit data to the CHRIS electronically. Over time this trend will accelerate, including GIS shape files and database information that can be directly transferred to the CHRIS inventory, with some staff time and expertise required for quality control. Thus the staffing required for entering data, the other main time-consuming function of IC staff, will also be reduced, perhaps by a factor of 10-25%.

- As noted elsewhere in this report, consolidation of ICs can be expected to reduce the number of IC Coordinators, and possibly administrative staff, needed to operate the CHRIS.
- At the same time, additional expertise will undoubtedly be required for a number of functions (managing a more complex IT environment, ensuring physical and data security, maintaining consistent policies and procedures, producing reliable management information, enhancing customer service, etc.).
- Additionally, the higher qualifications required of staff are very likely to require increases in salaries and wages for most CHRIS staff positions.

Given these factors, it is reasonable to conclude that statewide CHRIS staffing levels may be reduced by as much as 30-35%, depending on the number of ICs. This may not, however, reduce overall staffing costs by the same amount. In short, the CHRIS can be expected to require fewer but more qualified (and costly) staff.

5.4 Governance and Management of the CHRIS

Currently the CHRIS is governed largely through a collaborative process among the CHRIS Coordinator (under the direction of the SHPO) and the nine IC Coordinators. Decisions are made primarily by consensus. This structure has had distinct advantages as California's historic preservation system evolved from voluntary efforts at universities, through the establishment of the CHRIS in the 1970s, to the current level of coordination among the ICs and OHP.

The implementation of the CHRIS vision will require a more robust governance structure and more streamlined, efficient management practices to:

- Manage the workflow. A central structure will be required to manage incoming data and requests for records searches, and allocate workload to the various ICs systematically to maximize efficiency and minimize turnaround time.
- Install and maintain the more sophisticated, complex technology systems and infrastructure required to provide statewide inter-connectivity and meet standards for state-controlled data.
- Plan for the future. This includes developing a CHRIS Strategic Business Plan, IT Strategic Plan (ITSP), and continuous improvement processes.
- Maintain and update operational policies, procedures and systems to ensure that standards are consistently applied statewide.

Additional Management Capacity with Nine ICs.

Operating as a single system with consistent standards is made more difficult if the system is distributed among nine operating units located throughout California. While certainly possible, to do so would require at least one senior management position overseeing the CHRIS, working closely with the SHPO and OHP's CHRIS Coordinator. This position would provide both the expertise and the capacity to:

- Ensure that contracts between OHP and the ICs contain the necessary provisions; also, provide oversight to ensure that the ICs perform to CHRIS standards, remain fiscally responsible, and comply with the state and federal requirements imposed upon OHP and its contractors.
- Support communication and a positive working relationship with the IC Coordinators and OHP.
- Maintain the CHRIS budgeting and financial system.
- Lead the development and updating of the CHRIS Strategic Plan and ITSP, as well as the development, deployment, and maintenance of statewide technology systems.
- Provide policy direction, coordinate consistent implementation of systems and procedures, etc.
- Coordinate workload management statewide.

5.5 A Cost-Effective Organizational Structure

With a statewide digital inventory in place, achieving the vision presented in the previous section will not necessarily require nine ICs. Maintaining this structure is problematic for several reasons:

- With the estimated 25-35% reduction in staffing, maintaining nine IC Coordinator positions may be a management-heavy approach given the small number of staff in some or all of the ICS, whether ICs vary greatly in staff size as they do today, or workload is distributed more evenly. According to The Results Group's staffing analysis based on FY 2013-14 IC Annual Reports:
 - Currently the nine ICs employ approximately 51 people, of which 25.5% are full time and 74.5% are part time. This constitutes about 36 full-time equivalent positions (FTE), based on part-time staff working an average of 60% time. These staff positions are supplemented by approximately 10 FTE student assistant/intern positions, for a total of 46 FTE.
 - A 30% staffing reduction would decrease this number to 32 FTE.

- If these 32 positions were distributed evenly across nine ICs, each would employ four FTE.
- Based on extensive analysis of IC staffing patterns, it appears that the most cost-effective staffing model utilizes primarily full-time paid staff, rather than a small number of paid staff along with primarily part-time staff and student assistants/interns.
 - In FY 2013-14 the largest IC produced approximately 1,800 records searches with approximately four full-time staff, 12 part-time staff and six unpaid interns – about 13 FTE. As a rough calculation this amounts to about 148 searches per FTE.
 - The second largest IC produced approximately 1,300 searches with four full-time and one part-time staff (no interns) – about 4.5 FTE. As a rough calculation this amounts to about 289 searches per FTE, nearly double the rate of the staffing model that relies heavily on part-time staff and interns.
 - Each of the other ICs produced a total of less than 460 record searches, most with the majority of staff being part-time or student assistants/interns. Their number of records searches per FTE ranged from about 90-150. (Interestingly, the IC that averaged 150 utilized essentially 3 full-time staff, two of which were student assistants working full time who had several years of experience at the IC. The remaining ICs averaged 110 or less.)
 - This analysis should not be considered statistically significant. IC staff perform tasks other than records searches (e.g., entering data into the inventory and converting the inventory to digital format), which could skew these calculations.⁶ However, this analysis is interesting both because of the consistency of results across all of the ICs, and that the findings are consistent with the consulting team's experience with over 50 other small organizations that mix full-time and part-time staff, student assistants/interns, and volunteers.
- The nine-IC structure is costly. The cost analysis presented in Appendix C illustrates the potential differential in overhead costs – management staffing, rent and utilities, and technology infrastructure – for four structural alternatives: nine, six, three, and one IC(s). For example:
 - Consolidation of ICs is estimated to yield significant cost savings – likely to exceed

\$300,000 from consolidation of nine ICs to three, and more than \$500,000 from consolidation of nine to one.

- To put this in context, consolidation from nine ICs to one could potentially yield a reduction of approximately one-fourth of CHRIS total operating costs (including overhead). Based on the consulting team’s experience with consolidation of geographically dispersed offices, this is slightly less of a reduction than may be expected, but cost savings vary under different circumstances. However this one-fourth reduction seems reasonable as an estimate for the CHRIS.

These projections are not intended to accurately reflect the financial realities of the CHRIS at least two years in the future (the soonest that OHP anticipates it will have established the statewide digital inventory). However, they indicate the general order of magnitude of the potential financial impact resulting from IC consolidation.

6. Service Delivery Model Recommendations

To achieve the vision of the future CHRIS, The Results Group recommends the following.

6.1 The Structural Model

From a purely financial standpoint, the most advantageous structure is a single IC – an independent entity affiliated with a university and operating under contract with OHP, much like the current ICs. Among the CHRIS customers interviewed for this project, almost all articulated a vision of the CHRIS having “a single IC.”

However, The Results Group recommends that OHP undertake a first phase to consolidate the nine existing ICs to between two and four, then reevaluate whether and how to proceed with further consolidation. The reasons for this recommendation are:

- Based on experience with numerous statewide organizations that have consolidated regional offices, it is wise to proceed in phases.
- With its limited staffing, OHP’s capacity to support and oversee IC consolidation is very limited. Under current conditions, consolidation from nine ICs to three or four would take at least two years.

The specific number of ICs will be determined as OHP moves forward to develop a detailed transition plan, taking into account the myriad considerations involved in such a decision (a major one being the effect on the lives and livelihoods of existing staff, particularly IC Coordinators, some of whom have served the CHRIS for 20 to 30 years). The remaining two to four ICs will possibly be existing ICs that have agreed to assume the responsibilities of those that are being closed (however, it is likely the decision as to where to locate ICs may be subject to a Request for Proposals process). This will result in a higher average number of staff per IC, but a lower combined total number of staff given the reduced staffing requirements described above.

6.2. Governance and Management of the CHRIS

OHP has, under the leadership of the current SHPO, made major strides in moving the CHRIS toward greater consistency. This includes closing an IC that was not meeting its contractual obligations, providing clearer policy direction to the ICs, and requiring ICs to submit additional information in their annual reports.

It is essential for OHP to continue this process, proceeding rapidly to:

- Establish clear policies and standards for products and services provided by the ICs. This includes the scope of analysis, advice, and recommendations provided in records searches. It also includes clarification of the role of ICs in providing services to local government agencies.
- Define operational standards and requirements including:
 - Hours of operation.
 - The role of student interns and student assistants, including the functions they perform, the training and supervision required, etc.
 - Qualifications of staff who produce Non-Confidential Summary Records Searches, if OHP determines that it is appropriate for the CHRIS to continue providing this service.

6.3 The Digitization Process

The process by which the ICs complete the digitization of their inventories is affected by some of the above recommendations, for example consolidation of ICs. While it may be at the periphery of the scope of this project, The Results Group suggests that OHP consider the following:

- Several ICs have developed expertise in digitization of the CHRIS inventory – often through years of trial and error, sometimes discarding months of work and starting afresh with a more effective approach.
- Those ICs that have little experience or capacity for digitization should be spared this learning curve. At a minimum, this means utilizing best practices developed by the most experienced ICs, with training and ongoing supervision by the most knowledgeable IC staff.

Perhaps a more effective approach would be to designate a limited number of ICs (perhaps two or three) as “digitization specialty centers” and utilize their resources to digitize the inventories of the ICs that have little or no capacity to do it themselves. The process would probably require scanning the records at an IC and transmitting them electronically to a digitization specialty center.

6.4 Implementing New Technology

As noted above, establishing and utilizing a single statewide digital inventory will require significant changes to the current IT structure at OHP and the ICs. In addition, applications are currently available that could potentially streamline CHRIS operations and provide better management information to IC Coordinators and OHP.

Developing or selecting new technology systems and implementing them usually requires an extended period of staff work and, in the case of the State of California, potentially years to navigate the review and approval process. OHP should begin immediately to

develop a detailed information technology plan to procure and implement the technology infrastructure that will be needed over the next two to four years. That plan should be supplemented by analysis and requirements definitions that can readily be utilized to prepare feasibility study reports, budget change proposals, and other documentation required for approval by State control agencies.

6.5 Transition Planning

OHP should also move quickly to develop a detailed transition plan to put in place the statewide digital inventory, structural model, governance and management structures, and other elements required to implement the future service delivery model.

7. Addressing Concerns Regarding IC Consolidation

IC Coordinators, customers, and stakeholders expressed some concerns regarding current attributes of the CHRIS that might be adversely affected by IC consolidation. The Results Group has conducted follow-up conversations to understand these concerns, and conducted fiscal, policy, and operational analyses to address them. The following provides an overview of two primary concerns as well as and The Results Group's recommendations to address them.

7.1 Student Internships

The Concern. Internships offered by the ICs make an important contribution to the education of future professionals, particularly graduate students in archaeology and related fields.⁷

Issue Analysis. Stakeholder interviews and additional conversations with academics (including a member of the SHRC) revealed several positive and negative aspects of the current internship approach.

- Issue: Relatively few internships are offered, and only at a limited number of universities. Most of the ICs offer student internships on a continuous basis year to year (two do not currently, but may re-initiate the program in the future). Thus IC internships are only available at seven California universities. Approximately 20-30 internships are offered cumulatively by the ICs annually. This is fewer than the total number of current archaeology graduate students in a single university (UC Berkeley has 32), and dozens of universities in the state offer undergraduate or graduate programs.
- Recommendation: Consider expanding professional training regarding the CHRIS. If the internship experience is of high importance to the education of future professionals, the CHRIS should consider ways to expand the program to students at other universities (or to support other institutions in taking on this responsibility). Conversations with stakeholders yielded several ideas. One was to develop a program to be incorporated into universities' current archaeology curriculum. It could provide students experiences similar to an IC internship (entering data into the inventory, conducting records searches, etc. using a "mock database" rather than the actual CHRIS inventory). The CHRIS could work with universities throughout California to implement this program. Several other ideas were generated in brief brainstorming sessions, indicating that creative minds could develop a more robust student training program than is currently available through IC internships.
- Issue: ICs may be using interns inconsistently or even, some say, inappropriately. ICs vary in their policy and practices regarding the role of student interns. Some offer internships to undergraduates, others only graduate students. Some offer unpaid internships, others utilize students as "paid staff." Some have students perform mission-critical tasks – entering data into the CHRIS inventory and performing record searches, sometimes without adequate oversight. Other ICs and OHP have expressed concern that these practices could jeopardize the quality of data in the CHRIS inventory or of IC work products. Some ICs may utilize interns to conduct Non-Confidential Summary Records Searches, which require a high level of professional judgment. Most ICs have experienced, qualified professionals supervise interns and review their work. However, it is unclear whether professional staff are available to provide this supervision at all times when interns are working. At least one of the ICs provides minimal professional supervision.
- Recommendation: Develop clear internship policies and practices, or replace IC internships with a new approach. As in many other areas of IC operations, policies and procedures need to be developed and applied consistently at all ICs. This issue would be much more easily addressed if the number of ICs were reduced. Alternatively it may be most advantageous to develop a new approach to train students regarding the CHRIS, as described above.
- Issue: In some ICs, using interns to perform mission-critical tasks may be considered fiscally necessary. Some ICs have expressed the view that student interns constitute free or low-cost labor, and replacing them with paid staff would be financially prohibitive. As a matter of policy, OHP considers that the purpose of internships is to make a contribution to students' education and the university's academic program – not to be a substitute for qualified staff. Furthermore, it is questionable whether utilizing interns is actually

more cost-effective than hiring staff. In previous projects with OHP, The Results Group conducted an analysis of the cost-benefit of interns, and during this project delved further into the issue. Our overall impression is that the costs to maintain a quality internship program are higher than is often recognized. Significant staff time must be devoted to providing the appropriate level of training and supervision and also a meaningful student experience. Typically an IC's most qualified staff, including the Coordinator, are called upon. This constitutes a substantial cost, along with providing desk space, computer access and software licenses, etc. Given the limited hours most interns work, and the rapid turnover of interns (most internships last a semester or one year), it is doubtful that most ICs garner much, if any, financial advantage utilizing interns versus hiring entry-level staff.⁸

- **Recommendation: The viability of the CHRIS business model should not be dependent upon student internships.** In the future, the business model must include a staffing structure that enables the CHRIS to consistently and reliably performs its primary functions and deliver a high level of customer service. Interns should not be relied upon as part of that staffing model.
- **Issue: Interns provide a rich pool of talent from which ICs recruit staff.** IC Coordinators report that they often utilize internships as a way to identify the best candidates to fill vacant staff positions. However, this is not the purpose of internships and should not be relied upon as a recruitment strategy. Furthermore, once the inventory is fully digitized, staff qualifications may change, requiring skills beyond those provided by an archaeology graduate program, including GIS mapping, database management, and information management.
- **Recommendation: Develop a recruiting strategy designed for the future needs of the CHRIS.** As OHP considers the path forward toward a digital future, one of the considerations will be staff recruitment. The CHRIS should develop a reliable statewide recruitment strategy.

Conclusion. Training future professionals is not a core function of the CHRIS. If OHP determines that it will continue to be a CHRIS priority, it can almost certainly be accomplished through a different approach than internships at ICs, probably more effectively. In that case, OHP should partner with universities and seek grant funding to establish a student training program that is consistent statewide and reaches a far greater

number of students. It is not a credible justification for maintaining nine ICs.

7.2 Special Services to Local Government

The CHRIS has for many years provided special services to local governments, primarily city and county planning agencies. For instance, IC staff sometimes make a personal outreach effort to encourage them to implement more comprehensive historic preservation procedures. However, such direct outreach is infrequent and episodic, not a system-wide initiative.

Far more significant is the provision of Non-Confidential Summary Records Searches for local government agencies at a discounted rate.

- **Appearance of Conflict of Interest.** This issue has been mentioned by members of the SHRC, OHP staff, IC Coordinators, and customers. Very often Non-Confidential Summary Records Searches include a recommendation for further archaeological investigation. Because that further investigation is likely to involve a records search and thus a fee to the IC, some stakeholders question whether this constitutes a conflict of interest.
- **Inconsistent Scope.** Among stakeholders, there is a perception that the ICs differ significantly in the scope of their Non-Confidential Summary Records Searches. The CHRIS has not developed standards for these reviews – the scope of work, the information to be provided, and the extent to which judgments are made (analytical conclusions, recommendations, etc.). One IC Coordinator commented that some ICs essentially perform a complete records search, far beyond the intended scope of a review, and this was confirmed by at least one customer who was grateful for receiving such a comprehensive product for such a discounted fee.
- **Unfair Competition.** A fundamental premise of the CHRIS is that access to confidential historical resource information is provided only to qualified users. For the most part, these are historic resource management professionals who have met specific qualifications. It is unclear whether all of the individual staff in ICs who conduct Non-Confidential Summary Records Searches meet these qualifications (some ICs indicated that, at least historically, they sometimes did not). Also, several customers noted that this work should be done by a qualified professional engaged independently by the local agency; ICs providing

the service at a significant discount, and with free access to inventory data that a contracted consultant would have to purchase, was cited as unfair competition with professional firms.

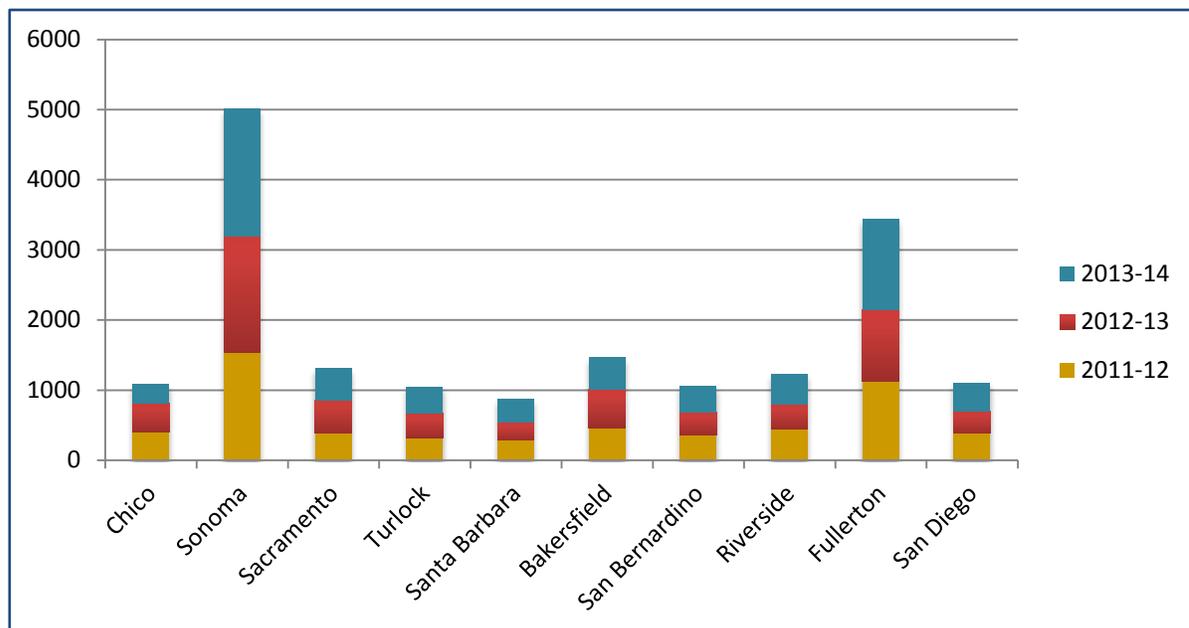
Conclusion. The following fundamental policy questions need to be answered by OHP: On what basis will the CHRIS continue to provide Non-Confidential

Summary Records Searches; what degree of professional judgment, advice, and recommendation will be included in them; and what minimal qualifications are required of staff who perform these searches? Then, these policies need to be codified in clear standards and a mechanism put in place to ensure that the ICs apply them consistently.

Appendix A. About the Nine Information Centers

Center	Host Facility	Counties Served
Northeast Information Center California	CSU Chico	Butte, Glenn, Lassen, Modoc, Plumas, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity
Northwest Information Center	Sonoma State University	Alameda, Colusa, Contra Costa, Del Norte, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, Sonoma, Yolo
North Central Information Center	CSU Sacramento	Amador, El Dorado, Nevada, Placer, Sacramento, Yuba
South Central Coastal Information Center	CSU Fullerton	Los Angeles, Orange, San Bernardino, Ventura
Central Coast Information Center	UC Santa Barbara	San Luis Obispo, Santa Barbara
Central California Information Center	CSU Stanislaus	Alpine, Calaveras, Mariposa, Merced, San Joaquin, Stanislaus, Tuolumne
Southern San Joaquin Valley Information Center	CSU Bakersfield	Fresno, Kern, Kings, Madera, Tulare
Eastern Information Center	UC Riverside	Inyo, Mono, Riverside
South Coastal Information Center	CSU San Diego	Imperial, San Diego

**Number of Record Searches Conducted at Each Information Center
Annually by Fiscal Year**



Appendix B. Mission and Legal Obligations

The Mission of OHP

The mission of the Office of Historic Preservation (OHP) and the State Historical Resources Commission (SHRC) is to provide leadership and promote the preservation of California's irreplaceable and diverse cultural heritage. To fulfill our mission we: Partner with local, state, federal, and tribal agencies, non-profit organizations, and the general public to help ensure cultural resources are appreciated and maintained as a matter of public interest and community pride; Carry out mandated responsibilities and administer programs under federal and state historic preservation laws; Promote a comprehensive preservation planning approach and urge the integration of historic preservation with broader land use planning efforts and decisions; Offer technical assistance and preservation training in order to create a better understanding of the programs OHP administers; Support sustainability and adaptive reuse of historic resources in ways that preserve historic character and provide economic benefits; Maintain the statewide Historical Resources Inventory and make available information about the state's historical and archaeological resources; and, Encourage recognition of the vital legacy of cultural, educational, recreational, aesthetic, economic, social and environmental benefits of historic preservation for the enrichment of present and future generations.

Legal Obligations

The following is excerpted from the *CHRIS Modernization and Sustainability Plan*.⁹

**Legal Obligations for the Office of Historic Preservation (OHP) and
California Historical Resources Information System (CHRIS)
Related to Development of a Plan for
Inventory Management, Outreach and Education Responsibilities**

The following provides information about the legal obligations (statutory and contractual) associated with OHP's responsibility and authority to manage the CHRIS and the CHRIS Inventory, and to provide what is being referred to as "public outreach" for purposes of this document.

National Historic Preservation Act of 1966

It shall be the responsibility of the State Historic Preservation Officer ["SHPO"] to administer the State Historic Preservation Program and to, in cooperation with Federal and State agencies, local governments, and private organizations and individuals, direct and conduct a comprehensive statewide survey of historic properties and maintain inventories of such properties;... (16 USC 470a(b)(3)(A).)

...advise and assist, as appropriate, Federal and State agencies and local governments in carrying out their historic preservation responsibilities;... (16 USC 470a(b)(3)(E).)

...provide public information, education, and training, and technical assistance in historic preservation;..." (16 USC 470a(b)(3)(G).)

California Public Resources Code

The [State Historical Resources Commission ("SHRC")] shall do all of the following:

Conduct a statewide inventory and maintain comprehensive records of historical resources pursuant to state and federal law, including, but not limited to, historical landmarks and points of historical interest.... (PRC § 5020.4(a)(2).)

[OHP] shall do all of the following:

...Provide public education and information on the preservation and enhancement of historical resources. (PRC § 5024.6(g).)

Provide information and technical assistance to local, state, and national organizations to promote preservation and enhancement of historical resources by developing model ordinances, financial mechanisms, educational programs, conferences, workshops, and other materials. (PRC § 5024.6(h).)

Administer and maintain the State Historic Resources Inventory in accordance with procedures developed by [OHP] and adopted by the [SHRC]. (PRC § 5024.6(n).)

Appendix C. Federal Definition of Technical Assistance, Public Participation and Education

Excerpted from: Historic Preservation Fund Grants Manual, Chapter 6 - Assisted Program Activities

D. Eligible Grant-Assisted Activities.

This section describes activities which may be accomplished with HPF grant assistance.

1. Technical Assistance.

Technical assistance is an eligible activity for any Program Area. See Section C.7., above. Technical assistance means the development of skills or the provision of knowledge of the background, meaning, operation, or implications of some aspect of historic preservation. This includes the SHPO staff providing assistance to anyone who is not a part of the SHPO staff; such as, subgrantees, CLGs and other local governments, State or Federal agencies, the public, etc. Issuance of previously prepared material, by itself, does not constitute technical assistance; there must be some significant action added. For example, mailings of brochures, forms, or publications would not count as technical assistance, because they do not ensure that recipients have an understanding of what was sent out. On the other hand, answering an inquiry on how to fill out a survey form or a discussion on mortar analysis would constitute technical assistance. For subgrantees, assistance that strengthens their capacity to plan, implement, evaluate, and manage their subgrants would qualify as technical assistance as long as the assistance is substantive as described above.

2. Public Participation.

Public participation is an eligible activity in any Program Area. See Section C.8., above. Public participation includes, but is not limited to: (1) encouragement of broad participation in the State's implementation of the Act, (2) public participation in the grantee's open project selection process, and (3) organizing and participating in public meetings or workshops on developing the State Plan. (See Chapter 8, Section C, and Chapter 13, Section B.36.)

3. Public Education.

Public education is an eligible activity in any Program Area. See Section C.9., above. Public education includes, but is not limited to: (1) activities to increase overall public awareness of technical preservation methods and techniques having application to historic and archeological properties, (2) dissemination of information to promote working relationships with the public and private sectors to achieve HPF grant objectives, (3) explanation of historic preservation planning and/or the goals of the State Plan to State and local governments and to public or private audiences throughout the State; and (4) dissemination of the results of grant-funded work, including explanation of accomplishments, problems, and issues directly related to grant-assisted activities to the State preservation constituency. In addition, refer to Chapter 13, items B.36, B.37, and B.49 for applicable allowable costs.

Appendix D. Financial Analysis

In conducting financial analyses central to this project, The Results Group came to understand that the ICs operate as independent entities under contract to OHP. They operate with disparate administrative structures, cost factors, accounting systems and procedures, and so forth. Despite the best efforts of OHP and the ICS to develop an annual reporting system that enables cross-comparison, inherent differences in their business models make this problematic.

Business Model Anomalies. The IC business model is fundamentally different from a private sector model, or even most nonprofit organizations. In particular:

- Variations in operating costs are not driven primarily by the cost to produce the products/services delivered to customers. Instead, they are largely driven by an unrelated cost factor – the number of resource records and reports submitted to the IC that must be processed without compensation. At least one IC continuously struggles to cover this uncontrolled cost out of fees for services, supplementing that revenue with creative efforts to tap other funding sources.
- Similarly, most of the ICs are incurring the ongoing cost of converting their inventory records to digital format. In FY 2012-13, an analysis by the OHP estimated that IC staff time spent on “processing incoming information” constituted 48% of total staff time across ICs (data was submitted by eight of the 10 ICs in existence at that time).

Differences in Revenue and Expenses. The revenue and cost factors vary significantly among the nine ICs. The following are a few examples of the differences (based on FY 2013-14 data reported by the ICs and, in some cases, analysis of that data by OHP staff).

- Revenue sources for FY 2013-14:
 - Only one IC reports revenue from subscriptions, but that revenue is significant (approximately one-third of total revenue).
 - Only two centers report “Host Match” revenue.
 - Only two centers report revenue from “Non-Records Search Contracts” (one of which also receives Host Match).
 - One center reports “other” revenue amounting to nearly 10% of total revenue (based on The Results Group’s knowledge of this IC, most or all of this revenue is from special grants, part of an ongoing effort in that IC to raise funds to cover operating costs).
- Expenses for FY 2013-14:
 - Only two ICs report “contracts” as an expense. For one of them, this line item constitutes nearly \$40,000, equaling approximately 1/3 of total expenses.
 - Only four ICs report paying rent. Implicitly, the other ICs receive rent-free office space.
 - Seven ICs report utilities as an expense (ranging from \$54 to \$2,116).
 - Six ICs report the lease or purchase of equipment as an expense (ranging from \$1,937 to \$9,542).
 - Six ICs report “other expenses” ranging from \$566 to \$7,327.
 - One IC reports no administrative overhead charges paid to its host. The others report charges ranging from \$1,800 to \$40,916.

Limited Management Data Collection, Reporting, and Analysis. Both OHP and the ICs make a conscientious effort to keep overhead costs as low as reasonably possible. Thus, there is very little capacity throughout the CHRIS to collect and analyze data to support management decision-making, performance management, and system improvement. The current SHPO has refined the requirements and format for data submitted by ICs in their annual reports, but this is a work in progress.

Analysis of the CHRIS Business Model. After extensive analysis and data interpretation, The Results Group determined that the available data was insufficient to support typical business model analyses, which in the case of the CHRIS might include the following.

- Cost of goods sold, including for example:
 - Total cost per records search for each IC and on average for the CHRIS.
 - Personnel cost per records search for each IC and on average for the CHRIS (a standard measure of productivity and efficiency).
- Operational costs, including for example:
 - Total revenue versus total expenses.
 - Personnel costs as a percentage of total operating costs.
 - Number of student interns (paid and unpaid) as a factor in total personnel costs, total overhead costs, and cost of goods sold.

Financial Modeling. Given the above analysis, the consulting team, in consultation with OHP, has conducted financial modeling based on typical costs for an operation like an IC. This includes utilizing market rates to establish costs such as rent, the top manager’s salary, and so forth. In actuality this approach is preferable, given that the current arrangements between ICs and their hosts is subject to change at any time, and such changes in recent years have had a dramatic effect on the finances and fiscal viability of several ICs. The following charts examine the fixed costs to operate an IC, and thus the differential cost to operate the four alternative structural models under consideration in this project.

A. Managerial Position Costs

	Base Salary ⁽²⁾	Loading Rate ⁽³⁾	Fully Loaded Salary	% of Full Time ⁽⁴⁾	Actual Cost	# of Positions	Total Cost
1. IC Coordinator ⁽¹⁾							
9 ICs	\$55,000	25%	\$68,750	75%	\$51,563	9	\$464,063
6 ICs	\$55,000	25%	\$68,750	80%	\$55,000	6	\$330,000
3 ICs	\$65,000	25%	\$81,250	100%	\$81,250	3	\$243,750
1 IC	\$65,000	25%	\$81,250	100%	\$81,250	1	\$81,250
2. CHRIS Director ⁽⁵⁾							
9 ICs	\$65,000	25%	\$81,250	100%	\$81,250	1	\$81,250
6 ICs	\$65,000	25%	\$81,250	100%	\$81,250	1	\$81,250
3 ICs	N/A						
1 IC	N/A						
3. Additional Line Staff Needed (Staff Analyst Positions) ⁽⁶⁾							
9 ICs	N/A						
6 ICs	\$35,000	25%	\$43,750	100%	\$43,750	1	\$43,750
3 ICs	\$35,000	25%	\$43,750	100%	\$43,750	2	\$87,500
1 IC	\$35,000	25%	\$43,750	100%	\$43,750	2	\$87,500

Total Managerial Position Costs

	IC Coordinator	CHRIS Director	Add'l Staff	Total
9 ICs	\$464,063	\$81,250	\$0	\$545,313
6 ICs	\$330,000	\$81,250	\$43,750	\$455,000
3 ICs	\$243,750	\$0	\$87,500	\$331,250
1 IC	\$81,250	\$0	\$87,500	\$168,750

B. Rent and Utilities Costs

<u>Cost per IC</u> ⁽⁷⁾	<u># of ICs</u>	<u>Total</u>
\$20,000	9	\$180,000
\$25,000	6	\$150,000
\$30,000	3	\$90,000
\$35,000	1	\$35,000

C. IT and Related Costs

<u>Cost per IC</u> ⁽⁸⁾	<u># of ICs</u>	<u>Total</u>
\$5,000	9	\$45,000
\$7,000	6	\$42,000
\$12,000	3	\$36,000
\$20,000	1	\$20,000

Total Cumulative Costs (A + B + C)

<u>Managerial*</u>	<u>Rent</u>	<u>IT</u>	<u>Total</u>
\$545,000	\$180,000	\$45,000	\$770,000
\$455,000	\$150,000	\$42,000	\$647,000
\$331,000	\$90,000	\$36,000	\$457,000
\$169,000	\$35,000	\$20,000	\$224,000

TOTAL COST REDUCTION

Cost Reduction: Incremental		Cost Reduction: Cumulative	
9-6 ICs	\$123,000	9-6 ICs	\$123,000
6-3 ICs	\$190,000	9-3 ICs	\$313,000
3-1 IC	\$233,000	9-1 IC	\$546,000

* Rounded to nearest \$1,000 increment.

- (1) Currently referred to, in most cases, as the IC Coordinator. The more generic term is used here, given that it refers to a range of responsibilities from managing a single small IC in the nine-IC scenario to managing the entire statewide IC structure in the one IC scenario.
- (2) Based on analysis utilizing nonprofit salary-survey data for California as well as equivalent classifications in California state government.
- (3) Based on the current ICs average loading rate (25%) – see "benefits" in FY 2012-13 IC annual reports.
- (4) Based on number of ICs.
- (5) As noted in Section 5 of this report, in the higher-number, multi-IC scenarios, the increased complexity and sophistication of management systems and requires necessitates an additional senior management position over the CHRIS, under the direction and supervision of the SHPO. This position, being fully dedicated to the CHRIS, would reside under the CHRIS structure rather than the State personnel system, and will be part of the administrative costs of the CHRIS. The current CHRIS Coordinator position would continue unchanged to support the CHRIS Director and to closely coordinate IC and OHP operations.
- (6) Currently, IC Coordinators perform not only managerial tasks, but also staff work (records searches, etc.), at least in the smaller ICs. The analysis in this spreadsheet estimates that, in the nine IC and six IC scenarios, this consumes roughly 1/3 of the IC Manager's work time. Thus, in consolidating nine ICs into six, three IC Coordinator positions would be eliminated, requiring one additional staff position to perform the staff work that previously consumed 1/3 of those Coordinators' time. In consolidating from nine to three, eliminating six managerial positions generates a need for two additional staff positions. However, with only three ICs, the Managers would have very little time to perform staff work, so in consolidation from three to one IC the number of additional staff positions remains at 2.
- (7) With reduced staffing as described above and most legacy paper records stored offsite, ICs are presumed to require less square footage. However, office costs for an IC in the nine-IC scenario versus consolidation to six ICs increases rent and utility costs by less than 33% because rent is not driven primarily by number of staff, but by common space needs (external common area included in commercial leases, and internal space for public areas, office equipment, storage, etc.). Similarly, utility costs are driven primarily by square footage and hours of operation rather than by number of staff.
- (8) Estimated based on typical costs for similar "field office" operations that manage confidential state data. Most ICs' technology costs are included in host administrative fees and cannot be segregated.

Appendix E. Project Information Gathering Methodology

Information was gathered from the following sources, then catalogued, reviewed, and analyzed by The Results Group's consulting team.

Information Centers

- Review of information regarding the CHRIS service delivery model and data regarding IC operations, for example:
 - IC annual reports
 - Various financial and operational analysis spreadsheets developed by OHP and the consulting team
 - The standard agreement between OHP and the ICs
 - The CHRIS Access and Use Agreement and related documents
 - Previous analyses by The Results Group, Farallon Geographics, and other internal and external studies and analyses
 - Responses to a user survey conducted previously by the CHRIS
 - Other relevant documentation and literature
- Site visits to selected ICs
- Individual interviews with IC Coordinators
- Participation in a conference call (the weekly telephonic meeting of the IC Coordinators and the CHRIS Coordinator).
- Two meetings, the first with the IC Coordinators and the CHRIS Coordinator, the second a symposium attended by IC Coordinators and other representatives, the SHPO and OHP staff, customers who are the primary sources of fees, and stakeholders.

Customers and Stakeholders

- Interviews and follow-up conversations with more than 40 CHRIS stakeholders to ascertain their perspective on a range of topics, including:
 - Their experience utilizing the CHRIS
 - How they currently utilize the ICs
 - How they want to receive information from the CHRIS in the future
 - Options for delivery of a variety of CHRIS services
 - Their vision for the CHRIS once the inventory is fully digitized
- Participants in these interviews included CHRIS customers, tribal representatives, IC and OHP representatives, SHRC Commissioners, and other interested parties.

Other States

- Survey of other states' service delivery models and use of technology, conducted primarily by OHP staff (and reviewed in depth by the consulting team) and supplemented by research conducted by The Results Group

Appendix F. Requirements for State Owned/Controlled Data

Based on OHP's stated mission, there are requirements specified in the State Administrative Manual (SAM) defining the organization's responsibilities pertaining to data collected and stored to enable their mission.

OHP Responsibilities

The OHP is responsible for administering federally and state mandated historic preservation programs to further the identification, evaluation, registration, and protection of California's irreplaceable resources. It operates under the direction of the **State Historic Preservation Officer (SHPO)**, a gubernatorial appointee, and the **State Historical Resources Commission**, a state review board appointed by the Governor and responsible for reviewing nominations to the four federal and state programs administered by the OHP.

Unauthorized access to any State of California computing system containing US government or State of California information is a criminal violation of penal code section 502 and/or applicable federal law and is subject to civil and criminal sanctions. OHP must comply with all required and approved data classification standards and methods adopted to protect the confidentiality, integrity, and availability of data. OHP, with support of California Department of Technology (OTech), will adopt and abide by the following data classification standard requirements put forth by the Department of General Services (DGS) as indicated in the State Administrative Manual (SAM) sections 5000 through 5800.

OHP is required to define operating principles, business strategies and information technology strategies to achieve its mission. Many of these refer to the need for collecting and storing of data needed to achieve organizational outcomes. If some of the data stewarded by OHP contains characteristics that could be used to uniquely identify an individual, or is identified as confidential information, special care must be taken to avoid unauthorized access. OHP has a responsibility to maintain all systems and assets within their control and scope of responsibility to secure data and documents that reside in the OHP system of records (manual and automated) and ensure the integrity, security, and confidentiality of such data and documents.

To permit only appropriate disclosure and use permitted by law, OHP must comply with prescribed state policies and practices and, in some cases, develop its own specific policies and practices. The latter need to specify the management structure and control mechanisms regarding physical assets, software assets and intellectual property assets, and the risk to these assets to preserve usability for OHP users and other stakeholders. OHP is required to take reasonable and appropriate steps to ensure that infrastructure-related and physical assets provide the availability, integrity and confidentiality to effectively support its stated mission and mandates. OHP is also required to implement and consistently maintain administrative, physical, and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of the OHP data and assets that it creates, receives, maintains, uses, or transmits.

Information Asset Management

Each State entity must understand the value of its information assets and the level of protection those assets require. To this end, each State entity is required to establish and maintain an inventory of all of its information assets, including information systems, information system components, and information repositories (both electronic and paper). The inventory must contain a listing of all programs and information systems identified as collecting, using, maintaining, or sharing state entity information. The inventory must include categorization and classification of the information assets by program management, and based on the Information Classification Standard (SIMM 5305-C), California Public Records Act (Government Code sections 6250-6265), Information Practices Act of 1977 (Civil Code Section 1798, et seq.), FIPS Publication 199, and laws governing administration of the state entity's programs.

System data in the hosted environment must be classified by the department's Information Security Officer. In addition, SAM section 5320.5 specifically states the following:

"Subject to executive management review, the agency unit that is the designated owner of a record (paper or electronic, including automated files, or databases) is responsible for making the determination as to whether that record, file, or database should be classified as public, or confidential, and whether it contains personal, and/or sensitive data. The owner of the record, file, or data is responsible for defining special security precautions that must be followed to ensure the integrity, security, and appropriate level of confidentiality of the information."

The State classification structure includes the following:

- **Public Information** - information maintained by State agencies that is not exempt from disclosure under the provisions of the California Public Records Act (Government Code sections 6250-6265) or other applicable state or federal laws.
- **Confidential Information** - information maintained by State agencies that is exempt from disclosure under the provisions of the California Public Records Act (Government Code sections 6250-6265) or other applicable state or federal laws.
- **Sensitive Information** - information maintained by State agencies that requires special precautions to protect from unauthorized use, access, disclosure, modification, loss, or deletion. Sensitive information may be either public or confidential. It is information that requires a higher than normal assurance of accuracy and completeness. Thus the key factor for sensitive information is that of integrity. Typically, sensitive information includes records of agency financial transactions and regulatory actions.
- **Personal Information** - information that identifies or describes an individual as defined in, but not limited by, state and federal statutes (for example, name plus social security number, driver's license number, or financial account identifiers). This information must be protected from inappropriate access, use, or disclosure and must be made accessible to data subjects upon request.

Each information asset for which the state entity has ownership responsibility shall be inventoried and identified to include the following:

1. Description and value of the information asset.
2. Owner of the information asset.
3. Custodians of the information asset.
4. Users of the information asset.
5. Classification of information.
6. FIPS Publication 199 categorization and level of protection (Low, Moderate, or High).
7. Importance of information asset to the execution of the State entity's mission and program function.
8. Potential consequences and impacts if confidentiality, integrity and availability of the information asset were compromised.

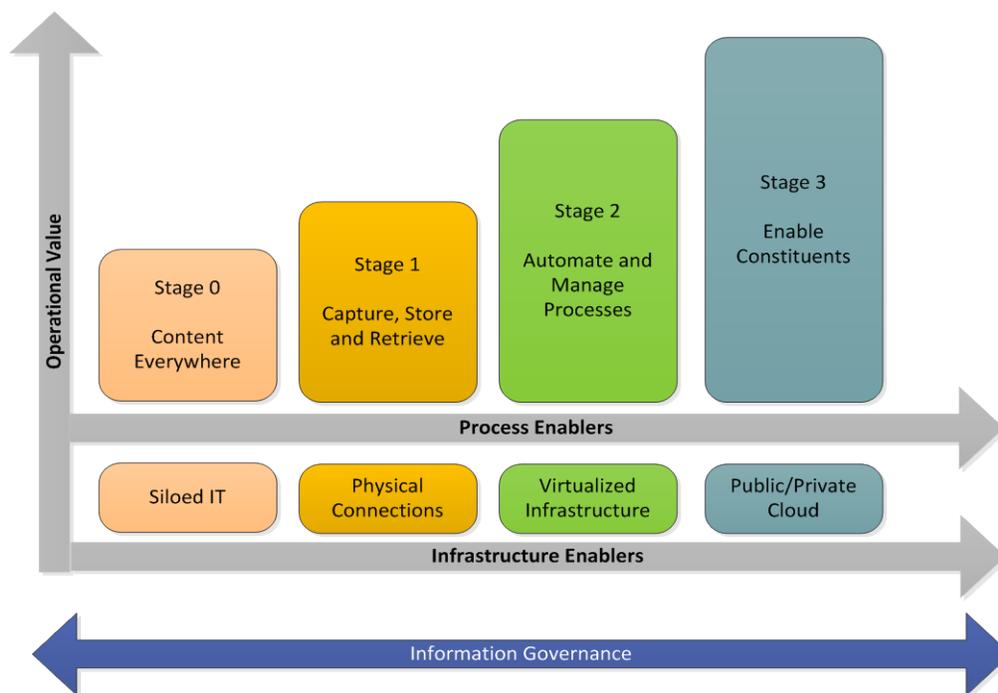
Appendix G. Illustrative Technology Architecture

Building for the Connected Future Technology

The greater the scope of connected government offerings, the greater potential benefits from a technology architecture that supports connectivity and collaboration. As demonstrated in the “Roadmap to a Connected OHP” portrayed below, a well-planned and well-governed technology architecture yields widespread benefits that include reduced costs and risk through consolidation of redundant operations. This is accomplished by way of:

- Shared services
- Virtualization of infrastructure
- The digitization of paper-based information
- The implementation of appropriate security controls

Figure 1: Roadmap to a Connected OHP



As OHP embraces its vision of a connected future, IT will increase the **operational value** of the organization by:

- Reducing operating costs
- Shifting focus to the delivery of services
- Scaling up or down rapidly
- Improving security without degrading operations
- Meeting compliance and service level obligations including recovery time objectives

In addition OHP **enabled business processes** will become streamlined by:

- Integrating with enabling technologies
- Streamlining data-based decision making
- Employing performance management processes
- Leveraging digitized content instead of paper based documents

The resulting technology **infrastructure enables** OHP to:

- Store data in a predetermined, organized, and retrieval manner
- Protect and secure data
- Provide business intelligence capabilities
- Automate and virtualize the technology infrastructure so that it can quickly scale to meet future processing needs

The Results Group observes that OHP is currently straddling Stages 0 and 1 of the “Roadmap to a Connected OHP.”

Stage 0: Content Everywhere; IT Silos

As workloads increase and tasks become more complex, paper and paper-based processes can overwhelm existing staff and reduce their effectiveness. Local technologies are developed with dedicated operating systems and separate databases, which further complicates their ability to deliver timely services to their constituents.

Characteristics include:

- Siloed local operations, budgets, people and infrastructure
- Varying standards and policies
- Limited staff, managing one of everything at each location
- Increasing costs
- Minimal interaction of data stores, networks, and servers; security of an organization’s data varies by location
- Manual application processing and local infrastructure management

Stage 1: Capture, Store and Retrieve/Physical Connections

The organization recognizes the deficiencies of its operational environment and has begun to establish a baseline for its business services, identified its technology assets and is developing a roadmap to accomplish its goals and objectives. Physical consolidation of people, processes and enabling hardware lay the foundation for continual improvement to ensure efficient and effective service delivery.

Digital office technology begins the transition to a connected organization. Centralized digital content repositories begin to replace physical file cabinets and siloed data stores. Digital office technologies reduce the volume of paper, enable effective management of data, and enable the automation of work flow throughout an organization.

Characteristics include:

- Consolidating physical locations thus eliminating unnecessary office space and overhead costs
- Standardizing of policies
- Beginning to employ common processes and practices
- Staff sharing responsibilities
- Monitoring of service delivery and early status reporting
- Decreasing costs
- Shared technologies leveraging a common network
- Managing access to information

Stage 2: Automate and Manage Processes/Virtualized Infrastructure

Building on successes of the previous stage, the organization focuses on improved asset utilization, capacity planning, and obtaining more efficiencies through further integration, consolidation and leveraging of additional enabling technologies. Business processes and information workflows are simplified, streamlined and automated. The reliance on paper-based processes is almost completely eliminated from the organization. This stage relies on automated workflow applications, content management infrastructure and a virtualized pool of computing resources that support information and resource sharing throughout the organization.

Characteristics include:

- Further consolidated of physical locations thus eliminating unnecessary office space and overhead costs
- Common understanding and application of all organization policies
- Integrated and automated processes and practices
- Staff with knowledge, skills and abilities to deliver required services and meet performance expectations
- Automated performance monitoring and reporting

- Decreasing costs
- Secure access to information
- Virtualized networks, data storage and technology servers
- High levels of availability and redundancy of the automated environments

Stage 3: Enable Constituents/Public-Private Cloud

The organization is now positioned to develop and deliver “On Demand,” anywhere, anytime, secure services to its constituents. Supported by automated business processes, secure web-based applications, self-service portals and data stored and protected in a “Government Cloud” environment, permitted constituents can interact with OHP, openly, securely and “On Demand.” This provides confidence to constituents, increases transparency, improves service level, all while reducing costs.

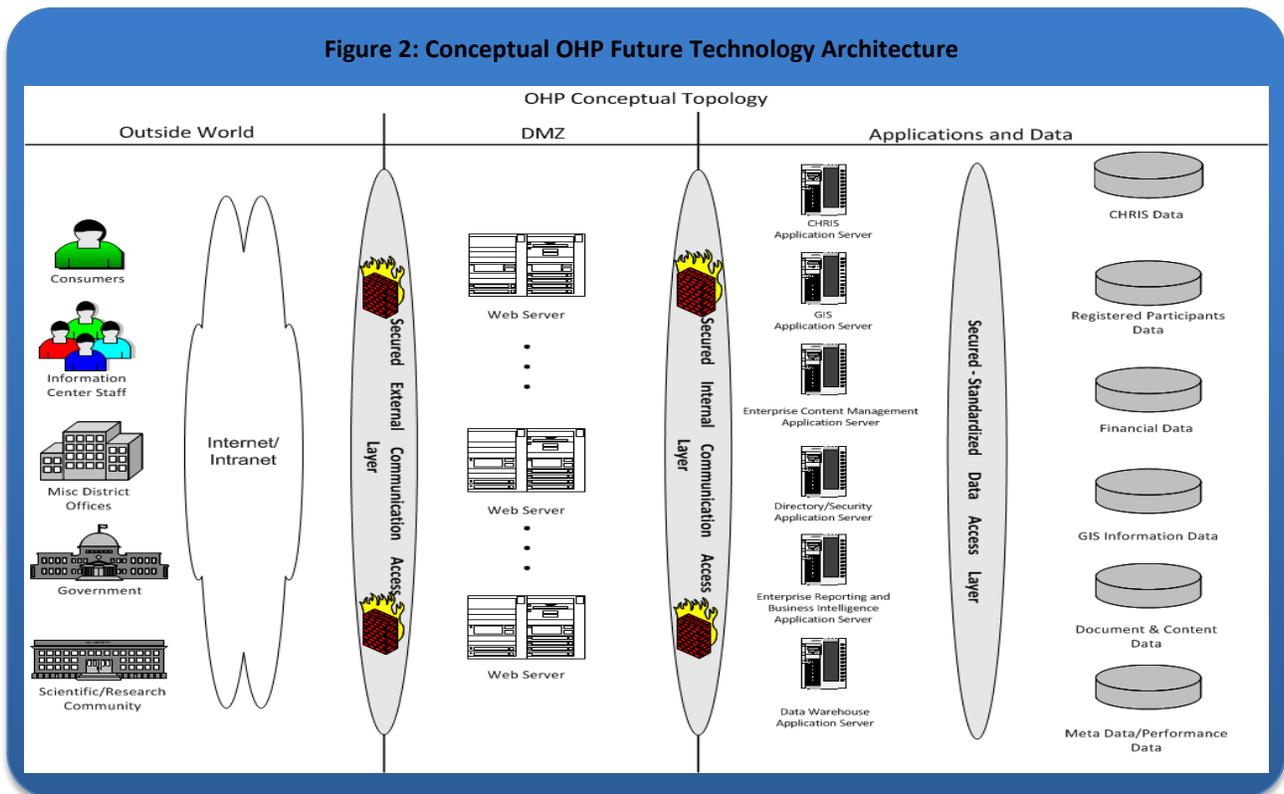
Characteristics include:

- Full consolidation of assets and resources based on constituent demand and constituent usage patterns.
- Validation of compliance with policy and practices
- Fully integrated and automated processes and practices
- Staff organized into centers of excellence and focused on supporting OHP’s service centric model
- Automated performance monitoring and reporting
- Potential for implementing cost models based on consumption of services
- Permitted and secure online access to information
- Dynamic allocation of technology resources (bandwidth, data storage and technology servers, etc.)
- Fully redundant automated environments

OHP Future Technology Architecture

Figure 2 below is a possible “Future Technology Architecture” that could be employed by OHP to meet its goals of:

- Improving service delivery capabilities
- Creating, supporting and securing data in a single statewide database for the identification, evaluation, registration and protection of California’s irreplaceable historic resources; and
- Reducing costs



Outside World

This section of the Future Technology Architecture is focused on accessing all OHP technology components through a secure portal environment. Permitted constituents and internal staff will leverage browser-based interfaces to access the CHRIS inventory based on their predetermined permissions. Service fees can be levied in this environment. This technology architecture eliminates the need for implementing desktop application software on all workstations within the ICs and OHP. Security is applied across the entire technology, employing user-based permissive access logic. Virtual Private Network (VPN) access to specific applications may be an alternative to true web-based access if strict security controls are required.

Secure Access Technologies (DMZ)

This section of the Future Technology Architecture is focused on managing and securing internal and external communications and access to the internal technology components. The DMZ area is used to help prevent unauthorized access to OHP applications and data.

Security typically provides a physical separation in the form of a technology firewall from the Web servers and internal OHP application servers. A common configuration, as shown above, utilizes two firewalls to create a security zone (DMZ) between these technology assets. Information passing through DMZ has protection through protocols that manage information exchange through the protocol or access permissions granted to each individual. In the DMZ, a Web Server intercepts the requests and forwards them to the corresponding application servers through the firewall. The sensitive portions of the business logic and data reside behind the second firewall, which filters requests based on protocols and permissive access rights. As new applications are introduced into the OHP environment, a normal step in the implementation plan would be to enhance the firewall and related security components to allow the new application to execute properly.

Applications

This section of the Future Technology Architecture is focused on business applications and data access management. The application server infrastructure component supplies the intelligence to pass the request to the correct application for execution. The application portion of the technology architecture serves as a gateway between the client or customer requesting access and the data needed to reply to their request. The following application areas are described from a very high level.

Enterprise Content Management – applications that permit OHP to organize and manage all of the unstructured information and content in the enterprise. This information currently exists in various forms: text documents, maps, drawings, still images, XML, and other file types and formats. Enterprise Content Management (ECM) solutions enable the creation, organizing and management of content with common desktop applications and easy-to-use content-authoring templates. ECM can also capture and incorporate existing content from a variety of sources, adding intelligence by creating categorizations via indices that streamline search and retrieval. All of this functionality has one purpose—to leverage CHRIS data for effective historic preservation.

Enterprise Reporting and Modeling. The reporting application would provide OHP with a tool to create, save and enhance reports based on the data contained in the collection of databases. The tools enable generation in near real-time, triggered by business performance management events, calendars, etc., or as ad-hoc requests.

Data Warehouse Application. A data warehouse is a database or series of databases designed to associate all data assets of an organization so that data mining and business intelligence needs of an organization can be achieved. The data warehouse integrates data from the various operational systems and is typically loaded from these systems at regular intervals. Data warehouses contain historical information that enables analysis of business performance over time. One of the standard tools used in database and data warehouse environments performs data Extract/Transform/Load (ETL) functions on data from numerous databases and incorporates it into the database or data warehouse. Another leading practice for ensuring data quality is to standardize the way in which applications and users access the data. This library of data access services provide a means for allowing users or applications authorized to add/change/delete data to have the appropriate access and those that need to reference that data to have only read access.

Security and Identity Management Application. There are a variety of software applications that provide security services that will allow OHP to define the level of application access and data rights for each authorized user.

Data

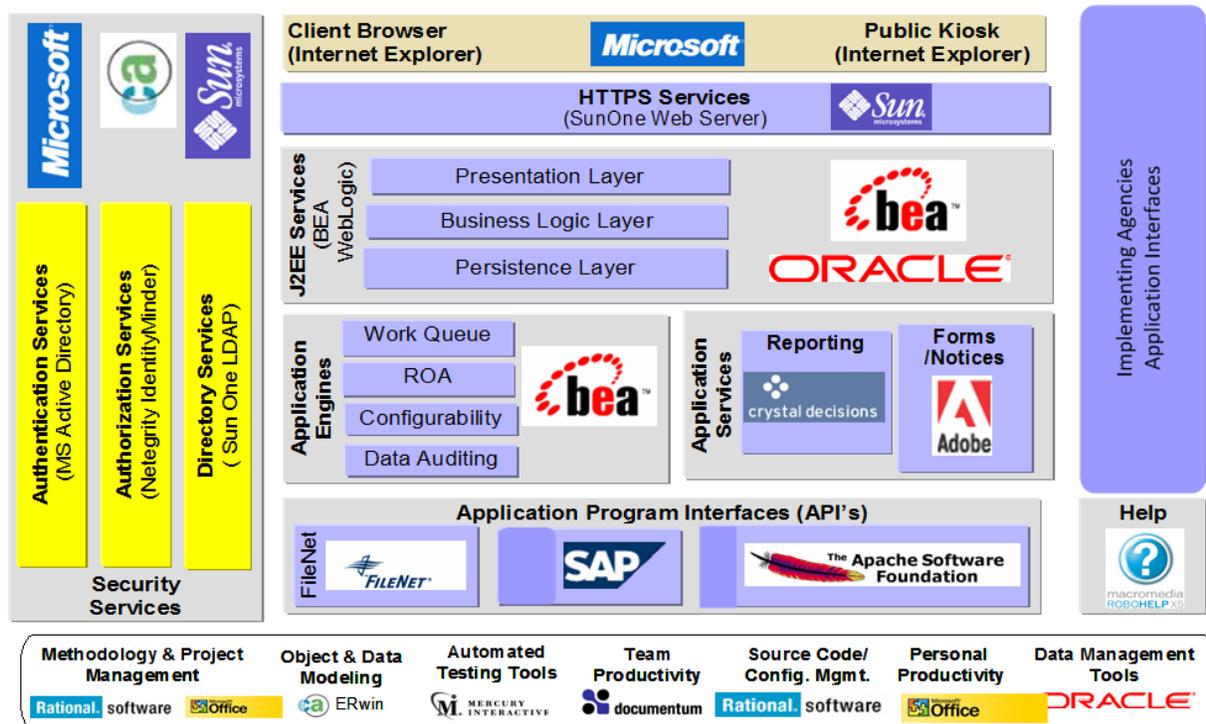
This section of the Future Technology Architecture is focused on OHP database components. As OHP evolves into being the steward of its required or mandated data, there must be a data management framework and set of technologies that will support OHP’s business and statutory requirements and evolve with their needs.

Possible OHP Infrastructure Technologies

Figure 3 below is an example of vendors who provide technology components that provide the “glue” for application systems and data that participate in a secure, web-enabled distributed environment.

- The diagram below assumes that there is an appropriate infrastructure in place that provides the operating environment for future applications and databases. Vendors such as TIBCO, Bea, IBM, Oracle, and ADOBE provide an array of modules that include functions such as business process modeling, automated work flow, business activity monitoring, complex event processing, extract/transform/load utilities, rich internet applications and business integration.
- Depending on the Enterprise Architecture that OHP selects, and based on the organization’s business goals and priorities, infrastructure constructs such as Service Oriented Architecture and Web Services could be leveraged effectively.

Figure 3: Possible Technology Partners
Infrastructure Components “Example”



Conclusion: The Results Group believes with proper planning, focused and continued executive support, and a clear Technology Road Map, transition through the stages outlined above (digitizing all of the OHP data and implementing the **Conceptual OHP Future Technology Architecture**) could be accomplished within 2-3 years.

Notes to the Text

- ¹ Few other states have enacted laws similar to CEQA, and those that have, most notably New York, establish more narrow requirements for historic resources consideration.
- ² OHP commissioned a study by Farallon Geographics examining how much of the CHRIS inventory remains to be digitized, the cost to complete the digital conversion, and the amount of time it would take. The Farallon report (*California Office of Historic Preservation: Information Center Inventory Assessment Final Report*, Farallon Geographics, August 2014) estimates up to four years to complete digitization. However, since the report was published, the CHRIS has made additional progress in digitization; also, that estimate includes processing and digitization of a large number of resource records and reports that may be duplicates of items already in the CHRIS Inventory.
- ³ CHRIS Modernization and Sustainability Plan, produced by The Results Group, April 2013, available at www.ohp.parks.ca.gov/chris.
- ⁴ Currently, the amount of fee revenue the CHRIS receives from at least some state and federal agencies may not qualify them as a “primary source of fees.” Some have elected not to utilize the CHRIS for most of their historical resources information needs. Also, several have developed their own inventory management systems, and it is unclear how the existence of these systems affects the agencies’ use of the CHRIS. They are nonetheless included in this list because of their potential, once the CHRIS provides online access to a single statewide inventory, to join the ranks of the CHRIS’ largest fee-paying customers
- ⁵ The Results Group conducted an in-depth analysis of revenue from record searches requested on an expedited basis. While the available data does not support an analysis that could generate precise estimations, there is a clear indication that expedited searches generate revenue that, conservatively, exceeds \$100,000 and could be as much as \$300,000. The figures reported here reflect a somewhat conservative approach to estimating potential future lost revenue.
- ⁶ In the case of the two largest ICs, however, both dedicated staff time to digital conversion, and The Results Group did not identify any other workload factors that would seem to account for the twofold difference in records searches per FTE.
- ⁷ For purposes of this report, the terms “interns” and “internships” are inclusive of paid and unpaid positions sometimes called interns, work study students, and paid student assistants. One IC, the Eastern Information Center at UC Riverside, makes a strong distinction between interns at other ICS and the student assistants it employs (whom it considers as paid staff).
- ⁸ There are occasional exceptions. For instance, two graduate interns at the North Central Information Center in Sacramento were fully trained and continued working at the center for several years. Unfortunately, both left at the same time, leaving the IC Coordinator alone and in a difficult situation. This not only supports the conclusion that intern turnover can be problematic, it also highlights one of the advantages of larger ICs that have sufficient staff to weather turnover (as well as vacations and other absences).
- ⁹ CHRIS Modernization and Sustainability Plan, produced by The Results Group, April 2013, available at www.ohp.parks.ca.gov/chris.