



### Statement from the U.S. Government Printing Office

In response to a 2009 recommendation by the Depository Library Council to the Public Printer, the U.S. Government Printing Office (GPO) contracted with Ithaka S+R (Ithaka) in September 2010 to develop practical and sustainable models for the Federal Depository Library Program (FDLP). After a very comprehensive analysis by GPO, the final report prepared by Ithaka was deemed unacceptable under the terms of the contract. The models proposed by Ithaka are not practical and sustainable to meet the mission, goals, and principles of the FDLP. Nonetheless, GPO believes that the final report has some value as we move forward with the library community to develop new models and increase flexibility in the FDLP to ensure the vibrant future of the Program in the digital age.

GPO is grateful to members of the community who submitted comments to Ithaka during the process of developing their report. We plan to build on these comments as we continue our future visioning and modeling process. We are posting all previously released draft documents, the public comments, and the final modeling report to GPO on the FDLP Desktop to obtain comments and feedback from more participants in our depository library network. We will use your comments to assist us in building a solid foundation and seeking consensus within the community on practical and sustainable models for the future that will fulfill the unique historic mission of the Federal Depository Library Program in serving the Federal Government information needs of the American public.

Sincerely,

A handwritten signature in blue ink that reads "Mary Alice Baish". The signature is written in a cursive, flowing style.

Mary Alice Baish  
Assistant Public Printer (Superintendent of Documents)  
United States Government Printing Office  
August 5, 2011

# Modeling a Sustainable Future for the United States Federal Depository Library Program's Network of Libraries in the 21st Century: Final Report of Ithaka S+R to the Government Printing Office

---

*Ross Housewright & Roger C. Schonfeld, Ithaka S+R, May 16, 2011*

## Contents

Abstract .....	4
Executive summary .....	6
Introduction .....	16
Principles.....	17
Scope and objectives .....	19
Process and methodology.....	21
Acknowledgments.....	25
Part I: Research .....	27
Background .....	28
What We Learned .....	40
Part II: Modeling .....	48
Recommended direction .....	49
Building blocks .....	54
New models .....	83
Sustainability.....	88
Feasibility .....	98
Illustrative Examples .....	103
Conclusion.....	109
Appendix A: Research .....	112
Visions for the future of the FDLP.....	112
Environmental Scan .....	117
Existing Library Networks .....	163
Appendix B: Title 44 .....	188
CHAPTER 19—DEPOSITORY LIBRARY PROGRAM.....	188
CHAPTER 41—ACCESS TO FEDERAL ELECTRONIC INFORMATION.....	195
Works Cited.....	197
Endnotes .....	214

# Abstract

---

## Abstract

The Federal Depository Library Program (FDLP) is the principal means through which permanent public access to federal government publications is achieved. The Program is a vital element of a vibrant democracy, providing Americans with a transparent view into the activities of their government. In Fall 2010, Ithaka S+R was selected by the Government Printing Office to develop practical and sustainable models for the Federal Depository Library Program that retain and support the long-standing vision, mission, and values of the Program in an environment increasingly dominated by digital technology.

This project consisted of two major phases: research and modeling.

1. In the research phase, Ithaka S+R examined the Program itself, the context in which the Program operates, and the variety of ways in which libraries come together to collaborate around shared goals.
2. In the modeling phase, Ithaka S+R used what was learned from the research to develop a broad direction for the Program, proposed a series of models that implement this direction to a greater or lesser degree, and analyzed the value and implementation of these models.

Over the course of this project, Ithaka S+R released draft versions of the major components of the final report for public comment via the project's website; this final report brings together these deliverables, revised in response to community feedback on these drafts, in completion of the project.

Broadly speaking, the proposed models share several common themes, which are vital to the sustainability of a program like the FDLP:

- Enabling libraries to select their roles and responsibilities within the Program with a greater degree of *specificity*, allowing each individual library to define its portfolio of activities that best matches with its local mission and circumstances while continuing to support the overall goals of the Program;
- *Formalizing* roles for a wider variety of existing and emerging Program priorities, to enhance recognition of all the many contributions made by libraries to support the Program's mission;
- Formally embracing *collaboration* among libraries, providing new opportunities for libraries to jointly address common objectives within the framework of the Program, reducing their individual burdens and increasing the sustainability and impact of the Program; and
- Maintaining the *coordination* of library activities to ensure that Program priorities are addressed purposefully and effectively even while individual libraries experience greater flexibility, by formally defining levels of participation that must be maintained for various Program roles.

This report is meant to support the shared efforts of GPO and the depository library community to make adjustments to the Program to address the challenges and opportunities posed by significant environmental change. It suggests approaches for sustaining the Program as a critical provider of long-term, no-fee access to both government information and support services that together can help the American public to discover, evaluate, and make effective use of the workings of the United States Federal Government.

# Executive Summary

---

## **Executive summary**

### **Background**

The Federal Depository Library Program (FDLP), administered by the Superintendent of Documents at the Government Printing Office (GPO), is the principal means through which permanent public access to federal government publications is achieved. The Program is a vital element of a vibrant democracy, providing Americans with a transparent view into the activities of their government.

While the FDLP can trace its roots to 1813, its existing structure dates to 1962, when the current two-tier regional and selective depository library system was put into place. Regional depositories agree to keep government publications accessible to the public in perpetuity, and also offer supporting services to the selective depositories in their region. Selective depositories are free to tailor their collections to meet the needs of their community. At present there are 49 regional libraries and 1,172 selective libraries participating in the Program.

With the digital revolution, virtually all government documents are now being produced and distributed electronically. At the same time, a variety of initiatives, both public and private, are beginning to retrospectively digitize the vast collections of printed documents produced by the federal government over the course of more than two centuries. Almost twenty years ago, recognizing the potential of the Internet to revolutionize access to government information, GPO introduced a centralized system for distributing electronic documents, which has now evolved into FDsys, a state-of-the-art online platform.

Not surprisingly, the advent of the digital era has had profound implications for a depository library program established decades before the rise of the Internet and designed in an era when all government documents were print publications. As with many such statutory programs, it is difficult if not impossible for the law to keep pace with technological change. In recent years, there has been extensive debate both within GPO and the broader depository library community about how the Program should adjust to the new realities of the digital era. Some have raised concerns that the program as currently structured may not be sustainable over the long run, and there is some evidence (still largely anecdotal) that libraries are re-considering their participation in the Program. Both the library community and GPO itself have recognized that “there have not been corresponding revisions to Chapter 19 [44 USC 1901-1916, the authority that controls the FDLP] to provide regional and selective depository libraries the flexibility required to operate in an online and networked environment.”<sup>1</sup>

### **Scope and objectives**

In the fall of 2010, Ithaka S+R was selected by GPO to develop practical and sustainable models for the FDLP that retain and support the long-standing vision, mission, and values of the Program in an environment increasingly dominated by digital technology. The project consisted of two separate stages: in the research stage, an extensive literature review and information-gathering exercise resulted in a set of twelve key conclusions about the context and environment in which the Program operates. The research phase paid special attention to other library networks, consortia, and depository programs, and also carefully examined prior studies of FDLP conducted by GPO and other researchers. The legislative

authority for the FDLP, Chapters 19 and 41 of Title 44 of the United States Code, was also reviewed in depth.

The research stage was followed by a modeling stage. The first step was to establish a broad set of principles and themes based on the research conclusions of the prior stage of work. Next, we articulated a set of core components of the Program, which we called “building blocks.” These building blocks were then combined into a series of five models, all of which are consistent with the broad themes and principles on which the Program is based. These models are not intended to represent competing visions for the future of the FDLP. Rather, they all support a common set of core values, but each successive model illustrates a more far-reaching vision of how FDLP can achieve its mission in the digital era. At each stage of the project, we released draft versions of the major components of the final report for public comment via the project’s website; this final report brings together these deliverables, revised in response to community feedback on these drafts.

In our analysis, GPO encouraged us to think broadly and not be constrained in the first instance by the existing structures defined in Title 44. For that reason, some of the models go beyond what would be possible within the current legislation. In the full report, we discuss how each potential model relates to the existing text of Title 44 and the kinds of legislative changes that might be required to implement them.

By taking this “modular” approach, we are not being prescriptive about the choices GPO and the depository library community will ultimately make about the future of the FDLP. Instead, our intent is to provide a flexible framework for making those choices, which we hope will be a valuable tool for GPO as it works with the library community to take the next steps in transitioning the FDLP to the digital era.

### **Key conclusions from the research stage**

The key conclusions from our research phase fell into three categories:

- *Collections and formats*

Not surprisingly, we learned that users increasingly prefer to access most collections in electronic form. At the same time, tangible collections continue to play a vital role in supporting certain types of access needs. It is thus clear that digital and tangible collections will exist alongside each other for the foreseeable future, although they will serve somewhat different purposes. Thanks to GPO’s FDsys platform, as well as other websites operated by the federal government, born-digital versions of new FDLP materials are now widely available. In addition, digitized versions of historic FDLP materials are increasingly becoming available. GPO is progressing towards TRAC certification for FDsys, and it may also be advantageous to the Program to retain additional copies in digital and/or print formats, to ensure their integrity and preservation.

Given users’ growing preference for digital collections, many libraries are moving away from a “just in case” model of collecting and holding tangible collections locally, and instead are opting for a more diverse approach that relies much more heavily on online materials, in many cases even moving substantial portions of their physical collections into offsite storage or even deaccessioning



them altogether. Most libraries do not host their own digital collections, but rather license digital collections of journals and books from centralized service providers.

- *Services*

As content migrates online, there are indications that the importance of libraries as exclusive sources of access to collections may be declining. However, they are still a source of unique and valuable services in support of the use of collections. This is especially true for government documents, whether in tangible form or digital form. Our research suggests that current levels of support for working with government information are inadequate to effectively meet the needs of the American public. This creates an opportunity for the FDLP network of libraries to build expertise and strengthen their role as service providers. Additional training and outreach will be needed for specialist and non-specialist librarians in order to ensure they can provide the services that are needed for working with government information. By improving opportunities in the Program for libraries that are principally interested in providing services for government information, it might be possible to expand the number of federal depository libraries and thereby strengthen the Program itself.

- *The network of libraries*

The roles of depository libraries are defined by tangible acquisitions and collections management, but there are opportunities for new roles—specifically related to the management and preservation of digital collections—that could extend the Program’s vision and mission in a digital environment. There are precedents in the library community for some of these roles to be effectively carried out by networks of libraries, rather than individual libraries working on their own. However, at present, the Program’s organizational structure does not leverage the strongest trust networks in the library community.

In examining the distribution of types of libraries in the FDLP, we learned that the mix of library types has arisen historically as a rather arbitrary patchwork with little strategic thought given to which libraries are best positioned to meet the needs of different communities. One specific challenge created by the current structure of the Program is that the distribution of Regional libraries is driven by state boundaries (a maximum of two are allowed per state, although it has been possible for a regional library in one state to serve selective libraries in another state), not by population density or other usage driven factors. As a result, some Regional libraries are currently over-burdened in their ability to provide services to selective libraries.

### **Setting an overall direction for the FDLP**

Given the scope of this project, the modeling activities that were at its heart were structured to provide value at several levels of specificity. At the highest level, we present a set of principles (which we describe as a recommended “direction” for the Program) around which substantial common ground can be found by the community.

The direction retains long-standing Program priorities and approaches, but integrates into the structure of the Program certain innovations that have previously been implemented by GPO and the depository

library community in limited ways. It also introduces new themes that draw upon both community suggestions for the future of the Program and our own original analysis. To be clear, many elements of this direction are not *new*, but by bringing them together into a set of themes and priorities we believe they can contribute significantly to the Program's successful and sustainable accomplishment of its mission in an increasingly electronic environment.

Throughout this exercise, perhaps our most important priority has been to ensure that areas of common concern are well-addressed by the Program, while allowing individual libraries as much flexibility as possible to define their own means of contributing towards these shared goals, in consultation with and under the overall administration of GPO. We believe that allowing libraries a greater opportunity to shape their own individual roles within the Program will contribute significantly to the Program's sustainability.

The broad direction we describe for the Program, which underlies our building blocks and models for its future, identifies three fundamental collective responsibilities that maintain and extend the Program's historic roles for FDLP network of libraries:

- To provide access to and preservation of *tangible collections* by (1) ensuring ready access to those materials that are only available in tangible form, (2) providing an appropriate level of ongoing access to materials once available digitally, and (3) ensuring that appropriate levels of tangible materials are retained, preserved, and made accessible as part of a multi-faceted preservation and integrity system.
- To provide access to and preservation of *digital collections* by (1) protecting digital materials against intentional and accidental changes over time, (2) providing for certified preservation of digital materials, and (3) building and curating digital collections.
- To provide access to government information *support services* by (1) encouraging the provision of such services from a greater number of libraries, (2) building further education offerings to assist libraries in building and maintaining relevant expertise, and (3) developing a variety of tools and remote services to support users in discovery, understanding, and use of government information.

In support of these responsibilities, we identify several common themes associated with the roles of libraries in the Program, which can contribute substantially to the sustainability of the FDLP:

- Enabling libraries to select their roles and responsibilities within the Program with a greater degree of specificity, allowing each individual library to define its portfolio of activities in support of Program priorities that best matches with its local mission and circumstances;
- *Formalizing* roles for a wider variety of existing and emerging Program priorities to enhance recognition of all the many contributions made by libraries to support the Program's mission;
- Formally embracing *collaboration* among libraries by providing new opportunities for libraries to jointly address common objectives within the framework of the Program, thereby reducing their individual burdens and increasing the sustainability and impact of the Program; and

- Strengthening the *coordination* of library activities by formally defining levels of participation needed for various Program roles in order to ensure that Program priorities are addressed purposefully and effectively.

We believe that this direction reflects a set of principles on which the community can find common ground and that it can provide a framework for community-wide discussion of shared priorities and values.

### **Defining building blocks for the models**

In addition to this high level direction, the modeling exercise also suggests a variety of more concrete structures, roles, and responsibilities that could provide feasible shapes for the Program. The series of models described below present different configurations of five “building blocks,” that represent the core functions of the FDLP. Each of these building blocks describes a set of roles and responsibilities that may be taken on by an individual library or, importantly, by a group of libraries working together. We envision that an individual library would take on a single role in *each* of the building blocks available in any given model.

#### ***Building Block #1: Implementing short-term changes to tangible collections roles and responsibilities***

To relieve tension on the Program and provide an environment supportive of structural change, this first building block focuses on making near-term, non-structural changes to the existing Program. These opportunities seem especially important in supporting the structural changes suggested in other building blocks. For example, one major opportunity would be to enable libraries that view their current responsibilities as overly burdensome to take on lower levels of responsibility, taking on roles better aligned with their own missions and priorities without negatively impacting the overall stability of the Program. Similarly, to reduce the burden of overseeing a network of selective libraries, and to facilitate a more efficient and effective process for libraries to dispose of or acquire tangible FDLP materials, GPO’s plans to develop infrastructure to support a simple, national needs and offers process will be both timely and potentially have great impact. And to ensure the discoverability of historic FDLP materials, GPO should continue to prioritize the development of a system-wide strategy to digitize these materials.

#### ***Building Block #2: Transforming and increasing the availability of government information services***

This building block formally establishes a range of specific roles for libraries to take on in providing services within the Program, providing a more nuanced way for service goals to be coordinated across the Program:

- Service role **S1**: providing an extremely basic level of support services; this role may significantly broaden the availability of basic government information services to the American public by encompassing new entrants to the Program which are unable to provide higher levels of service;
- Service role **S2**: providing a more advanced level of services, providing expert assistance to members of the American public in working with government information;

## Modeling a Sustainable Future for the Federal Depository Library Program

- Service role **S3**: providing a specialized level of services, going above and beyond the provision of excellent service within a region and taking on responsibility for addressing the system-wide needs of the public for targeted government information support services; and
- Service role **L**: supporting training and outreach for libraries across a region. The L role is a supplemental role, and may be played by a library in addition to its basic S1, S2, or S3 role.

### ***Building Block #3: Supporting the integrity of digital FDLP materials***

This building block provides opportunities for libraries to take on digital collections roles, to support their integrity and use. This building block and the one that follows it would draw activities already beginning to take place across the community more concretely into the Program by formalizing and coordinating the collection, maintenance, and preservation of digital FDLP materials by libraries:

- Digital collections role **D1**: taking on minimal responsibilities for digital materials, for libraries that wish to play a role in the Program but do not wish to build or maintain collections of digital FDLP materials;
- Digital collections role **D2**: collecting and maintaining local copies of digital materials (born-digital or digitized) from GPO and other government sources at will, without formal commitments to maintain these materials; and
- Digital collections role **D3**: building and maintaining comprehensive collections that completely duplicate all FDLP materials disseminated through official GPO channels in digital form, as an additional integrity assurance.

### ***Building Block #4: Preserving digital FDLP materials***

Although GPO has established itself as a leader on digital preservation, it is possible that members of the depository library community will want to invest to complement GPO's centralized efforts on these issues. This fourth building block provides an additional "digital collections" role (**D4**) for depository libraries to build, maintain, and preserve, comprehensive collections according to certified community best practices (e.g. in DRAMBORA or TRAC-certified digital archives).

### ***Building Block #5: Preserving tangible collections in an increasingly digital environment***

This building block coordinates the long-term accessibility of tangible collections to support user needs, ensuring that tangible collections are preserved for the long term to support residual access needs. The roles related to tangible collections also provide a backup for digital versions while allowing libraries a greater level of flexibility to draw down on local tangible collections as users' needs are better served by digital versions. A library would take on one of five roles:

- Tangible collections role **T1**: taking on minimal responsibilities for tangible materials, for libraries that wish to play a role in the Program but do not wish to build or maintain collections of tangible FDLP materials;
- Tangible collections role **T2**: maintaining true working collections tailored to the needs of local constituencies;

## Modeling a Sustainable Future for the Federal Depository Library Program

- Tangible collections role **T3**: supporting regional and system-wide access needs by maintaining collections of tangible versions of materials that are not yet available digitally, with the freedom to deaccession materials as they are made available digitally;
- Tangible collections role **T4**: supporting regional and system-wide access needs by maintaining collections of tangible versions of all government documents, with collecting and retention responsibilities substantively similar to those of a Regional today; and
- Tangible collections role **T5**: supporting system-wide preservation needs by taking on the responsibility of collecting retrospectively, working towards the development of truly comprehensive collections of FDLF materials in tangible form and maintaining and preserving same.

### ***Building Block #6: Maintaining page-validated tangible collections***

To provide an extremely high level of confidence that materials would be effectively maintained over the long term, this building block includes the coordination of the creation of page validated collections to serve as the backbone of a long-term system-wide preservation program (through a **T6** role).

### **Assembling the building blocks into models**

While implementation of all of the above components will most completely realize the proposed direction, each of these building blocks would have benefits on its own. Our models represent different arrangements of these components into coherent models. These models, which are described more fully in the complete document, introduce the changes described in one or more of the building blocks discussed above:

	Building Blocks					
	1. Immediate changes to tangible collections	2. Transform and increase the availability of services	3. Support the integrity of digital FDLF materials	4. Preserve digital FDLF materials	5. Preserve tangible collections in an increasingly digital environment	6. Maintain page-validated tangible collections
<b>Model 0</b>	<i>Baseline model: Program remains unchanged</i>					
<b>Model 1</b>	√	√				
<b>Model 2</b>	√	√	√			
<b>Model 3</b>	√	√	√	√		
<b>Model 4</b>	√	√	√		√	
<b>Model 5</b>	√	√	√	√	√	√

Although we do not make any formal recommendations for the appropriate model for the Program, our analysis describes the sustainability and feasibility of these different approaches and suggests how these different models might be implemented – either within the structures of the current Program, or as a new basic structure for the Program.

### Implementation

Some of these models would require changes to Title 44 in order to be fully implemented; all of them would require substantial changes to the FDL Handbook and other administrative materials. The specific changes required are discussed in greater detail in the report itself. Generally, the necessity of legislative change to implement these models depends on the building blocks that they include:

- The broad strokes of the *services* building block could likely be implemented within the existing structure of the Program. Fundamentally, these service-oriented roles can exist as complements to libraries' existing roles as Regional or Selective libraries; GPO could work with libraries to help define standards for each role, and help libraries to identify appropriate roles.
- Many aspects of the *digital collections* building block could also be substantially implemented without requiring legislative change. Implementation of this model could entail the creation of memoranda of understanding between GPO and various individual libraries and library networks that would take formal responsibility for coordinating preservation and integrity activities for digital collections.
- The *tangible collections* building block, however, undoubtedly requires fundamental changes to the legislative structure of the Program, as it would fundamentally alter the basic set of legislated roles available to library participants in the Program. Although some aspects of this model could be approximated through new partnerships with networks of libraries that would coordinate print collections management and preservation activities, to meaningfully implement this model would require the redefinition of the basic roles that libraries play in the Program.

In summary, even in the absence of legislative change, GPO could implement much of Models 1 or 2; legislative change might enable these changes to be made more concretely and smoothly, but the broad strokes of these models do not require change to the overall structure of the Program as defined in Title 44. Models 3, 4, and 5, however, would fundamentally restructure the basic roles of the Program, and as such would require legislative change to be implemented effectively. More details on the feasibility of each model in regards to Title 44, and the legislative changes that might be required or be beneficial in order to implement them, may be found in the complete document.

### Conclusion

The building blocks and models presented in this report are based on a set of core values and themes that we believe are widely shared across the depository community. Rather than providing a set of specific recommendations, our approach has been to describe a conceptual framework that is adaptable and flexible, and can be used to define a range of models by combining individual building blocks according to priorities established by GPO, in consultation with stakeholders in the community. It can also be used to describe a pathway forward over time, by beginning with a simpler model that may be

## Modeling a Sustainable Future for the Federal Depository Library Program

practical in the short-run, and then adding more building blocks over time as circumstances and resources permit.

The FDLP represents a complex network of diverse libraries, encompassing a wide range of sometimes contradictory views on the future of the Program. We expect that the models presented here will provoke a lively debate, which in itself is testament to the strength and vitality of the FDLP as it enters the uncharted territory of the 21<sup>st</sup> Century. We hope that the research, analysis, and models presented in this paper lay the groundwork to help GPO continue to adapt the Program in the face of a rapidly changing information environment. Providing access to government information in both print and digital form is fundamental to enabling an educated electorate. We look forward to seeing a vibrant future for the Program as it continues to play this critically important role in our democracy.

# Final Report

---



## Introduction

For almost two hundred years, the participating libraries of the Federal Depository Library Program,<sup>\*</sup> administered by the Superintendent of Documents at the Government Printing Office,<sup>†</sup> have provided a fundamental link between the American people and their federal government. This Program plays a critical set of roles in support of the American public's right and need to access the workings of their government as part of a vibrant democracy. These roles include making government publications available across the country; providing assistance in finding, understanding, and making effective use of government information; and preserving government information for the long term.

Over the last twenty years, the ongoing shift towards digital provision of government information has introduced a critical set of opportunities to achieve the Program's core mission in new ways as well as challenges to the Program's essential structure. GPO has taken a leadership role in making government information broadly available in digital form, and improved discovery and delivery has vastly expanded access to much FDLP content, consistent with the Program's mission and at great benefit to the American public.

At the same time, the preference among users for digital information over print, combined with an increasingly difficult fiscal environment for libraries, is making participation in a Program fundamentally structured around the development and retention of print collections, more challenging. Nearly 200 libraries have dropped out of the Program since 1992 and many others have withdrawn significant portions of their print collections. The situation may not be urgent but the trends and pressures collectively raise questions about the long-term sustainability of the Program as it is currently structured.

In addition, the existing Program does not provide opportunities for participating libraries to contribute to the achievement of some uniquely digital priorities. For example, no current Program roles allocate responsibility for supporting the preservation or integrity of digital collections to participating libraries.

Discussions over the last twenty years have recognized the need for the Program's structure to evolve to match its changing environment, and considerable progress has been made, but it remains a challenge to find a path forward for the Program that balances the needs of its diverse member communities and the broad priorities of the Program. This project was designed by GPO in the recognition that "To be relevant in the electronic era, the FDLP must develop other working models to fulfill its programmatic mission and outline the roles that each of the depository partners play in making Government information widely and publicly accessible."<sup>2</sup>

The means by which access to government information is provided was substantially expanded by the 1993 passage of Public Law 103-40 (the "GPO Access Act"), which led to GPO's delivery of government

---

<sup>\*</sup> The Federal Depository Library Program is referred to throughout this document as "the FDLP" or "the Program." In general, when we discuss the Program, we are referring *exclusively* to the network of libraries, and not the broader ecosystem of activities by the Government Printing Office and others that make the workings of the American government permanently accessible to the public.

<sup>†</sup> The Government Printing Office is referred to throughout this document as "GPO."

information in digital form online. Still, the structure of the network of libraries that makes up the Program has remained formally and fundamentally unchanged, principally designed to support the safeguarding and provision of print and microfacsimile materials. There remains sufficient commitment among the Program's existing participants to sustain it today, but the Program's current structure increasingly does not offer alignment between a federal depository library's desired contributions and the formal roles available to it. For this reason, we believe that revisions to the Program's structure would support a more sustainable distribution of library responsibilities under the administration of GPO.

This is not intended to suggest that there have been no adjustments to the program. GPO and the depository library community have examined and piloted innovative approaches to addressing Program priorities in a rapidly changing environment within the existing structures of the Program.

Nevertheless, the Program has continued to grapple with how innovation can be formalized and expanded, and the importance of structural change is well recognized. The current Public Printer emphasized in testimony at his 2010 Congressional confirmation hearings that "Congress will need to revisit the 1962 law now covering the Federal Depository Library Program, in which 1,200 libraries throughout the country hold official documents from GPO," stating that "'Their walls are bulging now with books,' and the program will have to adapt to deal with material that increasingly is being produced and accessed electronically."<sup>3</sup>

In the fall of 2010, Ithaka S+R was selected through a competitive bid process by the Government Printing Office to "develop practical and sustainable models for the FDLP to be used in an information environment dominated by digital technology... [to] ensure the public has systematic and secure access to Federal Government information in the 21<sup>st</sup> century and beyond" under the continued administration of the Government Printing Office.<sup>4</sup> This is a complex mandate, and the Ithaka S+R project team consequently adopted a modular approach to the modeling exercise. The purpose of this approach was to provide practical flexibility to GPO and the depository library community to select and phase appropriate elements as budgetary and broader strategic considerations permit. This final report documents the research and modeling activities of the project.

### **Principles**

While previous analyses, reviewed in the Background section below, have examined challenges and opportunities facing the Program and suggested a variety of changes and directions that would offer at least partial solutions, this project provides modular options for GPO's consideration. To guide consideration of these options, we present a set of principles (which we describe as a recommended "direction" for the Program) around which substantial common ground can be found by the community.

The direction retains long-standing Program priorities and approaches, integrates into the structure of the Program certain innovations that have previously been implemented by GPO and the depository library community in limited ways, and introduces new themes that draw upon both community suggestions for the future of the Program and our own original analysis. To be clear, many elements of this direction are not *new*, but we here form them together into a set of themes and priorities that can

help the Program to successfully and sustainably accomplish its mission in an increasingly electronic environment.

Throughout this exercise, perhaps our most important priority has been to ensure that areas of common concern are well-addressed by the Program while allowing individual libraries as much flexibility as possible to define their own means of contribution towards these shared goals, in consultation with and under the overall administration of GPO. Our research into differing strategic directions among libraries indicates that a greater opportunity for libraries to shape their own individual roles within the Program will be important to the long-term sustainability of the Program. Participants share the common value of supporting permanent public access to government information, but with increasingly limited resources, would benefit from more flexibility to pursue specific activities that reflect their individual priorities and perspectives. Respecting this increasing diversity of interests in supporting this shared goal is a core principle that will contribute substantially to the sustainability of the Program.

First, the direction identifies three fundamental collective responsibilities that maintain and extend the Program's historic roles for the network of libraries that makes up the Program:

- Provide access to and preservation of tangible collections: ensure ready access to those materials that are only available in tangible form, provide an appropriate level of ongoing access to materials once available digitally, and ensure that appropriate levels of tangible materials are retained and preserved as part of a multi-faceted preservation and integrity system.
- Provide access to and preservation of digital collections: where appropriate, complement GPO's centralized efforts to defend digital materials against intentional and accidental changes over time, provide for certified preservation of digital materials, and build and curate digital collections and provide other services in conjunction with them.
- Provide government information support services: bring a greater number of libraries into the Program that can provide such services, build further education offerings to assist libraries in building and maintaining relevant expertise, and develop a variety of tools and remote service to support users in discovery, understanding, and use of government information.

In support of these responsibilities, we identify several common themes associated with the roles of libraries in the Program, which we view as important to the sustainability of the FDLP:

- Enabling libraries to select their roles and responsibilities within the Program with a greater degree of *specificity*, allowing each individual library to define its portfolio of activities in support of Program priorities that best matches with its local mission and circumstances;
- *Formalizing* roles for a wider variety of existing and emerging Program priorities, to enhance recognition of all the many contributions made by libraries to support the Program's mission;
- Formally embracing *collaboration* among libraries, by providing new opportunities for libraries to jointly address common objectives within the framework of the Program and thereby their individual burdens while increasing the sustainability and impact of the Program; and
- Maintaining sufficient *coordination* of activities across depository libraries (even while individual libraries experience greater flexibility) to ensure that Program priorities are addressed

purposefully and effectively, by formally defining levels of participation that must be maintained for various Program roles.

We believe that this direction reflects a set of principles on which the community can find common ground and hope that it can provide a common framework for community-wide discussion of shared priorities and values. In addition to this high level direction, the modeling exercise also suggests a variety of more concrete structures, roles, and responsibilities that could provide feasible shapes for the Program. GPO instructed that this modeling exercise should develop new possible structures – independent of and unconstrained by the current legislative framework for the Program defined in 44 U.S.C. §§1901 -1916 – through which the Program’s long-standing vision, mission, and values could be implemented. Discussion of each model considers if it could be implemented under the current legislative framework for the Program or if legislative changes would be required, but detailed legislative analysis and recommendations are outside the scope of this project.

The models proposed in this project can be deployed over time by GPO and the depository library community to move the FDLP to a more sustainable future. By expanding the formal structure of the Program to incorporate new roles, the FDLP can better serve its mission, end the decline in library participation, and thereby transition the Program to a more sustainable future in an increasingly electronic environment. This is a complicated transition likely to take many years, so it may be that the models will need to be deployed incrementally. Our hope is that this report will lay out a roadmap for that process that can be traveled over time.

### **Scope and objectives**

This project was originally motivated by GPO’s sense that “fundamental aspects of ensuring that the American public has current and future access to Federal information are somewhat constrained relative to electronic content based on the existing structure of the FDLP, which is based on a 19th [and 20<sup>th</sup>] century model of print production and distribution,” and that “to be relevant in the electronic era, the FDLP must develop other working models to fulfill its programmatic mission and outline the roles that each of the depository partners play in making Government information widely and publicly accessible.”<sup>5</sup> Since the introduction of GPO Access, GPO has led the evolution of government information provision in the electronic environment; this project represents an effort by GPO to explore the strategic possibilities for reshaping the network of libraries that supports this Program, and to complement GPO’s continuing efforts to develop robust digital programs. To support these strategic planning efforts, GPO selected Ithaka S+R to perform research into the changing environmental conditions affecting the Program and suggest new models that would address the challenges to the Program’s sustainability posed by the transition to an increasingly electronic environment, under the continued administration of the Government Printing Office.

GPO has made it a core tenet of this project, however, that in the development of new structures and models for the FDLP, the Program’s existing vision, mission, and values are *not* subject to change; the goal of this project has been to suggest models that can more sustainably accomplish these long-standing Program priorities in a digital environment. The following vision, mission, and values of the

FDLP were laid out in the draft discussion document “Federal Depository Library Program Strategic Plan, 2009-2014,”<sup>6</sup> and were explicitly not open for reconsideration as part of this project.

### **Vision**

The Federal Depository Library Program will provide Government information when and where it is needed in order to create an informed citizenry and an improved quality of life.

### **Mission**

The mission of the Federal Depository Library Program is to provide for no-fee ready and permanent public access to Federal Government information, now and for future generations. The mission is achieved through:

- Organizing processes that enable desired information to be identified and located;
- Expert assistance rendered by trained professionals in a network of libraries;
- Collections of publications at a network of libraries; and
- Archived online information dissemination products from GPO Access, Federal agency Web sites, and partner Web sites.

### **Values**

- Access: No-fee access for anyone, from anywhere, to use Federal depository resources or services
- Collections: Tangible and online collections of official Federal information dissemination products built to support user and community needs
- Collaboration and communication: A strong depository library network built on transparent, open communication and collaboration between and among depository libraries, Federal agencies, and GPO
- Expertise and professionalism: Dedicated and knowledgeable staff in depository libraries; dedicated to the mission of the FDLP, to increasing their knowledge, and to their profession
- Service: Enrich one’s library experience by providing quality user-centric services; strong commitment to service
- Stewardship: Good stewards of the resources entrusted to us by the American people

In addition to establishing these core principles as guiding lights for the project, GPO also defined the scope of this project as focusing on the network of libraries that makes up the FDLP, which enabled us to focus in on the opportunities and challenges in this sector of the broad government information ecosystem. This project does not address many other important questions that focus on aspects of the Program outside of the functions of this network of libraries. In some places, we have stated assumptions about how these external priorities will be accomplished, based on the best information available to us about apparent directions, but there remain important questions about the digital government information ecosystem that are intentionally not addressed by this report. In our analysis,

and as requested by GPO to ensure that the project pursues the best possible answers for the Program and its mission, we have suggested some structures that are not compatible with Title 44 as currently written. The current relevant sections of Title 44 are included in Appendix B.

## **Process and methodology**

This project was implemented through a process defined by GPO in its Request for Quotations, including a series of steps that comprised a research phase and leading into the development and evaluation of new models for the Program. As recognized by GPO's project definition, the development of new models for the Program is not a problem with a single "right answer" that can be ascertained definitively through scientific research, but rather a process of balance and compromise that emphasizes understanding the wide range of perspectives that exist across the community, including depository library coordinators and directors and GPO alike. As such, GPO's definition of this project entailed a broad and non-scientific interpretive synthesis of a large number of inputs in support of an analytical modeling exercise, but did not include the performance of any original primary research into the changing needs of the Program's users or members. Rather, this process was an effort to balance the diverse and complex web of priorities and values across the Federal Depository Library community.

The project's research phase was a major information-gathering process, emphasizing the description of the environment in which the FDLP operates and seeking to draw upon the broad experience of the library community in shaping sustainable collaborations. This research phase was followed by a modeling stage, which defined and evaluated a set of models for the Program. Several of these research and modeling steps resulted in a formal interim deliverable.

Following GPO's acceptance of these interim research and modeling deliverables, they were made available for community feedback via the project website (<http://www.fdlpmodeling.net>). With GPO's permission, we also posted to the website for public review several drafts of components of the final report not envisioned by GPO as interim deliverables, but on which we believed community engagement would be valuable.

The website was a cornerstone of the project's communications strategy as defined by GPO. In defining the project's structure, GPO felt that previous efforts to solicit input into strategic planning processes tended to privilege those members of the depository library community who could attend Depository Library Council meetings. In seeking opportunities for a more representative body of input, GPO directed the creation of the project website and its use as the primary mechanism for gathering community input along the way.

At the project launch, we created and launched the website. A privacy policy for the site informed users that we would be collecting, storing, and eventually transmitting to GPO comments submitting through the site.<sup>7</sup>

To encourage engagement, we publicized this website heavily through direct emails to a number of relevant listservs, requests to relevant personnel at the American Library Association (including its Washington Office, Government Documents Round Table (GODORT), and its Association of College and Research Libraries), American Association of Law Libraries, and Association of Research Libraries to help

us reach their communities, and a variety of other outreach efforts via email and social media to raise awareness of the project. We solicited engagement through brief presentations at ALA-Midwinter's Federal Documents Task Force Meeting and in both the general session and the Regionals meeting of the Depository Library Council's October Conference.

Several hundred community members visited the project website shortly after its launch, and over the duration of the project approximately 150 members of the community signed up to receive announcements of project updates via email (as well as an indeterminate number who may have subscribed via the website's RSS feed). Attention to the project site yielded hundreds of visits to the project site during the average week, with a total of about 5000 unique visits over the course of the project). Over the course of the project, we received 34 public comments from members of the community via the project web site, received approximately 40 additional comments via direct email, and followed discussion of our project in other online venues as well. In addition, some community members (especially but not exclusively members of the Depository Library Council) reached out to us directly via email, phone call, and in one case an in-person meeting to share feedback and provide input. We are told that many individuals carefully read some or all of the posted drafts but declined to provide comments, for whatever reason. All formally submitted comments were stored in the Disqus commenting system or ITHAKA's email system to be assembled for GPO at the project's conclusion. While no targets were set for levels of activity during this project, we were pleased to have so much community engagement.

At the same time, there are important questions regarding the representativeness of the input received through this process. Because of the extremely varied nature of the input we received through these various mechanisms, it is impossible to provide an accurate quantification as to its representativeness. However, in reviewing the input received on a more qualitative basis (as can be seen in the Acknowledgments section below), we have reasons to be concerned that this online method may not have dramatically improved the representativeness of the input received relative to face to face methods at a Depository Library Council meeting. The vast majority of the formal feedback we received over the course of the project came from members of the community at academic libraries (mostly main libraries rather than academic law libraries), with a high volume of particularly detailed feedback received from a small set of highly engaged members of the FDLP community, including several members of the Depository Library Council.

This public review process was not a research method, a scientific survey of the user community, or a formal evidence base for the project. It was, rather, an opportunity for members of the Federal Depository Library community to react to our drafts and suggest ways in which our work could be strengthened, as a sort of "public peer review." This community review provided valuable feedback, and these additional perspectives identified opportunities to improve and clarify our work. At the same time, in the process of accounting for these inputs in the revision process, we have tried to recognize the self-selected nature of this input and treat it carefully rather than as dispositive.

These interim deliverables and other drafts, revised as appropriate in response to this community feedback, make up most of the major components of this report.

## **Research phase**

The research phase of this project focused on the aggregation of a substantial amount of background and contextual information about the Program, the environment in which it operates, and other models through which libraries collaborate around shared goals. The research, then, was designed to compile and synthesize across research, modeling, opinion, and other information that has previously been made available. This exercise developed a foundation for our analysis, providing information on the range of priorities and challenges facing libraries both generally and within the context of the Program, important themes in library collaboration and the formation of trust networks, and background on community perspectives on the Program in a rapidly changing electronic environment. Although we had a number of informal conversations with members of the community throughout this process, including regular engagements with senior GPO staff and the Depository Library Council, we did not perform any formal interviews nor did we conduct any surveys.

The first major step in this project was the environmental scan, which gathered facts and opinions to describe the broad and rapidly changing context in which the FDLP exists, in order to identify key factors and challenges to be considered in modeling for a future FDLP. GPO defined several general topics for this research. They ranged from the very broad and contextual (such as the state of the economy, technological change, and corresponding changes in information-seeking behavior) to the more specific (such as changes in the library landscape, the FDLP itself, and other developments in government information provision). We explored these themes through a methodology that included a variety of online searches, following footnotes from articles and reports once they were identified, and posting several requests on certain topics to the project website. The Scan references more than three hundred articles, reports, journal issues, conference presentations, and other sources. In conversation with GPO, we decided to split the findings of this research process into a background document, which focused on changes within the Program itself, and an environmental scan that explored the broader context in which the Program operates. These documents were released to the project website in draft form for public comment on November 29, 2010.

The second sub-step of this phase examined existing models of library networks, consortia, and depository programs in order to identify factors that may be applicable in considering new models for the FDLP. This step was conducted through an iterative process of extensive research based on secondary sources describing the structure and functions of a variety of networks, identified based on our existing knowledge, suggestions of relevant networks from GPO and members of the community, and targeted research into various types of networks. In addition to exploring and describing the structure and function of these networks, our project team categorized the networks based on various salient features, such as institutional context and government involvement. This report was released to the project website in draft form for public comment on December 28, 2010.

Following the completion of these two steps, we determined with GPO that it would be helpful to release a “findings” document (not a formal project deliverable) summarizing the major themes from the research phase. The purpose of this exercise was to summarize more than 100 pages of research and indicate the implications we saw emerging from this research. In this document, we identified twelve high-level themes and associated possible implications for the Program, synthesized from across



our research. The twelve themes were organized into three categories: collections and formats, services, and the network of libraries. This document was released to the project website in draft form for public comment on January 14, 2011.

### **Modeling phase**

These findings and implications laid the groundwork for the modeling phase of this project. Following advice provided in conversations with the Depository Library Council, we determined together with GPO that an important first step in our analysis would be to define a single broad direction for the Program that emerged from analysis and interpretation of our research findings. This direction would prove to be an integral part of the modeling exercise. We began to draft this direction as a series of bullets, which were reviewed and revised iteratively with GPO in several meetings over the course of approximately a month, before the section itself was drafted. This direction provides a set of themes in several major areas: assumptions about the Program and its context that are outside the scope of our modeling exercise; a set of functional directions, proposing priorities for the Program to effectively accomplish its mission in the areas of access to and preservation of tangible collections, access to and preservation of digital collections, and access to government information support services; and a structural direction for the Program, laying out priorities for the structure of the Program that could support its success and sustainability. This document was released to the project website in draft form for public comment on February 4, 2011.

We then developed a series of models that would implement this direction to a greater or lesser degree. We began to draft these models as a series of bullets, which were reviewed and revised iteratively with GPO in several meetings over the course of approximately a month, before the section itself was drafted. Given the complexity of considering, let alone implementing, a new model for the FDLP, the project team suggested that a modular approach to developing and constructing these models would yield the greatest flexibility to GPO. These models were therefore constructed of what we call “building blocks,” each of which was intended to address a key issue (such as tangible collections). These building blocks were then aggregated together into the models themselves in a variety of different ways based on an assessment of relative sustainability and feasibility. Modularity allows for a variety of approaches to organizing and phasing any possible implementation, based on the many other considerations that GPO would face in its strategic and budgetary assessments. This section of the report first discusses some of the broad themes that are reflected throughout these models, describes a set of building blocks for new approaches to addressing several Program priorities, and finally arranges these building blocks into a series of new models for the FDLP. These models represent more or less complete implementations of the single direction laid out previously, incrementally achieving additional aspects of this direction, although perhaps also requiring additional implementation costs and complexities. This document was released to the project website in draft form for public comment on February 11, 2011.

Finally, we crafted value propositions to analyze how the roles and incentives associated with the overall recommended direction, as well as the individual model or models, match with library needs, with the objective of examining the sustainability of the models. This document first reviews the historical value proposition of the Program and some of the ways in which this value proposition has shifted in recent years, then considers the broad impact of the proposed direction on the value proposition of the

Program, and finally evaluates the specific value propositions of each of the proposed new models for the Program. Given the GPO mandate to develop practical and sustainable models for the network of libraries participating in the FDLP, this value proposition considers the costs and benefits of participation in the FDLP – including practical as well as mission-driven motivations – from the perspective of a participating (or potentially participating) library under the proposed new direction and various proposed models. This document was released to the project website in draft form for public comment on February 28, 2011.

### Summary

Table 1 summarizes this research and modeling process in terms of the drafts posted to the project website for community input:

**Table 1: Summary of deliverables**

Phase	Deliverable	Description	Draft release date
<b>Research</b>	Background	Critical background and context on the Program	11/29/2010
	Environmental scan	Overview of the changing environment in which the Program operates	11/29/2010
	Existing library networks	Overview of the ways in which libraries collaborate around common goals	12/28/2010
	Findings	Overview of the major findings from the project’s research components and their implications for the Program	1/14/2011
<b>Modeling</b>	Direction	A single broad direction forward for the Program that builds on the findings from the research phase of the project	2/4/2011
	New models	A set of models that would implement the direction to a greater or lesser degree	2/11/2011
	Value proposition	Analyzes the direction and models to consider their feasibility as sustainable structures for the Program	2/28/2011

### Final report

Following the completion of the draft value proposition, we revised and assembled the various component pieces into this final report. For each of these interim deliverables, we have received (as mentioned above) valuable feedback from across the depository library community and indeed more broadly, which has helped to inform our revisions of these components and improved the quality of this final deliverable. As with previous deliverables, GPO received and commented upon a draft version and revisions were made in response. Because each of the component parts has been released in draft form, and therefore the substance of this report already reviewed by interested members of the public, GPO did not ask that we release a draft of the final report itself publicly for community input.

### Acknowledgments

## Modeling a Sustainable Future for the Federal Depository Library Program

We are in the first place deeply grateful to our contacts at GPO on this project. Cynthia (Cindy) Etkin, in particular, deserves special thanks for spearheading the project from its very design. Other GPO colleagues who provided valued input and counsel along the way include Ric Davis (acting Superintendent of Documents at project inception), Mary Alice Baish (who became Superintendent during the project), Robin Haun-Mohammed, Larry Ferezan, Laurie Hall, Teddy Priebe, David Walls, Mike Wash, and Kate Zwaard.

Many members of the FDLP community have provided their valuable feedback and advice throughout the course of this project, including: Tom Adamich, Stephanie Braunstein, David Cismowski, Daniel Cornwall, Sarah Erikson, Laura Horne-Popp, James R. Jacobs, James (Jim) A. Jacobs, Peggy Jarrett, Peggy Jobe, Gary Klockenga, Shari Laster, Marianne Mason, Larry Meyer, Dan O'Mahony, Debbie Rabina, Barbie Selby, Bill Sleeman, Lori Smith, Rebecca Troy-Horton, and Camilla Tubbs. We deeply appreciate this input, and hope that readers will clearly see how their inputs have improved the final product.

In addition, we received advice in less formal settings from a variety of individuals, including Dan Barkley, Tom Bruce, Kristen Clark, Geneva Henry, Michael Keller, Carl Malamud, Beth Simone Noveck, Victoria Reich, David S.R. Rosenthal, Judith Russell, Mark Sandler, John Wilkin, and almost certainly others who we have failed to mention here. We deeply appreciate the input from across the community over the course of this project.

Finally, we thank all our colleagues at Ithaka S+R for their many forms of support over the course of this project, especially Laura Brown, Kevin Guthrie, Matthew Long, and Tom Nygren for review sessions and editorial assistance along the way.

This project was a model of openness and transparency, including broad and detailed community engagement, input, and review along the way, and nothing could be more appropriate for a study of future models for provisioning government information to the American public. We are grateful to all for their participation.

## **Part I: Research**

This project began with an extensive secondary research effort to chart the changing context in which the Program operates and develop a set of findings to help guide our modeling efforts (see above for the Process and Methodology associated with this part of the project). This research component began with a background investigation of how the Program itself has evolved over time and the diverse points of view that have been advanced within the community on how it could be better brought into alignment with its changing environment. We also performed a broad scan of the context within which the Program operates, performing research into the existing literature on a diverse range of topics, including:

- Societal changes in the technology and information environment that affect the ways in which users expect to discover and make use of all kinds of information, reflecting a broad shift towards digital use;
- Environmental pressures on different kinds of libraries, and the changing priorities and practices these have led to (including refinements and new approaches to collections management, preservation, and public services), leading into a discussion of broad visions for the future; and
- A discussion of changes in how the public makes use of government information, and the corresponding changes that both the government and libraries have made to respond to these changing user needs.

Finally, we explored a variety of different models of library collaboration in different contexts and with different goals, with the goal of identifying themes in the ways that libraries work together to collectively address shared opportunities and challenges.

This research served as critical groundwork for our analysis and modeling exercise. This wealth of information contributes a wide range of diverse perspectives to our analysis, distilling broad themes from a wide-ranging review of the existing literature. Here, we provide a brief background of the Program and focus on the high-level findings that resulted from this overall research effort; the full results of the other components of our research can be found in Appendix A.

## **Background**

The first section of this report offers a brief overview of the FDLP's structure and function as it stands today. This section is not meant to serve as an in-depth analysis of the Program but simply to summarize aspects of the Program described in much greater detail elsewhere, most notably in the Federal Depository Library Handbook. Following this brief summary, this section provides an overview of the community-wide debates that have occurred over the challenges facing the Program and the visions that have been put forward for how it can be refined in response to a rapidly changing digital environment. Overall, this section is intended to provide basic background to acclimatize an unfamiliar reader with the Program and some of the community discussions that have surrounded it in recent years.

### **GPO and FDLP Leadership and Governance**

The Government Printing Office, a Congressional agency, "is the Federal Government's primary centralized resource for gathering, cataloging, producing, providing, authenticating, and preserving published information in all its forms. GPO is responsible for the production and distribution of information products and services for all three branches of the Federal Government."<sup>8</sup>

The Public Printer, who is effectively the CEO of GPO, is appointed by the President of the United States and confirmed by the Senate. The Congressional Joint Committee on Printing serves as GPO's oversight committee. JCP is "composed of five Representatives and five Senators, [and] ... oversees the operation of the U.S. Government Printing Office (GPO), whose support is essential to the legislative process of the Congress."<sup>9</sup> As the JCP is a Congressional body, its membership and leadership can change on an electoral cycle. The Public Printer does not serve at the pleasure of that body but rather at the pleasure of the President.

The FDLP is managed by the Government Printing Office, with key leadership including:

- "the Public Printer, [who] with the approval of the Joint Committee on Printing (JCP), is responsible for implementation of the Federal Depository Library Program",
- "the Superintendent of Documents, appointed by the Public Printer, [who] oversees the policy creation and operations of the FDLP through the [Library Services and Content Management (LSCM)] business unit," and
- "the Director of LSCM [who] is responsible for the staff supporting the FDLP."<sup>10</sup>

GPO is advised on FDLP matters by the Depository Library Council (DLC), which "was established in 1972 to provide advice on policy matters relating to the FDLP. The primary focus of the DLC's work is to advise the Public Printer, the Superintendent of Documents, and appropriate members of GPO staff on practical options for the efficient management and operation of the FDLP."<sup>11</sup> DLC has no governance role or responsibility for the FDLP.

### **Structure of the FDLP**

One of the principal ways in which GPO achieves its mission of making federal government information available to the general public is via the Federal Depository Library Program (FDLP). The FDLP is a network of, as of February 2011, 1,221 libraries across the United States that supports "the public's right

## Modeling a Sustainable Future for the Federal Depository Library Program

to Federal Government information by collecting, organizing, and preserving it, and by providing assistance to library users.”<sup>12</sup>

The structure of the Program is based on Chapter 19 of Title 44 of the United States Code (44 USC 19), complemented by the Federal Depository Library Handbook, which “serves as a one stop shop for legal requirements, Federal Depository Library Program requirements (Program), guidance and best practices.”<sup>13</sup> A brief review of the existing legislative structure of the Program may provide useful context for later discussions of the legislative changes that might be required to implement some of the models developed through this project.

The basic premise of the Program, as defined in 44 USC 1902, is that “government publications” – which are defined there as “informational matter which is published as an individual document at Government expense, or as required by law” – “shall be made available to depository libraries through the facilities of the Superintendent of Documents for public information.” Chapter 19 defines a number of different categories of libraries that are (or may be) members of the Program; in addition to libraries designated by members of Congress, specific provisions are also made through which other libraries and organizations may be designated as members of the Program.

Chapter 19 also designates several conditions for membership in the Program, including instructions that a library cannot continue to serve as a depository if “the number of books in a depository library is below ten thousand, other than Government publications, or it has ceased to be maintained so as to be accessible to the public, or ... the Government publications which have been furnished the library have not been properly maintained.” “To facilitate the selection of only those publications needed by depository libraries,” Chapter 19 provides for a regular listing of publications that allows most members of the Program to select the materials that they wish to receive through the Program.

In addition to these basic conditions, up to two libraries in each state may be designated as “regional depositories.” Beyond complying with the basic requirements of all depository libraries, these libraries will “retain at least one copy of all Government publications either in printed or microfacsimile form (except those authorized to be discarded by the Superintendent of Documents); and within the region served will provide interlibrary loan, reference service, and assistance for depository libraries in the disposal of unwanted Government publications.” Regional depository libraries help to administer the Program’s overall tangible collections management, since they “may permit depository libraries, within the areas served by them, to dispose of Government publications which they have retained for five years after first offering them to other depository libraries within their area, then to other libraries.” Depository libraries “not served by a regional depository library, or that are regional depository libraries themselves, shall retain Government publications permanently in either printed form or in microfacsimile form, except superseded publications or those issued later in bound form which may be discarded as authorized by the Superintendent of Documents.”

The earliest antecedents of the Program date to 1813, when Congress resolved that “the public journals of the Senate and of the House of Representatives... [and] documents published under the orders of the Senate and of the House of Representatives” be printed and supplied to “to each university and college

in each state, and one copy to the Historical Society... in each state.”<sup>14</sup> The shape of the Program has evolved substantially since this early instance, most notably through “The General Printing Act of 1895,” which first brought the Program under GPO’s auspices and formalized many structures that still underlie the Program today.<sup>15</sup>

The existing structure for the FDLP dates to 1962, when the Depository Library Act of 1962 put into place the current two-tier regional and selective depository library system. The two tiers of libraries have since remained substantially unchanged, and are described in the Federal Depository Handbook as follows:

- “If your library is a regional depository, it has agreed to receive all publications made available to depositories and to retain those items in perpetuity (with some exceptions). U.S. Senators may designate libraries in their state as regional depositories. Each state may have two regional depositories, though most have only one and a few states are served by regional depositories in neighboring states. Regional depositories are located at flagship, publicly supported universities as well as at public libraries and State libraries. In addition to selection and retention requirements, regional depositories serve as liaisons between the selective libraries [see below] in the state (or region) and LSCM. Regional depositories also provide consultation, coordinate planning, review publication disposal lists, and offer other services to selective depositories in their regions. The statutory authorization for regional depositories is found in United States Code, Title 44, chapter 19, §1912.”<sup>16</sup>
- “If your library is a selective depository, you have the option of tailoring the collection to fit the needs of your community, which includes the library’s primary users as well as the general public. This is achieved by selecting suitable materials to receive from LSCM, by retaining materials for at least 5 years or substituting them for online equivalents, and by retaining materials beyond the required 5 years as appropriate. Two selective depositories may be designated within each congressional district, although at any given time there may be more than two in some districts because of redistricting. In addition, each U.S. Senator can designate two depositories in their state providing there is an opening in that Senator’s class. The number of selective depositories in a congressional district can also be augmented by designations for certain types of libraries allowed by special provisions in Title 44.”<sup>17</sup>

Although a library’s responsibilities for maintaining its tangible collections of government information are principally defined by its Regional or Selective role, the Program allows some flexibility for collections responsibilities to be shared among libraries. For example, depository libraries may make selective housing agreements with other libraries, formally retaining responsibility for materials that are physically held in another library.<sup>18</sup> Such agreements remain relatively rare across the Program. To take one example, this flexibility has allowed for four libraries in Oregon to share responsibility for housing the Regional collection for that state, coordinated through the Oregon State Library, which is Oregon’s designated Regional.<sup>19</sup>

### **Digital Initiatives**

As detailed in greater length in Appendix A, providing digital access to government information has been a priority of GPO for more than 15 years. Some of GPO's earliest online initiatives grew out of the passage of the Government Printing Office Electronic Information Access Enhancement Act of 1993 (Public Law 103-40), which instructed GPO to: "maintain an electronic directory of Federal electronic information," "provide a system of online access to the Congressional Record, the Federal Register and other appropriate publications," and "operate an electronic storage facility for Federal electronic information."<sup>20</sup> This led to the creation of the GPO Access platform. GPO Access quickly "evolved into an award winning federal Web site housing thousands of federal publications, various dynamic databases, and a dozen or so agency Web sites."<sup>21</sup> Aldrich et al chart "soaring popularity for GPO Access" in the years following its launch, establishing "GPO as a major player in Internet delivery of federal information." Although GPO Access was originally "a restricted access resource (depository libraries received free password access), ... [it] was made freely available to all in 1995."<sup>22</sup> Shuler et al characterize this act as "a clear sign from both the program's participants and others that FDLP needed to adapt to an increasingly digital public exchange of government information."<sup>23</sup> Shuler et al also suggest that "additional alterations in the U.S. federal policy environment during the Reagan, Bush, and Clinton administrations encouraged agencies to rely less on FDLP to make information available."<sup>24</sup>

More recently, GPO introduced the Federal Digital System (FDsys), the successor to GPO Access, which has the mission to "organize, manage and output authenticated content for any use or purpose and to preserve the content ... for the benefit of future generations."<sup>25</sup> FDsys is being implemented in a phased process, with "Release 1," "Establish[ing] the foundational infrastructure; Establish[ing] [a] preservation repository; Replac[ing] [the] current public site; Perform[ing] large scale data migration; [and] Provid[ing] operational continuity for the system."<sup>26</sup> In December 2010, "FDsys [became] GPO's official system of record for online Government information. This new phase is characterized by a fully stood-up and implemented system foundation with failover and is accompanied by a brand new logo, FDsys tag line, and a re-designed, more user-friendly interface... For the next several months, GPO Access will continue to be updated in parallel with FDsys, and in mid-2011, GPO Access will be officially retired."<sup>27</sup> FDsys "will allow federal content creators to easily create and submit content which will then be preserved, authenticated, managed and delivered upon request,"<sup>28</sup> serving as a content management system, preservation repository, and advanced search engine for government publications.<sup>29</sup> In addition to serving as a robust environment for the centralized discovery of and access to government information, FDsys is designed as a "trusted, secure environment built on the OAI model" of digital preservation, prioritizing document integrity and the long-term usability of digital content; FDsys is currently working towards certification via the Center for Research Libraries' *Trustworthy Repositories Audit & Certification* checklist.<sup>30</sup>

### **Participation in the FDLP**

Today, the FDLP operates not only through the network of libraries, but also provides FDsys as a key platform for digital access and preservation. The availability of high-quality online resources has, as is detailed at greater length in the Environmental Scan in Appendix A, impacted library practices that, by extension, have impacted motivations to participate. This section provides a brief overview of library participation in the FDLP.



The number of federal depository libraries nearly doubled in the ten years following the passage of the Depository Library Act of 1962 law, but the level of participation has been eroding steadily for the past two decades. Between 1962 and 1972, 509 new depository libraries joined the Program, for a total of 1080 depositories in April 1972, including 41 regional libraries in 35 states.<sup>31</sup> At its height in 1992, immediately before GPO Access was launched, over 1,350 selective libraries participated in the Program, plus over 50 regionals. In February 2011, there were 49 regional libraries and 1,172 selective libraries in the Program. It is unknown whether this decline in participation has in any way affected the Program’s overall ability to achieve its mission. Still, the trendline in recent years has been one of declining participation.

According to a 2009 study commissioned by GPO, 71% of participating libraries are academic libraries, 17% are public libraries, 11% are government libraries, and 1% are special libraries; 17% of the academic libraries in the Program are law school libraries.<sup>32</sup> These percentages have not changed significantly over the past several years. The following table summarizes participation, as of April 2011, in the Program in each type of library recorded within the Federal Depository Library Directory<sup>33</sup>:

	Regional	Selective	Total	As percent
Academic General	32	612	644	53%
Academic, Community College	0	59	59	5%
Academic, Law Library	0	155	155	13%
Federal Agency Library	0	42	42	3%
Federal Court Library	0	13	13	1%
Public Library	3	204	207	17%
Service Academy	0	4	4	0%
Highest State Court Library	0	36	36	3%
State Library	14	28	42	3%
Special Library	0	14	14	1%
<b>Total</b>	49	1167	1216	100%

The motivations and priorities of different categories of participants in the Program vary widely:<sup>34</sup>

- Many academic libraries – at both public and private academic institutions – participate in the FDLP primarily to ensure that their campus communities have access to government documents and services to help them use the collections. Academic users, including undergraduates, graduate students, and faculty members, make substantial use of government information in the course of research and teaching. Government documents can have importance in virtually all fields, but the collection is not, however, of uniform value to these users. Some public universities’ academic libraries have a decidedly public-minded role, providing a variety of services to their community or state, while private institutions’ libraries, and even those at some

public institutions, tend to be more focused on the needs of their local campus community. Public universities' libraries serve, in many states, in the Regional role; in February 2011, 32 of the 49 Regional libraries are hosted at public universities. No private university libraries serve in the Regional role.

- Law libraries and the court system have a significant but concentrated interest in federal government documents. Their overall collections are often heavily focused in three key categories: current and historical statutes and the US Code; current and historical versions of the Federal Register and Code of Federal Regulations; and court decisions. Other materials – including contextual materials such as the Congressional Record, which supports the investigation of legislative histories – may also be of significant value to some users of these collections. Legal scholars and law students use these materials in a variety of ways, including for research projects, journal editing, and in the preparation of court submissions. For judicial purposes in particular, these materials are essential records of the operation of the federal government, in many ways more like archival documents than general-interest publications. Law libraries entered the Program in the 1970s; “in 1972, the highest appellate courts of the states were added to the Program ... [and] in 1978, law libraries entered the Program under a new law.”<sup>35</sup> No law library serves as a Regional library.
- Public libraries participate in the FDLP to provide services to their communities. While public libraries are eager to serve the information needs of any member of the public, their principal emphasis is often defined as their tax district or other immediate community. Public libraries are often among the library types most committed to the Program as a public service, although they do not always see value in the historic depth of the collection given the service needs of their communities. Furthermore, budgets can swing wildly as public finances fluctuate, and public libraries are reliant on direct public support to a far greater degree than most other types of libraries. Three public libraries serve in the Regional role.
- State libraries serve a variety of roles in the Program. Many state libraries serve as research and legal libraries for their state government, and so may act in ways similarly to law or academic libraries, with the concerns and priorities of these communities. Some state libraries also play a significant direct public service role, similar to public libraries, or fund state-wide programs to support various priorities like adult literacy. State libraries also play an important coordination role for libraries within their states; state libraries channel federal funding through Library Services and Technology Act grants to libraries within their states, and often facilitate resource sharing such as interlibrary lending and reference for the libraries in their states. Many state libraries play an outreach and coordinating role across the libraries in their state, including advocating for and supporting technology projects by libraries. Some state library agencies are more oriented towards grant-making and coordination, while others also hold extensive collections and provide direct user services. Fourteen state libraries serve in the Regional role.
- Federal libraries participate in the Program to serve the information needs of their parent agencies. While they all serve in what is effectively a Selective role, they are not obligated to follow the withdrawal procedures required of other Selective libraries.

This diversity can be described as both a source of strength for the Program and a challenge. On the one hand, a broad spectrum of diverse libraries can provide services and collections targeted to meet the needs of many different communities of users, complement each other to better serve the needs of the general public, and step in to meet the gaps when one sector suffers from economic weakness. However, it has sometimes been difficult to find common ground among participants, and Program structures have sometimes faced challenges in addressing equally well the needs of libraries ranging from small public libraries to specialized law libraries to large research libraries, and a wide range in between.

### **FDLP community: selected dynamics and debates**

Almost twenty years ago, the Program first came into the electronic age with the launch of GPO Access, GPO's first platform for providing digital access to government information, marking GPO as a trailblazer in bringing published information online. Over the last twenty years, the ongoing shift towards digital provision of government information has introduced a critical set of opportunities to achieve the Program's core mission in new ways as well as challenges to the Program's essential structure. Improved discovery and delivery, especially through online access to born-digital and digitized information, has vastly expanded access to much FDLP content, consistent with the Program's mission and at great benefit to the American public.

At the same time, evolving community perceptions of the costs and benefits of participation in a Program that has been fundamentally structured around the development and retention of print collections, viewed by many as having declining value in an increasingly digital environment, have raised questions about the long-term sustainability of the Program. A recent article by long-time Program observers Jaeger et al describes the Program as being "under severe strain and relentless reconsideration ... The combination of infrastructure pressures (funding, space, staff), technological change (the ability to access and disseminate authenticated documents electronically), societal expectations that increasingly favor electronic access to federal information, economic constraints due to recession, and a new technologically-savvy presidential administration make plain the need to modernize the approaches to government information in FDLP member libraries and other academic libraries."<sup>36</sup>

This section explores some selected dynamics in the depository library community that suggest strategic needs of the FDLP, based on a variety of reports and articles by members of the community and relevant organizations. Inclusion is not meant to privilege these perspectives, but rather to give a sense of the tenor of discussion and the major issues that have been identified within the community, exploring some of the many possible reconfigurations of the Program that have been raised in community discussion and debate over the years.

### ***Questions about the regional library role***

As early as 1993, the Depository Library Council warned that "the burdens on the regional libraries are causing a breakdown in the system."<sup>37</sup> Due to the wide disparity in numbers of libraries served between different regionals and the often substantial costs of serving as a regional library – in 1993, it was asserted that "the [then] 52 regional depository libraries alone are spending more money to support

their depository collections than the Federal Government is to run the entire program”<sup>38</sup> – both the library community and GPO itself have recognized that “there have not been corresponding revisions to Chapter 19 [44 USC 1901-1916, the authority that controls the FDLP] to provide regional and selective depository libraries the flexibility required to operate in an online and networked environment.”<sup>39</sup>

In 2008, GPO surveyed Regional depository library directors and found certain frustrations among them with the current structure of the Program, reporting that “almost 20% [of regional library directors] agree or strongly agree that they are considering relinquishing their regional designation and becoming a selective depository.”<sup>40</sup> Ithaka S+R’s 2009 study of the Program, funded by the Association of Research Libraries and the Chief Officers of State Library Agencies and based principally on interviews with librarians and library directors at federal depository libraries, also found that “regional library directors [feel] the desire for greater flexibility in print collections management,” and that “many participating libraries currently devote significant but unsustainable staff resources to print collections management.” It concluded that “there remains little incentive for many of the largest research-oriented libraries to remain in the Program, and a gradual, unplanned withdrawal by them would be crippling.”<sup>41</sup>

Although academic regional libraries have been most vocal in their concerns about the Program, other kinds of regional libraries also face substantial pressures that have led to searching for alternative models. Following the decision that the Library of Michigan would no longer serve as a regional library, the Library began to seek alternative arrangements to provide regional services within the state. A survey of selectives within the state found only 5 of 41 selectives willing “to commit to taking on the housing and regional responsibility for some portion of a collectively shared in-state regional collection... amount[ing] to less than 10% of the total collection that would need to be housed.”<sup>42</sup>

There have been several attempts in recent years to modify the structure of the Program, especially focused around relieving the burdens on the regional libraries. One effort was a request by the then acting Public Printer in 2007 to “designate the regional Federal depository libraries at the University of Kansas and the University of Nebraska as shared regional depository libraries... [to] allow them to consolidate collections and reallocate resources to achieve operational efficiencies, giving the libraries a practical and economic means for providing public access in the areas they serve.”<sup>43</sup> The Joint Committee on Printing did not approve the request for two libraries across state lines to share in regional responsibilities, based on a legal memorandum by the Congressional Research Service that determined that “the establishment of ‘shared regional depository libraries’ could potentially be viewed as violating the provisions of the Depository Library Act of 1962... [as] the GPO’s statement that the requested designation would allow the RDL’s in question to ‘consolidate collections’ would appear to run afoul of the explicit requirements that each RDL in a particular state receive and retain copies of all relevant Government publications.”<sup>44</sup>

Notwithstanding the significant pressures described above, actual departures from the Program by Regional libraries or transitions from Regional to Selective status have remained relatively limited. Since the early 1990s, three regional libraries have switched to selective status (less than 10%), in two cases in states where one of two regionals departed, leaving regional service remaining in place. Even so, Wyoming has consequently been without regional service for several years. Today, Michigan would be

threatened with the possibility of losing regional service if no library were to step forward to assume the regional responsibilities that the State Library of Michigan is seeking to give up. As mentioned above, almost 20% of Regional library directors indicated in response to a 2008 GPO survey that “they are considering relinquishing their regional designation and becoming a selective depository.”<sup>45</sup>

### ***Questions about the selective library role***

There has also been increased debate about the role of the Selective library in the Program, reflecting an increasing perception that “today, citizens can access thousands of electronic government documents from their home or office computer without stepping into any federal depository library,” altering the historic balance in which “federal depositories had been one of the few places, if not the only place, citizens could go to find no-fee information about their government ... [and] had a clearly defined mission to provide open and equitable access to tangible government information products.”<sup>46</sup> And in fact, the decline in participation by selective libraries has coincided with the increasing availability of digital information online via GPO.

At its height in 1992, just before GPO Access was launched, over 1,350 selective libraries participated in the program. In April 2011, it consisted of 1,167 selective libraries, a net decline of over 13% (given that some libraries also joined during this time period). Griffin & Ahrens’ 2003 study suggesting that four major factors are especially common among libraries that have left the Program: a low selection rate, a small collection, a recent designation date into the Program, and being a public library.<sup>47</sup> Although their overall rate of departure from the Program has been relatively slow, this process has accompanied community discussion has focused on what it means to be a Selective library in an increasingly electronic Program. Some libraries have drawn down significantly on their tangible collections of government information, even going so far as to become “virtual depositories” in the model of the University of Arizona Library. This model reflects an institutional transition “away from ownership in the electronic environment—preferring remote access whenever possible for ease of use, wider availability, and possible cost savings over local maintenance and storage.”<sup>48</sup> In this model, “the library’s item selection profile was modified to replace tangible formats with electronic (EL) formats, with a few exceptions. Selectors, drawing on their knowledge of, and experience with, the research needs of faculty, graduate students, and undergraduates, decided that maps, tangible electronic products that contain large data sets, and 26 highly used titles were the exceptions that would continue to be selected in tangible formats such as paper, microfiche, and CD-ROM.”<sup>49</sup> The fundamental designation of a library as Selective, however, implies that it selects at least some materials in tangible format; it is not possible to participate as a federal depository library without selecting at least some tangible materials.

While selection rates have been said anecdotally to have declined and numerous selective libraries said to have withdrawn significant shares of their tangible collections, more research is needed to document the extent of any possible strategic shift in tangible collections among selective depository libraries. Such research, if it were to be conducted, might combine with an analysis of the departures of selective libraries from the program to assess the overall impact, if any, on the availability of print collections and the impact, if any, on the Program’s ability to achieve its mission.

The 13% drop in participation, combined with the possible draw-downs in print collections and selection rates, may raise question about the changing nature of the selective federal depository library in a digital environment. On the other hand, as a part of GPO's 2009 biennial survey of depository libraries, submitted by depository library coordinators in consultation with their directors, it was found that libraries generally do not foresee withdrawal from the Program; "most participants plan to remain in the FDLP, with only 1 per cent deciding against and 7 per cent undecided."<sup>50</sup>

### ***Government information service provision***

Our research suggests that the provision of services to help the public to discover, understand, and make effective use of government information may be critical roles for participating libraries in the future. While all federal depository libraries must provide basic access and assistance to all members of the American public, some see opportunities for innovative library services in an online environment, opportunities that are not yet formalized in the Program's structure. These opportunities may be especially significant for those Selective libraries that choose to host minimal local print collections.

For example, Arrigo describes "a paradigm shift [of the FDLP] from product provider to service provider,"<sup>51</sup> predicated on a belief that "with U.S. government information increasingly being distributed electronically, and thus more directly available to people outside libraries, library administrators are asking if it is still cost-effective to retain depository status with all of its related expenses and obligations."<sup>52</sup> Arrigo argues that "both GPO and the FDLP need to embrace the service economy model more fully," recognizing that "the expertise of government information professionals has not been publicized as being a significant asset to the Depository Library Program."<sup>53</sup> Specifically, Arrigo suggests "a working partnership between the library associations and GPO in developing a significant training program" (which he suggests might be modeled after that of the US Patent and Trademark Depository Library Program) and "the establishment of subject-based agency/depository library partnerships brokered by GPO." He concludes that the FDLP "must be much more proactive and service oriented" to avoid "the FDLP dwindle[ing] to a few irrelevant documents collections."<sup>54</sup>

Jaeger, Bertot, and Shuler similarly focus on the importance of service roles for libraries, emphasizing that the "growing availability of federal government information online, along with democratization possible through search engines like Google... [allows] every library to serve as an access point for government information and a great number of people to access government information from home or work without a depository library's mediation." They argue that to succeed in this environment "government information librarians need to be trained to function more as civic guides to finding and thinking critically about government information, as well as to think about access and dissemination approaches that extend beyond print and computers."<sup>55</sup> Jaeger et al tie government documents and information to the related trend of e-government, "the provision of government information and services through the online environment," and argue that "it is clear that many aspects of collection management in this evolving digital environment must represent a form of distributed arrangement that is different from the balance in the paper and print traditions."<sup>56</sup> Specifically, Jaeger et al emphasize the potential for partnerships between GPO and depository libraries to develop new best practices for digitization and organization of digital information, as well as for expanded training for government information librarians that integrate government information and e-government expertise.

### ***The role of digital collections***

As mentioned earlier, GPO has led the creation of centrally available platforms for digital FDLP collections, including FDsys and, earlier, GPO Access. One stream of discussion within the FDLP community has focused on the roles played by digital collections in the FDLP ecosystem, and on questioning how the shift to an increasingly electronic environment may challenge long-standing practices and priorities.

For example, some argue that the transition to an environment in which libraries rely on remote collections managed by GPO “will do more to endanger long-term access to government information than ensure it.”<sup>57</sup> Jacobs, Jacobs, and Yeo express concern that changes in GPO policy that mean “that GPO will no longer be depositing documents in depository libraries,” leading to a situation in which “the government, not libraries, will have collections and will decide what will be in them and who will have what level of access at what cost.”<sup>58</sup> Jacobs et al support the idea of “digital deposit,” which they see as a natural extension of “the traditional mission of FDLP libraries ... to select, acquire, organize, preserve, and provide access to and services for government information in conjunction with information from other sources,” and as important both to guard against “innocuous and trivial as well as ... political and controversial” losses of digital government information. Jacobs et al list a number of principles they believe are best served by “a robust FDLP, consisting of multiple collections of government information in multiple locations, selected and organized for specific constituencies.”<sup>59</sup> In a recent post at the FreeGovInfo blog, James A. Jacobs offered further details on this vision, emphasizing that “the key to digital deposit is that a depository library would have physical control (in the OAIIS sense) of the material.”<sup>60</sup>

Other attention has focused on the question of the authenticity of digital government information. The American Association for Law Libraries has played a leadership role in bringing attention to the question of authenticity of digital government information. In the print world, “the fixed nature of the print medium, coupled with the paper publication’s multiple copies and wide distribution, ensures that the print *official* legal resource, as ‘governmentally mandated or approved by statute or rule,’ is an *authentic* resource. An online *official* legal resource offers no such automatic assurance.”<sup>61</sup> Until sufficient digital controls have been put in place to enable official digital resources to be authenticated, this argument suggests that print collections of government information will remain critical for authentication purposes. GPO has developed a program to digitally sign government documents made available through FDsys, which will gradually expand to cover an increasing share of digitally available materials.

### **In Sum**

The history and structure of the FDLP indicate some of the ways in which the Program’s antecedents grew up in a largely print-oriented environment. In more recent years, GPO has led the creation of centralized provision of government information through GPO Access and, more recently, FDsys. During this time period, for whatever reason, participation in the Program, especially among selective depository libraries, has declined. There has been much discussion within the FDLP community about the roles of both Regional and Selective participants, and about the proper provision of digital government information (in terms of preservation, integrity, and authenticity) and services in support of

## Modeling a Sustainable Future for the Federal Depository Library Program

its use. In many ways, the FDLP is facing the same structural and organizational considerations from the format transition from print to electronic as have libraries more generally, as documented in the Environmental Scan in Appendix A.



## What We Learned

Based on the Research sections of this project (including the Background section above as well as the Environmental Scan and Existing Networks sections, which are found in Appendix A), we have compiled what we learned that seems to be especially important in modeling a sustainable future for the Federal Depository Library Program in the 21<sup>st</sup> century. This brief section compiles these thematically, structured into three broad categories: functional considerations with respect to collections and formats, functional considerations with respect to services, and structural considerations with respect to the network of libraries. For each theme, and for each category, it assesses the potential impact for the FDLP, which is an important foundation on which the direction and models will be built.

### Collections and Formats

#### ***Theme 1: Users increasingly prefer to access collections in electronic form, although tangible collections remain important in supporting access needs***

- For many users, digital and digitized materials are becoming the format of choice, including for government information.
- There remain significant user communities that lack access or skills to make effective use of digital and digitized materials, and who therefore remain best served by physical materials.
- For all users, print collections remain important for access purposes in the absence of digital versions, as well as in certain cases where the digital version is difficult to use (such as a PDF containing lengthy statistical tables) or inadequate for another reason (such as for a user in need of an authenticated version of a document when the digital version is not so certified).

Potential Impact for the FDLP: The Program should continue to emphasize, and come to further emphasize, increasing access to government information through digital versions. But, because some needs will continue to best be met by tangible versions the ongoing role played by tangible versions in supporting access needs should be maintained.

#### ***Theme 2: Born-digital versions of new FDLP materials are widely available, and digitized versions of historic FDLP materials will increasingly become widely available***

- The vast majority of *new* federal publications is freely available online and is incorporated into the FDLP through FDsys or various interagency partnership agreements.
- Digitization of the historic collection is proceeding slowly but steadily through a variety of initiatives, including formal GPO partnerships with a variety of libraries.
- Google's digitization partnership with the Committee on Institutional Cooperation (CIC) libraries has been the largest scale digitization effort to date, making a large number of government documents freely available through HathiTrust.<sup>62</sup> Thus far these digitized materials have not been formally incorporated into the Program by ingest into FDsys or a formal partnership agreement, and analysis of their suitability to substitute for print has not been completed.
- Based on the CIC partnership and other initiatives underway, a substantial share of historic collections will be digitized and freely available in digital form in the near future, although gaps will certainly remain and many digital materials may principally support access needs rather than long-term preservation

- Some of these projects are expected to result in digitized collections being ingested by GPO into its FDsys platform.

Potential Impact for the FDLP: The increasing digital availability of digitized historic collections will accompany GPO's nearly comprehensive current and prospective born-digital collections, and GPO should continue and enhance its work to bring digitization outputs into the formal structure of the Program alongside born-digital materials. These activities will dramatically increase the accessibility of FDLP materials by the American public.

***Theme 3: Many libraries are moving away from a “just in case” model of collecting and holding tangible collections locally***

- Many libraries are seeking to free up space occupied by collections storage to be used for other purposes, and see digital access as providing an important opportunity to do so. Some other libraries, however, are reluctant to do so and some believe digital access is unreliable for access or preservation.
- Even some of the largest research libraries are migrating print collections – especially serial collections also available digitally – away from local storage and towards consortially-managed shared print provision, allowing them to free up space for additional collecting or for other purposes while maintaining access to and preservation of print originals.
- Many libraries that do not consider themselves to be research libraries are taking their role as “working collections” more seriously, in some cases prioritizing patron-driven acquisitions of local print collections and weeding collections regularly.
- Many academic and research libraries are attempting to pursue strategies that turn towards distinctive local collections and locally provided user services, including the acquisition, digitization, cataloging, and support of special collections, data curation, and similarly locally focused undertakings, although some evidence suggests that allocating resources to support such strategies has lagged.
- In many cases, these changes in thinking on collections are the result of strategic decisions that began with scholarly journals, and which are now proceeding to impact other collection types.
- Tangible collections are a declining source of value to many FDLs, and, in recent years, many – although certainly not all – libraries have already begun a reassessment of FDLP tangible collections, resulting in significant de-accessions (and in some cases library departures), notwithstanding what has thus far been a relatively modest level of retrospective digitization.
- Some Regional FDLs have faced pressure to drop their status as a result of strategic shifts, budget cuts to state libraries, and other causes. If this trend continues, it may call into question the long-term sustainability of the Regional role as presently structured to serve as the tangible preservation and access backstop of the Program.
- If the anecdotally widespread but quantitatively undocumented withdrawals of tangible collections among Selective FDLs continues, it will reduce an additional source of implicit preservation assurance for the Program while diminishing access to materials not available digitally.

Potential Impact for the FDLP: FDLP materials will not be immune from the large-scale strategic reassessments of both tangible acquisitions and collections management that many libraries have pursued and many continue to pursue going forward. As digital availability expands, the Program's structure, in order to sustain the service of its mission, vision, and values, will need to accommodate changing library strategies for tangible collections while continuing to support access to needed materials.

***Theme 4: GPO is investing significantly in digital preservation and integrity, although the nature of a partnership with depository libraries in these roles is not yet well established***

- While we have not conducted an independent assessment of the preservation qualities of FDsys, GPO plans to submit it to an audit and certification process that, if successful, should help the community to further understand and gain additional trust in its capabilities.
- Resources permitting, GPO will continue to invest in the preservation qualities of FDsys and future platforms, which is designed to provide a robust central infrastructure for the long-term preservation of the materials hosted by GPO.
- In the eyes of some members of the community, GPO cannot on its own serve as the single trusted party to ensure the preservation and integrity of the digital and digitized FDLP collections.
- There appear to be tradeoffs associated with different organizational models for the provision of digital preservation and integrity, with broad distribution of responsibility protecting against certain threats and centralized services offering some additional basis for establishing authenticity.
- Organizational models originally grounded in journal publishing may apply imperfectly for the large and complex federal government, where GPO has served as a printer and distributor and now is working to provide preservation services as well.
- While GPO has made FDLP collections bulk downloadable through FDsys and added LOCKSS permissions statements to FDsys, no role has been formalized in the Program structure to incorporate those libraries that are interested, in some cases individually and in other cases collaboratively, in hosting copies of these collections to support their long-term preservation and integrity. It is important to note that many libraries, however, do not wish to have responsibilities in this area.

Potential Impact for the FDLP: Pending the outcome of the audit and certification process, it seems likely that GPO's centralized efforts will provide a strong level of assurance of the long-term preservation of digital and digitized FDLP materials. GPO has already begun to offer FDLs the opportunity to provide an added level of security and trust in the long-term accuracy and availability of these materials, holding digital and digitized collections outside the direct control of the Federal government via the LOCKSS-USDOCS program that GPO has joined. Given that digital preservation has emerged and evolved rapidly in recent years, GPO and FDLs alike should continue to monitor best practices regularly, considering the formalization of roles associated with digital preservation as appropriate.

***Theme 5: Many libraries invest little in locally held and managed general collections in digital format***

- Most libraries license digital collections of journals, and increasingly books, from centralized service providers to support their users' needs for access to content.
- The preservation and integrity of centrally provided digital collections is provisioned in some cases on a centralized basis and in other cases on a decentralized basis.
- A minority view holds that locally held and managed general collections in electronic format are imperative to service provision and the assurance of preservation and integrity. Still, custom digital services built atop locally loaded digital *general* collections are only known to be made available through a small number of research libraries and consortia.

Potential Impact for the FDLP: A robust and flexible infrastructure and associated Program structure and participation requirements would empower those libraries wishing to do so to hold and preserve digital collections locally while supporting other libraries in providing outstanding services without holding digital collections locally.

### ***Collections and Formats: Overall Potential Impact for the FDLP***

GPO's leadership through GPO Access and more recently FDsys has expanded the availability of and access to government documents, part of the broader transformation in information discovery, access, delivery, use, and preservation that is changing user needs and expectations more broadly. These forces are leading to significant strategic redirections among libraries. The diversity of user needs and library strategies that is emerging at this transitional period towards an increasingly electronic environment can be better recognized and supported by the Program's structure for library participation. Specifically, libraries are seeking the flexibility to elect to either (1) hold local copies of FDLP collections, in print and/or digital form, in order to collectively ensure their integrity and preservation, or (2) to take advantage of the opportunity to provide access to and support the use of government information with a reduced emphasis on local collections.

## **Services**

### ***Theme 6: Libraries are a source of unique and valuable services in support of the use of information***

- Due to the networked environment, channel duplication, and open access, exclusive access to content is a declining source of value as users are increasingly able to access needed materials without intermediaries. Users often lack, however, skills to effectively discover, understand, and use needed materials. The flood of content available online only increases the importance of help in using it.
- The expertise of the library remains essential in supporting users in making effective use of collections; libraries continue to add significant value for users in discovering, understanding, and making effective use of collections, through the development of information literacy skills, direct reference assistance, and the creation of tools to guide users in working with information. Other information service organizations have similarly emphasized the importance of tools to support use in addition to simply providing access; for example, ProQuest and West curate and license access (for a fee) to "free" and uncopyrightable government collections and add valued services.

- New innovative services are being developed across libraries and information services organizations, in areas such as data curation, text/data mining, discovery, visualization, and student instructional services, all of which will help support future user needs to make sense of the information available to them.
- Some services will continue to be best provisioned on the local level by individual FDLs, but others will benefit from scale and be provided most effectively via collaboration.
- GPO has developed partnerships with several new service providers, such as Government Information Online.
- The FDLP's formal structure for library participation does not provide mechanisms to recognize innovative services provided by individual depository libraries or by groups of them.

Potential Impact for the FDLP: The Program's formal structure can better support and encourage service innovation, both by individual depository libraries and by existing and new groups of depository libraries and consortia.

***Theme 7: The needs of the American public in working with government information would be better served by additional support***

- Public access to government information has increased due to the free online availability of digital formats, but services in support of its use have not experienced a commensurate expansion, and many libraries' investment in dedicated services to support the government information needs of the broad public has if anything declined. Many users may not have sufficient access to support in working with government information.
- While many users have increased access to digital and digitized FDLP materials online, their access to these collections may not be accompanied by expert services to support their effective use, creating both opportunities and challenges in ensuring that both collections and services are available to all potential users at their point of need. Libraries continue to experiment with a variety of new models to reach users of all types of information at their point of need, such as online reference help, embedding librarians in research groups or in the classroom, and more.
- For many Americans, public libraries are the most important source of services in support of the use of government information, but due to resource constraints these libraries often face real challenges in providing such services.

Potential Impact for the FDLP: There may be opportunities for the Program's formal structure to better ensure that services are available to all Americans.

***Theme 8: Additional training and outreach is needed to ensure government information skills among specialist and non-specialist librarians***

- Many librarians outside of FDLs, and even non-specialist librarians within FDLs, often have extremely limited awareness of government information; it is seen by many as the specialized purview of specialist librarians at FDLs. As a result, despite increasing interest by depository libraries in broadening awareness of government information and efforts to do so, non-specialist librarians may not be taking full advantage of government information resources in working with users.

## Modeling a Sustainable Future for the Federal Depository Library Program

- In a rapidly changing information environment, specialist government information librarians may lack up-to-date awareness of current resources and best practices, and may benefit from additional training to maintain and develop necessary skills.
- GPO has taken important steps in attempting to provide training online for interested librarians.

Potential Impact for the FDLP: GPO and the depository library community can continue to work to raise awareness among non-specialist librarians of the value of government information, and it can help to facilitate the development of basic government information skills among non-specialist librarians. GPO and the depository library community can also further support skills development and maintenance among specialist librarians.

### ***Services: Overall Potential Impact for the FDLP***

Dialogue about the future of the FDLP has often privileged questions of collections and their preservation over vital services in support of their use. Going forward, services to support users in discovering, accessing, understanding, and making effective use of government information can receive equal weighting with collections in planning for the Program's future, in terms of emphasis and library participation. Specialist and non-specialist librarians alike can be supported in developing necessary skills to effectively provide these services.

## **The Network of Libraries**

### ***Theme 9: The structure of the Program and the formal roles of depository libraries are defined by tangible acquisitions and collections management, but new roles are vital to meeting the Program's vision and mission in a digital environment***

- Both the Selective and Regional roles are defined in Title 44 as connected to tangible collections acquisitions, retention, and management.
- No roles are defined in the Program for the provision of print preservation, such as conservation, disaster recovery, preservation reformatting, etc.
- No roles are defined in the Program for the acquisitions, management, or preservation of digital collections.
- Although a key element of the Program's mission is the provision of "Expert assistance rendered by trained professionals in a network of libraries," most participants do not have individually defined service roles beyond the basic responsibility for providing access and general support for using collections.
- Existing and potential FDLs have demonstrated ample interest in claiming these roles, even while some are decreasingly interested in the tangible collections that are currently at the heart of the Program's formal structure.

Potential Impact for the FDLP: It seems important to consider defining formal roles within the network of federal depository libraries that support the full range of Program priorities and durably accommodate participant interests, recognizing that different libraries value a range of roles and responsibilities.

### ***Theme 10: The state-based multi-faceted Regional role is not uniformly sustainable***

## Modeling a Sustainable Future for the Federal Depository Library Program

- The essentially state-organized Regional role has not accommodated the tremendous variation in state size and population, and the challenges in collaborating across state lines in provisioning this role have reduced its sustainability.
- The combination of retaining large-scale collections and providing supporting and coordinating services to their state can make for an awkward combination for some Regional libraries. State library agencies and public and county library systems coordinate library services and sometimes provide sharing and trust networks for public libraries, but they are only sometimes well-positioned to develop, manage, and preserve, tangible collections of research library scale. Research universities routinely develop, manage, and preserve, large tangible collections, but not all are well positioned to fully embrace the coordinating and outreach aspects of the Regional role.
- In some states, the Regional role is strong and its requirements are provisioned effectively; in other states it has been difficult (and sometimes impossible) to provide effective Regional collections and/or services.
- There has been far more discussion about the challenges facing the Regional role than actual departures among those providing it.

Potential Impact for the FDLP: Although it is not yet a crisis or emergency, pressures seem to be mounting on the Regional role such that the role could be adjusted to better align with library capacities and resources, and that the performance of this role might be organized more creatively, including through collaborative efforts.

### ***Theme 11: The Program's organizational structure could benefit from leveraging the strongest trust networks***

- Libraries and their parent organizations have developed numerous trust networks that provide vehicles for collaboration.
- Some of these trust networks are sufficiently durable to serve as preservation bulwarks, while others may be best suited for service provision, digitization, and other types of roles.
- While many libraries, especially academic libraries, are members of such trust networks, other libraries continue to operate on a largely individual basis.
- The Program's formal structure is defined around roles for individual libraries, and, although GPO has put in place other mechanisms to recognize and support contributions from library collaborations, even these collaboration agreements do not always readily incorporate library trust networks.
- Advances in collection management and preservation, especially following digitization, may reduce some libraries' perceptions of the need for local or geographically proximate print collections and support the development of innovative strategies for collaboration.

Potential Impact for the FDLP: The Program can (with structural modifications) embrace the strongest networks more deeply, including those that are not geographically organized, that can advance its mission as one component of a vibrant Program.

***Theme 12: The mix of library types in the Program may create strategic challenges for the future***

- Original anticipations of a role for the state library agencies in coordinating services in conjunction with the Program have in only some states been realized.
- Public libraries participate in the Program on a patchwork basis rather than consistently, and the Program offers no particular emphases or requirements for public library participation, while for many Americans the public library is likely to be a first point of contact for a government information need.
- The apparent benefits of participation have declined for many libraries, as many library directors may increasingly believe that they can serve local government information needs through licensed and freely available online services without serving as a depository; this perception may be especially common among certain types of academic libraries. If academic libraries continue to reduce their role in the Program and/or withdraw from it, the needs of the American public will be less well served, adding to importance of the role of public and state libraries in providing services to the American public.

Potential Impact for the FDLP: The Program could afford additional focus to serving the needs of the American public by further emphasizing the participation of public and state libraries to the greatest extent possible and the obligation of academic and law libraries to maximize the communities they serve.

***The Network of Libraries: Overall Potential Impact for the FDLP***

By allowing libraries to select roles that more closely align with their priorities and strategies and embracing a more formal role for trust networks, the Program's structure can allow depository libraries to contribute more sustainably to its mission, vision, and values, and ensure that access to government information for the American public is maximized.

**In Sum**

The themes listed above that are drawn from the various research sections suggest a number of potential impacts for the FDLP. Together, these are key ingredients in informing the modeling exercise to which we now turn.



## **Part II: Modeling**

With the research phases of the project as vital background and input, we commenced the modeling activity. The goal of the second part of the project was to develop a set of flexible models to aid GPO and the depository library community as they reenvision the FDLP.

In this second part of the report, we describe a proposed direction for the FDLP (based in part of the research findings documented above). We then provide a number of new models in support of this direction, which would implement it to a greater or lesser degree. Our analogy has been that the direction is like a point on a compass towards which our research indicates the Program should travel; each of the new models would take the Program a different distance in that direction. Following the direction and the models, we then conduct two analyses of these models: first, the value proposition, which is an overall analysis of their sustainability; and second, an analysis of implementation, which assesses the extent to which changes may be necessary to Title 44 or the Federal Depository Handbook in order for each model to be implemented. Finally, to provide some examples of how a revamped Program might be experienced by participating libraries, we provide illustrative examples.

## **Recommended direction**

We began our modeling exercise by developing a single overall direction for the Program in a digital environment that emerged from our research and in the context of the vision, mission, and values of the FDLP, as laid out in the draft “Federal Depository Library Program Strategic Plan, 2009-2014.”<sup>63</sup> This direction describes a set of principles around which substantial common ground can be found by the community; many aspects of this direction preserve important themes from the existing Program, draw on the innovations by GPO and the depository community, or build on priorities identified in the research phase of the project as important but not currently well-addressed by the Program. This section begins by laying out several key *assumptions*, shares our recommended *functional direction*, and finally shares our recommended *structural direction*.

## **Assumptions**

Our remit in this project is to develop sustainable and practical models for the network of libraries that makes up the FDLP to best support the Program’s historic vision, mission, and values. Two key assumptions informed this project:

First: This project assumes that GPO will continue to provide an increasingly high-quality centralized and freely available access point for digital FDLP materials (through FDsys or its successor). This GPO-provided centralized and freely available repository will support the needs of a wide range of users for digital FDLP materials, including through the provision of authenticated materials, and will provide an essential preservation backstop that maintains access to these materials over the long term. This GPO-provided service will provide a baseline level of no-fee access to seekers of government information, but (as we explore in the models section below) other digital access or preservation points may exist.

Second: This project also assumes that over time, the historic collection of FDLP materials will be made available and discoverable in digital form to support permanent public access, but that this digitization process will require patience and coordination as it achieves greater levels of comprehensiveness. Given the complexity of FDLP collections, however, it may be challenging to ensure that all historic materials have been digitized comprehensively. GPO will continue to play a leadership role in guiding this process, including through defining standards and procedures to enable digitized materials to be relied upon as official and authentic. Also, although there may be multiple access points to digitized historic FDLP materials (including for example Google Books, HathiTrust, and a variety of library websites), we assume that these digitized materials will also be made freely available via GPO’s centralized access point as described above, through procedures that are out of scope of this project but which should deeply integrate the needs and perspectives of the library community. Digitized materials will over time account for a growing share of usage of the historic collection, with a commensurate impact on print use. Consequently, we believe that the Program’s structure can benefit from accommodating a medium-term or even lengthy transitional phase in which tangible materials remain the only means of access to some content as well as an important access point for many users.

## **Functional direction**

The functional direction for the Program remains fundamentally defined by the Program’s long-standing vision, mission, and values. As stated in the Program’s mission, the Program exists “to provide for no-fee ready and permanent public access to Federal Government information, now and for future generations.” But in an increasingly electronic environment, the specifics of how this mission is performed have evolved and should continue to do so in order to ensure that materials are accessible and preserved in formats appropriate for users and that support users’ needs to discover, understand, and make effective use of government information. This functional direction describes a set of objectives that would support this long-standing mission, broken down into three major categories: “access to and preservation of tangible collections,” “access to and preservation of digital collections,” and “access to government information support services.”

Although these themes are laid out as system-wide priorities, we do not assume that all libraries will contribute to all of these priorities. Rather, as described further below, this direction supports libraries in identifying and contributing towards those system-wide roles that best match with their priorities. We assume libraries will focus on those aspects of this functional direction that they view as aligned with their individual strengths and priorities, in conversation with GPO.

### ***Access to and preservation of tangible collections***

Tangible collections of FDLP materials have long been at the heart of the Program, and will remain critical to the Program for some time to come. They play essential roles in supporting both the *access* to and the *permanence* of FDLP materials:

- Many FDLP materials are currently *only* available in tangible form; although over time, access needs for these materials will increasingly be met by digitized versions, we anticipate a lengthy transitional period during which many materials will only be accessible in tangible form. In order to effectively support user needs for this content *the FDLP should continue to provide sufficient levels of access to tangible versions of materials not yet available digitally.*
- Even once materials are available digitally, tangible versions of FDLP materials will remain essential for long-term preservation purposes, as a key element of a broader strategy to support *permanent* public access to government information. Tangible formats have long been trusted for preservation and integrity purposes, and *even when materials become available in digitized format, at least some number of tangible copies will remain important in ensuring preservation and integrity priorities.*
- Although the need for access to tangible versions is anticipated to decline with digitization and digital availability, it will not disappear entirely. Some user communities will remain best served by tangible versions of government information. Even when materials become available in digitized form, *libraries should have the flexibility to continue to maintain tangible materials to satisfy the needs of their constituents and a baseline level of tangible materials should be retained and made discoverable across the Program.*

### ***Access to and preservation of digital collections***

The overwhelming majority of current FDLP content is available in born-digital form, and an increasing share of originally tangible-only collections is being digitized by depository libraries and their partners

and made publicly available. The long-term preservation of these digital materials is critical to the provision of permanent public access, and GPO has established itself as a community leader on these issues. GPO has taken responsibility for making digital government information (both born-digital and digitized) directly available for permanent public access, providing direct end-user access and bulk downloads, authenticating these materials, and supporting the long-term preservation of these materials for future users' needs. GPO's efforts in this space continue to evolve in response to emergent best practices, and ongoing discussion among the depository library community continues to debate if these centralized efforts sufficiently support community values or if there is a need for complementary digital roles for the library community. Although there is not yet consensus about the necessity of roles for the depository library community in supporting GPO's centralized preservation and integrity efforts, we have outlined a set of opportunities for depository libraries to take on roles that would complement these GPO-led initiatives and contribute towards the shared goal of providing and supporting permanent, no-fee public access to digital government information:

- GPO's efforts to authenticate digital and digitized FDLP materials provide an important level of assurance of the integrity of these materials. Some libraries would like to play a complementary role in defending government information against intentional and accidental changes over time and indeed some are doing so already. *GPO should continue to support existing library efforts to ensure the long-term integrity of digital FDLP collections, thereby ensuring that multiple copies of born-digital and digitized FDLP materials are hosted as community resources, and it may want to explore opportunities to bring these efforts more formally into the structure of the program.*
- GPO's efforts to develop a preservation repository in FDsys are expected to soon be certified as meeting community standards. There is real uncertainty as to whether GPO's role should be understood as the "publisher" (in which case best practice calls for third party custody of a digital preservation repository) or whether such a rubric from academic journal and book publishing applies at all for government information. Indeed, to the extent that the structure of the Program brings greater formality to ensuring the integrity of collections (as discussed above), concerns about third party custody may be moot. Still, additional confidence could be achieved by *preserving, in an environment certified to meet community standards, copies of digital FDLP materials independently of GPO.*
- To support the development of new services, some depository libraries will want to build and curate digital collections of FDLP materials. There may be ways for GPO to support those libraries that will wish to *develop unique services that take advantage of the synergistic relationship between carefully curated collections and library expertise.*

### ***Access to government information support services***

Although digital availability will dramatically broaden the potential reach of FDLP materials, information support services will remain essential in ensuring that the American public can effectively discover, understand, and work with these materials. By pursuing opportunities to increase access to these services, the Program can further increase the public's ability to make productive use of government information:

- Opportunities exist to extend the reach of services that support the American public's discovery and use of government information. This can be done by increasing awareness of and skills to support the use of government information among a broader set of libraries, which will provide improved front-line service to patrons, many of whom may not even be aware that government information is relevant to their questions. *More libraries nationwide should be equipped to provide at least basic assistance with government information to their patrons, as one of their core roles.* This can be accomplished through increased training and outreach that develops basic government information skills among non-specialist librarians.
- In addition to supporting the development of skills among non-specialist librarians, *continuing education offerings can assist libraries in building and maintaining government information expertise, in an increasingly digital environment.*
- The continuing *development by libraries of a variety of tools and remote services to support online users should be catalyzed and encouraged as a core role.* Unique services, which can be tailored towards supporting particular user communities or specific types of inquiry and developed by individual libraries or groups of libraries working together, will help users to discover, understand, and make effective use of government information. These services will provide opportunities for libraries to define valuable new roles for themselves in an increasingly digital environment.
- Libraries may take different approaches to the provision of government information services, so to ensure flexibility the Program can defer to *local determinations about the importance of building services atop locally hosted print/electronic collections or providing services that rely on remote access to materials digitally or via interlibrary loan.*

### **Structural direction**

The sustainable achievement of these goals will depend on a Program structure that provides libraries with opportunities to contribute in ways that align with their local priorities and coordinates their activities to accomplish program priorities. Across the network of libraries that makes up the FDLP, there remains substantial enthusiasm for the Program, but some participants have come to the conclusion that their priorities and interests may be best realized through a different form of contribution. A structure that flexibly accommodates a wide range of interests among its participants will help GPO to revitalize and increase participation in the Program by enabling libraries to define prospective roles that are closely aligned with their own institutional priorities. And through these varied levels and types of participation, libraries can come together to provide, individually and collectively, permanent access to the American public.

- To be sustainable, the network of libraries should take advantage of the great positive interest in government information that can be found across American libraries. Libraries should be able to view their participation in the Program as being in alignment with their own local priorities and the priorities of their parent organization, whether that is a local or state government, an academic institution, etc. Libraries should be empowered to take responsibility for those roles within the Program that best suit them.

- To do so most effectively, the Program should define a broader range of roles that will align with the diverse spectrum of institutional interests that motivate libraries to participate in the Program. Given the complexity of the Program and the diversity of its participating libraries, a greater number of more specific roles than the currently existing Selective and Regional roles will better allow libraries to focus on those activities that best fit with their own local priorities. New roles can also be defined to incorporate system priorities that are not currently formalized, including print preservation and conservation; digital collecting and preservation; and various types of service provision.
- The Program's sustainability turns on the willingness of libraries to participate, and a key factor in their participation always has been the alignment between their role in the Program and their individual and institutional mission. Given the transformative environmental change of recent years that has affected the library and information landscapes, Program roles that may once have been well-aligned with library types have in some cases fallen into misalignment and come to seem to constitute an unacceptable burden. For those libraries whose mission is not well-aligned with their current role in the Program, it should be possible to gracefully give up responsibilities that are no longer a good fit in a way that ensures these responsibilities continue to be provided for by the network of libraries. By doing so, all federal depository libraries can focus their energies on responsibilities – pre-existing or newly emergent – that are a better fit for them. All libraries should have a set of roles and responsibilities within the Program that both their directors and documents coordinators are comfortable with and view as being in alignment with institutional priorities, so that they can contribute in a sustainable fashion to the Program's broader mission.
- In addition, given that certain library roles are increasingly performed collaboratively, libraries can take responsibility collectively, and not only individually, for formal roles and responsibilities where aggregate demand supports such approaches.
- Bringing greater specificity to a larger number of roles is a key aspect of sustainability. It will allow a greater share of libraries than at present to find mission alignment with their roles in the Program. At the same time, it also makes it possible to identify fairly targeted programmatic benefits that can be well-matched with the overall needs of the Program.

### **In Sum**

The functional and structural direction outlined above proceed directly from this project's research, outlines a practical and sustainable path forward for the Program, and support the continuing achievement of the Program's vision, mission, and values in an increasingly digital environment. In the next sections, we will describe a series of building blocks out of which models can be constructed and then several configurations of models that would implement this direction in varying degrees of completeness.

## **Building blocks**

Given this Program's complexity, we have taken a modular approach to the modeling exercise to contribute to the practicality, feasibility, and sustainability, of the outcomes. Subject to the Direction described above, and recognizing a number of important common elements discussed below, we approached the modeling exercise by the creation of a group of building blocks that can be configured in a variety of ways depending on GPO's strategy and funding and the preferences of the broader community. This approach was designed to give GPO as much flexibility as possible in determining how it can choose to implement the models that will result. This section covers some of the broad *themes* that are reflected throughout these building blocks and models, and then describes a set of *building blocks* for new approaches to achieving Program priorities.

## **Common themes**

Several common themes pervade each of these building blocks and reflect the direction for the Program that we believe will best support the sustainable provision of permanent public access to government information. These themes, discussed in more detail below, are:

- Enabling libraries to select their roles and responsibilities within the Program with a greater degree of *specificity*, allowing each individual library to define its portfolio of activities in support of Program priorities that best matches with its local mission and circumstances;
- *Formalizing* roles for a wider variety of existing and emerging Program priorities, to enhance recognition of all the many contributions made by libraries to support the Program's mission;
- Formally embracing *collaboration* among libraries, providing new opportunities for libraries to jointly address common objectives within the framework of the Program, reducing their individual burdens and increasing the sustainability and impact of the Program; and
- Maintaining the *coordination* of library activities to ensure that Program priorities are addressed purposefully and effectively even while individual libraries experience greater flexibility, by formally defining levels of participation that must be maintained for various Program roles.

## ***Roles***

One priority in the definitions of roles is to move away from the current binary choices entailed in the Program's structure, in which a participating library can only take on a Regional or Selective role, or choose to leave the Program if neither of these offers a good fit. Although these roles work well for some libraries, they do not encompass the full range of contributions that participants in the Program wish to pursue, leaving some libraries unable to take on a role that matches well with local priorities. Thus, the Program currently includes libraries that chafe at a greater burden of responsibilities than they believe they can sustain as well as libraries that would like the opportunity to contribute more in a particular area but are unable to take on all of the commitments associated with a formal change in role. And, the Program is also missing libraries that would like to be part of a network for permanent public access to government information but would seek to participate in ways not envisioned by the Program's current structure.

An additional emphasis in these models is providing libraries with *formal* roles that cover a wider range of responsibilities. Currently, the formal roles of the Program are largely focused around the collection and maintenance of tangible collections of government information; although libraries perform many more activities in support of permanent public access, these activities are largely not reflected or recognized in libraries' formal responsibilities. As a result, their performance may wax and wane, and little system-wide coordination can be performed. These models seek to introduce formal, coordinated responsibilities that cover a wider range of activities than the maintenance of print collections. They also provide libraries with the opportunity to take formal responsibility for supporting digital collections or for providing public services to support the local or system-wide use of government information, helping libraries to effectively coordinate their activities to support each other and their shared goals. Together with the above theme of more specific roles, these new formal roles allow libraries to focus their involvement in the Program on those activities that are most closely aligned with their institutional missions, potentially taking on greater formal responsibilities in some areas while leaving other priorities to be addressed elsewhere. In some cases, a library's formal service in a role may go beyond its simple designation, instead requiring the creation of a formal memorandum of understanding between GPO and the library that defines the period of the library's commitment to a given role, succession plans should the library wish to give up this role, and other factors.

Although these roles may formalize libraries' responsibilities to perform many roles that are currently only taken on informally and not recognized within the Program, not every activity that libraries take on will have a formally designated role. Just as in the current Program, many libraries will continue to contribute to the Program by voluntarily taking on activities either under formal partnerships with GPO or informally. The formal definition of roles in these models is meant to add structure around critical aspects of the Program, but a library's formal roles should *not* be viewed as limiting factors that discourage taking on activities that may not be entailed in these formal roles.

### ***Trust networks***

In addition to defining a more specific set of roles that libraries can play within the Program and enabling libraries to take on formal roles to address new Program priorities, another major theme of the building blocks and models defined here is an emphasis on collaboration. A fundamental principle of the building blocks put forth here is that *any* role can be formally taken on either by a library working independently or by a group of libraries working together in concert. By collaboratively taking on a role, the burdens of responsibility for this role can be shared across a network of libraries; similarly, through purposeful collaboration, the local activities of libraries can be better coordinated to ensure that distributed activities aggregate together to support a shared goal. By integrating collaboration into the Program, libraries have a greater opportunity to share responsibility for common priorities and are encouraged to focus on how their local activities interrelate with the activities of their peers.

In the current Program, only individual libraries may take on formal roles and responsibilities; there are no provisions for groups of libraries to do so. One example where collaboration has been introduced into a formal Program role is Oregon's shared Regional collection, which is not the same thing as a shared Regional library. In other cases, FDLP member libraries have found ways to coordinate their activities or collaborate around a shared set of priorities outside of the formal structures of the



Program, for example through Government Information Online or the ASERL Centers of Excellence program. Although these collaborations may support libraries working together in limited ways and have in many cases been supported both practically and on a policy level by GPO, the Program would benefit by more formally recognizing these collaborations in an official way.

Outside of the Program, though, there is a substantial legacy of successful library collaborations through which groups of libraries work together to share a burden or take on a task beyond any of their individual capacities. Consortia have developed shared print programs, either through a central repositories or distributed collections, and libraries have come together to build resources that both support centralized or distributed digital collections. The models defined here seek to formally provide libraries with the opportunity to collaboratively take on roles and responsibilities within the Program, enabling them to take greater advantage of the possibilities of working together to find efficiencies through shared effort or to take on challenges that would be impractical for an individual library working alone. In each of these building blocks and models, roles and responsibilities may be equally well taken on by an individual library or by a group of libraries working together.

A common theme of these models is therefore that, when a formal Program role is taken on by a group of libraries, rather than by an individual library, the specific allocation of responsibilities within this group of libraries will be determined by the libraries themselves; although the group is responsible to GPO for its collective achievement of its stated responsibility, the details of which individual library performs a particular activity towards that shared goal can be worked out internally among the group. Libraries may find ways to split up a role by each taking responsibility for performing one component of it.

For example, libraries might collectively take on responsibility for maintaining a certain tangible collections, but they would divide these collections up. In the aggregate they would hold the whole collection, although each individual library only holds a portion of it. Libraries might instead contribute towards the centralized accomplishment of a role; for example, a consortium might host the same collection in a shared central repository, with each member library contributing financially to the development and maintenance of this collection while none actually individually holds any portion of it. Other models may also be possible. The specific arrangements within the group of libraries are the responsibility of these libraries, and although GPO will oversee these collaborations and their collective accomplishment of their set role, on-the-ground decisions about the apportionment of activities within a group of libraries will not require direct GPO involvement.

In order for a group of libraries to formally take on responsibilities within the Program, it may be necessary for this group to have some formal status and thus ability to form an arrangement with GPO and among members, including through formations of memoranda of understanding among members and with GPO that define roles and responsibilities within a given group of libraries. A library's roles within a network supplement its individual roles; a library is responsible to GPO directly for performing any roles it may hold individually, and responsible to the network and its other members for performing any roles taken on as a part of this network. Libraries may be members of multiple networks with formal roles in the Program, and thus may have many responsibilities above and beyond those individually

arranged with GPO. In this way, libraries can act within an overall framework, taking on parts of shared tasks in concert with peer institutions, sharing the burdens of common priorities with clear understanding of how their activities contribute towards the achievement of system-wide goals.

### ***Coordination of roles***

The current Program has a relatively simple structure, with only two roles and no target or minimum number of participants for either (although there are maximums, defined by Congressional district boundaries). As the models proposed here would generally entail a wider and more diverse range of potential library roles, however, it may be harder to evaluate whether system-wide activities are being performed at sufficient levels without some more clearly defined thresholds. Defining minimal levels of activity across Program priorities may be important for libraries and consortia in understanding how their activities complement those of their peers to achieve system-wide goals.

Some roles included in these models lack targets for coordinated activities, as the specific level at which they are performed does not impact overall Program priorities – in most of these cases, higher levels of activity may be desirable for a variety of reasons, but lower levels of participation do not directly threaten Program priorities. In other cases, however, if an inadequate number of libraries serve in certain roles, the system-wide success of certain Program priorities will be threatened; in these cases, our models define proposed minimum levels of system-wide participation, seeking to define levels of activity that will support the shared accomplishment of Program goals. One challenge facing the existing Program has been that, in the absence of participation targets, it has been impossible to come to consensus about whether more participants are needed or whether different distribution of them would be desirable. By defining minimum thresholds for system-wide activities, libraries can more effectively understand how their efforts contribute to shared goals and make individual decisions in a system-wide context. The levels of activities coordinated by these models should be understood as *minimums*; the goal of this system is not to discourage any libraries from playing roles they feel are appropriate, nor to encourage libraries other than those playing formal roles in these coordinated systems to abandon activities that continue to have value locally, but rather to ensure that participation in certain roles does not fall below critical thresholds.

In coordinating system-wide activities, these models count an activity performed by an individual library acting alone and an activity coordinated across a group of libraries as functionally equivalent. For example, in considering the number of comprehensive collections across the Program, these models do not differentiate between collections held in a single physical set and coordinated collections held across multiple libraries. As such, these models do *not* anticipate the centralization of critical Program functions into a relatively small number of libraries, but rather the *coordination* of activities performed by a wide range of libraries across the Program to achieve at least a given level of aggregate activity. For example, a given tangible collection role may be accomplished by a single library taking on responsibility for the maintenance of a comprehensive collections of physical FDLP materials or by several libraries working together to ensure that their overlapping collections collectively comprise a comprehensive collection of physical FDLP materials.

GPO leadership believes it is likely impossible to receive legislative approval and budget in order to provide financial incentives to libraries to aid their participation in the Program. We believe that such direct incentives are unlikely to be necessary in order to generate sufficient levels of participation to sustain the Program's mission. Our models emphasize several mechanisms to reduce barriers to participation, reducing negative incentives and allowing libraries to focus on the alignment between their individual roles in the Program and their local missions and priorities. One of the benefits to the more specific approach we propose for FDLP roles is that additional programmatic benefits can be focused on the higher-risk roles rather than diluted broadly across participating libraries. We therefore identify certain targeted programmatic benefits that would be helpful for motivating participation. We do not propose direct financial incentives to libraries as part of the Program.

### **Building blocks for new models**

The series of models described here present different configurations of a small set of building blocks. Some models can make use of all of these blocks, while others will only utilize a subset of the components described here. Before discussing how these pieces can fit together to address Program priorities, however, this section will provide a detailed discussion of each of the building blocks used in these models. The six building blocks are:

1. Short-term changes to tangible collections roles and responsibilities
2. Transform and increase the availability of government information services
3. Support the integrity of digital FDLP materials
4. Preserve digital FDLP materials
5. Preserve tangible collections in an increasingly digital environment
6. Maintain page-validated tangible collections

Although we will discuss how these building blocks can be assembled into models later in this paper, it may be helpful to provide some information about how these pieces fit together as context for consideration of these individual building blocks. First, it is important to note that these building blocks are *not* coupled together; the role taken on by a library in one building block does not constrain its choice in another building block. A library would select one role in each of the building blocks that have been implemented in a given model, although in each case there are roles that reflect a library's choice to assume a very low level of responsibility for a given class of activities. In some building blocks, there are roles reflecting that a library takes *no* activity in that area, while in other building blocks – most notably the block focusing on services – the minimum bar is slightly higher. But a library is free to take on a high level of responsibility in one area without taking on responsibility in another. And a library's choices in these new models are generally not constrained by their existing role in the Program; it is *not* the case, for example, that a Regional library must choose a certain role in a given building block, or that only a Regional library may take on a role. Of course, some roles may be best filled by current Regional libraries; but through collaboration, existing Selective libraries may equally well be able to address a given priority. Any of these roles in each building block may equally well be taken on by a group of libraries working together or by an individual library (although this collaboration may principally be meaningful for the higher level responsibilities).

### ***1. Short-term changes to tangible collections roles and responsibilities***

One building block used in these models focuses on making near-term, non-structural changes to the existing Program. This component does not aim to *solve* the problems facing the Program, but rather to relieve immediate pressure on the Program, cultivating an environment more conducive to longer-term structural change. To be clear, these changes are non-trivial, and may entail substantial planning and effort; they are, however, independent of the broad *structure* of the Program.

One of the greatest sources of pressure on the existing Program is that a small number of current Regional libraries are frustrated with the burden of their responsibilities – especially their obligations to retain print materials. They typically do not feel able to step down to Selective status, largely due to concerns about the effect on existing Selective libraries in their region, but they are out of harmony with the Program’s current structure and roles and may in some cases not be well serving the Program’s broad public mission. Enabling these several libraries to take on roles better suited to their local priorities without negatively impacting the other libraries for which they are responsible would relieve significant pressures on the Program, and it would give the existing model a lease on life until deeper structural changes can be implemented.

GPO could develop processes for identifying any existing Regional libraries that are no longer well-suited to the role, empower them to step down to Selective status, and facilitate the transfer of formal oversight of Selective libraries to another Regional to ensure no interruption of service. GPO may be able to proactively work with those Regional libraries most frustrated with their roles in the existing Program to find opportunities for them to gracefully step down to Selective status, reducing immediate pressure on the Program from libraries no longer well-suited to play the Regional role as currently structured. Naturally, the more quickly GPO can move ahead with the more comprehensive reforms discussed in subsequent models, the less need there will be for this step.

To reduce the burden of overseeing a network of selective libraries, and to facilitate a more efficient and effective process for libraries to dispose of or acquire tangible FDLP materials, GPO’s plans to develop infrastructure to support a simple, national needs and offers process is both timely and would have great impact. Such a system would enable the harmonization of withdrawal processes, reduce the burden on Regional libraries to coordinate individual processes, and simplify the deaccessioning process for Selective libraries. On the whole, it would support a more efficient and effective flow of documents between libraries. Such a national process would provide critical infrastructure to support the models described elsewhere in this section. While some may view this as undesirable, it is hard to foresee a future that does not involve a growing number of libraries choosing to deaccession significant quantities of documents; a more system-wide process would better ensure that this occurs smoothly and that deaccessioned documents can be taken up by others seeking to fill in gaps in their own collections. And although it is beyond our scope to define this process, a needs and offers list may serve a wide variety of purposes beyond simply facilitating drawing down on local collections, also supporting libraries in more effectively building collections locally.

As described in our research, many users place significant priority on digital access to materials; if materials are not available in digital form, they may be outside of many users’ discovery workflows and

certainly fail to provide for the growing expectation that a source, once discovered, is immediately available with only one click. Without digitization, materials will grow increasingly underutilized compared to their potential value. To ensure the discoverability of historic FDLP materials, it will be important to prioritize the development of a system-wide strategy to digitize these materials. Existing curated and mass digitization initiatives among federal depository libraries can be embraced, and it will also be important for GPO to identify efficient mechanisms for conducting basic authentication of the digitized materials for integration into FDsys so they can be preserved in digital form and provided as a part of a broad online collection. It may be appropriate for GPO to identify a digitization consultant to advise on how policy and technical issues may best be coordinated across the diverse set of system-wide activities to result in the expeditious production of digitized collections.

These changes are *not* viewed as providing substantially greater long-term sustainability for the Program, and they do not address the new challenges to the Program. As stated above, these are near-term opportunities that can support the implementation of more structural changes over time.

### **Legal requirements**

Although this report does not define specific near-term objectives for marginal changes to the implementation of the Program, GPO has a substantial amount of flexibility to reshape its administration of the Program under the current authorizing legislation. 44 USC 1914 specifies that “The Public Printer, with the approval of the Joint Committee on Printing, ... may use any measures he considers necessary for the economical and practical implementation of [the Program];” as such, it seems to us that GPO has a substantial amount of freedom to redefine Program operations to simplify processes and relieve tension on the Program.

### **Legislative changes required:**

Although the existing legislative framework necessarily structures the options available to GPO for administering the Program, and decisions about congruence with existing legislation will need to be made on a case-by-case basis, GPO has a substantial amount of flexibility to alter the specifics of its administration of the Program under the existing legislation.

## ***2. Transform and increase the availability of government information services***

This building block is designed to enable a greater number of libraries to play a role in providing services in support of the discovery and use of government information to the American public. No matter how digital availability continues to increase the level of basic access of the American public to government information, users will continue to require support and assistance in effectively discovering, understanding, and making use of government information. In the online environment, innovative tools and services that take advantage of the full potential of digital technologies can help users to work with government information more efficiently and effectively. For those members of society who remain largely excluded from the digital environment by lack of access or skills, however, front-line support via the local library will remain essential in ensuring that government information remains accessible broadly across American society. But while the provision of these government information support services has long been at the heart of the public mission of the Program, member libraries have few

formal roles and responsibilities that relate to these activities. This building block focuses on formalizing responsibilities for providing government information support to the American public, with the goal of providing *more* and *better* support to end users in need of assistance in working with government information.

These roles are not linked to the possession of any local collections, either digital or physical; although some believe that collections are necessary to support effective service provision, other libraries may choose to provide service around remotely accessed digital content only. We leave the decision about how best to provide for the needs of users up to the individual members of the Program, recognizing that different libraries may make different choices based on their own user communities and associated institutional priorities and motivations.

### Roles

Although public service is a central tenet of the Program today, the specific activities that libraries perform to provide information support services to the public are defined individually and with little coordination. Formal legal requirements note “reference services” broadly but do not provide greater specificity. The roles defined in this component would for the first time formally establish a range of specific roles for libraries to take on in providing services within the Program.

This component includes three major roles centered around government information support services, allowing a library to take on a formal role providing:

1. an extremely basic level of support services, which may significantly broaden the availability of basic government information services to the American public;
2. a more advanced level of services, providing expert assistance to members of the American public in working with government information; and
3. a specialized level of services, going above and beyond the provision of excellent service within a region and taking on responsibility for addressing the system-wide needs of the public for targeted government information support services.

This component also includes a supplemental role that seeks to coordinate training in government information topics to support libraries in developing and maintaining the necessary skills to perform these roles.

The first two of these roles are principally meant for libraries that provide relatively standard government information services, with the first role aimed at maximizing the number of libraries that are able to provide at least basic front-line government information support to the public and the second recognizing the contributions of libraries that provide a higher level of general government information support. The third role is intended for those libraries that make a special investment in government information services above and beyond offering general support for the use of government information, generally reflecting their commitment to unique services that support system-wide constituencies.

### S1

To adopt a common phrase, this role provides a structure through which *every* library can truly be said to be a government information library. Historically, government information services have been largely reserved for government information specialists within FDLP member libraries, with relatively low levels of awareness or knowledge of government information among non-member libraries or even among non-specialist staff at depository libraries. This role is principally meant to provide a very low bar for participation in the Program, offering the opportunity for libraries that have historically not been able to play a role in the Program to take on a minimal level of responsibility to act as a front-line service provider for government information services. The S1 role supports libraries that wish to provide services to their community, but are unable to support dedicated government information staff. The S1 role is principally intended for new entrants to the Program, although some current participants may find this role a better fit for the levels of staff resources they are able to devote to government information.

S1 libraries provide basic support for the government information needs of their local community, providing front-line assistance for the American public in dealing with basic government information queries. S1 libraries are not expected to retain staff that specializes in government information, but rather to support the basic needs of the public with staff that have been regularly trained or certified in government information by their region's training library. For more advanced government information needs, S1 libraries will refer users to libraries providing higher levels of information services.

Ideally, this role would support the development of a broader network of libraries to provide front-line support for government information. It would potentially offer a role both for current member libraries that are considering leaving the Program and for non-members interested in playing a limited role within the Program. Any library that is willing to take on this service commitment should be allowed to play this role in the Program. Allowing libraries to take on a services role independent of collections responsibilities should provide an important opportunity for building out the Program by extending the number of libraries that view themselves as committed, in some small way, to supporting the government information needs of the public.

### *S2*

Many currently participating libraries will find the S2 role a natural match for their existing activities because it formally recognizes the contributions they already make in serving their local communities' needs for government information assistance. S2 libraries provide higher levels of services than S1 libraries; they support the needs of the public through designated specialist staff, sometimes in addition to general reference staff with some awareness of and training in government information. Although specialist staff may not necessarily be limited to *only* government information roles, a library in this role must retain at least one staff member with a substantial emphasis on and expertise in government information – either a full time staff member or a “hybrid” librarian who is able to provide in-depth government information assistance to a user. In addition to serving the needs of their local constituents, S2 libraries may handle (formally or informally) referrals and questions from nearby libraries that lack dedicated staff.

### *S3*

While S1 and S2 libraries principally emphasize providing universal access to basic or general government information support services, S3 libraries have taken on conscious roles as deeper community resources not just through the provision of general purpose support but through the offering of unique or specialized government information services. The specific way in which an S3 library provides this system-level assistance may vary widely: some libraries may provide remote reference assistance to users who are unable or unwilling to visit a library in person, directly assisting users in discovering, understanding, and making effective use of government information over the internet. Other libraries may be involved in the development of tools and information systems that support users of government information online (potentially beyond the boundaries of the FDLP), without the direct intervention of a librarian, and some libraries may serve as a community source of special expertise on a particular topic, participating in coordinated networks of expertise and serving as a resource for users system-wide with especially complex needs.

This role is intended for those libraries for which unique and high-value services are a top priority. It provides a mechanism for libraries that invest in services that reach well beyond their local communities to be recognized for their contributions to meeting the system-wide needs of users of government information. The imprecise definition of specific activities required by libraries filling this role is intended to encourage libraries to identify and address innovative service needs rather than simply replicating existing models nation-wide. Due to this, we imagine that this role will be formally granted to libraries that contribute to meeting the broad needs of users beyond their immediate communities.

### *L*

Training on the use of government information for non-specialist librarians is typically uncoordinated. In order to develop basic awareness of and skills with government information among a broader range of librarians and thus better support the needs of the American public, this component envisions a support role that focuses on training and outreach within a geographic region. Libraries with the L role take on responsibility for coordinating training and outreach to libraries within their region or area of specialty (the “L” naming convention connoting their focus on “libraries”), with the goal of raising awareness of government information and developing government information skills among both member and non-member libraries.

Although a particular emphasis for this role is universal geographic coverage of training and skills development, aimed at developing government information skills across a region, there may also be opportunities for libraries to take on topically-based training that may go beyond an individual region. For example, a library might serve as a system-wide trainer on a particular topic of expertise. The specific arrangements by which this training is performed may vary; an L library may directly perform training, or may simply coordinate efforts in its region, but is ultimately responsible for developing and putting into action a strategy for outreach and training in their region. Or, if this role is taken on by a network of libraries, then different libraries might take responsibility for training on certain topics or within a certain region. These libraries may also coordinate with broader training and instruction initiatives, potentially working with library schools and providers of continuing education to libraries to most effectively accomplish their goal.



The L role is a *supplemental* role, and may be played by a library in addition to its basic S1, S2, or S3 role (although it is difficult to imagine a scenario in which an S1 library would be able to effectively accomplish this role); for example, a hypothetical S2L library would have responsibility for providing government information services to their local community *and* for coordinating training and outreach within their region. In some cases, a network of libraries may collaboratively play *only* a L role, if it lacks any central presence to directly provide services itself. For example, this training and coordination role may be an excellent fit for a state consortium, but while this consortium might be able to effectively coordinate training and outreach, it might not make sense to imagine this consortium *as a network* that directly provides government information services to end users. Thus, although an individual library may only take on the L role in addition to a basic role, a network of libraries may take on the L role individually (as an SL library).

Coordinating participation such that every part of the country is covered by at least one L library will ensure that support and outreach is available to all librarians nationwide, thus raising awareness of government information and providing opportunities for training. Although in some cases this role is a natural fit for existing Regional libraries, it may sometimes be more appropriate for this role to be taken on by a different library, such as a non-Regional state library agency, or by a network of libraries such as a state-funded consortium. Due to the Program's formal reliance on these activities, it may be appropriate for GPO to select libraries to play this role via a competitive process to serve,<sup>\*</sup> and for these libraries to sign a medium-term memorandum of understanding (perhaps 20 years in duration) with GPO to perform this role.<sup>†</sup>

### Motivations

Essentially all libraries would like to be able to serve the full range of information needs of their users by providing support services. The S1 and S2 roles, in particular, represent mission alignment for a far greater number of American libraries than currently participate in today's Program. If it could add an unlimited number of participants, GPO could consider some marketing and outreach to bring libraries on board into these roles. It could partner with the "L" depository libraries, library schools, and thought-leaders in allied fields, to expand the webinar-style training sessions that it currently provides. It could arrange for the production of a variety of guides, curricula, and other supporting materials, for the government documents collections, targeted at a variety of user populations for distribution through participants. It could also provide training materials and manuals for use by librarians. For the S3 roles, there is substantial mission alignment for many state library agencies and some of the public university libraries with funding and responsibilities for state-wide services. In addition, GPO could consider a

---

<sup>\*</sup> Throughout this document, several components include the notion that libraries will be selected to serve in certain roles through competitive processes. The specific processes involved are not defined here; GPO would need to define appropriate processes to select libraries for each role, which may be as simple as basic selection criteria that a library must meet to take on a given role.

<sup>†</sup> Many models indicate that libraries playing certain roles may be required to enter into a memorandum of understanding with GPO to perform those roles, generally indicating that these libraries shift from "at-will" status within the Program to making formal and legally binding commitments to take on a role for a certain period of time. In most cases, these memoranda of understanding will not entail any form of financial compensation to libraries, but simply formalize the relationship between GPO and the library.

variety of exclusive programmatic benefits, such as invitational meetings, to create a community around innovative service development and provision.

### **Legal requirements**

The broad strokes of the services roles could likely be implemented within the existing structure of the Program. Fundamentally, these service-oriented roles could complement libraries' existing roles as Regional or Selective libraries; GPO could work with libraries to help define standards for each role, and help libraries to identify appropriate roles. As a first step, GPO could survey federal depository libraries to identify the nature of their existing service responsibilities, following the set of roles outlined within this building block.

The most substantive steps that would then be required to implement this building block would be the coordination of training and the development of an opportunity for libraries to play a role in the provision of services to support access to government information without requiring them to take on the Selective role. To address this first step, GPO could work with consortia and networks of libraries to encourage and facilitate training programs and develop standards and processes that would support libraries in peer training efforts both for non-specialists within depository libraries and for libraries outside of the current Program, building on the success of existing efforts. To support libraries that currently cannot participate in the Program – either because there are not available Program slots in their Congressional districts or because it simply does not make sense for them – GPO could provide guidance and recommendations that would encourage non-participant libraries to recognize and focus on their role as a government information provider.

These roles could also be introduced into the authorizing legislation, defining for the first time an expansive set of roles for federal depository libraries to play in providing a variety of user services. Although the current guiding legislation for the FDLP mentions that libraries must provide services to support the use of their collections, the emphasis in Title 44 is principally on ensuring that access to materials is not limited. Clarifying the importance of libraries' provision of government information *services*, in addition to *collections*, would help to define a Program that recognizes the importance of library support roles in an environment that may place less priority on local print collections as the principal marker of participation in the Program.

### **Legislative changes required:**

- Legislative change would not be required to implement this building block or any of the models that include it; these roles could easily be implemented through changes to Program roles in the FDL Handbook supplementing existing legislated Program roles and responsibilities and through new partnerships between GPO and member libraries.
- It may be desirable, however, to add flexibility to §1905 in order to allow a wider range of libraries to play roles in the Program.

### **Summary**

Table 2 summarizes the responsibilities and coordination of each services role:

Table 2: Services roles

	S1	S2	S3	L
Provides basic government information services to local community	√	√	√	
Provides advanced government information services to local community		√	√	
Provides advanced or expert government information services system-wide			√	
Supports training and outreach across a region				√
<b>Coordinated levels of participation</b>	<b>(No target)</b>	<b>(No target)</b>	<b>(No target)</b>	<b>Complete coverage nation-wide</b>

### 3. Support the integrity of digital FDLP materials

GPO has taken on a leadership role in preserving and maintaining the integrity of digital government information, including the development of a preservation repository that is working towards certification as a trustworthy digital repository according to community standards. In addition to these centralized efforts, GPO has explored a variety of partnerships to involve depository libraries in supporting preservation and integrity priorities.

As GPO’s centralized efforts continue to develop and seek certification, some members of the FDLP community have begun to debate appropriate library roles in digital access and preservation, sometimes looking to greater or lesser degree at experiences in these topics they or their institutions have developed from another format such as scholarly journals or another experience such as maintaining an institutional repository. In offering a sketch of some of the roles that libraries could play to complement centralized GPO efforts to assure both the long-term preservation and integrity of digital FDLP materials, we try to be sensitive to this complex dynamic and still-emerging set of best practices for the preservation and integrity of government information, while presenting an overall framework that could be adopted in whole or in part to address many of these issues.

Some libraries and other entities\* have begun to address these priorities outside of the FDLP’s formal structure for library participation and in some cases outside of other partnerships that GPO has defined.

\* Just as the expansion of services considers the possibility of enabling a broader range of libraries to play formal roles in the Program, it may be appropriate to consider how a wider range of entities could valuably contribute to the accomplishment of system-wide objectives in the digital environment. Many non-traditional entities have demonstrated interest in working with digital government information; although we have no recommendations on this topic, it would be valuable for GPO and the depository library community to consider how this enthusiasm could best be harnessed. For example, would it be possible for a 501(c)(3) digital library organization that makes freely available digital collections with no traditional, physical collections (such as the Internet Archive or Public.Resource.Org) to play a formal role in the FDLP? Currently, this would not be possible, due to requirement for minimum numbers of tangible items held (e.g. requirements in 44 USC 1909 that the “number of books in a depository library [does not fall] below ten thousand.”) Although this model makes no recommendations on this

This building block and the one that follows it would draw these activities more concretely into the Program by formalizing and coordinating the collection, maintenance, and preservation of digital FDLP materials by libraries. In many ways, this approach draws upon the concept of “digital deposit” that has been advocated by members of the FDLP community as well as on the LOCKSS partnership of which GPO is a member through its participation in the LOCKSS-USDOCS project.

This building block provides opportunities for libraries to take on digital collections roles, to support their integrity and use; it does not, however, require it. There are a wide variety of views across the FDLP community on this issue, ranging from those who feel that the development of local digital collections is critical or at least desirable, to those who have no interest in maintaining local digital FDLP materials, and those who believe that a diversity of sources for digital materials may complicate assurances of their authenticity. This building block attempts to allow libraries to choose their own paths, allowing these issues to be resolved through experimentation and debate among librarians while ensuring that system-wide priority of collections integrity is assured. While we recognize that some community members may view this building block as formalizing an approach before enough experience has allowed these issues to be settled, this must be balanced against a concern about, especially, the integrity of FDLP collections, if the community were to lack formal assurance that they are held by one or more responsible non-governmental parties.

### Roles

The roles defined in this component recognize the wide range of interest across the library community in extending traditional FDLP roles to include digital materials. Some libraries are highly motivated to collect digital FDLP materials, while others prefer to focus their energies elsewhere, and do not wish to host such collections. These roles provide a range of formal opportunities for libraries to take on (or eschew) responsibilities for collecting, maintaining,\* and preserving† digital FDLP materials to contribute to the Program goal of ensuring that these materials will remain available and accurate over the long term.

### D1

The D1 role recognizes that many libraries are not motivated to build or maintain collections of digital FDLP materials and provides a role that allows libraries to take on flexible or minimal responsibility for complementing GPO’s digital preservation and integrity efforts. Libraries that take on the D1 role do not accession or store local copies of FDLP materials in digital form, but rely on digital collections hosted elsewhere (by GPO, its partners, or other libraries) to support user needs. Although D1 libraries do not

---

topic, the potential for decoupling participation in the Program from the maintenance of tangible collections suggests that such definitional questions about eligibility for participation in the Program could be reexamined.

\* Throughout this document, the terms “retain” or “maintain,” as applied both to tangible and digital materials, indicates that libraries may not deaccession these materials, and must make good faith efforts to secure them against accidental loss or damage. Retention of materials is differentiated from *preservation* of materials, which indicates a higher level of responsibility.

† Throughout this document, the term “preserve,” as applied both to tangible and digital materials, indicates that libraries must invest in the long-term security and usability of the materials, above and beyond simply retaining them. This involves following best practices for preservation by planning for disaster recovery, maintaining materials in secure environmental conditions, and as appropriate reformatting materials

host any digital FDLP materials locally, they may have records for digital FDLP materials in their catalog or otherwise support and facilitate the discovery and use of government information in digital form.

### *D2*

The D2 role formalizes an increasing community interest by some libraries in building local working collections of digital FDLP materials to support local priorities and user needs. These libraries' development and maintenance of digital collections is entirely at will. They would collect, maintain and dispose of local copies of digital materials (born-digital or digitized) from GPO and other government sources according to local priorities in order to address local user needs, develop local services, or for other reasons. As these digital materials may be deaccessioned at will, however, these collections have no formal status in securing long-term preservation or integrity. D2 libraries may also choose to integrate officially-provided digital materials with other digital materials, including other government-provided materials not made directly available through the FDLP, but they have no responsibility to do so. It is generally assumed that D2 collections will be made publicly available, but libraries in this role may choose to build and maintain "dark" digital collections if they so prefer for local needs.

The collections built and retained by D2 libraries principally serve the needs of these libraries' local communities. To enable libraries to freely take on these roles as appropriate to serve the needs of their local communities, any library should be allowed to take on these roles with minimal formalities. To be clear, these distributed digital collections will provide widespread support for access to digital government information via a wide range of new tools and pathways, but the collections maintained by D2 libraries do not formally contribute to the Program's long-term priorities of preservation or integrity. Libraries that wish to support these values, as opposed to building digital collections to support other priorities, should either independently have D3 or D4 status or be part of collaborative networks that together comprise D3 or D4 collections.\*

### *D3*

The D3 role offers those libraries that view a centralized GPO system as insufficient to adequately secure the long-term integrity of digital FDLP materials an opportunity to ingest and maintain independent collections of digital FDLP materials to provide additional levels of security. In many cases, D3 collections may be constituted across a number of libraries, aggregating together distributed and diverse collections to form a comprehensive whole and coordinating library collection activities to ensure that all materials are included; individual collections that are not part of coordinated D3 networks may provide an additional backup, but this building block focuses on shaping complete collections. We anticipate that many libraries may independently act as D2 libraries and serve as part of a collaborative D3 collection, committing to contribute their local digital collections towards a comprehensive digital integrity collection.

---

\* An alternative approach would be to introduce an additional digital collection role between the proposed D2 and D3 roles, which would provide a library with formal responsibility for a narrower set of documents. Such an approach would allow libraries to take on formal responsibility independently, but might require additional coordination efforts by GPO to ensure comprehensive coverage.

D3 libraries build and maintain comprehensive collections that completely duplicate all FDLP materials disseminated through official GPO channels in digital form,<sup>\*</sup> including both born-digital and digitized collections, to support local priorities as well as to maintain an independent copy of these materials not under the direct control of the federal government. These libraries are responsible for collecting all FDLP materials made available in digital form through official GPO channels,<sup>†</sup> and must retain all digital materials thus accessioned. D3 libraries may also choose to accession government information not provided through centralized GPO infrastructure, including materials hosted under partnership agreements or fugitive documents, but have no responsibility to do so. In addition, D3 libraries may elect to conduct active management of stored documents, migrate to new formats over time, and conduct other preservation-related processes, although they are under no obligation to do so.

### Motivations

Many federal depository libraries are investing significant resources in digital collecting, preservation, curation, and access, so the infrastructure is already being developed to allow them to participate in this building block. And, more directly, several dozen libraries are already maintaining copies of some or all of FDsys content on a voluntary basis via the LOCKSS-USDOCS project. Formalizing these roles would provide additional recognition for this work and therefore an additional incentive for participation. In addition, there is a variety of programmatic support that could be provided to assist participants and provide additional incentive to participate. For example, GPO could provide a program of training, discussion and presentation opportunities, and so forth, on topics such as curation of digital collections of government documents, integrating digital and tangible collections into user workflows, integrity and authentication of digital collections. Beyond such programmatic support, no additional incentives are likely needed to ensure at least a basic level of digital collections with the FDLP. Still, these roles may be likely to be concentrated and larger and better resourced libraries, at least for the foreseeable future. If GPO were to view this as problematic for any reason, it could probably work to stimulate or even coordinate collaborations among smaller and less well resourced libraries, in particular through systems and consortia, to provision these roles more broadly.

### Legal requirements

---

<sup>\*</sup> This model assumes that all documents disseminated through the FDLP (both born-digital as well as all appropriate digitized materials as well), and all documents identified as “fugitive” documents within the scope of the FDLP, will be made available through centralized GPO infrastructure such as FDsys, meaning that a complete duplicate of the materials made available through this infrastructure will capture all known digital FDLP materials. Failing this, we assume that GPO will provide comprehensive documentation of all known digital FDLP materials including both those hosted on centralized GPO infrastructure and those hosted by agencies under partnership agreements, and will work with agencies to support D3 or D4 libraries in programmatically harvesting comprehensive sets of government information that match GPO’s understanding of the complete universe of digital FDLP materials. Although libraries in all roles are encouraged to support GPO’s efforts to discover and track “fugitive” digital documents, no library is required to host materials that are not disseminated by GPO or indicated as GPO as being within the scope of the FDLP.

<sup>†</sup> The term “available in digital form” is used throughout this document as shorthand for materials that are freely available online in suitable high-quality digital form, and that are being reliably digitally preserved and defended against tampering. It excludes materials that the Superintendent of Documents may choose to designate as essential for a participating library to maintain in paper form as an essential contribution to American democracy.

GPO's efforts to find mechanisms to ensure access to and preservation and integrity of FDLP materials, with the strong support, encouragement, and even exhortation of the library community, has been nothing short of heroic. From the early development of GPO Access and experiments with digital signatures to the steady deployment of FDsys, the addition of LOCKSS permissions statements, and the enabling of bulk access, GPO has much to take pride in. Still, a plain reading of the legislation that authorizes the Program makes clear that formal structural roles do not currently exist for the network of libraries in holding, making accessible, and preserving digital collections. If such complementary roles for the library community are determined to be important, it would be ideal to introduce into the authorizing legislation, for the first time, a vision for an expansive set of roles for federal depository libraries to play in digital collections.

Some aspects of this building block could nevertheless be substantially implemented without requiring legislative change. As a first step, GPO could build on the Registry of US Government Digitization Projects to ask federal depository libraries to identify the nature of their digital collections holdings and plans. Following the set of roles outlined within this building block, GPO could then record and disseminate information about these (voluntary) responsibilities for both digitized collections as well as born-digital collections held as a part of its participation in the LOCKSS-USDOCS project or otherwise.

In addition, the implementation of this model could also entail the creation of memoranda of understanding between GPO and various individual libraries and library networks that would take formal responsibility for coordinating preservation and integrity activities for digital government information. These partnerships could accomplish many of the provisions of the roles outlined in this building block, but would complement rather than modify existing Selective and Regional roles.

Still, shoe-horning the digital collections roles within the existing authorizing legislation might result in fewer libraries electing to take responsibility for them than if they were formally defined for program participants.

### **Legislative changes required:**

- Legislative change would not be required to achieve some of the most important outcomes of this building block, so long as changes were made to the FDL Handbook to introduce optional Program roles supplementing existing legislated Program roles and responsibilities and/or through new partnerships between GPO and member libraries.
- It may be desirable, however, for this building block to be reflected through changes to the existing legislative structure of the Program. Specifically, clarification that distribution requirements (in §§1903-1905) and retention requirements (in §§1911-1912) can, at the option of the depository library, encompass digital materials may be helpful.

### **Summary**

As the status of GPO's centralized preservation and integrity efforts continues to evolve and community dialogue on this issue remains ongoing, it is premature to define levels of coordinated effort necessary to address Program priorities. GPO and the depository library community must together evaluate if

these additional roles are deemed sufficiently high priority to justify the investments they would require from both GPO and the library community.

Table 3 summarizes the responsibilities of each digital collections role:

Table 3: Digital collections roles

	D1	D2	D3
Support user needs with remotely-held government information	√	√	√
Collects digital versions of FDLP materials		√	√
<b>Comprehensively collects digital versions of FDLP materials</b>			√

#### 4. Preserve digital FDLP materials

While the above building block would provide the option for libraries to establish local digital collections in support of access to and integrity of the overall FDLP collection, it relies on GPO’s work (currently in support of FDsys) to ensure the digital preservation of digitized and born-digital collections. GPO’s in-house digital preservation efforts provide a high degree of assurance that digital government information hosted by GPO will remain accessible over the long term. These efforts are currently focused around the FDsys platform, which is expected to soon be formally certified by the Center for Research Libraries (CRL) as a preservation repository. Even so, some members of the community may view it as important that independent preservation efforts are pursued outside of GPO, to provide the community with additional confidence that materials are effectively preserved over time, and wish to take a direct hand in maintaining such preservation collections. At this point, it is too soon to settle the issue of whether an independent *preservation* program (going beyond the *integrity* program described as D3 in the previous building block) is required outside of GPO. It will probably be impossible to reach a conclusion on this issue until FDsys is certified. Even so, the emerging approach defined by the Center for Research Libraries for establishing thresholds for preservation has tended to incorporate an assessment of risk tolerance levels from the affected community or communities, meaning that FDLP participants themselves would need to step forward to define any additional preservation needs beyond what is expected to be the technically high standards provisioned by GPO through FDsys.

In this building block, we provide an example of the way that the preservation function could be brought into the formalized structure of the FDLP’s library roles. If GPO’s efforts are certified by an independent audit authority (such as CRL) and the FDLP community is satisfied with the levels of digital preservation and integrity that are thereby provided by the previous building block and GPO’s own preservation work, no more need be done. If, however, the FDLP community believes that its risk tolerance and the threat levels for these materials require more, we provided this building block to allow for the formalization of a digital preservation responsibility in the structure of the FDLP library community.

This building block duplicates the roles and coordination efforts for digital collections described in the immediately preceding building block, with the additional role of one or more certified digital preservation repositories in the FDLP structure outside of GPO.



#### **D4**

If it were determined that FDLP participants feel impelled to maintain an outside digital preservation program, it should be designed to complement GPO's efforts with certified preservation. Such efforts would be provisioned through what we tentatively call D4 libraries, which not only maintain but actively manage and preserve comprehensive collections of digital FDLP materials according to community best standards. This is the critical difference between D3 and D4 collections: D4 collections are certified by a recognized community body (such as the Center for Research Libraries), while D3 collections are not.

D4 libraries have the same responsibilities as D3 libraries for building and maintaining comprehensive collections of digital FDLP materials. Their collections completely duplicate all FDLP materials disseminated through official GPO channels in digital form, including both born-digital and digitized collections, in order to support local priorities as well as to maintain an independent copy of these materials not under the direct control of the federal government. These libraries are responsible for collecting all FDLP materials made available in digital form through official GPO channels, and must retain all digital materials thus accessioned. In addition to these responsibilities, however, D4 libraries must also preserve all the materials thus accessioned in digital preservation archives certified as applying community best practices (via the DRAMBORA or TRAC certifications, or other preferred equivalents as these arise).

#### **Motivations**

As discussed above, we believe it is a question for the FDLP community as to whether a preservation function such as the one described in this role is needed. Consequently, it would also be expected that the community itself would step forward to organize and fund this responsibility, rather than looking to GPO to support a function that GPO is already providing itself. GPO might be able to provide coordination through its work administering the formal structure of the Program.

#### **Legal requirements**

Any preservation repository provided independently of GPO would presumably need to coordinate closely with GPO's content dissemination and management activities. This would probably best be coordinated via tailored partnership agreements than a more abstractly structured role.

#### **Legislative changes required:**

- Legislative change would not be required to implement this building block or any of the models that include it; these roles could be implemented through partnership agreements.
- At this point it is not sufficiently well known if this role is a vital one to the FDLP community to recommend any sort of legislative change. However, if GPO or the library community determines that providing for the D4 role to be implemented through the formal structure of the Program offers an important motivation for library participation, then legislative change could be pursued to formally integrate it.

#### **Summary**

Table 3 summarizes the responsibilities of each digital collections role:

Table 4: Digital collections roles

	D1	D2	D3	D4
Support user needs with remotely-held government information	√	√	√	√
Collects digital versions of FDLP materials		√	√	√
Comprehensively collects digital versions of FDLP materials			√	√
<b>Preserves digital collections of FDLP materials</b>				√

**5. Preserve tangible collections in an increasingly digital environment**

Tangible collections of government information are the historic core of the Program; the Regional and Selective roles are fundamentally based around the goals of broadly disseminating, providing access to, and preserving materials in tangible form. Although several components of these models emphasize addressing additional Program priorities, the Program clearly must continue to provide access to these materials in tangible form over the long term. This component imagines new ways to structure these roles and responsibilities that will more sustainably support the goal of ensuring that tangible collections remain accessible to support user needs. This component allows libraries the flexibility to over time choose to draw down on their tangible collections of government information as users’ needs are better served by digital versions, but also ensures that tangible collections are preserved for the long term to support residual access needs for tangible versions of materials and to provide a backup for digital versions. Ultimately, this component will result in higher levels of confidence in the preservation of – and therefore the permanent public access to – all materials in tangible collections than has ever previously been the case.

**Roles**

This component moves away from the long-standing binary of Selective and Regional roles. It recognizes that these roles are not equally good fits for all libraries, and that Program priorities could be better supported by enabling libraries to choose from a wider range of formally defined roles. This will enable libraries to select a role for tangible collections that better fits with their local priorities, while coordinating these individual contributions to meet system-wide needs. As in the digital component, this building block recognizes that some libraries may be best-suited to participate in the Program without maintaining local tangible collections at all, focusing on providing services or maintaining digital collections, while other libraries may wish to take on more ambitious roles in building and maintaining tangible collections of government information.

These roles recognize that even in the absence of sufficient digital surrogates, many libraries may wish to draw down on their local tangible collections, reflecting their diminishing use in print form. This building block is structured to enable individual libraries to make the decisions that are appropriate locally, while supporting the coordination of system-wide collections to provide a greater degree of confidence that all materials are being adequately retained and preserved. This building block seeks to cultivate in the Program at least a minimum number of collections that are coordinated to be comprehensive sets of materials, rather than assuming that uncoordinated collections across the system will in the aggregate be comprehensive. These coordinated collections will be supplemented by a large

number of uncoordinated collections system-wide, providing additional security as well as supporting on-the-ground needs at individual libraries.

### *T1*

The T1 role enables libraries to take on flexible and minimal responsibilities within the Program. It supports those libraries that wish to play a role in the Program but do not wish to build or maintain collections of tangible FDLP materials. This role is principally meant to enable new participants to enter the Program by taking on services-oriented roles without the burden of building tangible collections; in some cases, it may also be a good fit for existing Selective libraries that might otherwise leave the Program.

GPO does not ship *any* new materials to T1 libraries; in effect, these are libraries that have chosen to not receive any materials in tangible form. They rely on digital access, interlibrary loan, or referrals to nearby libraries with tangible collections to satisfy the needs of its local community. T1 libraries with existing tangible collections may choose to retain any portion of these collections at will, and may freely deaccession any materials from their tangible collections via a national needs and offers process. Although some T1 libraries may choose to maintain but not add to relatively large tangible collections, the T1 role is principally intended for libraries that neither receive any new tangible materials nor retain many (if any) tangible collections; this role enables libraries to play a services or digital collections role in the Program without being required to possess *any* tangible FDLP collections.

### *T2*

While T1 libraries receive no new tangible materials from GPO, T2 libraries select materials for distribution from GPO, much in the manner of a current Selective library. Similarly to T1 libraries, T2 libraries may freely deaccession any materials from their tangible collections at will via a national needs and offers process. The T2 role enables libraries to build and maintain working collections of tangible FDLP materials based on local user needs and library priorities. Tangible collections in T2 libraries are built and maintained exclusively to serve the needs of the library's local community, and have no *formal* role in the long-term preservation of FDLP materials, although deaccessioned materials may be integrated into collections that do have longer-term responsibilities. These are front-line access materials, held in collections developed to serve the needs of a particular constituency; they may also serve broader access needs, through interlibrary lending, but are principally held for the benefit of a specific community.

These libraries serve a role as front-line providers of tangible government information by maintaining collections tailored to the needs of their local constituencies. As an increasing share of these user needs are met by digital versions, these libraries may choose to draw down on their investment in local tangible collections; in other cases, however, libraries may continue to maintain tangible collections based on ongoing local user needs. Any library can take on this role with minimal formalities.

### *T3 and T4*

The responsibilities of libraries in T3 and T4 roles principally focus on meeting the broad and long-term needs of the American public for access to tangible versions of FDLP materials. These roles are discussed together due to their close relationship to each other; although these models assume that the

prevalence of tangible access requirements will decline over time as more and more materials are made available digitally, these classes of libraries will maintain a backstop of tangible collections that will support continuing access needs. When possible, needs for access to tangible materials not available at one's local library should be met through these T3/T4 collections rather than through T5 or T6 collections. As such, both T3 and T4 libraries support access needs not just on the local level but across the library system through interlibrary loan and other forms of document delivery. These roles are imagined as fitting well with the priorities of many existing Regional libraries, offering the opportunity for these libraries to either retain roughly their current role in the Program or to take on a role that will over time enable them to draw down on their tangible collections in a structured and responsible way.

The responsibilities of libraries in the T3 role principally focus on supporting regional and system-wide access needs for tangible versions of materials that are not yet available digitally. This enables these collections to be dynamic, meaning that they can, at their individual discretion, reduce the size of their tangible collections over time as more materials are made available digitally.\* GPO automatically distributes tangible copies of all FDLP materials that lack digital equivalents at the point of publication to all T3 libraries. T3 libraries may also select to receive any further tangible materials also available digitally in order to support local needs. T3 libraries must maintain tangible copies of materials that are not available in digital form, and should prioritize both making these materials available locally and via interlibrary loan, but may freely deaccession (via the standard national needs and offers process) any tangible materials once they become available in digital form.

While T3 libraries only have formal responsibilities to accession and maintain tangible versions of materials not available digitally, T4 libraries have similar responsibilities for tangible versions of all FDLP materials, including those with available digital equivalents. GPO automatically distributes tangible copies of all FDLP materials that are made available in tangible form to all T4 libraries. T4 libraries must retain all tangible materials that they accession, including those with a digital equivalent, although they may deaccession duplicate copies of any tangible materials via a national needs and offers process. Note that the T4 role is substantively similar to the collecting role of Regional depository libraries under the present model, although without any obligation to coordinate a discard process for other libraries (as this responsibility would shift to a national process).

As these libraries' roles are so closely linked to the digital availability of collections – especially T3 libraries, which gain flexibility in their collections management decisions as materials are made available digitally and thus are directly incentivized to support digitization efforts – it may make sense for T3 libraries to play a formal role in supporting the digitization of FDLP materials. An obvious opportunity is to offer these libraries a digitization exemption to retention requirements, allowing materials that would otherwise meet retention requirements to be deaccessioned in support of digitization efforts that result in a freely accessible digitized version that meets all community

---

\* As a reminder, the term "available in digital form" is used throughout this document as shorthand for materials that are freely available online in suitable high-quality digital form, and that are being reliably digitally preserved and defended against tampering. It excludes materials that the Superintendent of Document may choose to designate as essential for a participating library to maintain in paper form as an essential contribution to American democracy.

requirements, either performed by the library directly or by a third party. There may be other opportunities to capitalize on these libraries' direct interest in increasing digital availability, such as formally integrating libraries with these roles into the process of correcting or improving digitized materials. Although the specific process by which FDLP materials will be made available digitally is beyond the scope of this project, there may be many valuable synergies between these libraries' intrinsic interests and digitization priorities.

Together, the libraries in the T3 and T4 roles perform the essential function of supporting system-wide access needs for tangible materials, which is especially important for those materials not yet available in digital form. This backbone of access collections will supplement T1 and T2 working collections, by maintaining and making available for system-wide use large collections (including even low-use materials that might be retained in few working collections), and it will provide important continuity while a more comprehensive set of preservation collections is being developed.

To support these system-wide needs, this model envisions the coordination of a sufficient number of collections to provide an access backbone to the Program. Tangible copies of all materials (T4 collections) or of tangible copies of materials not yet available in digital form (T3) would play a critical role in making these materials broadly accessible locally and across the library system, providing security that materials – especially those not available in digital form – would be available via interlibrary loan for user needs, supplementing any individual library's local print collections. We lack sufficient data on system-wide interlibrary lending patterns for government information to support the precise definition of thresholds, but approximately 10-20 such collections would seem to offer a reasonable level of confidence. We anticipate that many libraries will retain those print collections that they expect to be important to their constituents' needs, but these additional T3 and T4 access collections will support access to materials that are not held locally. We count these T3 and T4 collections together to recognize that they serve principally the same role in the system, of supporting access to materials that are not available digitally; although it might be considered ideal to have a relatively even mix of T3 and T4 collections, we lack any meaningful evidence from which to draw specific thresholds. Although few if any existing collections are truly comprehensive, and neither of these roles obligates libraries to collect retrospectively to fill in gaps (just as the current Regional role does not require retrospective collecting, although some Regionals have chosen to view this as their responsibility), these overlapping collections in the aggregate should support the broad majority of access needs. Due to the Program's formal reliance on these activities, libraries must be identified by GPO as meeting a set of standards to serve in this role, and must sign a medium-term memorandum of understanding with GPO.

### *T5*

While T3 and T4 collections are expected to support most regional and system-wide access needs of the American public, providing for truly long-term continuity of access to tangible collections will require libraries dedicated to a preservation role. For a variety of historical reasons, including the loss or damage of materials over time or their simply never having been accessioned in the first place, few if

any existing FDLP collections are truly comprehensive.\* These collections have played an essential role in providing access, but, especially in an environment in which many libraries may seek to draw down on their local tangible collections, it may be of growing importance to coordinate collections commitments to build greater confidence that materials are adequately retained system-wide. Truly comprehensive collections would provide a preservation bulwark for the FDLP greater than the largely uncoordinated overlapping collections that have traditionally served to ensure the preservation of materials. This shift towards coordinated, comprehensive preservation collections is a common theme across the library landscape, as groups of libraries increasingly seek opportunities to build reliable shared infrastructure for the long-term preservation of content types such as scholarly journals. T5 collections play this role for FDLP materials by committing to the development of truly comprehensive collections of FDLP materials to build a solid preservation backbone for government information.

As with T4 libraries, GPO automatically distributes tangible copies of all FDLP materials that are made available in tangible form to all T5 libraries. T5 libraries also take on the responsibility of collecting retrospectively, working towards the development of truly comprehensive collections of FDLP materials in tangible form. Supported by a national needs and offers process, T5 libraries must make good faith efforts to over time identify and fill in gaps in their tangible collections of FDLP materials.† We anticipate that this will be a long-term process, and expect that this role will be most effectively provided by networks of libraries acting together, coordinating amongst themselves responsibility for the development of these collections. Like T4 libraries, T5 libraries must retain all tangible materials that they accession, including those with a digital equivalent, although they may deaccession duplicate copies of any tangible materials via a national needs and offers process. But while T4 libraries simply have a commitment to retain materials, T5 libraries also take on responsibility for programmatically preserving their collections according to community best practices.

This model coordinates T5 collections to serve as a preservation backbone for the FDLP's tangible materials. The appropriate number of collections to play this role is derived from the application of a slightly modified version of the operations research model underlying Ithaka S+R's *What to Withdraw* for decision-making about system-wide print preservation of scholarly journals. We recognize that doing so applies this model for a set of materials that it was not originally designed for and which may have very different affordances, and that some may view our use of this model to generate minimum thresholds as inappropriate. In the absence of any other models that could provide more accurate scientific guidance, we have chosen to apply this tool to provide a benchmark for minimum retention rather than relying simply on guesswork. In doing so, we reiterate that the numbers arrived at here are *minimums*; we anticipate that a greater number of formal collections may be constituted, and that there certainly will be many informal collections that exist in addition to these coordinated sets.

---

\* This document differentiates between most currently existing "comprehensive" collections – which may have gaps due to materials not being received, being lost or damaged, or otherwise not being present – and "truly comprehensive" collections, which describes collections that have been actively built and verified to contain a complete set of FDLP materials.

† This model assumes that T5 libraries would be responsible for collecting all tangible materials that were formally distributed through the FDLP, and would also collect any tangible copies of "fugitive" documents are identified as within the scope of the FDLP,

The full application of this tool depends on the presence of a minimum number of dark archival page-validated copies in calculating system-wide preservation needs; as this model does not consider the creation of any page-validated collections, we have modified the application of this tool somewhat. In this application of the tool, we use only a single projected “loss rate” rather than differentiating between dark archival and circulating materials,<sup>\*</sup> but otherwise apply the existing model with the goal of identifying a minimum number of copies necessary to achieve the extremely conservative goal of providing greater than 99.9999% confidence that at least one copy of each item will be preserved for at least 100 years. Although we recognize that our modification of the application of this tool certainly introduces imprecision, a system that coordinates at least the fifteen collections indicated by the application of this tool with these parameters should provide an extremely high level of confidence that materials will remain reliably available over the long run; in the absence of a more targeted model to shape such analysis, we believe that this conservative implementation of the *What to Withdraw* framework offers useful guidance. Thus, this model suggests the creation of fifteen to twenty truly comprehensive collections of tangible FDLP materials.

We expect that many of these tangible preservation and integrity backbone collections will be built around one or more existing Regional libraries, in many cases by a network of libraries. This backbone will provide a highly visible and essential role for libraries (principally existing Regional libraries) to step forward and assert their commitment to the long-term preservation and maintenance of integrity of FDLP materials. Several different approaches to the development of these collections can be imagined. For example, an individual library with a history of retrospective collecting could choose to take on this role, formalizing its commitment to existing practices. Or multiple libraries could play this role collaboratively, dividing up responsibility to retrospectively build collections along agency lines or on another basis, and then managing collections outside these areas according to their individual roles.

To take on these roles, libraries must be identified by GPO as meeting necessary standards, and must sign a long-term memorandum of understanding with GPO.

### **Motivations**

As documented in the Environmental Scan, academic and research libraries are undertaking substantial strategic collaborations to ensure that print collections are maintained and preserved, even while reducing the aggregate number of copies of many materials stored nationally following digitization. For FDLP collections, costs could similarly be reduced without sacrificing access or preservation, by thinking about a D4 or D5 role as one taken on collaboratively by a trust network of libraries. In this respect, such approaches are just as practical for government documents as for other collection types. This building block will be most achievable and sustainable if GPO, in its administration of the Program, anticipates collaborative approaches to collections management rather than assuming implicitly that institutionally oriented collections are the standard.

### **Legal requirements**

---

<sup>\*</sup> This calculation assumes an annual “loss rate” of 0.5% for all materials.

This building block undoubtedly requires fundamental changes to the legislative structure of the Program, as it would fundamentally alter the basic set of legislated roles available to library participants in the Program. Although some aspects of this model could be approximated through new partnerships with networks of libraries that would coordinate print collections management and preservation activities, to meaningfully implement this model would require the redefinition of the basic roles that libraries play in the Program.

**Legislative changes required:**

- In particular, this building block would be incongruous with the existing definitions of the regional depository and their retention requirements described in §§1911-1912; the implementation of this building block and any models that include it would seem to require a redefinition of these roles. It may be possible to implement some pieces of this model under the existing structure with substantial changes to the FDL Handbook, but this might introduce too great of a disconnect between the Program’s legislated roles and its administrative roles. Still, this might be possible under the powers afforded to the Public Printer by §1914.

**Summary**

Table 5 summarizes the responsibilities and coordination of each tangible collections role:

Table 5: Tangible collections roles

	T1	T2	T3	T4	T5
Rely on system-wide print collections to support local user needs	✓	✓	✓	✓	✓
Receives tangible versions of selected new FDLP materials		✓	✓	✓	✓
Receives tangible versions of all new FDLP materials that are not available digitally			✓	✓	✓
Maintains tangible versions of all FDLP materials not available digitally			✓	✓	✓
Maintains tangible versions of all FDLP materials, including those available digitally			✓	✓	✓
Receives tangible versions of all new FDLP materials				✓	✓
Retrospectively collects to develop comprehensive tangible collections of FDLP materials					✓
Preserves collections according to community best practices					✓
<b>Coordinated levels of participation</b>	<b>(No target)</b>	<b>(No target)</b>	<b>T3 + T4 ≥ 15</b>	<b>≥15</b>	

**6. Maintain page-validated tangible collections**

While the above component draws on Ithaka S+R’s *What to Withdraw* framework to establish target levels of print preservation required to ensure long-term access to government information, this framework can only be applied in a modified fashion in the absence of highly validated print collections.



Although Ithaka S+R hopes to extend this framework in the near future to remove its dependence on page-validated collections (collections that have been checked for accuracy and integrity at the page level), the current framework cannot be fully applied without a baseline level of page-level validation. Even so, leading print preservation efforts (such as the WEST partnership that has been spearheaded by the University of California and the Orbis Cascade Alliance), have indicated that the cost and benefit associated with a page-validated approach is likely infeasible for their efforts to manage print journal collections following their digitization. Still, recognizing that some members of the FDLP community may see government information as having the highest preservation and integrity considerations, we thought it would be useful to present an approach that could be taken for page-validated tangible collections.

To do so, this component modifies the above building block to more fully implement the *What to Withdraw* framework. It requires the creation of page validated collections to serve as the backbone of a long-term system-wide preservation program. This would provide an extremely high level of confidence that materials would be effectively maintained over the long term, but may be difficult, costly, and potentially impossible to implement effectively. While we recognize that the *What to Withdraw* framework – which was designed for journals, and not government documents – is still not a perfect fit for this scenario, given the different affordances of these content types, it remains the best tool we have available to us to support this kind of analysis.

This building block duplicates the roles and coordination efforts for tangible collections described above, with two small but important changes that more completely implement the Ithaka S+R *What to Withdraw* framework. Although this framework is designed for scholarly journals, the use of the underlying risk analysis framework with very high levels of confidence offers the best known scientific estimates for retention of tangible materials needed to support long-term preservation. This framework, however, requires a backbone of tangible materials that have been validated for accuracy and freedom from errors at the page level. Unlike the previous model, this version of the component thus integrates a role for page-validation and offers coordination thresholds based on this framework.

The first change is the addition of the T6 role, for libraries that validate their print collections. T6 libraries have the same collecting, retention, and preservation requirements as do T5 libraries, and also commit to checking materials at the page level (or similar levels for other material types) to identify any errors in original materials and seek out error-free versions where problems are identified.

Second, the thresholds for the preservation & integrity backbone in this model change to match those indicated by the *What to Withdraw* framework. This framework suggests that two page validated copies of an item and eight non-validated copies will give greater than 99.9999% confidence that at least one copy will survive a period of 100 years.\* To reach these thresholds, this model coordinates two page-validated, truly comprehensive, programmatically preserved collections (T6 collections) and eight truly comprehensive, programmatically preserved collections that are not validated (T5 collections), rather

---

\* This calculation assumes that the page validated copies are held in relatively closed “dark archive” collections, while the non-validated copies may be in circulating collections. It also assumes an annual “loss rate” of .1% for validated dark archival copies and .5% for circulating copies.

than the fifteen to twenty T5 collections defined in the previously described tangible collections building block. While it may seem counter-intuitive that fewer copies could provide similar or even greater levels of confidence, that is explained by the onerous but valuable page-verification process, which offers an extraordinary high level of confidence in the completeness of these materials.

### **Motivations**

As mentioned above, recent experience has suggested that it has been difficult for libraries to find funds, even in the context of well-thought-out collaborative frameworks, to support page validation of print collections following their digitization. In recent years, page-validation has been pursued in cases where the enterprise undertaking digitization can provide some portion of funding. Such a dynamic does not seem likely for the variety of mechanisms by which government information is, or might be, digitized for the FDLP. If depository libraries were to view page-validation as a priority for government information, the T6 role would almost certainly be provisioned on a widely shared basis; perhaps dozens or even hundreds of libraries would come together each to contribute towards the objective of creating a single page-validated copy. Current best practice seems to be moving away from a page-validated approach, so unless community interest (and concomitant willingness to expend resources) strongly indicates, it is probably unlikely that page-validation will be conducted.

### **Legal requirements**

This building block is structurally similar to the “Preserve tangible collections in an increasingly digital environment” building block, principally differing in implementation details rather than in broad strokes. As a result, the same legislative changes would be required to implement this building block or any models that include it as would be required for the “Preserve tangible collections in an increasingly digital environment” building block, although the specific administrative details of implementation would certainly vary.

### **Legislative changes required:**

- As in the case of the “Preserve tangible collections in an increasingly digital environment” building block, this building block would be incongruous with the existing definitions of the regional depository and their retention requirements described in §§1911-1912; the implementation of this building block and any models that include it would seem to require a redefinition of these roles. It may be possible to implement some pieces of this model under the existing structure with substantial changes to the FDL Handbook, but this might introduce too great of a disconnect between the Program’s legislated roles and its administrative roles. Still, this might be possible under the powers afforded to the Public Printer by §1914.

### **Summary**

Table 6 summarizes the responsibilities and coordination of each tangible collections role:

Table 6: Tangible collections roles, including page validation

	T1	T2	T3	T4	T5	T6
Rely on system-wide print collections to support local user needs	√	√	√	√	√	√
Receives tangible versions of selected new FDLP materials		√	√	√	√	√
Receives tangible versions of all new FDLP materials that are not available digitally			√	√	√	√
Maintains tangible versions of all FDLP materials not available digitally			√	√	√	√
Maintains tangible versions of all FDLP materials, including those available digitally			√	√	√	√
Receives tangible versions of all new FDLP materials				√	√	√
Retrospectively collects to develop comprehensive tangible collections of FDLP materials					√	√
Preserves collections according to community best practices					√	√
Page-validates collections						√
<b>Coordinated levels of participation</b>	(No target)	(No target)	T3 + T4 ≥ 15	≥8	≥2	

## New models

Clearly, these building blocks can be assembled in a variety of different ways to advance the Program toward the direction presented previously. While implementation of all of the above components will most completely move toward this direction, different arrangements of these building blocks may have benefits, being more feasibly implemented or offering other advantages. Thus, we here present several different potential arrangements of these components into models. The models presented here range from relatively modest adjustments to the current Program (focused on addressing immediate priorities) to more comprehensive restructuring exercises, which seek to support the full realization of the recommended direction and thus the sustainable accomplishment of the Program’s mission and goals. The modular nature of our approach provides maximum flexibility for GPO in selecting how (if at all) to implement changes.

### Model 0

Our baseline is Model 0, in which none of these components are applied and the Program remains unchanged. In this circumstance, we expect that Program participation will continue its gradual decline as more and more libraries feel unable to continue to play the roles allocated to them. Furthermore, important Program priorities – including digital preservation and integrity as well as supporting the changing needs of users for support in discovering, understanding, and making use of government information – will remain unaddressed. The following table provides an overview of the changes implemented in Model 0:

Building Blocks						
	1. Immediate changes to tangible collections	2. Transform and increase the availability of services	3. Support the integrity of digital FDLP materials	4. Preserve digital FDLP materials	5. Preserve tangible collections in an increasingly digital environment	6. Maintain page-validated tangible collections
<b>Model 0</b>	<i>Baseline model: Program remains unchanged</i>					

### Model 1

This model proposes the implementation of minor changes to the Program’s handling of tangible collections issues and formalizes the Program’s commitment to services to the American public through more concrete roles for libraries that emphasize services. We view these as the most urgent and immediate priorities for the Program, although there remain additional challenges that would not be addressed by this model. In this model, each library would retain its existing Regional or Selective designation, also taking on a new role formalizing its responsibility for providing services to the American public (such as S2, providing a government documents specialist on staff who can provide services to users) . Model 1 would implement the “short-term changes to tangible collections roles and responsibilities” and “transform and increase the availability of government information services”

## Modeling a Sustainable Future for the Federal Depository Library Program

components described above. The following table provides an overview of the changes implemented in Model 1:

Building Blocks						
	1. Immediate changes to tangible collections	2. Transform and increase the availability of services	3. Support the integrity of digital FDLP materials	4. Preserve digital FDLP materials	5. Preserve tangible collections in an increasingly digital environment	6. Maintain page-validated tangible collections
<b>Model 1</b>	✓	✓				

### Model 2

In addition to integrating the immediate changes described in Model 1, Model 2 would draw in formal opportunities for participating library roles and responsibilities around digital collections. This model does not implement any formal structures to provision digital preservation as a responsibility of the library community. Instead, it assumes that GPO's own ongoing efforts through FDsys will provide an adequate level of preservation, while complemented with appropriate roles to ensure that the FDLP community plays a role in ensuring the integrity of digital collections and to the extent desired providing access to them. In this model, each library would retain its existing Regional or Selective designation, but each would also take on a new role formalizing its responsibility for providing services to the American public (such as S2, providing a government documents specialist) as well as a new role formalizing its responsibility for maintaining the integrity of digital collections (such as D2, collecting digital materials specific to its campus's interests as part of a D3 collaboration to ensure all digital materials are collected by consortial participants). The following table provides an overview of the changes implemented in Model 2:

Building Blocks						
	1. Immediate changes to tangible collections	2. Transform and increase the availability of services	3. Support the integrity of digital FDLP materials	4. Preserve digital FDLP materials	5. Preserve tangible collections in an increasingly digital environment	6. Maintain page-validated tangible collections
<b>Model 2</b>	✓	✓	✓			

### Model 3

While Model 2 supplements Model 1's short-term changes and service roles with a set of library roles to provide digital collections and ensure their integrity, it continues to rely on GPO to maintain its leadership on the preservation on digital collections, as may well be appropriate. Model 3 is distinguished in that it envisions that FDLP participants will elect to provision digital preservation of the FDLP collections independently of (and in addition to) GPO's own efforts through FDsys. In this model, a

## Modeling a Sustainable Future for the Federal Depository Library Program

library would supplement its existing Regional or Selective designation for tangible collections with two new roles: a new role formalizing its responsibility for providing services to the American public and a new role formalizing its responsibilities for accessioning and maintaining tangible collections (although it may be that some libraries do not have any responsibilities for tangible collections). For any given library, participation would probably look much the same as for Model 2, although two libraries or library collaborations would take on the “preserving” role in addition.

Building Blocks						
	1. Immediate changes to tangible collections	2. Transform and increase the availability of services	3. Support the integrity of digital FDLP materials	4. Preserve digital FDLP materials	5. Preserve tangible collections in an increasingly digital environment	6. Maintain page-validated tangible collections
<b>Model 3</b>	✓	✓	✓	✓		

### Model 4

Model 4 is the first to provide new sets of roles and responsibilities for libraries in support of the long-term maintenance of both digital and tangible FDLP materials. In this model, a library would no longer retain its existing Regional or Selective designation, instead taking on three new roles:

- a new role formalizing its responsibility for providing services to the American public (for example, S2, providing a government documents specialist);
- a new role formalizing its responsibility for accessioning and maintaining digital collections for access and integrity purposes (for example, D2, collecting digital materials specific to its campus’s interests as part of a D3 collaboration to ensure all digital materials are collected by consortial participants); and
- a new role formalizing its responsibilities for accessioning and maintaining tangible collections (for example, T3, retaining a comprehensive collection of print materials that have not yet been digitized).

Unlike Model 3 (but like Model 2), this model would rely exclusively on GPO for digital preservation rather than attempting to formalize this role as well for the library community. The following table provides an overview of the changes implemented in Model 4:

Building Blocks						
	1. Immediate changes to tangible collections	2. Transform and increase the availability of services	3. Support the integrity of digital FDLP materials	4. Preserve digital FDLP materials	5. Preserve tangible collections in an increasingly digital environment	6. Maintain page-validated tangible collections

Model 4	✓	✓	✓	✓
---------	---	---	---	---

**Model 5**

Model 5 extends Model 4 to provide an extremely high level of confidence that materials would be effectively maintained over the long term in both tangible and digital formats by not only bringing on board a digital preservation role for FDLP libraries but by also more completely applying Ithaka S+R’s *What to Withdraw* framework and implementing roles for the library community to complement GPO’s preservation and integrity activities. In this model, as with Model 4, a library would no longer retain its existing Regional or Selective designation, and would instead take on three new roles, one each for services, digital collections, and tangible collections. The following table provides an overview of the changes implemented in Model 5:

Building Blocks						
	1. Immediate changes to tangible collections	2. Transform and increase the availability of services	3. Support the integrity of digital FDLP materials	4. Preserve digital FDLP materials	5. Preserve tangible collections in an increasingly digital environment	6. Maintain page-validated tangible collections
Model 5	✓	✓	✓	✓	✓	✓

**In Sum**

Table 7 provides a very high-level overview of how each of the models proposed in this paper builds towards the fullest realization of the direction. While the building blocks of these models could, theoretically, be rearranged into a number of other configurations, we have only chosen to propose models that reflect the priorities identified in our research. While we have constructed these models to be additive, one should not conclude that a higher-numbered model is somehow better; that is a question of sustainability and feasibility, as described in future sections.

Table 7: Overview of models

Building Blocks						
	1. Immediate changes to tangible collections	2. Transform and increase the availability of services	3. Support the integrity of digital FDLP materials	4. Preserve digital FDLP materials	5. Preserve tangible collections in an increasingly digital environment	6. Maintain page-validated tangible collections
Model 0	<i>Baseline model: Program remains unchanged</i>					
Model 1	✓	✓				

## Modeling a Sustainable Future for the Federal Depository Library Program

Model 2	✓	✓	✓			
Model 3	✓	✓	✓	✓		
Model 4	✓	✓	✓		✓	
Model 5	✓	✓	✓	✓	✓	✓

Other than the baseline Model 0, these models assemble several building blocks to together address Program priorities, with the paired goals of reducing the burdens of participation in the Program for member libraries and simultaneously making the Program more effective at providing permanent public access to government information. Each model would take important steps in both addressing those priorities currently under-supported by the existing Program and promoting the sustainability of the Program in accomplishing its existing mission, potentially extending the Program in a variety of different directions if doing so is viewed as matching with community priorities.



## **Sustainability**

This section addresses the sustainability of the proposed models both for the library community as well as for GPO. To do so, it first reviews the historical value proposition of the Program for depository libraries and some of the ways in which changes in the environment have impacted this value proposition in recent years. It then considers the broad impact of the proposed direction on this value proposition, and evaluates the proposed new models for the Program, taking into account the discussion of incentives and programmatic benefits from the building blocks section above.

It was out of scope of this project to analyze GPO's current budget and funding prospects, so it is not possible for us to evaluate whether these models, which seem to us to be supportable, can be sustained by GPO in the current fiscal environment. But, the modular and flexible nature of the models is designed to give GPO the ability to scale its approach to resources and strategy.

It is important at the outset to emphasize that, whatever the specific models at work, GPO and depository libraries share a deep commitment to the mission, visions, and values of the Program. Indeed, many libraries will see their support for the shared community value of long-term, no-fee public access to the workings of American government as a critical benefit of participation. Our objective in this section is not to call that into question in any way, but rather to dig one level deeper to explore how structural elements and programmatic benefits impact the Program's sustainability and are likely to play out in the context of the proposed direction and models.

### **The FDLP's historical value proposition**

The long-standing structure of the FDLP – summarized by Kessler as “government creates the information, depository libraries house and service it for public use, and the public gets to use the information for free”<sup>64</sup> – was based around a particular value proposition for participation in the Program. For many years, the costs and benefits of this model for the Program were largely in alignment, with the burdens assumed by libraries generally viewed as reasonable and made up for by the benefits realized through their participation; with environmental change, however, the sources and balance of these costs and benefits has shifted or is in the process of shifting for many libraries.

### ***Benefits of participation***

Participation in the Program historically entailed a variety of benefits to member libraries. Three major and driving sources of value to participating libraries can be described:<sup>65</sup>

- The most tangible source of benefit to participating libraries has long been the fact that participation in the Program provides libraries with timely **free access to wide ranges of government information**, including many materials that are not broadly available to non-participants. This benefit has been important to libraries for multiple reasons:
  - Before government information was broadly accessible online, building local tangible collections was essential to libraries' abilities to provide for the needs of their constituents; to enable constituents to access government information, libraries needed to build local collections, and the best way to do this has been through membership in the Program.

- Independent of these functional considerations, however, traditional metrics heavily weighted collection size in evaluating the quality of libraries; membership in the Program allowed libraries a method to inexpensively grow their collections;.
- Beyond the functional considerations of building and maintaining collections, a significant benefit of participation to many libraries is their awareness of their role in supporting system-wide **mission and shared values**. Many libraries deeply share the Program's priorities of long-term access to and preservation of government information, and realize substantial value through their contribution to these system-wide goals. Libraries' self-recognition as stewards of government information and the value they place on their own involvement in defending its integrity and preserving it over time provides an additional key benefit of participation in the Program.
- Beyond libraries' own recognition of their involvement in supporting system-wide needs, **community recognition** by other libraries of the vital role played by depository libraries as community resources provides an additional broad source of historical value to its participants. Selective and especially regional libraries have been regarded by their peers as community resources, contributing to these broad shared values as well as serving practically to support the access needs of users even beyond their normal constituencies. Participants' roles in supporting access and preservation are widely recognized across the library system, as peers recognize the commitments taken on by depository libraries on behalf of the broader community; the reputational benefits associated with this credit are a long-standing source of value to participants.

Of course, individual libraries valued each of these benefits differently, based on their local circumstances and institutional priorities: for some libraries, the ability to better provide for the needs of their local constituents by building robust collections of government information has been the critical motivation for participation, while for others a broader set of priorities focusing on support for mission and shared values has driven participation more than anticipated near-term concrete benefits. The range of motivations described above brought a wide range of participants to the Program, encouraging libraries to join and remain in the Program based on their idiosyncratic priorities in order to support the collective advancement of the Program's vision, mission, and values.

### ***Costs of participation***

Alongside these benefits, participation in the Program has always entailed costs to the participating libraries. The specific costs vary among libraries, and detailed cost figures are not always easily quantified; it is therefore difficult to suggest the overall direct costs of participation in the Program. Still, participating libraries incur costs in performing the responsibilities associated with their roles in the Program:

- Participating libraries must *retain* the materials provided to them through the Program in accordance with their status in the Program, and must deaccession materials through defined procedures. In the case of selective libraries, this entails some loss of flexibility in collections management decision-making. It also incurs ongoing direct technical services costs associated with acquiring, processing, and maintaining collections. In the case of Regional libraries, this

entails a long-term commitment to retain large print collections with very little flexibility to deaccession unwanted materials, posing opportunity costs in the flexible use of space as well as direct costs associated with technical services around these materials. Recent research on the costs of maintaining monograph and serials collections underscore the substantial expenses associated with the simple long-term maintenance of tangible materials.<sup>66</sup>

- Participating libraries must also provide public access and a baseline level of services around these collections, making these collections freely available to the broad American public. Libraries in the Program are not only obligated to provide access and support to the immediate communities that they are intrinsically mission-driven to serve, but to the broader population that the *Program* is intended to serve. For some libraries, this is a minimal burden, achieved as a matter of course; these libraries already consider the broader community as a core constituency, and may serve them in a wider variety of ways than just through the provision of government information. Other libraries, however, may generally only provide services to a relatively limited set of constituents in their normal course of business – for example, some university libraries may view their campus community as priority users and generally not provide services beyond these constituents. This dynamic may help to explain why only public institutions have come to serve in the Regional role, and even private not-for-profit libraries have tended to serve only the Selective role. For Selectives and Regionals alike, the requirement to serve individuals outside of these normal communities may be seen as a non-trivial cost of participation in the Program.

The evidence suggests that the total cost of participation can be high, especially for Regional depository libraries. A 2008 report by Regional library coordinators estimated that Regional libraries spend on average \$330,000 annually on “costs for staff, cataloging and processing of collections, additional databases and reference materials in support of FDLP collections, and equipment/supplies, such as computers, microform equipment, and collections maintenance supplies,” and an additional “\$700,000 in yearly amortized costs for facilities to house the collections.”<sup>67</sup> Although these costs certainly vary even between regionals, and selective library costs may be entirely different, they offer one metric for quantifying the costs of participation. These costs notwithstanding, libraries historically participated in the Program due to a perception that the benefits received were worth the costs – that is, that the costs of participation were at least balanced by the benefits of participation, and in most cases that the benefits outweighed the costs. Naturally, they also valued the systemwide public good of safeguarding and providing access to government documents for the American public.

### ***The evolving value proposition***

Although the broad sources of costs and benefits associated with participation in the Program have remained relatively static over time, perspectives on some of these sources of costs and benefits have shifted across the library community. In recent years, as documented in our research, the perceived balance of costs and benefits associated with receiving and retaining information resources in tangible form has changed for many libraries. The departure of Selective libraries from the Program and the anecdotal evidence that many remaining Selectives have engaged in widespread de-accessioning of tangible collections suggests that similar shifts in value obtain even for the free government information

that has long been a core source of value in the Program. The interactions that participation in the Program entails – the free provision of materials by the government, and the responsibilities of depository libraries for maintaining and making accessible these materials – have not changed. But libraries' perceptions of costs have evolved with their environment, and some libraries now view these costs as more burdensome and the corresponding benefits as less rewarding, throwing their motivations to participate out of equilibrium. Moreover, as resources available to libraries have been reduced in case after case, libraries are forced into making hard choices even among functions they would ideally like to provide.

There are corresponding shifts on the value side as well. The exclusivity once enjoyed by depository libraries as the sole venue for accessing government information has largely disappeared. Digital government documents are now available at no cost to the general public through FDsys and that has left some depositories questioning the value that they realize by building and maintaining tangible collections of government information. Although the provision of free tangible copies of government information is intended to be one of the core benefits of participation in the Program, a growing share of depository libraries have indicated that they no longer view this as a particularly compelling rationale for participation.

Complementing the declining perceived benefit of receiving free tangible copies of government information, many libraries see the burdens associated with the development and maintenance of these collections as increasing. As libraries increasingly view space as a scarce asset, many have begun to consider how alternate uses of space currently devoted to tangible collections perceived as low use might realize greater value. This opportunity cost is felt across library types – even Selective libraries, which have relatively greater abilities to deaccession materials, may feel constrained by limitations on their abilities to manage collections as flexibly and agilely as they would like. For some regional libraries and others with especially large on-site collections, this opportunity cost feels especially pressing, due to their extremely large collections of tangible government materials, with regionals in particular facing more substantial restrictions on their ability to manage these collections in alignment with changing institutional priorities.

The declining perceived value realized by some from tangible government materials combined with the increasing perceived costs of the responsibilities of maintaining these collections creates a complex dilemma for many participating libraries. Libraries continue to view their participation in the Program as an important contribution to system-wide shared values, but some have come to view the practical business of participation as out of alignment with their local institutional priorities. Due to libraries' shifting valuation of tangible collections, the central value proposition of participation in the Program has changed. Historically, participation in the Program both supported system-wide values *and* provided concrete local benefits; as library priorities and needs have evolved, though, some libraries may see decreasing local value realized through their performances of roles that remain critically important from a system-wide perspective, sometimes creating tension between libraries' support of local priorities and their commitments to system-level shared goals.

### **The value proposition of proposed new structures for the FDLP**

Bringing these priorities back into harmony is a principal goal of the proposals put forth in this project. The direction and models proposed in this project seek to allow libraries to recommit to the Program's vision and mission, realizing their commitment in a way that aligns more substantively with the changing strategic priorities of their institutions. Fundamentally, these proposals seek to encourage libraries to define roles in the Program based on the set of roles and responsibilities that they *want* to play, rather than attempting to meet but not exceed the technical requirements associated with their existing roles. To do so, our proposals emphasize offering libraries a substantially greater ability to define their own roles in the Program.

### ***Overall value proposition of proposed models***

Broadly speaking, the goal of the proposed direction is to enable libraries to design their own value proposition for participation in the Program, defining a role that provides a positively balanced set of benefits and costs to the library. This proposed direction should not diminish any of the existing sources of value to participation in the Program, but rather offer a variety of additional sources of benefit, enabling libraries to better shape their involvement to match local priorities. In thereby maximizing participation, the Program has the best hope of serving the greatest number of Americans' government information access and services needs.

### **Benefits of participation**

The principal benefit of participation in the Program under our proposed direction is the increased ability for small and large libraries alike to share formal responsibility for the accomplishment of clearly defined system-wide priorities. Although in the current Program, participants certainly share in the accomplishment of these common goals, these new models would clarify the specific ways in which participants' activities complement each other to achieve shared priorities, through system-level definition and coordination of roles as well as through support for collaborative efforts by groups of libraries to address a common task. A library's ability to understand, demonstrate, and disclose, how its efforts contribute to shared goals, is a major benefit of this new direction.

For many libraries, a major benefit of participation in the Program remains its provision of free copies of tangible government materials. This new direction *in no way* impinges on the ability of any library to take on a role that emphasizes tangible copies of government information. Libraries would be encouraged to continue to build and maintain tangible collections as appropriate to their local user needs and priorities. This direction recognizes that many libraries may continue to view the development of tangible collections of government information as being in alignment with local priorities, and that they may wish to make significant investments in these collections as their primary contributions to system-wide priorities, although we also expect that many other libraries will wish to decrease their levels of collection of print materials also available in digital form. As with journals, many libraries will want to collaborate in the retention and preservation of tangible versions following their digital availability, at least for some period of time, thereby reducing the total tangible costs while ensuring that one or more copies remain available.

But while these tangible materials were historically the principal benefit of participation in the Program, the proposed direction recognizes that other benefits may be more salient for some libraries today, and

offers the opportunity for libraries to define their participation around other benefits in the place of or in addition to an emphasis on tangible materials. Critically, it recognizes their contributions in these new areas and therefore provides a concrete source of value for their internal and public communications. Specifically:

- The proposed direction imagines that some libraries may define roles based around the acquisition, maintenance, and preservation of *digital* government materials. These digital collections support libraries in developing and curating digital collections to serve the needs of users in their local communities and beyond, and afford an opportunity for libraries to advance their own local priorities in developing unique digital collections.
- The proposed direction also imagines that some libraries may define roles based around the provision of services to assist end users in discovering, understanding, and making effective use of government information at varying levels of complexity and including both in-person assistance and the development of digital tools to support remote users. To encourage and support these activities, appropriate training and outreach will assist libraries in developing and maintaining skills, supporting libraries in defining rich and vital new contributions to their users' needs.

In addition to these new and relatively *concrete* benefits to participation, the historic benefits of participation in the Program associated both with contribution to shared system-wide priorities and with reputational benefits for a library's role are maintained and extended under the new direction:

- Libraries continue to support system-wide priorities and values. Many libraries will do so by maintaining tangible collections of government information to support community access and preservation needs, but libraries will also have the opportunity to contribute to other shared values. Some libraries will contribute to the extension of long-standing system-wide practices of preserving and maintaining the integrity of government information through a network of libraries building digital collections; libraries will also have renewed opportunities to support the American public in finding, understanding, and making effective use of government information and contribute to the development of a robust network of front-line service providers and rich online tools to connect users with services and expertise.
- Libraries also continue to receive recognition and status from their peers for their roles within the Program, but they also have the opportunity to stand out and be formally recognized for their contributions in a broader array of ways. Under this new direction, individual libraries may be recognized for excellence along a variety of axes, and can serve as community resources for a wider range of needs. Some will continue to support community needs for tangible access, some will curate and protect digital collections, and some will stand out as service providers on the ground or in the cloud.

In addition to extending these long-standing benefits, the direction also provides another source of benefits to participants. By embracing collaboration, the Program would provide a venue for libraries to work together in pursuit of shared priorities. Although libraries may already collaborate on efforts

related to government information, participation in the Program could support libraries in identifying and pursuing collaboration.

The benefits offered under this new direction should both maintain the historic sources of value to participants as well as providing a variety of new sources of value. But this direction does not simply expand the benefits to participants; it also shifts the way in which these benefits are allocated across the library system. The new direction proposes to allow libraries to identify and pursue the sources of value that draw them to the Program. In this way, libraries take on costs associated with the benefits that are most salient to them, and are able to avoid costs associated with intended benefits that offer little locally.

In addition to these structural elements, which we believe are key to ensuring the sustainability of the models, we have also defined several opportunities for GPO to provide valuable programmatic benefits to participants. Such benefits, which were focused on service provision and digital collections roles, can be scaled to GPO's ability to secure or reallocate funding while also continuing to develop the mutually supportive community that has proved vital to the Program's sustainability.

### **Costs of participation**

Although participation in the Program in any of these roles will incur costs for libraries – including new costs for new roles oriented around digital collections or services – this reapportionment of activities should allow libraries to incur only costs that balance with locally valued benefits. By focusing their activities on locally relevant areas, and by enabling libraries to set their levels of participation more granularly than is currently possible, libraries would not be required to take on costs that are associated with roles they do not wish to play or that are out of proportion with the perceived benefits they receive for playing their roles.

In addition to reallocating costs and allowing libraries to incur mostly participation-related costs that align with local priorities, the opportunity to collaborate also offers the opportunity for cost savings system-wide. By collaborating among libraries where appropriate, redundant costs may be reduced, enabling libraries to lower costs while maintaining service levels or even take on new challenges at costs that can be borne.

### **Value propositions of individual proposed new models**

Although these broad themes touch all of the proposed models, analysis of the specific value propositions offered by each of the individual models described can help to provide insight into their feasibility and impact on the overall value proposition of participation in the Program. The motivations for library participation in the various roles specified in each of the building blocks is reviewed in subsections in the modeling section entitled "Motivations."

Looking at each of the models, the following can be stated about the value proposition of each of the models and the sustainability associated with each:

#### ***Model 0***

As Model 0 does not anticipate any changes from the current Program, the value proposition remains in its current state, which we believe may over time continue to encourage libraries to choose between their system-wide values and their local priorities, in many cases leaving the Program due to an inability to balance the costs of participation with adequate realized benefits. Over time, we believe that this imbalance may undermine the Program's ability to effectively serve the needs of the American public, potentially putting critical Program priorities at risk and threatening its overall sustainability.

### ***Model 1***

Through marginal changes to the current model and a new emphasis on services, Model 1 does not change the fundamental value proposition of the current Program. It does, however, seek to rebalance some aspects of this value proposition and provide alternative sources of value for libraries no longer sufficiently motivated to participate by existing structures. First, for those libraries that experience the greatest imbalance between the costs and benefits of the Program, Model 1 seeks to facilitate a smooth transition to new roles that better align with their circumstances. Although Model 1 does not resolve the underlying tensions, it can offer temporary relief. Additionally, by providing service-oriented roles, Model 1 offers libraries a new set of benefits and reasons to participate in the Program. For libraries that have largely deemphasized the tangible collections aspects of participation and may be questioning the rationale for continued membership in the Program, these service-oriented roles may provide a compelling way to remain involved in the Program in a way that better matches local priorities.

We believe that the goals of this model can be achieved based on the intrinsic incentives felt by the depository library community. This model anticipates limited firm targets for participation in particular roles, and those activities it does seek to coordinate are consistent with many existing examples and in alignment with system-wide priorities. Although some effort may be required to build the participation needed to accomplish this model's goals, we believe that there are more than adequate levels of existing interest across the library system (as evidenced, for examples, through LOCKSS-USDOCS participation and state libraries interested in coordinating service provision) to perform these activities.

### ***Models 2 and 3***

Model 2 introduces an additional alternate pathway for participation in the Program, enabling libraries to realize new sources of value either related to service provision or digital collections, but it continues to limit libraries' ability to balance the value received for their roles in the Program related to tangible collections. By further diversifying the set of roles available to libraries in addition to tangible collections roles, it gives libraries the opportunity to define their involvement in the Program principally around alternative sources of value, and the accomplishment of system-wide values in new areas previously unaddressed is promoted. In addition to providing new sources of recognition for libraries taking on digital collections roles, this model also formalizes the *government's* commitment to supporting a robust and distributed digital infrastructure. But libraries are given little opportunity to redefine their roles surrounding tangible collections; while this model may diversify investment in the Program, it will not address structural challenges associated with building and maintaining print collections.

As in Model 1, we believe that the incentives exist to effectively accomplish the priorities of Model 2 relying only on libraries' intrinsic motivations. Many libraries across the Program have demonstrated an



interest in building and maintaining digital collections in order to support the development of locally curated collections or to safeguard the integrity of these materials in a digital environment. This model seeks to aggregate together and build upon this enthusiasm, and we believe that there already exists a sufficient level of investment already across the community to move strongly towards the support of these priorities.

Model 3 provides all the same sources of value as Model 2, but also introduces a role for formally certified digital preservation, which may most typically be provided through collaborations across depository libraries. Some libraries would see this role as an essential one to take on, while others will view GPO's digital preservation initiatives as sufficient on their own.

#### ***Model 4***

Model 4 is the first model to fundamentally restructure the Program; it reshapes the role of tangible collections in the Program to better meet the changing needs of libraries. This model, which enables libraries to focus their participation on those aspects that are of greatest value locally, also provides the opportunity for libraries to take on newly specific roles associated with the development and maintenance of local tangible collections. These new roles both allow libraries the option to responsibly draw down on their tangible collections as well as to be recognized for extraordinary investments in these collections; this model enables the broad expansion of the Program to integrate a substantively wider range of libraries interested in pursuing certain Program priorities without requiring investment in print collections, and it coordinates the library community to build truly comprehensive preservation collections by recognizing and structuring the activities of libraries that contribute to these shared goals. Currently, space issues are a major source of pressure on participants; this model, and other models that include the "Preserve tangible collections in an increasingly digital environment" building block, emphasize offering libraries opportunities to substantially reduce the pressure they feel as a result of their tangible collections roles. By diminishing this negative motivation to play a role in the Program, libraries can increasingly focus on those roles and activities that they are motivated to play based on their local priorities.

We believe that this model can largely be implemented based on intrinsic library priorities, although there may be some requirements for narrowly targeted interventions around certain roles. Many libraries clearly retain an interest in building and maintaining print collections of government information, and this model enables libraries that wish to continue to contribute to system-wide objectives but require a greater level of flexibility than is currently possible to do so through the provision of a more specific set of roles. A very few roles, such as the creation of comprehensive tangible collections, may require greater proactive efforts by GPO or other community leaders to coordinate activity to support the accomplishment of shared priorities. Even so, we see evidence in, for example, the ASERL and WEST initiatives, suggesting that libraries retain an appetite for managing and preserving tangible materials even following their digitization.

#### ***Model 5***

Model 5 integrates the new opportunities for participation around services and digital roles (including certified digital preservation) defined in Model 3 with the restructuring of tangible collections roles

described in Model 5. This model emphasizes allowing libraries to support long-term access to tangible FDLP materials in more flexible and collaborative ways, enabling libraries to redefine their tangible collections roles to better align with their own institutional priorities. In particular, this model's emphasis on collaboration can enable libraries to focus on those collections that especially complement local priorities while allowing greater flexibility for collections that offer limited local value. In addition to offering libraries greater flexibility in their tangible collections roles, this model also allows libraries a wide range of other opportunities to support common values in ways that align closely with their own missions and institutional priorities, through digital or services-oriented roles.

Model 5 provides the widest range of opportunities for a library to contribute to system-wide goals by introducing a higher level of print collections roles. The success of this model seems likely to require substantial external guidance and incentives; the library community has thus far demonstrated little interest in the levels of investment required to build page-verified archives of *any* materials, given the substantial costs and marginal rewards associated with doing so. Extrinsic incentives in the form of direct payments to defray these costs by outside agents have been the only successful way in which these collections have been built. As such, we doubt the success and sustainability of this model, as the depository library community would be unlikely to view the costs associated with the full implementation of this model as realizing sufficient value to incentivize the activities needed for the success of this model.

### **In Sum**

The modular approach offers substantial sustainability improvements both for GPO and for the depository libraries. For GPO, the building blocks could be phased in relative to broader strategic and budgetary context. In addition, the modular approach allows the Program to leverage opportunities for mission alignment, drawing libraries in on a sustainable basis. Modest programmatic benefits, appropriately targeted, will further emphasize the development of the FDLP community as a vital component of the Programs overall sustainability.

## **Feasibility**

In this section, we address the feasibility of our proposals, to analyze the possibility of implementation. Ultimately, while each of the models is essentially feasible and practical, in this section we also suggest several strategic considerations for any possible plan of implementation.

### **Legal requirements**

Some of the building blocks, and therefore the models associated with them, would require legislative change in order to be fully implemented. For each building block above, we provided an assessment of the degree to which implementation would require legislative change to Title 44 of the United States Code and what alternatives may exist. This section describes some overall legislative changes that might be beneficial (outside the scope of any single building block) as well as a summary of the alignment of each model with the Program's existing authorizing legislation, specifying the particular sections of Title 44 that would need to be changed to fully implement these models.

### ***Role of the Superintendent of Documents***

To effectively implement any model, it may be important to expand the authority of the Superintendent of Documents to provide increasing *coordination* for the Program. Currently, the principal roles performed by the Superintendent of Documents to administer the Program (in addition to its roles in coordinating distribution of materials) are defined by 44 USC 1909 as focusing on investigating depository library conditions for compliance with Program requirements, making recommendations, and terminating non-compliant libraries if necessary. Where models can be implemented via the kinds of collaboration agreements and partnerships that GPO has utilized for some time, expanded legal authority is presumably not necessary even as it takes on tasks beyond those formally detailed in the existing legislation (presumably relying at least in part on the Public Printer's authority to "use any measures he considers necessary for the economical and practical implementation of [the Program]" as defined in 44 USC 1914). But as these models generally imagine a shift towards a more collaborative set of activities, there would be substantial value in providing a legislative basis in 44 USC 1909 for GPO to take a greater role in actually coordinating the roles being taken on by federal depository libraries to ensure that aggregated system-wide activities effectively support Program priorities.

### ***Summary of Required Legislative Changes, by Model***

The modular approach to modeling presented in this project maximizes the flexibility to GPO in considering strategies for implementation. Towards this end, we have tried to limit the legislative changes *required* for any given building block. Rather, we have tried to identify sources of flexibility in GPO's existing practices for administering the Program that might permit a non-legislative implementation strategy. That said, even when legislative change may not be *required*, there are cases where it might be a desirable option for consideration, given the variety of strategic considerations that pursuing legislative change would entail. Given, again, the modular nature of our approach, these issues are described in the "Legislative Requirements" subsection for each building block.

Here, we provide a summary of the required and potentially desirable legislative change, organized by model. As Table 8 illustrates, several of the proposed models do not require, but might benefit from, legislative change, while additional models require it for implementation. It may be possible for GPO and

the FDLP community to consider a strategy in which a model that does not require legislative change could be pursued to begin with, while evaluating whether and if so how to pursue legislative change for additional desired building blocks.

Table 8: Summary of Required Legislative Changes, by Model

Model	Legislative change required?	Required legislative changes	Potentially desirable legislative changes
Model 0	No	None	None
Model 1	No	None	As described in the “Transform and increase the availability of government information services “ building block and the “Role of the Superintendent of Documents” discussion above
Model 2	No	None	As described in the “Transform and increase the availability of government information services “ and “Support the integrity of digital FDLP materials” building blocks, and the “Role of the Superintendent of Documents” discussion above
Model 3	No	None	As described in the “Transform and increase the availability of government information services “ and “Support the integrity of digital FDLP materials” building blocks, and in the “Support the integrity of digital FDLP materials,” and the “Role of the Superintendent of Documents” discussion above building block
Model 4	Yes	As described in the “Preserve tangible collections in an increasingly digital environment” building block and in the “Role of the Superintendent of Documents” discussion above	As described in the “Transform and increase the availability of government information services “ and “Support the integrity of digital FDLP materials” building blocks.
Model 5	Yes	As described in the “Preserve tangible collections in an increasingly digital environment” and “Maintain page-validated tangible collections” building blocks and in the “Role of the Superintendent of Documents” discussion above	As described in the “Transform and increase the availability of government information services “ and “Support the integrity of digital FDLP materials” building blocks.

### **Risks and challenges**

The principal source of *risk* in these models is that the assumptions on which they are based will not, in fact, come to pass. While we believe that the assumptions presented are sound expectations for the future of the Program's context, they are not guaranteed, and the environment in which the Program operates may be different than these assumptions presume.

Our first assumption – that GPO will continue to provide an increasingly high-quality centralized and freely available access point for FDLP materials – depends heavily on ongoing funding being made available to support GPO in doing so. We believe that the availability of this centralized access and preservation point is an essential requirement of the Program and funding for its ongoing development, maintenance, and improvement should be sought, supported, and approved. If funding for FDsys or other online platform is no longer forthcoming, then GPO may be unable to continue to provide the centralized access point presumed in these models. Regardless of the Program structure in place, the lack of such a strong centralized repository supporting access and preservation needs would be deeply problematic, and it is difficult to imagine how GPO could effectively continue to serve as a centralized publisher in such a scenario. But the models proposed here that integrate roles for depository libraries supporting digital collections could provide a greater level of security in the absence of such a centralized repository. Under the current Program structure, no one outside GPO has any formal responsibility for digital FDLP materials, and the official status of any materials held outside GPO would be in question; the structures presented here would provide a formal fallback position in the absence of a centralized GPO-run digital repository. In this situation, it would become important for individual libraries to take on a much more active role in supporting basic access needs that may otherwise be assumed to be served by GPO's systems, but clear structures would be in place to provide the basis for such a reaction.

Our second assumption – that historic collection of FDLP materials will be comprehensively (or very nearly so) digitized – is contingent on community success in bringing about such a scenario. There remain several both technical and policy challenges that must be addressed in order to develop such a system, including questions about how materials will be digitized and by whom, how their quality will be assured and accuracy verified, and how digitized materials can be formally brought into the system. We believe that addressing these challenges should be a top priority for GPO, in order to continue to facilitate a smooth transition to a more digital Program. Although we have confidence that some level of digital version will be made available for large quantities of FDLP materials in the medium-term future, if these challenges are not addressed, these digital versions may be viewed by many as inadequate substitutes for print originals. Regardless, however, we believe that many libraries may still choose to draw down on their local print government documents collections even in the absence of digital collections that can serve as true surrogates for print, as users either rely on existing digital collections (including collections that lack formal status and assurance of authority) or simply do not encounter print collections as their workflows shift online. As such, we believe that the models proposed here would provide a more structured and graceful process than the current Program, enabling libraries to pursue local priorities in a coordinated way that would collaboratively accomplish shared goals; by

recognizing changing values and allowing libraries to adjust their participation *within* Program structures, the achievement of shared priorities can be made more transparent and adjustments can be made as necessary.

One of the primary challenges facing the Program has been the inability to successfully pursue legislative change to this point. At such point as legislative change may be possible, it may be useful to recognize just how long the Program would need to rely on the new legislation for authorization. The 1962 law could not anticipate the technological changes that were to come, just as we and our contemporaries no doubt will fail to foresee all the technological and societal changes to come over the next 50 years. Consequently, we would suggest a more thoughtful consideration of which elements of the Program structure should be written into the authorizing legislation, and which elements can safely be entrusted to the regulations apparatus proffered by GPO as the administering agency. Towards that end, perhaps the most important element of legislative change would be breaking down, if not eliminating altogether, the Regional and Selective roles, and then incorporating, or allowing GPO as the administering agency to incorporate into its regulations, a set of roles designed around the needs of the Program, and its libraries, today and in the future.

### **Feasibility and practicality**

All the building blocks and models are practical for depository libraries in that the defined ‘roles’ incorporate tasks that at least some libraries in the United States have taken on, or are known to be taking on, in some part of their collections or services portfolio. But just because libraries can practically and sustainably take on the roles identified for them, and a more comprehensive model would conceptually address more of the outstanding issues, does not mean that GPO should necessarily attempt to address the most comprehensive model. There are other strategic issues and interests at play.

We have already referenced broader strategic and budgetary considerations facing GPO. As an organization in profound transformation from print to digital across many of its operations, with complicated budgeting even within a federal context, GPO must take a perspective even broader than the FDLP.

And, indeed, whenever contemplating any kind of significant organizational change, many organizations will seek risk mitigation strategies. For FDLP, this could mean prioritizing building blocks based on two factors:

- Begin with those building blocks that do not require legislative change, since proposals for legislative change are difficult or impossible to effect and take a very long time; and
- Begin with those building blocks that represent relatively unmet priorities, rather than trying in the first place to improve parts of the Program that, even if imperfect, are at least in place.

If this type of approach to prioritization were to be seen as valid, it would suggest models that primarily emphasize the services building blocks and, to lesser extent, the digital and tangible collections, each of which has some greater or lesser degree of access and preservation infrastructure already in place.

**In Sum**

One of the takeaways from the implementation analysis is that even in the absence of legislative change, GPO could take some important immediate steps towards incorporating digital and services roles more deeply into the formal structure of the Program.

## **Illustrative Examples**

The above models would shift the Program away from a fairly simple set of roles, in which a library is either a Selective or a Regional, towards a more complex and multifaceted matrix of responsibilities. To help clarify what some of these roles might look like, and how they might fit with the priorities of different kinds of libraries, we will present a handful of hypothetical illustrative examples that describe the sets of roles that certain library types might take on in a relatively completely implemented model. These case studies will presume the implementation of a model that offers new roles for print collections, digital collections, and services, in order to provide illustrative examples. Rather than describing individual libraries in isolation, this set of case studies describes the interrelations among a hypothetical set of different kinds of libraries in a region. In these cases, all libraries are located in the fictional west coast state of San Andreas.

These case studies are *not* prescriptions for the responsibilities a given type of libraries *should* take on, but simply seek to depict some possible ways in which libraries might choose to align their individual circumstances with the roles available in the Program. Libraries may choose whatever set of roles best align with their own missions and practical needs, which may be very different than the range of simple cases described here. It also should be clear that these are *fictional* examples, and are *not* meant to stand in for any particular members of the Program; any resemblance to real libraries is purely coincidental.

### **Smallville Public Library**

The Smallville Public Library is the archetypal small public library, and historically was not a member of the Program. SPL has very limited resources, and staff are stretched thin; although supporting the basic government information needs of its patrons – principally by providing help with e-government services (the staff have learned that queries about geological information focused on “moon rocks” are better left alone) – is a core priority for SPL, SPL staff have had neither the expertise nor the capacity to assist users with more complex research tasks. SPL never had a close relationship with its closest Selective (more than 75 miles away), let alone its Regional, and it rarely if ever felt comfortable referring users to the FDLP. SPL only sought designation as a member of the Program following the implementation of the new Program structure; it never pursued Selective status due to lack of capacity to manage even a very low selection rate, and due to a perception that this role would not meaningfully contribute to its ability to serve the needs of the general Smallville community.

With the implementation of the new Program structure, SPL decided to join the Program to develop the basic government information skills of its staff to provide better support for the Smallville community. SPL reference staff participated in a government information “boot camp” put on by their local ST library (San Andreas State Library), attend occasional webinars focusing on developing targeted sets of basic skills that are appropriate to their community. They have formed relationships with a few nearby libraries that provide more advanced government information services and can assist with referrals. Through these avenues, SPL staff have become more comfortable addressing government information needs of their patrons and are more likely to pro-actively direct users to government information sources. Indeed, SPL recently put on a small exhibit highlighting some aspects of its community history through historical tangible materials lent by a T3 library located elsewhere in the state.



## Modeling a Sustainable Future for the Federal Depository Library Program

SPL continues to rely principally on resources provided via government agency websites and FDsys. It has little interest in or capacity for building local collections of print or digital government information. As a result, SPL would take on the set of roles S1 (reflecting its provision only of basic government information support), T1 (receiving no tangible government publications), D1 (hosting no local collections of digital government publications). SPL participates in no networks focused on government information; these roles are the extent of its responsibilities in the Program. Nevertheless, its community now has an increased level of support for finding, understanding, and making use of government information, both through SPL itself and through remote resources identified by SPL.

Smallville Public Library	Individually	In collaboration
Services	S1	
Tangible Collections	T1	
Digital Collections	D1	

### Miskatonic University Library

Miskatonic University is a prestigious research institution; the MU Library is perhaps most uniquely notable for its world-class special collections of materials related to marine biology and the history of marine exploration, but also prides itself on maintaining one of the largest research collections in the state. As at most libraries, space is at a premium at the MU Library: off-site storage facilities are nearly full, and the prospects for new storage space seem limited; at the same time, the MU Library is beginning to evaluate its use of on-campus library space and considering the possibility of developing more undergraduate and teaching-focused spaces. Although the MU Library has invested heavily in licensing access to digital collections and is deeply concerned with issues of digital preservation, the Library has made only limited investments in developing local digital programs. The MU Library's principal audience is the university's faculty and student populations; in general, the Library has little interaction with unaffiliated residents of Arkham, the town in which it is located.

Historically, Miskatonic was a selective library with a high selection rate, and retained a major government documents collection second only to the Regional collection at San Andreas State Library. The MU Library intends to keep many of these materials in the long term, and would like those materials that they do retain to be recognized as part of the system-wide preservation framework, but would like to begin drawing down on their overall government documents collections over time to free up space for other purposes.

As an individual library, the MU Library has taken on an S3/T3/D1 role in the new system. For their services contribution, the MU Library now serves as a center of excellence for their areas of strength (which are principally aligned with its institutional prioritization of marine biology). In this role, they have developed a number of guides and online resources focusing on this topic, and serve as a referral center for questions from across the library community focusing on government information on marine biology and the history of marine exploration. MU Library staff also participate in training programs coordinated through the Research Society of America (West Coast); unlike Smallville Public Library, however, this training focuses on developing government information awareness and skills for non-

## Modeling a Sustainable Future for the Federal Depository Library Program

specialist librarians to support research and teaching. MU itself hosts no local digital collections, but as a T3 library, MU remains committed to maintaining materials that lack an appropriate digital surrogate, although it has begun to weed some collections that are available digitally and are not closely tied to their institutional priorities.

In addition to these individual roles, the MU Library contributes to two collaborative networks. The library participates in the Research Society of America (West Coast)'s D4 network, providing financial support for the RLA's centralized preservation repository although hosting no materials independently. And although Miskatonic is itself a T3 library, the library participates in the RSA's coordinated T5 network, retrospectively developing and preserving collections of government information related to its institutional emphasis on marine life.

Miskatonic University Library	Individually	In collaboration
Services	S3	
Tangible Collections	T3	T5
Digital Collections	D1	D4

### Marshall College Library

Marshall College is a small liberal arts college that has become widely recognized as a leader in the digital humanities, a strength that grew initially out of its world-class archaeology program. Bolstering this reputation and continuing to drive the innovative application of technology across the campus has become a major priority for university leadership. The College's library has more than done its part in this effort, working to rapidly develop significant technical strengths and serving as a critical supporter for campus-wide technology projects. The College participated in the Program as a mid-level Selective for many years, but had recently been considering leaving – they are tight for space, print collections see extremely low use, and their participation did not contribute in any significant way to their goal of distinguishing themselves as leaders in digital leadership.

With the shift to the new Program structure, however, Marshall College saw an opportunity to have its participation better support its institutional priorities. Individually, Marshall is now an S3/T2/D2 library. Marshall's services role focuses around developing and supporting innovative tools to help users perform bulk analysis of government information over time, beginning with a focus on mapping government geological and historical data to support archaeology scholars in their work and producing on-the-fly feeds of relevant materials to help scholars keep up to date on relevant materials. To support their development efforts, Marshall hosts a selected set of materials locally – principally digital government publications on archaeology and related issues. Marshall has also taken advantage of the opportunity to drop down to a very low level of print collecting and retention, focusing again on those materials most closely related to their institutional priorities.

In addition to their independent role as an S3 library, Marshall staff also participate in the services training network run by the San Andreas State Library as trainers, running courses and developing resources to help other libraries to develop their own digital expertise. Marshall also participates in a

distributed D3 network, with its digital collections coordinated with a network of other libraries to develop a comprehensive integrity backbone for the system.

Marshall College Library	Individually	In collaboration
Services	S3	L
Tangible Collections	T2	
Digital Collections	D2	D3

### Academy of Law Library

The Academy of Law is a mid-level law school with a special emphasis on training lawyers to serve in public service roles. The Academy’s library is principally focused on serving its own students and faculty, but also serves as a resource for local attorneys in particular and, sometimes, members of the general public seeking legal information. Historically, the Academy’s library was a Selective library with a fairly narrow scope of selection, but retained rich collections – including many superseded materials – within their area of emphasis. The library is relatively happy with its own role in the Program, but remains concerned with system-wide issues of integrity and authenticity of digital government information.

In the new system, the Academy’s library has taken on an S2/T2/D2 role, which is relatively similar to its portfolio of roles as a Selective. The Academy provides strong services to its local community, with a special focus on its immediate constituency of legal scholars and students, but has little role in providing services to the broader community. The Academy itself hosts some local digital materials, principally focusing on developing and maintaining collections of core legal materials in order to develop local collections targeted to providing the particular resources needed for some of the Academy’s core courses. The Academy continues to receive and retain basically the same tangible selection as it did previously.

In addition to its individual role, the Academy participates in a distributed D3 network, with its own collections contributing to the development of a comprehensive digital backup collection.

Academy of Law Library	Individually	In collaboration
Services	S2	
Tangible Collections	T2	
Digital Collections	D2	D3

### San Andreas State Library

The San Andreas State Library is the official state library of San Andreas, a major west-coast state. It is located near the state capitol, serving principally as a resource for the state government and those who work with it, as well as coordinating library LSTA funding and some activities across the state. Although its primary emphasis as an individual library is on supporting the needs of the state government, unaffiliated lawyers and others who work with the government often use the library as a resource. Historically, the library served as the Regional library for the state of San Andreas, and it remains fairly comfortable with this role; the library does not feel significant pressure to deaccession any materials,

but it also does not wish to take on a more active collecting role to build up retrospective collections outside of, perhaps, a few core areas. Similarly, the library does not have much interest in developing digital collections outside of a few situations; they may choose to build some collections, but do not want any major responsibilities for preserving these collections.

With the shift to the new system, the San Andreas State Library became an S2L/T4/D2 library. Their major new role in this portfolio focuses on coordinating training across the state; although they had historically led some efforts to raise awareness of government information, this new role has crystallized this responsibility and led to the creation of a more coordinated training program. Some of this training is provided by the library itself, while much focuses on coordinating regional outreach or drawing on resources from around the state – such as the digital expertise of Marshall College – to support targeted training. The library also supports a communications network among government information librarians from across the state. Although the library collects some digital materials, principally to complement its web archiving work with state government materials, it is not committed to the retention of any of these materials. And although the library has committed to maintaining its existing collections and continuing to collect in the same breadth as it did in its Regional capacity, it need not make any particular efforts to build up retrospective collections strengths.

San Andreas State Library	Individually	In collaboration
Services	S2L	
Tangible Collections	T4	
Digital Collections	D2	

**Research Society of America (West Coast)**

The Research Society of America (West Coast) brings together many of the largest research libraries on the West Coast, providing a venue for communication between these libraries and several consortial services on behalf of members. The RSA has a modest central office, principally focused on the development of technology infrastructure, and principally focuses on coordinating the activities of its members to achieve common goals. The coordination of print and digital collections has been a major historical priority for the RSA.

The RSA coordinates two networks within the Program, focusing on both digital and print collections goals. The RSA has developed a preservation repository to host digitized and born-digital materials from its members’ collections, which is supported by its members through payments or in-kind support; for example, Miskatonic provides voluntary financial contributions to support this partnership, while Marshall College has contributed their development expertise. This repository forms the basis of the RSA’s D4 network, which centrally hosts and preserves a comprehensive collection of digital government information. The RSA also coordinates a T5 network, facilitating communications among their members and supporting the development of strong, targeted collections around participants’ individual priorities.

Research Society of America	Individually	In collaboration
Services		

Modeling a Sustainable Future for the Federal Depository Library Program

Tangible Collections		T5
Digital Collections		D4

## Conclusion

For almost two hundred years, the Federal Depository Library Program has brought together libraries of all kinds from across the country to provide the American public with access to and support for working with federal government information, under the guidance and leadership of the Government Printing Office. Their activities have made government information available and discoverable, provided valuable assistance to the public in effectively working with government publications, and preserved the historical record of the American government. There remains a strong level of commitment and enthusiasm across the membership of the Program to sustain it and its critical mission, vision, and values in the digital age. Still, the Program's current structure has too often created a mismatch between a federal depository library's desired contributions and the formal roles available to it.

For this reason, perhaps our most important priority throughout this exercise has been to ensure that areas of common concern are well-addressed by the Program while allowing individual libraries as much flexibility as possible to define their own means of contribution towards these shared goals, in consultation with and under the overall administration of GPO. Respecting the diversity of approaches across federal depository libraries in supporting this shared goal is a core principle that should be seen as vital to any sustainable future for the Program.

At the most basic level, this project proposes a broad direction for the Program around which we believe substantial common ground can be found among the depository library community. This direction establishes a set of basic principles for the Program that we believe are essential to its sustainable long-term success, which retain critical priorities from the current Program, integrate aspects drawn from community-wide discussions and innovative pilot projects, and position the Program to address native digital challenges. The principles set forth in our direction, we believe, reflect a set of priorities on which the depository library community can find common ground and should use to advocate for sustainable new models for the Program.

As important, the approach outlined in this report would provide significant flexibility for GPO. In Washington's fiscal environment, the challenges of reshaping such a complicated program are difficult to overestimate. The modular approach allows GPO to make, and if necessary adjust, decisions about priorities and phasing over the course of a long-term implementation plan. In this regard, the models are, we hope, practical not only for the federal depository library community but also for GPO itself.

For almost twenty years, the community has discussed the need to evolve the Program's structure to remain effective in an environment that is clearly dramatically different from the context in which the basic structures of the Program developed. Although critical differences in priorities remain, we believe that there are a significant number of substantial areas where common ground can be found across the Program, and where action could be taken. Although we anticipate spirited discussion about the specifics of the models proposed in this project, we believe that they draw together themes that have been broadly discussed across the library community since the passage of the GPO Access Act almost twenty years ago, and can serve as a milestone in the ongoing deliberation by the community and GPO on the future of the Program.

## Modeling a Sustainable Future for the Federal Depository Library Program

We hope that the research, analysis, and models presented in this paper lay the groundwork to help GPO continue to adapt the Program in the face of a rapidly changing information environment. Providing access to government information in both print and digital form is fundamental to enabling an educated electorate. We look forward to seeing a vibrant future for the Program as it continues to play this critically important role in our democracy.

# Appendices

---



## Appendix A: Research

This section contains the two sections that constitute the research base for this project: an environmental scan that explores the context in which the Program operates and a discussion of existing models for how libraries come together around common priorities. First, however, we present a set of “visions for the future of the FDLP;” GPO, the Depository Library Council, and other members of the depository community have proposed a number of broad visions for the future of the Program.

### Visions for the future of the FDLP

Although suggestions of changes to the Program can be found soon after the establishment of its current legislative framework, most of the “modern” debate about the structure of the Program began “in the early to mid-1990s, [when] many documents librarians, and several library associations, investigated new roles for federal depositories in light of the Government Printing Office Electronic Information Access Enhancement Act of 1993 (GPO Access Act) requiring GPO to develop a more fully electronic depository program.”<sup>68</sup> This section summarizes some of these visions and structures for a future FDLP in a fairly arbitrary order that should not be construed as prioritizing these visions; similarly, the decision to place a vision for the future of the FDLP in this section or in an above discussion focused on a particular topic should be read simply as a convenience to readers to draw parallels between those visions with a common focus, and not as in any way promoting or denigrating a given vision.

A number of reports were released around the time of the GPO Access Act that explored the implications of an electronic environment on the Program. One of the earliest responses to this changing environment was the Dupont Circle Group, “a small independent group of volunteers ... charged with the task of getting something down in writing which might serve as the starting point for community-wide discussion of the issues and problems facing the DLP.”<sup>69</sup> This independent group included “the practicing librarians from the Depository Library Council, several past Chairs of GODORT, members of the first “Focus Group,” and representatives of the various types of libraries in the Program.”<sup>70</sup> The Dupont Circle Group described two “scenarios for a redesigned FDLP,” including “Federal Information Service Centers ... [which would be] hierarchically tiered, providing basic, intermediate, and full levels of service,” and “Government Information Access Centers... [in which] all libraries participating in the program were to be selective... [and] could choose from ... four collection/service options” including more collections-oriented or service-oriented roles.<sup>71</sup> In both cases, the Regional role of comprehensive collecting and permanent retention was to be eliminated.

Soon after, the Depository Library Council issued a 1993 report outlining ten “alternatives for restructuring the depository library program.”<sup>72</sup> This report “presented 10 different scenarios for restructuring the Depository Library Program,” including “a three tiered hierarchy of library services,” a model in which GPO would “give monetary credits to depository libraries to assist them in meeting the financial requirements of being a depository in an ever-increasing electronic environment,” “a ‘National Collection of Last Resort,’ where unique paper copies of documents could be stored,” “a network of ‘Super-Regionals,’ which would act as libraries of last resort similar to the national collection model,” “a system of ‘Subject-Based Regionals’ ... [which] would be required to accept the responsibilities for training, dissemination, archival functions, and reference assistance within a subject field.”<sup>73</sup> Many of

these models have been reflected in the directions that academic and research libraries have begun to take with journal and other collections, as described in the environmental scan below.

The “Chicago Conference on the Future of Federal Government Information,” also in 1993, resulted in another model for the FDLP that complements many of the above-described approaches. This group defined a model – called the “Federal Information Dissemination and Access Program (FIDAP)” – in which “GPO... would be responsible for providing access to the material”<sup>74</sup> and libraries and librarians, organized in “geographic clusters of depository libraries... would be formed to provide a human connection between electronic information and the user. Each participating library would also be the local community’s gateway to government information and a central part of the local community’s information infrastructure.”<sup>75</sup>

Generally, these visions from the early- to mid-1990s foresaw that the network-driven model increasingly common for other material types would also obtain for government information. Consequently, the proposals tended to envision GPO taking on an increasing role in providing access to government information. Therefore, all of them “recognized that if changes were not made, many libraries would leave the Depository Library Program,”<sup>76</sup> and called for the transformation of the Program. They sought to rebalance the formal roles within the Program to better match changing incentives for participation and to increase the system-wide service infrastructure of the Program to provide better services to the public.

Although the period surrounding the passage of the GPO Access Act was exceptional in the number of high-profile statements on the future of the Program, the depository library community has remained deeply engaged with these issues, and there have been a wide variety of suggested reformulations since, including those proposed in some official capacity by DLC or GPO as well as those suggested by independent members of the community, and ranging from broad statements of direction to concrete models. Although surely not a comprehensive list, this section outlines several such proposed visions for the future of the FDLP.

GPO itself has described a “new model for the Federal Depository Library Program which increases partner flexibility” as a part of its 2004 “Strategic Vision for the 21<sup>st</sup> Century,” in which “all past, present and future Federal documents [would be made available] in a digital format that can be searched, downloaded and printed over the Internet at no charge,” “regional depository libraries ... combine their tangible collections in a manner that will continue to offer acceptable public access to documents at reduced operating costs to participating libraries,” and “two collections, one in the East and one in the West ... hold all known tangible and electronic FDLP documents in a safe and secure archival environment.”<sup>77</sup> To support the development of such a tiered preservation system, GPO commissioned the Center for Research Libraries to create “specifications for a system of regional repositories for tangible federal government documents... identifying the archiving activities and conditions affecting the survival and persistent availability of ‘tangible’ federal government documents, including but not limited to levels of access, service layers, institutional governance and funding base, nature of the constituent base, geographical location, security, and level of content validation.”<sup>78</sup>

Although several aspects of this vision remain unrealized, this vision underlies the ongoing development of FDsys, which is “designed to organize, manage and output authenticated content for any use or purpose and to preserve the content independent of specific hardware or software so that it can be migrated forward and preserved for the benefit of future generations.”<sup>79</sup> More recently, GPO issued a draft “Federal Depository Library Program Strategic Plan,” which broadly describes a future in which “local expertise of the depository community is shifting from technical processing and collection management to help their users access a wide range of federal information and services.”<sup>80</sup> Generally, GPO has recognized that “There is not one correct answer to the question of what the future of the FLDP will look like or how we should get there... the future requires flexibility and collaboration to accommodate the varied needs of our users and the varied needs of our depository libraries.”<sup>81</sup>

The Depository Library Council has issued its own “vision statement for Federal Depository Libraries in the 21<sup>st</sup> century,” entitled “Knowledge Will Forever Govern.”<sup>82</sup> In this statement, DLC posits that the historic “nature of the bargain [between GPO and the depository libraries] will change to accommodate different opportunities and possibilities the digital and print environment pose.”<sup>83</sup> The document then defines a set of goals and suggestions for the Program, emphasizing the importance of FDLP libraries evolving their services to provide “information content and services to the wider networked community as well as to traditional walk-in populations” and advocating for improved training to support this.<sup>84</sup> The document also supports the idea of more coordinated proposals for archiving print materials that would “reduce the volume of tangible distribution and would free many Regional libraries from the necessity of managing comprehensive collections. With more limited collection management responsibilities Regionals would have more resources to focus on their consultative and advisory roles with the selective FDLs in their region.”<sup>85</sup> This vision also advocates for increased efforts to make FDsys “support capturing, authenticating, verifying, storing, migrating, refreshing, and printing of government publications on an open, freely available platform. Additionally, the FDsys, as the FDLP’s primary digital delivery system, should support profiled, automated, free push and selective pull of digital files to depository libraries.”<sup>86</sup>

Beyond these “official” statements from GPO and the depository library community (as channeled through the Depository Library Council), a number of independent points of view have been offered by a variety of parties throughout the library community. For example, in a reaction to changes to the Program proposed in GPO’s 2008 draft report *Regional Depository Libraries in the 21<sup>st</sup> Century: A Time for Change?*, Abbott-Hoduski and McKnelly bring together several concerns about potential ways in which the Program might be restructured and provide an alternative vision for the future of the Program centered around maximizing public access to government information, in a report titled with the question “Does the Federal Depository Library Program Require Title 44 Revision to Improve Public Access to Government Information?”<sup>87</sup> This vision emphasizes the need for further research into the needs of the American public for government information and evaluation of how well the FDLP is serving these needs. The authors emphasize that planning for the future must look across the Program as a whole, not just the Regional depositories. Their vision also presents an array of recommendations on how the Program could be improved, including changes to both the print and digital aspects of the Program as well as recommendations for professional development around government information. For print materials, they advocate improvement of bibliographic control over FDLP materials and the

development of comprehensive collections to support system-wide needs; for digital materials, the authors call out authentication and digital deposit as top priorities. Fundamentally, they argue that the core challenge facing the Program is underinvestment, and call for additional investment by libraries and the federal government in the Program.

Hernon and Saunders catalog a number of different potential scenarios for the future of the FDLP, and engage with directors of university libraries that are members of the Association of Research Libraries, a group that makes up a significant set of the largest libraries in the Program.<sup>88</sup> They surveyed library directors in this community to gauge the appeal of different scenarios for the hypothetical organization of the Program in 2023. This research revealed several major themes in the priorities of this community. One major theme is a preference for “digital access, which aligns with user needs and expectations and reduces the amount of physical space required for storage of print documents,” alongside concerns “about whether all historical print documents will be digitized by 2023 and whether such an occurrence will remove the need to retain legacy print collections,” with “directors also stress[ing] the importance of some libraries creating paper copy for backup and preservation purposes in case the accuracy of content is ever questioned.”<sup>89</sup>

Ithaka S+R has also engaged previously on the topic of the future of the FDLP with its 2009 release of “Documents for a Digital Democracy,” a report that was jointly funded by the Association of Research Libraries and the Chief Officers of State Library Agencies.<sup>90</sup> In this report, Ithaka S+R offered “five key goals” for the Program:

“Newly issued government information must be made freely available in digital form and must be preserved for the long term; To provide this permanent public access for the historical collection, a significant program of retrospective digitization is required; Print will play a significantly reduced role for access by users to the historical collections, so some original print copies must continue to be preserved even though fewer depository library collections overall will be required; The print format will continue to have advantages for certain subsets of material types and user communities, so the Program must provide appropriate access to certain historical and new materials in print form, where appropriate via print on demand; [and] Depository libraries must reemphasize their commitment to serving user needs for outreach, discovery, and access.”<sup>91</sup>

Ithaka S+R then proposed a multifaceted conceptual model for steps that must be taken to achieve these goals, including comprehensive digitization of historic collections, system-wide coordination of print preservation activities, and GPO-coordinated preservation of born-digital government information centered around a robust FDsys with appropriate partnerships to ensure preservation and integrity, as well as newly-created discovery tools and expanded roles for librarians offering services and support.<sup>92</sup>

The Association of Research Libraries later issued a “Statement of Principles on the Federal Depository Library Program.”<sup>93</sup> These principles emphasized the ARL directors’ belief that “the best means of providing broad public access to these collections is through online access to digital and digitized copies,” and call for the creation of “a comprehensive digital collection in the public domain.” These

principles affirm several perspectives on the roles and responsibilities of Regional and Selective libraries, including clear statements to indicate that several areas – such as the maintenance of digital collections or retrospective collection of print materials – are *not* the formal responsibility of depository libraries. These principles also state that “There should be a distributed system for storage of print legacy collections that involves no more than 15 regionally distributed comprehensive print collections.”

Some take a more radical view of the Program, as demonstrated in a recent article entitled “GPO Must Go” which argues that “the Government Printing Office is an obsolete relic.”<sup>94</sup> Seavey asks “with something well north of 90% of depository ‘documents’ now online, why are we still talking about printing and documents? Why, for that matter, are we still talking about depository libraries when they are far outnumbered by all the other libraries that have just as much access to government information as do the depositories?” He argues “it is past time to move beyond the thoroughly outmoded structure that currently delivers government information to the nation at large.” Concretely, Seavey suggests that the office of the Superintendent of Documents should move out of GPO, and “should be... working with all of Libraryland to make government information accessible to everybody, rather than just the 1,200 or so libraries still in the depository system.”<sup>95</sup>

As these disparate visions demonstrate, attitudes on the future of the FDLP are complex and in some cases substantially divergent. Over time, a rich range of potential directions have been suggested for the Program, reflecting the diverse points of view and priorities of different aspects of the FDLP community.

### **In Sum**

Clearly, there has been much valuable research and advocacy already for the FDLP; throughout substantial discussion, however, the Program has remained relatively static. It is in the context of this Background that Ithaka S+R launched this project in September 2010. Because most of the existing discussion of the Program has taken place largely within the context of government information and the FDLP, rather than looking at trends more broadly in American society or its libraries, an important first step was to conduct a broad scan of the environmental factors that might have impact upon (or inform the development of new models in support of) the Program. Our hope was that by finding a shared understanding of this environmental context, it would be possible in this project to develop a common vision for how the Program might adapt.

## Environmental Scan

This section provides an examination of the environment in which the FDLP exists. The purpose of an environmental scan is to identify the broad range of key external issues that can inform planning and decision-making. An environmental scan provides context for planning purposes, rather than an exhaustive treatment of any specific issue. This environmental scan contains a discussion of the issues and trends impacting libraries and government publishing, and identifies factors to be taken into account in the formulation of appropriate models for the future of the Program.

This environmental scan explores changes in several major areas:

- **Societal** changes in the technology and information environment that affect the ways in which users expect to discover and make use of all kinds of information, reflecting a broad shift towards a digital use;
- Environmental pressures on different kinds of **libraries**, and the changing priorities and practices these entail (including refinements and new approaches to collections management, preservation), and public services, leading into a discussion of broad visions for the future; and
- A discussion of changes in how the public makes use of **government information**, and the corresponding changes that both the government and libraries have made to respond to these changing user needs.

This environmental scan is based on secondary research and describes *broad trends* based on the available literature. As this section discusses broad environmental trends, the level to which these trends will be reflected in the experience of an individual reader may vary widely; the themes discussed are not universal, but we believe are descriptive of the overall direction of change in the environment surrounding the FDLP. Similarly, we are limited in our discussion to those topics we have found discussed in the available literature; we recognize that on many of these issues, there may be alternative points of view that are held to varying degrees but are poorly represented in the literature. And discussions of a topic or point of view should *not* be read as an endorsement, but rather an attempt to accurately depict the environment in which the FDLP operates; certainly, a number of the themes discussed – for example, the dire budget situations facing libraries (especially public libraries) – are deeply frustrating, but must be acknowledged in considering a path forward for the FDLP.

### Societal

Ongoing changes at the highest level in American society provide important context for other changes in the library and government information communities. The United States has become an overwhelmingly urban nation, with over 80% of the population of the United States living in an urban rather than rural area.<sup>96</sup> It is also an increasingly multi-lingual one; “Among people at least five years old living in United States in 2006-2008, 20 percent spoke a language other than English at home. Of those speaking a language other than English at home, 62 percent spoke Spanish and 38 percent spoke some other language; 44 percent reported that they did not speak English ‘very well.’”<sup>97</sup>

### *Access to the internet & the “digital divide”*

Over the course of the last decade, access to the internet and to broadband connections has become relatively pervasive in the United States. In 2000, the Pew Research Center found that about 50% of American adults used the internet,<sup>98</sup> and only a handful had broadband access in their homes;<sup>99</sup> in 2010, the Pew Research Center's Internet & American Life Project found that 79% of American adults use the internet, and "two thirds (66%) of American adults have a high-speed broadband connection at home."<sup>100</sup>

Although access to the internet and to broadband have continued to grow in the United States, the "'digital divide' separating American information 'haves' and 'have nots'"<sup>101</sup> has remained a persistent concern. In the early days of the public internet, "the Rev. Jesse Jackson, for example, called the digital divide 'classic apartheid,' the NAACP's Kweisi Mfume dubbed it 'technological segregation,' and President Clinton urged a 'national crusade.'"<sup>102</sup> In 1999, the National Telecommunications and Information Administration (part of the U.S. Department of Commerce) warned that although "access to computers and the Internet has soared for people in all demographic groups and geographic locations," there remained a persistent "digital divide between the information rich (such as Whites, Asians/Pacific Islanders, those with higher incomes, those more educated, and dual-parent households) and the information poor (such as those who are younger, those with lower incomes and education levels, certain minorities, and those in rural areas or central cities)."<sup>103</sup> In addition to variations in levels of access to technology, there also exist substantial differences in levels of digital literacy among different communities, posing an additional challenge for some users in making effective use of digital resources.

Even today, the concern that certain groups systematically lack access to "information tools, such as the personal computer and the Internet, [which] are increasingly critical to economic success and personal advancement"<sup>104</sup> remains, although in recent years, this debate has increasingly focused on access to broadband internet connectivity. This emphasis on broadband connectivity stems from a recognition that "broadband users are significantly different in their approach to the internet than dial-up users. Broadband users are more intense and engaged in their internet experience. They spend more time online and do many more things online. And they report notably happier outcomes from their online experiences. They have woven the internet into the rhythms of their lives in more rich and complex ways than dial-up users."<sup>105</sup>

And, demographic gaps remain unresolved. According to Pew, "African-Americans continue to trail whites in their use of broadband technologies. However, the gap between whites and blacks has been cut approximately in half [between 2009 and 2010]."<sup>106</sup> Rural America also trails in access to broadband; in 2010, Pew found that 70% of non-rural adults have broadband at home, while only 50% of rural adults have similar access.<sup>107</sup> Even more stark differences exist between those with higher and lower incomes; although 87% of adults in households with an annual income of over \$75,000 have broadband, less than 50% of adults in households with an annual income of less than \$30,000 have similar access.<sup>108</sup>

While there is significant political appetite for investment in addressing this challenge, some research suggests that many current non-users of the internet remain disconnected by choice. Although "one in five American adults (21%) do not use the internet or email from any location... only one in ten non-users (10%) indicate that they would like to start using the internet or email in the future." Of these non-

users, “roughly half (48%) ... cite issues of relevance when asked why they do not go online. One in five (21%) point to issues related to price while 18% cite usability issues and 6% point to access or availability as the main reason they do not go online.”<sup>109</sup> And “not only are most non-users uninterested in getting online, many say that they do not know enough about computers or technology to use the internet on their own. When asked if they know enough about computers and technology to start using the internet on their own, just one in five non-users (21%) say that they do while six in ten (61%) say that they would need someone to help them.”<sup>110</sup> Of course, ten years ago, Pew noted that “57% of ... non-users are not interested in getting online,” which suggested to them “that the booming growth of the American Internet population in the past few years will slow;” history has clearly proven otherwise.<sup>111</sup>

In contrast with trends of home and broadband internet access, “minority Americans lead the way when it comes to mobile access—especially mobile access using handheld devices. Nearly two-thirds of African-Americans (64%) and Latinos (63%) are wireless internet users, and minority Americans are significantly more likely to own a cell phone than their white counterparts (87% of blacks and Hispanics own a cell phone, compared with 80% of whites). Additionally, black and Latino cell phone owners take advantage of a much wider array of their phones’ data functions compared to white cell phone owners.”<sup>112</sup>

### **Technological**

The internet has not only grown more pervasive in modern American life; the ways in which the public accesses and uses the internet have evolved substantially as the internet has taken on a tremendous range of new roles in daily life.

### **Mobile**

One fundamental shift has to do with how the public accesses the internet. Until fairly recently, the only practical means most users had to access the internet was via a desktop or laptop computer, at work, at home, in a public library, or elsewhere, connected via dial-up or broadband. Now, however, users are increasingly able to access the internet on the go via a mobile device. Although this experience may be relatively similar for the “roughly half of all adults (47%) [who] go online [with a laptop using a wi-fi connection or mobile broadband card],”<sup>113</sup> it is qualitatively different for the “two in five adults (40%) [who] do at least one of [use the internet, email, or instant messaging on a cell phone].”<sup>114</sup>

Although accessing the internet from a cell phone or other portable mobile device has been possible for some time, the introduction of Apple’s iPhone in 2007 substantially shifted the landscape for mobile use of the internet. The advances in the mobile web since then have been startling. In an article from late that year, the New York Times reported on the sad state of the mobile web, stating that “the wireless communications business smacks of a soap opera, with disaster lurking like your next dropped call” and that “[f]or now, widespread use of the mobile Web remains both far off and inevitable.”<sup>115</sup> Since then, mobile internet usage has skyrocketed. An AdMob study reported 10 million requests from 92 different countries in May 2010, up from 27 countries in May 2008, with all global regions increasing traffic at least four times in the last two years.<sup>116</sup> But “smartphones” – devices like iPhones or phones running the Android operating system that offer a relatively rich mobile web experience – remain relatively uncommon; a 2010 Forrester report found that while 82% of Americans own cell phones, and about half



of American cell phone owners have internet access from their cell phones, less than a fifth of American cell phone owners have full-featured smartphones.<sup>117</sup> A 2010 Pew survey confirms that while the percentage of Americans who access the internet from their mobile phones continues to grow rapidly, it remains dwarfed by the share who use more established features like text messaging.<sup>118</sup> This trend has been accompanied by a significant shift in the way users experience the web today, and accordingly, the way websites are designed. Many popular sites, now recognizing the importance of the mobile space, have separate site designs targeted at mobile users—Google, Facebook, and YouTube, for example, all offer versions of their web pages optimized for mobile browsing. The particular constraints of the mobile web that necessitate these specialized sites has drawn much interest from user experience specialists. The World Wide Web Consortium (W3C) even went so far as to say that “[p]eople with disabilities using computers have similar interaction limitations as people without disabilities who are using mobile devices,”<sup>119</sup> and subsequently published guidelines for mobile web best practices in 2008.<sup>120</sup>

The importance of the mobile web, however, extends beyond simply extending desktop use to a different platform. Mobile internet devices often offer sensors uncommon in traditional computing, such as GPS systems, cameras, compasses, and gyroscopes, and apply more common sensors, such as microphones, in new settings, offering powerful new functionality. Location-aware services are one of the most prominent categories of such new tools, as companies like Foursquare, Gowalla, Yelp, and Facebook have integrated or based services around *where* the user is. CNN Money, noting this trend, cited an ABI Research study claiming that 335 million North American consumers would be using mobile location-based services by 2012.<sup>121</sup> Other tools take advantage of different mobile device sensors to enable innovative methods of information discovery. Examples include Google Goggles, which “lets you use pictures taken with your mobile phone to search the web ... [which is] ideal for things that aren’t easy to describe in words... [like] books & DVDs, landmarks, logos, contact info, artwork, businesses, products, barcodes, or text,”<sup>122</sup> and Shazam, a “query-by-example (QBE) music search service that enables users to learn the identity of audible prerecorded music by sampling a few seconds of audio using a mobile phone as a recording device.”<sup>123</sup> The application of computing technologies in devices with powerful new sensors and input methods that are used in a much more diverse set of circumstances and venues offers a wide range of new possibilities, which are only beginning to be explored.

Mobile users also may encounter the internet in very different ways than simply accessing a web page via a browser. In many recent generations of mobile devices (such as the iPhone or devices running the Android operating system) access to the internet may be mediated through an “app,” an “end-user software applications that are designed for a cell phone operating system and which extend the phone’s capabilities by enabling users to perform particular tasks,”<sup>124</sup> often drawing on remote networked information in the process and providing a mediated and mobile-friendly interface for data available via the web. According to Pew, “Of the 82% of adults today who are cell phone users, 43% have software applications or ‘apps’ on their phones. When taken as a portion of the entire U.S. adult population, that equates to 35% who have cell phones with apps... Yet having apps and using apps are not

synonymous. Of those who have apps on their phones, only about two-thirds of this group (68%) actually use that software. Overall, that means that 24% of U.S. adults are active apps users.”

### ***Cloud computing & web applications***

A trend away from relying on local applications and locally stored data has accompanied users’ increasing shift towards a more mobile, multi-device paradigm of internet use. Users increasingly rely on “cloud computing,” “an emerging architecture by which data and applications reside in cyberspace, allowing users to access them through any web-connected device.”<sup>125</sup> According to Pew, “some 69% of online Americans use webmail services, store data online, or use software programs such as word processing applications whose functionality is located on the web.”<sup>126</sup> According to Tim O’Reilly, “the potential of the web to deliver full scale applications didn’t hit the mainstream until Google introduced Gmail, quickly followed by Google Maps, web-based applications with rich user interfaces and PC-equivalent interactivity. The collection of technologies used by Google was christened AJAX... [and enables] web developers [to] finally [be] able to build web applications as rich as local PC-based applications.”<sup>127</sup>

In addition to offering viable web-based alternatives to tasks that traditionally required a desktop application, these cloud computing services offer benefits to both service providers and end users. From the point of view of service providers, cloud computing offers “the appearance of infinite computing resources available on demand ... [which] eliminat[es] the need ... to plan far ahead for provisioning; ... the elimination of an up-front commitment ... allowing companies to start small and increase hardware resources only when there is an increase in their needs; [and] the ability to pay for use of computing resources on a short-term basis as needed.”<sup>128</sup> For end users, a principal benefit of cloud applications is their ability to “[let] you access all your applications and documents from anywhere in the world, freeing you from the confines of the desktop and facilitating wholesale group collaboration.”<sup>129</sup>

Although the cloud computing approach enables the creation of a variety of new tools and services for saving, working with, and sharing content online, “... cloud users show high levels of concern when presented with scenarios in which companies might use their data for purposes users may or may not fully understand ahead of time. This suggests user worry over control of the information they store online. For nearly all of the scenarios shown, most users of cloud applications say they would be very concerned if their data were sold, used in marketing campaigns, not deleted as requested, or used for targeted ads.”<sup>130</sup> Furthermore, users may temporarily or permanently lose access to their data during technical difficulties by their service providers; for example, in early 2009, “There was a meltdown at bookmark sharing website Ma.gnolia ... [in which] the service lost both its primary store of user data, as well as its backup,”<sup>131</sup> leading to “all of its user data [being] irretrievably lost.”<sup>132</sup>

### ***Mashups, web services, and the semantic web***

Another common feature of web 2.0 is the so-called “mashup,” a web application that “spreads roots across the Web, drawing upon content and functionality retrieved from data sources that lay outside of its organizational boundaries.”<sup>133</sup> An early example of a web application mashup was HousingMaps.com, “a mashup of the listings from Craigslist.com and Google Maps” that supports searching for housing listings via a map interface.<sup>134</sup> Such tools that draw upon disparate datasources

are an increasingly common class of web application, and are dependent on, in the example of HousingMaps, “Google’s choice to make its maps application interface open for anyone to use and Craigslist’s similar choice to make its data freely available in an open and structured format,” which “allowed for an innovation that neither company could have predicted would emerge.”<sup>135</sup> Many information providers have emphasized making information available in easily reusable formats, hoping to encourage the development of a rich ecosystem of innovation drawing on their data; for example, the Bay Area Rapid Transit system (BART) provides a set of resources for developers,<sup>136</sup> seeking to create “competition among developers ... to see who can serve [their] customers best.”<sup>137</sup>

Many such mashups and other innovative uses of the internet rely on the growing prevalence of web services and Application Programming Interfaces (APIs), which “make software functionality available over the Internet so that programs ... can make a request to a program running on another server (a web service) and use that program’s response in a website, WAP service, or other application.”<sup>138</sup> Such web services “represent an industrywide response to the need for a flexible and efficient business-collaboration environment. Technically, it’s a way to link loosely coupled systems without binding them to a particular programming language, component model or platform. Practically, it represents a discrete business process with supporting protocols that functions by describing and exposing itself to users of the Web and being invoked by a remote user and returning a response.”<sup>139</sup>

But this is not the only approach that can be used to enable information reuse; the “linked data” approach, which builds on the notion of the “semantic web” advocated by Tim Berners-Lee, has grown in popularity in recent years, although still remaining far from the mainstream. In a seminal article from 2001, Tim Berners-Lee advocates for the potential of what he terms “the semantic web,” a system in which “information is given well-defined meaning, better enabling computers and people to work in cooperation.”<sup>140</sup> By naming and classifying data into discrete categories, the semantic web “enable[s] machines to comprehend semantic documents and data,”<sup>141</sup> aiming to lend greater meaning and purpose to the way machines process information. Associating information with meaningful tags allows computers to process our searches in more intelligent ways—for example, as Berners-Lee states, “an intelligent search program can sift through all the pages of people whose name is ‘Cook’ (sidestepping all the pages relating to cooks, cooking, the Cook Islands, and so forth...”<sup>142</sup> By associating “Cook” with a name tag, we can indicate to an intelligent computer what sort of information that represents—in a sense, enabling the machine to comprehend the data.

The linked data approach builds on this concept, and is generally a reaction to the way in which “Web APIs slice the Web into walled gardens” via proprietary interfaces.<sup>143</sup> Linked data, “in contrast to the full-fledged Semantic Web vision... is mainly about publishing structured data in RDF using URIs rather than focusing on the ontological level or inferencing. This simplification – just as the Web simplified the established academic approaches of Hypertext systems – lowers the entry barrier for data provider, [and] hence fosters a wide-spread adoption.”<sup>144</sup> While “web APIs are accessed using a wide range of different mechanisms, and data retrieved from these APIs is represented using various content formats, ... Linked Data commits itself to a small set of standardized technologies: URIs and HTTP as identification and access mechanism, RDF as content format. Using a single set of technologies instead of relying on diverse interfaces and result formats allows data sources to be more easily crawled by search engines

and accessed using generic data browsers.”<sup>145</sup> Linked data represents an alternate approach to enabling reuse of information on the web, and continues to grow in popularity; for example, the Library of Congress has developed a site that “makes LC owned or maintained authorities and vocabularies available as Linked Data,” allowing Library of Congress Subject Headings and other features to be integrated into linked data applications.<sup>146</sup>

### ***Web 2.0 & participatory media***

Another related shift in how users engage with the internet in recent years is the rise of “web 2.0,” a term coined by Tim O’Reilly that describes,

“an ‘architecture of participation’ – a constellation made up of links between web applications that rival desktop applications, the blog publishing revolution and self-service advertising. This architecture is based on social software where users generate content, rather than simply consume it, and on open programming interfaces that let developers add to a web service or get at data. It is an arena where the web rather than the desktop is the dominant platform, and organization appears spontaneously through the actions of the group, for example, in the creation of folksonomies created through tagging.”<sup>147</sup>

The idea that “applications ... literally get better the more people use them, harnessing network effects not only to acquire users, but also to learn from them and build on their contributions”<sup>148</sup> is core to the notion of web 2.0. Benkler coined the term “commons based peer production” to describe this phenomenon, which he describes as “depend[ing] on very large aggregations of individuals independently scouring their information environment in search of opportunities to be creative in small or large increments. These individuals then self-identify for tasks and perform them for a variety of motivational reasons.”<sup>149</sup> The increasing popularity of websites driven by this phenomenon, including YouTube, Flickr, Wikipedia, and many more led Time Magazine to declare its Person of the Year for 2006 to be “you... for seizing the reins of the global media, for founding and framing the new digital democracy, for working for nothing and beating the pros at their own game,” celebrating the power of the internet to “[bring] together the small contributions of millions of people and making them matter.”<sup>150</sup>

The term “crowdsourcing” has been applied to this kind of highly distributed collaborative effort organized via the internet; “crowdsourcing uses social engagement techniques to help a group of people achieve a shared, usually significant, and large goal by working collaboratively together as a group... Crowdsourcing relies on sustained input from a group of people working towards a common goal, whereas social engagement may be transitory, sporadic or done just once.”<sup>151</sup> Clay Shirky charts a wide range of examples of how technology is “making it easier for groups to self-assemble and for individuals to contribute to group effort without requiring formal management ... [and has] radically altered the old limits on the size, sophistication, and scope of unsupervised effort” in his book *Here Comes Everybody*.<sup>152</sup>

At the same time, critiques of various aspects of the web 2.0 environment have begun to appear. Jaron Lanier has been at the forefront of opposition to what he sees as the tendency of many services such as

Facebook to enforce conformity rather than allow for three-dimensional person-hood online.<sup>153</sup> Malcolm Gladwell has, somewhat similarly, critiqued Twitter for failing to build the rich relationships that are needed to motivate social action.<sup>154</sup> danah boyd has been a major contributor to a broad conversation highlighting the problematic ways in which social networking sites may reinforce – rather than bridge – social divisions.<sup>155</sup> These new technologies have sparked a robust debate about the societal effects of these new technologies.<sup>156</sup>

## **Libraries**

Broad environmental changes driven by the increasing ubiquity of the internet have substantially shifted the ways that libraries (of all kinds) and library resources are used, and consequently, the roles played and services provided by the library.

### ***Economic challenges***

This section will not go into great detail on the broad strokes of the current (as of February 2011) economic and fiscal crisis, but will instead focus on its impact specifically on libraries.

### **Public libraries**

Despite the growing range of vital community services provided by public libraries, many public libraries face an increasingly dire financial future. According to the American Library Association, “a majority (56.4 percent) of public libraries report flat or decreased operating budgets in FY2010, up from just over 40 percent in FY2009; and about 62 percent anticipated flat or decreased operating budgets in FY2011.”<sup>157</sup> Urban libraries have been particularly hard-hit: “The net effect of these changes is a sizeable drop in urban library operating budgets overall, with few even keeping pace with inflation (the Consumer Price Index rose 2.6 percent in 2009). In fact, they report the greatest dollar losses in expenditures, with an average decline of 29.5 percent, or about \$5 million in each library’s operating budget in FY2010, and additional average reductions of 5 percent anticipated in FY2011, or more than \$600,000 per library.”<sup>158</sup>

The sources of this funding are also changing. Local funding has declined, as “expenditures for staff salaries and ‘other’ expenditures ... shifted in FY2010 from FY2009 away from local/county and soft funding sources (fee/fines, donations, etc.) to federal and state sources.” As the report goes on to say, “Twenty-four states reported cuts in state funding for public libraries between FY2009 and FY2010. Of these, nearly half indicated the cuts were greater than 11 percent—almost four times the number that reported this was the case in the previous fiscal year.”<sup>159</sup>

The impact of these budget cutbacks cannot be overstated; in 2010, “13 states reported they were aware of public library closures due to budgetary reasons in the previous 12 months.”<sup>160</sup> These cuts have been widespread, and have affected even the traditionally best funded public libraries in the country: “Last year, Seattle shut down all its libraries and furloughed staff for two weeks after the city cut the system’s budget by five percent. Minneapolis Public Library has eliminated 33 positions and is considering canceling the construction of its new downtown library in anticipation of a \$25 million budget shortfall over the next 10 years. Meanwhile, in Queens, N.Y., a 20 percent budget cut led to layoffs for 100 library staffers and reduced operating hours in many branches to only 30 per week.”<sup>161</sup> Due

to these kinds of cuts, “a vital network of services could be devastated, library officials and employees say, affecting far more than just the hours that people can take out books.”<sup>162</sup> Despite their community importance, libraries lack the funding to maintain their existing technology: “Cost is the leading factor affecting their ability to add or replace computers and improve bandwidth. Nearly 59 percent of libraries report they have no replacement schedule, up significantly from 38 percent last year. Of the 40 percent with a schedule, 26.7 percent report they will be unable to maintain the schedule this year.”<sup>163</sup> Although obviously circumstances vary on the local level, public libraries nationwide generally face serious budget threats that may limit their ability to effectively serve their communities.

### **State libraries**

State libraries have also faced significant challenges in the current economic climate. For example, in 2009, the governor of Michigan “issued an executive order that abolished the Department of History, Arts, and Libraries, transferring the Library of Michigan to the Department of Education, with a mandate to effect cost savings... [and] a 10% budget cut for FY10 and a proposed 23% budget cut for the year that begins October 1.”<sup>164</sup> Again, the individual circumstances of state libraries vary widely, but according to the Institute of Museum and Library Services, “Funding for state library agencies remained flat from fiscal year (FY) 2004 to FY 2008, but the current economic downturn will likely decrease [State Library Agency] budgets. These resource reductions could play a significant role in determining the quality and quantity of state library agency services in the years to come.”<sup>165</sup>

### **Academic libraries**

Severe budget cuts have also hit many academic institutions and their libraries. Recent articles have described the funding challenges faced by private and public institutions of higher education alike; while “public higher education in general” is described as “at a point of particular peril,”<sup>166</sup> they are not alone, as “the financial outlook for private colleges will remain ‘challenged for at least the next 12 months,’ according to Moody’s Investor Service.<sup>167</sup> This financial situation is mirrored in academic libraries; “many academic libraries are facing major planned or potential budget cuts as the nation’s economic meltdown plays itself out. Online reports and announcements from major U.S. universities show that significant budget cuts are widespread among members of the Association of Research Libraries and other college and university libraries across the country.”<sup>168</sup> According to *Library Journal*, “libraries of all types and sizes are bracing for budget cuts the likes of which have not been seen in three generations... Severe losses in endowment revenue, which in the past insulated materials budgets to a degree, have left even larger and wealthier libraries facing cuts.”<sup>169</sup>

### ***Changing research behaviors and use of libraries***

Americans have come to rely heavily on the internet to find information and assistance in solving problems. The Pew Research Center’s Internet and American Life Project asked Americans where they turn for help in dealing with common questions on topics such as education, starting a business, or getting information about government aid programs, and found that “nearly three in five adults (58%) say they used the internet for help; 53% say they sought out professional advisors, such as doctors, lawyers or financial experts; just under half (45%) turned to those closest to them, friends and family members, for advice and help; about a third of respondents say they looked to newspapers, magazines and books (36%) or directly contacted a government office or agency (34%); and about one in six looked

to television or radio. Just about one in eight (13%) went to the public library.”<sup>170</sup> While the public library trails most other types of assistance, this assistance is particularly effective: “among those who received help at the library, 88% say they found a lot or some of what they were seeking, including 38% who say a lot. By contrast, among those who did not seek help at the library, only 53% found a lot or some of what they were seeking, including 29% who say a lot.”<sup>171</sup>

Although the public library is often not the first place Americans turn for help in finding information, “most adults still use libraries. Some 53% reported going to a local public library in the past 12 months. The profile of public library users is similar to that of internet users. Those who visited libraries in the past year tend to be younger adults, with higher incomes, who have attended college. There are no significant differences in library usage by race and ethnicity.”<sup>172</sup> But the roles and services provided by the public library have changed substantially over time: “More than two-thirds of those who went to the public library (68%) used a computer there,” in many cases to “look up information on the internet” or “see what materials the library had to offer.”<sup>173</sup> Librarians remain important to Americans’ use of the library: “Nearly seven in ten library users (69%) say they received some assistance from the library staff on their visits.”<sup>174</sup> The kinds of assistance rendered by librarians range widely: “Thirty-nine percent of library users report receiving help on reference services and 38% report one-on-one instruction in using computers or the internet. Sixteen percent say they received help using printed materials. Six percent say they used an electronic or interactive help system and 4% say they received tutorials or took classes from library personnel. Seven percent reported using some other kind of assistance.”<sup>175</sup>

Librarians also warn about “an illusion being created that all the world's knowledge is on the Web” and that “as more museums and archives become digital domains, and as electronic resources become the main tool for gathering information, items left behind in nondigital form ... are in danger of disappearing from the collective cultural memory, potentially leaving our historical fabric riddled with holes.”<sup>176</sup> Similarly, for many users, efforts to discover information both begin and end with a general purpose search engine; “the search engine, be that Yahoo or Google, becomes the primary brand that they associate with the internet. Many young people do not find library-sponsored resources intuitive and therefore prefer to use Google or Yahoo instead: these offer a familiar, if simplistic solution, for their study needs.”<sup>177</sup>

Just as the general public has shifted towards increasingly exclusive reliance on the internet to address their information needs, the research behaviors of the users of academic libraries have also shifted substantially in an increasingly electronic environment. According to the Ithaka S+R Faculty Survey 2009, a uniquely large-scale survey of faculty members in the United States that has been conducted regularly over the past ten years, “basic scholarly information use practices have shifted rapidly in recent years, and as a result the academic library is increasingly being disintermediated from the discovery process” for scholars.<sup>178</sup> According to CIBER, “[academic] library users demand 24/7 access, instant gratification at a click, and are increasingly looking for ‘the answer’ rather than for a particular format: a research monograph or a journal article for instance. So they scan, flick and ‘power browse’ their way through digital content, developing new forms of online reading on the way that we do not yet fully understand (or, in many cases, even recognise).”<sup>179</sup> More broadly, a 2010 OCLC study found that information consumers are “strongly tied to search engines as the starting point for information... not a single survey

respondent began their information search on a library Website.”<sup>180</sup> Generally, users “from undergraduates to professors... exhibit a strong tendency towards shallow, horizontal, ‘flicking’ behaviour in digital libraries,” applying “information seeking behaviour [that] can be characterised as being horizontal, bouncing, checking and viewing in nature. Users are promiscuous, diverse and volatile.”<sup>181</sup> “Satisficing” behavior– “choosing decision outcomes that are good enough to suit decision makers’ purposes, but are not necessarily optimal outcomes” – is the norm for many users, and “other occurrences as stop rules (physical discomfort onset, boredom onset, preset time limits, and snowballing) ... often forces young searchers to select disappointingly inferior outcomes.”<sup>182</sup>

Of course, users’ perceived reliance on the open internet may to some degree be illusory. Both in academia and among the general public, many users think they are able to access needed information without the intermediary of the library; this perception often overlooks the substantial effort and expenditures of resources by libraries to arrange and facilitate access to licensed resources.<sup>183</sup> And libraries may also be heavily involved in the creation and implementation of tools and services that support this perception, such as by developing guides and topical portals. It is important to note that although many users increasingly perceive themselves as disintermediating the library from their research processes, this perception may have more to do in some cases with a decline in the *brand* of the library than in an actual change in *functional* dependence on the library.

### ***Library services***

All different kinds of libraries are seeking to define new roles and services that will sustain their value and best serve their constituents’ needs in a rapidly changing environment. Historically, most libraries provided services to help users identify, locate, and make use of relevant materials, as in a pre-digital era most users lacked the ability to perform many of these tasks without the assistance of an expert librarian. As more and more users have become able to perform such basic tasks on their own, many libraries have shifted their emphasis and staff resources towards providing more targeted or added-value services, often focusing on developing self-sufficiency skills among their users.

### **Public libraries**

These general changes have played out very differently in different kinds of libraries. Public libraries “started out in the nineteenth century as ‘street corner universities,’” “subsequently... moved into lending fiction books, [...] records, tapes, CDs and DVDs, and ... to espouse reader development,” and most recently “have generated an ever-increasing range of services, including mobile libraries, services for ethnic minorities, children and the elderly, homework clubs, e-government portals, cybercafes, newspapers and health advice, in an attempt to be all things to all people.”<sup>184</sup> And “more than half [of public libraries]... ‘currently offer’ or ‘plan to offer’ services designed for mobile users.”<sup>185</sup> Still, in 2010, OCLC found that “the most popular activities among library users continue to be borrowing books and leisure reading... the library brand is ‘books.’”<sup>186</sup>

One of the most important roles public libraries have assumed in recent years has been the provision of free access to the internet to all, including to underserved communities; according to the American Library Association, “two-thirds of library branches report they are the *only* provider of free public computer and Internet access in their communities.”<sup>187</sup> This widespread provision of free internet access



via public libraries stems in part from the success of the Telecommunications Act of 1996, which “instructed FCC to establish a universal service support mechanism to ensure that eligible schools and libraries have affordable access to and use of certain telecommunications services for educational purposes.”<sup>188</sup> The resulting Schools and Libraries Universal Service Support Mechanism (commonly referred to as the E-rate program)<sup>189</sup> has provided discounted rates for computers and internet service to schools and public libraries nationwide, supporting the development of a rich national network of internet access points in public libraries. While only 28% of libraries offered visitor access to the internet in 1996, “[t]oday, almost all public library branches offer visitors free access to computers and the Internet [...] Internet access is now one of the most sought after public library services, and it is used by nearly half of all visitors.”<sup>190</sup>

In addition to simply providing access to the internet, public libraries have also taken on a variety of roles in “boosting their patrons’ technology proficiency and digital literacy.”<sup>191</sup> According to the American Library Association, “nearly 90 percent of all libraries report providing technology training, including point-of-use technology training, formal classes and online tutorials. Urban libraries (59.2 percent) are most likely to provide formal classes. Libraries report providing services to job-seekers is the most vital public Internet service they offer, with 90.8 percent of all libraries reporting it is very important or the most important service available. Providing access to government information follows closely, with 87.6 percent of libraries reporting that this service is important or the most important.”<sup>192</sup>

Especially in an environment of economic downturn, the public library plays a critical role in the life of its community; in their 2010 study, OCLC focused on the importance of the library to “economically impacted Americans,” finding that “economically impacted Americans are 50% more likely to visit their library at least weekly ... and are nearly a third more likely to visit at least once a month.”<sup>193</sup> In addition to providing free access to cultural and entertainment materials, such as books and DVDs, the library is “vital in providing employment resources to the economically impacted,” and “economically impacted Americans who are using the library for computer and Internet access find real economic value in these offerings. For most, it is their only alternative.”<sup>194</sup>

### **Academic libraries**

Academic libraries have generally sought to shift away from “warehousing large book collections, ‘just-in-case-they’re needed’, [which] is rapidly becoming redundant as users turn their backs on the library as a physical space,”<sup>195</sup> and towards offering higher-value services targeting the particular needs of local constituents. Once, academic libraries were a necessary part of the research processes of students and faculty alike, but as these constituents are increasingly able to accomplish their goals online, academic libraries struggle to find new and vibrant roles.

One major trend in academic library services has been the creation of spaces intended to support student learning and group work, called “information commons” or “learning commons.” In the eyes of some, “the information commons has in many ways come to substitute for the card catalog as a principal means of defining space as library space.”<sup>196</sup> With the emergence of research tools online and the increasingly mobile nature of technology, the centrality of libraries as research destinations has diminished—“once students had the option of using their computers anywhere on campus—in their

residence halls, at the local cyber café, or under a shady tree in the quad—why would they need to go to the library?”<sup>197</sup> Even with their decreasing importance in research, however, Freeman claims that academic libraries occupy an important place in the university community. As a building, “the library also serves a significant social role. It is a place where people come together on levels and in ways that they might not in the residence hall, classroom, or off-campus location. Upon entering the library, the student becomes part of a larger community—a community that endows one with a greater sense of self and higher purpose.”<sup>198</sup> From this realization, he argues, “by its architectural expression and siting, [libraries] must continue to reflect the unique legacy and traditions of the institution of which it is part. It must include flexible spaces that “learn” as well as traditional reading rooms that inspire scholarship.”<sup>199</sup>

Many libraries have sought to align their services to serve the needs of undergraduates. They see this as a critical concern of their campuses and as an area where they can add real value. Gibbons and Foster, drawing on a multifaceted ethnographic research project, argue for “user-centered design” of libraries that develops services and spaces based on investigations of student practices and attitudes; following this process, the University of Rochester library has “made changes in reference services, enlarged our partnership with the college writing center, and altered library instruction... [and has planned] forthcoming changes to our library facilities and website.”<sup>200</sup> For many libraries, teaching and the development of information literacy skills in undergraduates are roles that are anticipated to grow even more significant in the future. For example, arguing that “the academic librarian has, for the greater part of the existence of that breed within academe, been primarily concerned with educating students,” Owusu-Ansah has written that “librarians... must accept formally their teaching role and engage actively in it, not sporadically, but as a generally accepted mandate of the profession and of the academic library in academe.”<sup>201</sup> In a recent ACRL report, Oakleaf describes a number of ways in which libraries can and should measure themselves against metrics of student success, emphasizing that while libraries have increasingly prioritized their roles supporting students, further assessment is needed to effectively demonstrate their contributions.<sup>202</sup>

In contrast to efforts to bring students and scholars into the library, many libraries have also begun to experiment with ways to bring library resources to users at their point of need, driven in part by the recognition that “since the advent of the Internet, traffic at reference desks has dropped off considerably, as much as 48 percent since 1991, according to the Association of Research Libraries... Reference services need to get online, get away from the desk, and scale up.”<sup>203</sup> For some libraries, this means “that library personnel are embedded in various departments to work with researchers on their own turf,” so “researchers benefit from on-site access not only to the library’s digital resources, but its human resources as well.”<sup>204</sup>

Other academic libraries have sought to develop a variety of new services that support the needs of researchers in a digital environment. This major trend is driven by the idea that “dealing with the ‘data deluge’ (as some researchers have called it) will be among the great challenges for science in the 21st century.”<sup>205</sup> For some, this means “helping [to develop] digital collections that link documents and data, enhancing distributed information systems and repositories, designing access via middleware to Web-based systems, and integrating information and technology literacy for end user education.”<sup>206</sup>

Furthermore, “the majority of academic libraries ... ‘currently offer’ or ‘plan to offer’ services to handheld devices. Priority services include mobile layout of the library’s website, mobile catalog interface, SMS reference (reference assistance via text messaging), and SMS (text message) notifications.”<sup>207</sup>

### ***Digital availability and the future of print collections***

Since the development of the modern research library a century ago, at least some library directors have craved the opportunity to collect with less redundancy across their individual libraries to build greater collections collectively and thereby in the aggregate better serve the information needs of users.<sup>208</sup> The gradual shift away from library collections that are locally built and maintained towards more and more intentional interdependence has grown out of library automation and the ability to share information about collections. By the mid 1980s, discussions about how to manage the tradeoffs between acquisitions and borrowing were not uncommon.<sup>209</sup> More recently, the shift to an increasingly digital environment for content has had significant implications for the management and preservation of print collections. These issues have become especially acute at a variety of academic libraries, including large research libraries, small college libraries, and law, medical, and engineering libraries.

According to Kieft,

“a major shift in the local/consortial, owned/accessed balance has occurred, and for an increasing number of users obtaining something fast and picking it up on the run is more important than where it comes from. In Ranganathan’s and Farber’s times, and even into the new century, having large numbers of printed books, journals, and other analog materials on site was the only way to ensure access to a lot of information fast. Now, driven by the broad communication, publishing, and knowledge distribution changes set in motion by the commercial exploitation of the Internet in the last 15 years, the access vs. ownership debate that started in the 1990s is being won decisively for many libraries and users by the access side, not least because of the affordances of electronic text and the pressures exerted by campuses to reuse library space and by the economic downturn of the last few years.”<sup>210</sup>

These environmental shifts have led to a growing interest, especially among academic libraries, in exploring new ways to manage print collections, with the broad goal of “provid[ing] the scholarly community the greatest possible richness and diversity of knowledge resources, minimiz[ing] inadvertent losses, and mak[ing] the most efficient use of available human and financial resources.”<sup>211</sup> This paired emphasis on efficiency and effectiveness recurs throughout the literature on new models for print collections management, as libraries seek both “to eliminate unnecessary duplication and [to] improve the depth and breadth of what’s available to [patrons].”<sup>212</sup>

This increasing prioritization by many of access over local collections has led many libraries to begin to question the value of maintaining local hard-copy collections of certain types of materials. Many libraries have considered drawing down on their local print collections or moving print collections “to off-campus storage facilities due to space issues and a diminishing need for on-site hard copies. [And] libraries everywhere are eliminating pricey subscriptions to printed academic journals, often opting for

less expensive digital versions.”<sup>213</sup> Generally, this interest stems from a perception that print collections of these materials are increasingly irrelevant in a world characterized by “the emergence of Web-based reference tools, e-books, digitized and born-digital content, and other technologies that some see as changing essential library functions.”<sup>214</sup> In some cases, libraries have simply discarded little-used print materials, but many also “have been developing off-site, high density warehouses where books and other materials can be stored efficiently but delivered quickly to readers who need them.”<sup>215</sup>

But while such local transitions may offer libraries substantial opportunities to repurpose space towards higher-value uses, “highly fragmented [and] typically not coordinated inter-institutionally” library decision-making has led to “a very real risk that so many copies may be discarded as to threaten the availability of certain materials in their original format.”<sup>216</sup>

### Scholarly journals

Much of the community momentum in this area began with print journal backfiles. Multifaceted research has confirmed a widespread preference for digital versions of scholarly journals among faculty (with certain disciplinary exceptions such as Art History). The landmark Collections Management Initiative, run by the University of California system, found that “electronic journals are popular, extensively used, and pervasive,” and far outweighed by the little use that print journal materials received, concluding that “it is most cost-effective if a group of libraries can share the cost of one print subscription housed in off-site storage... because the stored print copies will be rarely used, this strategy should have a minimal impact on the quality of library service.”<sup>217</sup> Faculty usage patterns have clearly impacted librarian attitudes and plans – according to Ithaka S+R’s 2006 survey of collection development directors, over 40% of collection development directors at major research libraries agreed strongly that “in the near future, it will no longer be necessary for our library to maintain hard-copy versions of journals.”<sup>218</sup>

In addition to a broad although not entirely pervasive user preference for digital versions of journals, journal backfiles “are ideal candidates for space reclamation for reasons that are well-known; large amounts of shelf space can be reclaimed with a relatively small number of titles (and decisions about those titles)... There is an economic sweet spot for consolidating print collections, and it can be found where duplication is highest and where holdings can be compared in semi-automated ways for ready decision-making. The extent of possible candidates may be great enough to remedy library and storage facility space problems without dipping into more costly monograph deselection projects or more risky restrictions on collection growth.”<sup>219</sup>

Many libraries have undertaken projects locally to reconfigure print collections management. Harvard’s “Single Copy” project for JSTOR materials, which seeks to reduce campus-wide duplication of print holdings of journals that are widely used in digital form is but one example.<sup>220</sup> OhioLINK, the academic libraries in Florida, the University of California system, and ASERL are just a few examples of groups of libraries that already have or are looking to de-duplicate certain of their holdings.

More broadly, libraries are looking for system-level analysis and decision-support frameworks, in response to which Ithaka S+R developed the *What to Withdraw* approach to assessing print retention

requirements in the wake of digitization.<sup>221</sup> Today, the WEST project is working to “develop a shared retrospective journals repository among research libraries in the Western Region of the U.S.,” bringing on board a risk framework that allows not only for collective action but also for mindful decision-making. Following a planning stage, the WEST project received funding for initial implementation in January 2011.<sup>222</sup> And WEST is only one of the initiatives that would be brought together in a registry through the Center for Research Libraries to provide a system-wide analysis and assurance of archived print materials.<sup>223</sup>

### **Monographs and other books**

Although new models for print collections management have taken greatest hold in the area of journals, there is growing interest in broadly reconsidering the role of local print collections in library service provisions. As Kieft suggests, “the idea of a library is not dependent on ‘books’ (except in so far as information continues to be published only in that printed form), indeed that the library’s general collection is now, as it has always been, about interaction with and use of texts, sounds, and images, not about books, discs, film, or paper.”<sup>224</sup> In exploring user preferences and behaviors for remotely-held print monograph collections, the California Digital Library found a general consensus that, as one patron put it, “it’s not important that the books are here; it’s important that they’re available and can be here quickly.”<sup>225</sup> Predicated on assumptions such as the one that “robust user-initiated borrowing networks already exist and additional networks can be established; a cooperative regional and national plan for storage/archiving of journals will emerge in the next one to three years and for other kinds of materials in three to five years; the library will continue to grow, but it will grow mostly in electronic resources or through the strength, number, and variety of access partnerships,” and more, Kieft charts a course for the print collections of his college library in which “the College’s collection of printed books [will] consist of well-used titles of current and, in some fields, classic interest and those that have artifactual value in teaching.” This strategy emphasizes patron-driven acquisitions and “anticipat[ing] a day in the not-too-distant future when most libraries devote less campus space to housing print materials, most materials are delivered or accessed electronically by most users, most print materials are housed cooperatively, and libraries have turned much of their collection development energies to managing collection relationships and to creating and maintaining electronic materials.”<sup>226</sup> Although less mature than comparable efforts focusing on journal materials, the library community has begun to come together to “explore development of a framework for collaborative archiving and retention of print monograph collections,” most notably under the auspices of an IMLS-funded LYRASIS project that seeks to “address the complex challenges monographs present when libraries have increasing financial and facilities incentives to divest of older, less used print materials at the same time that they want to take advantage of the affordances of electronic text and ensure the preservation of the print record.”<sup>227</sup>

Although there is widespread agreement that, in the vast majority of cases (although with some disciplinary variations), use of scholarly journal materials has migrated almost entirely online, there is less of a research base to suggest whether other types of materials (such as monographs) will undergo a similar print-to-electronic transition. It is possible that print and electronic versions of these materials will have a very different functional relationship. Anticipating space savings, some librarians look forward to a moment when digital versions of monographs will supplant print – “the sooner professors

and students embrace e-books, the sooner their libraries can start saving money [by drawing down on print books] ... [but] that might not happen for a while.”<sup>228</sup> Unlike journals, “with monographs, the ability of a research library to rely on digital collections gets more complex... much content is not yet available electronically, business models are unsettled and multifarious, and universally satisfactory solutions for reading long-form scholarly works on a screen have not yet emerged.”<sup>229</sup> Although “some students and faculty are beginning to use e-books... [they often do so] as a complement to rather than replacement of print books.”<sup>230</sup> And as the increasing digital availability of monographs in digital form is often driven by “the needs of trade, rather than scholarly, book publishers, and audiences,” and the near-term availability of large collections of historical monographs is currently inextricably tied to the complexities of the Google Books project and lawsuits, “it is likely that a dual-format environment will obtain for books for the foreseeable future, forcing libraries to bear the costs of licensing and maintaining access to electronic versions as well as the costs of print.”<sup>231</sup> For these reasons, and given the substantial differences in the importance of and use of monographs in different scholarly disciplines, Spiro and Henry conclude, “It is probably premature for most libraries to decide to provide access only to electronic collections, particularly when it comes to monographs.”<sup>232</sup> Of course, they were writing before explosive growth was fully realized in reader devices such as the Kindle and tablets such as the iPad. These developments may portend broader changes for reading preferences.

Compounding the issue for monographs is the role of one outsize digitization initiative: the Google Books Project. Although historically, most digitization of library materials has proceeded under the auspices of libraries, publishers, or organizations (both for-profit and non-profit) that digitize materials principally to serve a library audience, mass digitization efforts such as the Google Books project take digitization out of the library and to the general public. In 2004, Google announced that it was “working with the libraries of Harvard, Stanford, the University of Michigan, and the University of Oxford as well as The New York Public Library to digitally scan books from their collections so that users worldwide can search them in Google.”<sup>233</sup> Based on their copyright status and arrangements with publishers and authors, these books may be viewable in the whole, in a limited form, or only as “snippets” of text. This project has been criticized by some for the quality of digitization and of the metadata that accompanies digitized works.<sup>234</sup> Vaidhyanathan describes “the quality of Google’s document scans... [as] too poor to serve the aims of preservation. In many cases, human hands obscure the text in Google Books images, and pages are missing or blurry. The quality of Google’s scanned images is far below that of library-run digital preservation efforts.”<sup>235</sup> It is difficult to fully assess these concerns, as little public data is available on the overall quality of materials digitized by Google and no large-scale investigation of quality has been performed to date.

In 2005, “the Authors Guild, the Association of American Publishers and a handful of authors and publishers filed a class action lawsuit against Google Books.”<sup>236</sup> A preliminary settlement has been reached in this lawsuit, which is still pending review by the court. If approved, this settlement would allow Google to “greatly expand the number of books that you can find, preview and buy through Google,” allowing Google to “make many ... out-of-print books available for preview, reading, and purchase” and offering new opportunities for access via libraries and universities.<sup>237</sup> The settlement, as well, has been criticized. Vaidhyanathan points out that, “if approved, [the settlement] would alter how

we think about copyright, culture, books, history, access, and libraries. Yet the public has had no say in how it will be constructed and run. No public policymaking body oversaw its creation. No legislature considered the notion of creating what amounts to a compulsory-license system.”<sup>238</sup> He also argues that in this environment “Google would assert itself as the mediator of the accessibility and affordability for this vast collection. No other firm could realistically hope to mount a competing service,” and that as a result “American libraries would be commercialized, essentially hosting Google vending machines.”

Many of these Google-digitized books, alongside other digitized library holdings, are hosted in the HathiTrust Digital Library, a library partnership that focuses on “preserving and providing access to digitized book and journal content from the partner library collections. This includes both in copyright and public domain materials digitized by Google, the Internet Archive, and Microsoft, as well as through in-house initiatives. The partners aim to build a comprehensive archive of published literature from around the world and develop shared strategies for managing and developing their digital and print holdings in a collaborative way.”<sup>239</sup> According to Constance Malpas’s study of the potential for HathiTrust to serve as the linchpin in the library community’s efforts to rethink the management of print monographs following their digitization, “the shared digital repository is now larger than the average ARL library collection.” Much of its potential, however, may be dependent on the success of a settlement as described above.<sup>240</sup>

### **User dynamics**

Some libraries have faced challenges in taking local strategic initiative in these areas. Even deliberate and careful efforts to de-emphasize general collections in print format have often prompted concern from local constituents. For example, at Cal Poly Pomona, efforts to draw down on print journal collections led to accusations of “an agenda to get rid of print.”<sup>241</sup> Humanities faculty at Syracuse University responded with “fury... fueled by what looks like the emptying of shelves”<sup>242</sup> to the proposed move of books to an off-site facility, and “protesters ... upset over the culling of printed materials”<sup>243</sup> greeted plans for library renovations that would limit on-site print materials at Ohio State University. Many opponents of a move away from print emphasize “wanting to be able to browse the collection and have easy access to books they know they need or might stumble upon in the stacks,”<sup>244</sup> and “the value of browsing, and the possibility of coming across unexpected materials.”<sup>245</sup> While faculty attitudes and needs at a system or national level may point libraries in one direction strategically, there are complexities to managing these initiatives.

### **Digital collections and preservation**

In addition to impacting long-standing print collections management priorities and strategies, the library community has also faced the challenge of managing and preserving the growing and increasingly important sets of materials available in digital form. There are new questions about the appropriate balance between access and ownership, leading to debate in the library community about how to best support local needs and system-wide priorities. Similarly, as digital materials – including both digitized and born-digital content – grow in importance, the library community has faced the increasing challenge of developing sustainable models to ensure the long-term availability of materials in digital form.

There is much discussion about various approaches to special collections in a digital environment, such as Lewis's proposed emphasis on the curation of "digital versions of traditional special collections... [and] increasingly... born-digital documents and digital outputs of the research enterprise."<sup>246</sup> In this section, however, we focus exclusively on collections management and preservation considerations for general collections in digitized and born-digital forms.

For such materials, libraries have increasingly served a role in arranging for access to materials in digital form rather than building local collections. However, a perennial debate in the library community since the early 1990s has been about whether or not "this shift toward emphasis on access to materials rather than ownership of materials will eventually lead to the demise of the library and librarianship."<sup>247</sup> Some view the model of "libraries without collections" as inadequate, and they think it insufficiently provides for user needs and long term preservation and undermining the independent role of the library "to do what the private sector will not."<sup>248</sup> Despite these concerns, "most libraries have already accepted this [access] model for many classes of digital information by leasing access to databases or electronic journals instead of demanding their own digital copies."<sup>249</sup>

### Licensed remote access

One fundamental transformation wrought on the relationship between libraries and publishers by the print-to-electronic transition has to do with the shift from an environment in which "in the print information world, purchasers buy an object and own it outright, its re-use via copying governed by national copyright laws and overarching international intellectual property agreements" to a model in which "it is current practice for publishers or producers to lease or license information to customers, the use of that information then governed by contracts and contract law."<sup>250</sup>

Through these significant complexities, the "site license" model has become one of the most common relationships between libraries and publishers. This model enables libraries to provide unlimited access to materials for all users at their institution who authenticate with the library's systems, rather than limiting access to only certain access points on the campus, to a limited number of simultaneous users, or requiring the intervention of a librarian to moderate use. This model may pose additional challenges outside an academic context, however, due to a general reliance on IP-based authentication that may not be appropriate for, for example, the physically distributed user community of a public library. Proxy servers and VPNs have, however, extended the breadth of the site license model well beyond the physical site of the library or campus.

Seeking to maintain a favorable balance in this changing environment, the library community has developed rich sets of model licenses that "[give] a library a template for negotiating a favourable contract point-by-point with a vendor... [and protect] the vendor by clearly defining what the library plans to do with the product, and can also benefit both parties by eliminating unenforceable clauses."<sup>251</sup> The LIBLICENSE project, hosted by Yale University Library and funded by CLIR, originated with the goal of developing an "online, World Wide Web tool to assist academic research libraries in negotiating electronic licensing agreements," and has grown to encompass automated tools, analysis of license terms, and model licenses that aim to "'de-mystify' electronic resources licensing by enabling customers



as well as content owners to create their own license, rather than needing to always rely on attorneys to do this work.”<sup>252</sup>

Although licensed remote access has become the norm for many libraries, pricing and vendor bundling has been a perennial concern for libraries. For many librarians, “a key part of the problem ... is publishers’ so-called big deals. With the advent of online publishing, many universities started purchasing their subscriptions from large publishers in the form of bundled site licenses. These can allow electronic access to nearly all of a publisher’s subscription list at a price that depends on historical expenditure on print journals from that publisher. But while bundling electronic journals with print subscriptions provides researchers with extra access to journals, many librarians now find the long-term contract lock-ins inflexible, ... are struggling with the sustained price increases of print subscriptions, ... and [claim] to be unhappy with their big-deal set-up.”<sup>253</sup> Some libraries have more directly protested regular and substantial increases in journal pricing; in 2010 the California Digital Library reached out to its faculty to raise awareness of “a price increase of ‘unprecedented magnitude’ – more than the California system can take, given its dismal budget situation,” and explore “the possibility of subscription cancellations and a boycott.”<sup>254</sup>

### Local loading

Although most libraries license access to remotely-held databases of content, some libraries have instead created arrangements that allow them to “locally load” digital materials as the first point of use and to enable new services (deferring a discussion of “local loading” in a cached model for preservation purposes to another section below). For example, the Los Alamos National Laboratory “began to purchase content—articles and metadata—from publishers and store it in the library’s own digital archive. Instead of searching the Web for research papers, Los Alamos scientists search this local archive, and their activities remain confidential and secure.”<sup>255</sup> In addition to functional considerations, such local loading has the benefit of keeping usage patterns within an organization, especially critical for an organization with national security responsibilities such as Los Alamos.

But there are other benefits as well. For example, “local loading maximizes possibilities for integrating resources across publishers ... lead[ing] users to journals and articles they may not find when content is disbursed [across multiple remote databases]” and it “maximizes opportunities for integrating services and resources with course management applications, with ILL and citation management tools, [and] within research tools.”<sup>256</sup> Many of these services are far more difficult to provide on top of the types of licensed remote platforms discussed above; APIs may offer some ability to build such tools and services on licensed remote platforms, but these are often absent and may offer a narrower window of opportunity than would be possible with local collections.

In a modified version, content is sometimes loaded not strictly locally but rather at a consortial level, as has been the model for OhioLINK. Local loading requires investment in library-based servers and systems, seen by its proponents as well worth the cost given the increased services and value that the library can offer its local users. Walters and Skinner have suggested that “the strongest future for research libraries is one in which multi-institutional collaborations achieve evolvable cyberinfrastructures and services for digital curation,” and that “the alternative, a ‘go it alone’ strategy,

will only lead to dangerous isolation for practitioners, yielding idiosyncratic, expensive, and ultimately unsustainable infrastructures.”<sup>257</sup>

### Digital preservation

Given broad reliance on digital materials, the rise of “born-digital” content that has no print equivalent, and the increasing movement to deaccession print in favor of digital alternatives, widespread concern has also arisen across the library community about the long-term preservation of materials in digital form. In the words of Waters and Garrett, “rapid changes in the means of recording information, in the formats for storage, and in the technologies for use threaten to render the life of information in the digital age as, to borrow a phrase from Hobbes, ‘nasty, brutish and short.’”<sup>258</sup> Particular attention has been focused on scholarly journals, with the “Urgent Action Needed to Preserve Scholarly Electronic Journals” statement asserting that because “responsibility for preservation is diffuse, and the responsible parties—scholars, university and college administrators, research and academic libraries, and publishers—have been slow to identify and invest in the necessary infrastructure to ensure that the published scholarly record represented in electronic formats remains intact over the long-term... the digital portion of the scholarly record—and the ability to use it in conjunction with other information that is necessary to advance knowledge—[is] increasingly at risk.”<sup>259</sup>

Waters and Garrett describe some of the perceived challenges associated with archiving digital information (*italics added*):

- First, they emphasize that while “digital media can be fragile and have limited shelf life... given such rates of technological change, even the most fragile media may well outlive the continued availability of readers for those media,” leaving materials still extant but unable to be used.<sup>260</sup>
- Similarly, materials must remain able to be *discovered* – “for an object to maintain its integrity, its wholeness and singularity, one must be able to locate it definitively and reliably over time among other objects” – and understood in its original context, “the ways in which [materials] interact with elements in the wider digital environment.”<sup>261</sup>
- Additionally, they warn “that *owners* or custodians who can no longer bear the expense and difficulty [of maintaining digital materials] will deliberately or inadvertently, through a simple failure to act, destroy the objects without regard for future use.”<sup>262</sup>
- Furthermore, digital materials pose unique challenges due to “the way that the content is fixed as a discrete object,” as “if an object is not fixed, and the content is subject to change or withdrawal without notice, then its *integrity* may be compromised and its value as a cultural record would be severely diminished.”<sup>263</sup>
- Finally, they highlight the challenge of *provenance*, as “to preserve the integrity of an information object, digital archives must preserve a record of its origin and chain of custody.”<sup>264</sup>

Across the community, attempts have been made to develop definitions of digital preservation that encompass this variety of concerns. These efforts emphasize the multifaceted efforts required to effectively preserve digital materials. The American Library Association has put forward one definition, which states that “digital preservation combines policies, strategies and actions to ensure access to reformatted and born-digital content regardless of the challenges of media failure and technological

change. The goal of digital preservation is the accurate rendering of authenticated content over time.”<sup>265</sup> Portico, a digital preservation service that is part of ITHAKA, has put forward another, suggesting that “the key goals of digital preservation include: usability – the intellectual content of the item must remain usable via the delivery mechanism of current technology; authenticity – the provenance of the content must be proven and the content an authentic replica of the original; discoverability – the content must have logical bibliographic metadata so that the content can be found by end-users through time; and accessibility – the content must be available for use to the appropriate community.”<sup>266</sup> Although these and other definitions emphasize different properties of preservation, they reflect significant system-wide emphasis on the long-term preservation of valued information.

Digital materials pose “a new set of challenges for libraries and archives,” due to “the problem of obsolescence in retrieval and playback technologies” as well as the fact that “new recording media are vulnerable to deterioration and catastrophic loss, and even under ideal conditions they are short lived relative to traditional storage media.”<sup>267</sup> Further issues arise given the shifting expectations of digital preservation—while “for some purposes, a preserved digital object must be a perfect surrogate for the original, replicating the full range of functionality, as well as the original ‘look and feel’ ... for other purposes, intensive preservation of this kind is unnecessary: perpetuating the object’s intellectual content alone, or even a diminished approximation of the original object, is enough.”<sup>268</sup>

Issues of permanence also play into the challenges of digital preservation. Technological changes contribute to “the fragility of digital storage media [which] considerably shortens the ‘grace period’ during which preservation decisions can be deferred. Issues of long term persistence can arise as soon as the time digital materials are created.”<sup>269</sup> Formats popular at one point in time can become obsolete later—the challenge of digital preservation, then, is not only to preserve the integrity of the file itself, but also to ensure that it is able to be understood later. Some argue, however, that translators and emulation software will enable access to historic documents, and that thus format transformations are unnecessary. For example, Rosenthal argues that as “there are few, if any, formats in wide use in 1995 that are difficult to render with current tools” and that “it is easy to emulate 1995 PCs, and quite possible to emulate most other architectures current in 1995 using virtual machine technology.” For Rosenthal, format obsolescence is not a significant concern; rather, “the only question is, did someone keep the bits for the operating system and the application as well as the document?”<sup>270</sup> He argues that proactive preservation activities such as “examination of the incoming content to extract and validate preservation metadata which is stored along with the content” and “the preemptive use of format migration tools to normalize the content by creating and preserving a second version of it in a format the repository considers less likely to suffer obsolescence” may not “[increase] the chance of content surviving format obsolescence by enough to justify the increased costs it imposes.”<sup>271</sup>

Further adding to the complexity of digital preservation is the ephemeral nature of many digital resources. Unlike physical resources, whose content does not change once printed, digital resources are capable of changing dramatically (or disappearing entirely, for that matter) over the course of their lives. According to a 2003 study, about 13% of Internet references in articles 27 months old were inactive.<sup>272</sup> Internet references accounted for 2.6% of all references in that study, and the number has likely risen since then, making obsolete webpage references a serious concern. The Internet Archive, founded in

1996, aims to present one solution to this problem by archiving text, audio, moving images, software, and entire web pages—“prevent[ing] the Internet – a new medium with major historical significance – and other ‘born-digital’ materials from disappearing into the past.”<sup>273</sup>

One component of digital preservation is the assurance of the integrity of the digital object, so that a user can have sufficient trust that the materials they are using have not been inadvertently or maliciously altered. In the absence of many of the physical cues that can be used to evaluate integrity of physical objects, Lynch argues that “virtually all determination of authenticity or integrity in the digital environment ultimately depends on trust. We verify the source of claims about digital objects or, more generally, claims about sets of digital objects and other claims, and, on the basis of that source, assign a level of belief or trust to the claims.”<sup>274</sup> As “validating a claim that is associated with an object ultimately means nothing more or less than making the decision to trust some entity that makes or warrants the claim,”<sup>275</sup> some in the library community have suggested the need for materials to be hosted independently from their original producer, maintained by a trusted party.

Several major initiatives also exist in the library community to preserve important materials for posterity. One of the longest-running initiatives to secure long-term access to digital materials is LOCKSS (“Lots of Copies Keep Stuff Safe”). The LOCKSS system “is an open source, peer-to-peer, decentralized digital preservation infrastructure” that preserves digital content through a distributed network of inexpensive hardware to keep down costs while providing for an “on the fly” format migration as needed.<sup>276</sup>

Used in a variety of organizational contexts, “the LOCKSS system requires at least seven instances of any particular piece of content for preservation to be assured.”<sup>277</sup> Beyond this minimum threshold, however, Rosenthal has warned that “the number of copies needed cannot be discussed except in the context of a specific threat model; the important threats are not amenable to quantitative modeling; [and] defense against the important threats requires many more copies than against the simple threats, to allow for the ‘anonymity of crowds.’”<sup>278</sup>

A variety of organizations and trust networks have employed the LOCKSS system to support their collaborative goals of maintaining various kinds of digital materials. For example, the LOCKSS Alliance “preserves materials that are generally available on the web, including subscription-only material. Anyone can participate in this network for free. Sufficient replication is ensured because the materials preserved in the public network are those that the wider community has agreed they wish to preserve.”<sup>279</sup> Several other collaborations make use of the LOCKSS technology to support “private LOCKSS networks” that “hold material for smaller communities.”<sup>280</sup> These different networks may target different kinds of materials, have a wide range of organizational structures, and be supported by diverse sustainability models; whatever their organization, “the LOCKSS system requires at least seven instances of any particular piece of content for preservation to be assured.”<sup>281</sup> Beyond this minimum threshold, however, Rosenthal has warned that “the number of copies needed cannot be discussed except in the context of a specific threat model; the important threats are not amenable to quantitative modeling; [and] defense against the important threats requires many more copies than against the simple threats, to allow for the ‘anonymity of crowds.’”<sup>282</sup>

Building on the LOCKSS system, “CLOCKSS (*Controlled* LOCKSS) is a not for profit joint venture between the world’s leading scholarly publishers and research libraries whose mission is to build a sustainable, geographically distributed dark archive with which to ensure the long-term survival of Web-based scholarly publications for the benefit of the greater global research community.”<sup>283</sup> While LOCKSS “is about libraries preserving their local collections, including thesis, images, AND subscription content from participating publishers,” CLOCKSS is a “closed system” that distributes published content to “geographically, politically, and geologically disparate” institutions around the world and makes them freely available to the world in the case of “trigger events” such as a publisher going out of business or ceasing to provide access to materials.<sup>284</sup> CLOCKSS has been funded by a network of libraries and publishers, and recently began adding e-books to its e-journal content<sup>285</sup>.

Another digital preservation effort is Portico,<sup>\*</sup> a non-profit “centralized repository of tens of thousands of e-journals, e-books, and other electronic content, replicated to ensure security.”<sup>286</sup> Portico emphasizes “long-term content management,” including an ingest and normalization process for source files.<sup>287</sup> Portico focuses on “e-journal titles,” additionally including “e-book titles, and d-collections,” and makes these materials available to participants for usage following trigger events. Portico has been funded by a combination of library and publisher participants, along with a number of grants. In 2009, the Center for Research Libraries “certified Portico as a trustworthy digital repository” according to the “criteria included in the Trustworthy Repositories Audit and Certification checklist, and other metrics developed by CRL on the basis of its analyses of digital repositories.”<sup>288</sup>

HathiTrust, “a digital repository for the nation’s great research libraries,” has also prioritized digital preservation, stating a commitment “to preserving the intellectual content and in many cases the exact appearance and layout of materials digitized for deposit” and “to bit-level preservation and format migration of materials created according to these specifications as technology, standards, and best practices in the digital library community change.”<sup>289</sup> Unlike CLOCKSS and Portico, HathiTrust has not incorporated materials from publishers, but rather ingests the digitized materials from its member libraries (including, significantly, materials from many of the library participants in the Google book digitization project). This includes a large and growing number of government documents, not only incidentally but also strategically.<sup>290</sup>

In addition to these community-driven efforts, many countries have invested in national-level digital preservation efforts. For example, the National Library of the Netherlands (Koninklijke Bibliotheek) has a dedicated Digital Preservation department for its e-Depot, which was originally “designed to preserve the electronic publications of the Dutch publishers, in agreement with the Dutch voluntary deposit scheme,” and has since ingested materials from a wider range of publishers as well as preserving “masters resulting from major Dutch digitisation programmes, the contents of the Dutch institutional repositories and the Dutch national web archive.”<sup>291</sup> In addition to performing local migration and emulation practices aimed at preserving these resources for the long term, the KB also participates in the PLANETS project and other collaborative efforts to build shared preservation infrastructure. Closer to home, the Library of Congress “is putting a variety of digital stewardship resources into action... [to

---

\* Portico is, like Ithaka S+R, a part of the ITHAKA not-for-profit organization.

support] the Library's mission to sustain and preserve a universal collection of knowledge and creativity for future generations."<sup>292</sup> It has spearheaded the National Digital Information Infrastructure & Preservation Program with the goal of developing "a national strategy to collect, preserve and make available significant digital content, especially information that is created in digital form only, for current and future generations."<sup>293</sup> Many other national-level structures have been created to preserve digital information for the long term, often managed by a country's national library.

As digital preservation repositories grow more important in addressing system-wide collections management challenges, there has been increasing interest in developing protocols to audit and certify these repositories. Two major approaches to this process are the TRAC (Trustworthy Repositories Audit & Certification) and DRAMBORA (Digital Repository Audit Method Based on Risk Assessment) protocols. DRAMBORA is "a methodology for self-assessment" in which "digital curation is characterised as a risk-management activity; the job of digital curator is to rationalise the uncertainties and threats that inhibit efforts to maintain digital object authenticity and understandability, transforming them into manageable risks."<sup>294</sup> Unlike DRAMBORA, which is a tool for self-reflection, TRAC is conceived of as an audit framework, to be applied by a third party to certify an archive. TRAC "represents best current practice and thought about the organizational and technical infrastructure required to be considered trustworthy and capable of certification... [and] establishes a baseline definition of a trustworthy digital repository and lays out the components that must be considered and evaluated as a part of that determination."<sup>295</sup> Building on these TRAC criteria, several organizations have taken on responsibility for performing digital repository audits and certifying repositories based on their results; "the CRL will take on the US activities related to audit and certification. In the UK, the DCC will execute plans to be the audit and certification managing agency for UK repositories and archives; and in Germany, the second phase of the nestor project, funded by Germany's Federal Ministry of Education and Research, will move forward with building the audit and certification program for Germany using their Criteria Catalogue."<sup>296</sup>

### ***Visions for the future***

As libraries face tremendous environmental change, stampeding shifts in user needs and expectations, and widespread budget pressures, "librarians are increasingly called upon to document and articulate the value of academic and research libraries and their contribution to institutional mission and goals."<sup>297</sup> A recent ACRL report entitled "The Value of Academic Libraries" documents a broad range of ways in which libraries can assess and explain their value to stakeholders, emphasizing that "Community college, college, and university librarians no longer can rely on their stakeholders' belief in their importance. Rather, they must demonstrate their value."<sup>298</sup>

This emphasis on value to a host institution is not limited to academic libraries; Rodger emphasizes that "value is not about the library but about its host system," pointing out that "libraries exist as parts of larger systems. Public libraries are part of cities, towns, and counties; school media centers are part of a school system; academic libraries are part of colleges and universities; special libraries are part of organizations, institutions, or corporations."<sup>299</sup> Rodgers argues that it is important that "we not stray too far from our understood importance to the host system. We can do more things, but we are in trouble if we stop doing those things that are understood to be part of our legitimizing story," and stresses that

“libraries need host systems more than host systems need libraries... [because] libraries receive resources and continuing legitimacy from host systems in return for creating value for them.”<sup>300</sup>

Housewright echoes this theme, extrapolating about the potential future of academic libraries from changes that have occurred in corporate libraries in recent years. Housewright suggests that “the case of the corporate library offers us a parallel example in which many of the academic library's roles are performed in a very different organizational context,” and that thus “corporate libraries [can] act ‘as bellwethers of change’ for the library world at large.”<sup>301</sup> The importance of implementing a “value-based, demand-driven mindset” is suggested to deal with a “scenario of disintermediation and financial pressure.”<sup>302</sup>

In addition to this movement to encourage a more value-focused conception of the library, there has also been community-wide interest in charting broad strategic directions for libraries in a digital age. This section presents a sampling of these visions.

### **Academic libraries**

Many visions focus on a particular sector of libraries; for example, much has been written about the future of the academic library. Lewis predicated his “Strategy for Academic Libraries in the First Quarter of the 21<sup>st</sup> Century” on the concern that “if libraries could not make a strong and clear case for their role, the money would go to the new student recreation center because that is what students and their parents asked about on the campus tour.”<sup>303</sup> To chart a more successful path forward for academic libraries, Lewis presents a five-point model: “1) complete the migration from print to electronic collections; 2) retire legacy print collections; 3) redevelop library space; 4) reposition library and information tools, resources, and expertise; and 5) migrate the focus of collections from purchasing materials to curating content.”<sup>304</sup> More recently, Lewis offered a “thought experiment” imagining a future in which libraries “radically rethink their fundamental approach to providing documents to users,” leading to a “User-Driven Purchase Giveaway Library” in which pervasive digital access and print-on-demand obviate the need for standing library collections.<sup>305</sup>

Daniel Greenstein, vice provost for academic planning and programs at the University of California System, suggested a more radical and pessimistic vision in which “the university library of the future will be sparsely staffed, highly decentralized, and have a physical plant consisting of little more than special collections and study areas.”<sup>306</sup> Economic stresses, he suggests, may make library administrators “more likely than ever to explore the dramatic restructuring of library operations,” focusing on “shared print and digital repositories” and increased outsourcing, leading to an overall downsizing of the library.<sup>307</sup>

The Association of Research Libraries recently released a set of “scenarios” for the future of research libraries, developed using “a strategy-related methodology many organizations can use to explore the uncertain landscape of the future external environment in which they may operate. The process is designed to make deeply held assumptions and beliefs explicit, and to test those beliefs and assumptions against the critical uncertainties facing the organization.”<sup>308</sup> Although these scenarios range widely in their visions of how researchers will perform their work in the year 2030, with radically different implications for libraries, a common thread among many scenarios is an emphasis on the

continuing decline of traditional funding models for universities and libraries. They implicitly expressed a belief that the current financial crisis is only the tip of an iceberg that will grow increasingly prominent in years to come.

A recent provocative op-ed in the Chronicle of Higher Education predicted the “deterioration and demise” of the academic library, “largely neglected and forgotten by a world that once revered it as the heart of the university.” The author cited the decline in value for library roles – especially those surrounding instruction of undergraduates – and the merging of libraries with information technology departments in the service of efficiency.<sup>309</sup> Respondents, however, took issue with this vision, calling out opportunities for libraries to take advantage of the same trends described in the initial article to carve out roles of continuing importance. Many of them pointed to online services as a pathway forward.<sup>310</sup>

Some visions target particular types of libraries even within the academic library community, recognizing that different kinds of academic libraries face very different priorities and pressures. For example, Kieft builds on Farber’s concerns that college libraries avoid “the university-library syndrome” (of focusing on collections-centric roles over teaching-centric roles) to suggest a new model for a small college library. In this model, Kieft significantly de-emphasizes local print collections, “regard[ing] much of what we buy as consumables rather than long-term investments” and imagining a future in which “libraries have turned much of their collection development energies to managing collection relationships and to creating and maintaining electronic materials,” thus enabling “the college library ... both to spend more time on its teaching mission with students even as it offers them the array of resources that has been, until the digital age, the province of the university library.”<sup>311</sup>

On the other hand, Luce focuses on the changing role of the academic research library, and ties his suggestions for changes to the library’s focus to perceived changes in the way that scholars – especially scientists – perform their work. Citing “a convergence of exponential increases in computing, storage, online sensors, and bandwidth enabling collaboration in new ways,” Luce points to “eScience” as a field of growing importance that “will require a corresponding disruptive change in the ways in which libraries serve scientists’ needs.”<sup>312</sup> According to Luce, “a grand challenge now faces [research libraries]: the next generation of research infrastructure requires dynamic data repositories.” Luce suggests several roles – “supporting creation,” “connecting communities,” and “curation” – as avenues through which libraries can most effectively support the needs of scholars and establish new and important roles for themselves in a rapidly changing digital environment.<sup>313</sup>

Luce, among others, has also been a leader in advocating for “local loading” of digital scholarly content at libraries, rather than relying on remotely-accessed materials. Some librarians have argued that without locally loaded content they cannot effectively provide metasearch (“the ability to search and receive results in more than one database through a single interface”). They suggest that a local index of metadata records can enable the development of a richer tool to support users.<sup>314</sup> Some have argued that without replicating the approach utilized by Google Scholar (i.e. loading local metadata records), libraries are at a disadvantage in supporting user needs. Projects such as the Ontario Scholars Portal have licensed metadata from publishers and data providers.<sup>315</sup> Some vendors are also taking this approach by creating “discovery services,” which centralize collection of metadata or full text to create a



shared index that can be licensed by libraries without managing a local discovery interface. Beyond discovery, some argue that it is essential for libraries to “obtain copies of digital information so that they can provide services for that information rather than trying to provide services for collections that they do not hold. This model also fits the OAIS preservation model which requires that an archive ‘obtain sufficient control’ of information in order ensure long-term preservation.”<sup>316</sup> And others argue that the ownership of collections is central to libraries, asserting that “the library is, at root, a collection of information selected for use of, and made useable for, a particular community.” Furthermore, they argue that libraries are uniquely interested in serving as cultural custodians and warning against “abandoning their role as collection builders and managers.”<sup>317</sup> Some suggest that “digital deposit” of government documents could be “the canary in the library coal mine” for a shift in this direction for library collections more broadly, believing that “if government information librarians work on and solve the digital ingest/preservation/access issues for government information, their libraries will be able to generalize those solutions to other digital library collections.”<sup>318</sup>

Another direction proffered by some is for libraries to increasingly emphasize local collections of unique materials that serve to differentiate a given library from its peers. The Association of College and Research Libraries (ACRL) mentions that “increasingly, libraries are acquiring local collections and unique materials and, when possible, digitizing them to provide immediate, full-text online access to increase visibility and use,”<sup>319</sup> In a sense, this perceived trend can be characterized as a reaction to “The McDonaldization process [which] has resulted in the increasing standardization of products and services, so that academic libraries are becoming more similar to one another.”<sup>320</sup> While there has been much rhetoric about emphasizing collections of distinction, not all libraries that would wish to pursue such a strategy have been able to redirect substantial resources in reflection of this priority.

The “informationist” model, as implemented at Johns Hopkins’s Welch Medical Library, focuses more on human interactions between librarians and scholars, and is predicated on the idea “that researchers benefit from on-site access not only to the library’s digital resources, but its human resources as well.”<sup>321</sup> In this model, “library personnel are embedded in various departments to work with researchers on their own turf,” out of a belief that “being on the ground with researchers — sharing spaces, attending meetings, casually bumping into them in the hallway — allows librarians to develop a better understanding of what the researchers need, while the researchers learn more about what sorts of assistance the erstwhile librarians can offer.”<sup>322</sup> Purdue University offers a similar program targeting undergraduates, in which “Purdue [embeds] librarians in different undergraduate departments, where they hold office hours and often co-teach courses.”<sup>323</sup> Generally, the goal of this model is to “have the library be wherever you are,” both in the form of electronic information resources and human assistance.<sup>324</sup> At Johns Hopkins, this model has been taken to an extreme; according to the dean, Nancy Roderer, “‘we don’t really need to have a central service point anymore... By 2012 we do expect to be out of the building.’ The library will be ‘recycling’ much of its print collection, and storing other books offsite; faculty and students will be able to send away for the hard copies via snail mail — like Netflix.”<sup>325</sup>

Oakleaf summarizes a trend among many libraries to increasingly focus on their role in supporting undergraduates, suggesting that “in the past, academic libraries functioned primarily as information repositories; now they are becoming learning enterprises. This shift requires academic librarians to

embed library services and resources in the teaching and learning activities of their institutions. In the new paradigm, librarians focus on information skills, not information access; they think like educators, not service providers.”<sup>326</sup> For many libraries, this has led to a focus on developing information literacy skills among undergraduates; there is a wealth of literature describing the important roles and activities that libraries have taken on in this area.

A 2011 Ithaka S+R survey of librarians confirms this trend, suggesting that the role that the campus library plays in teaching and learning is a substantial priority at both teaching and research institutions.<sup>327</sup> But while this survey found that libraries describe support roles – facilitating teaching, supporting research, and teaching undergraduate information literacy – as their top strategic priorities, above roles that focus on building and maintaining collections, there are some indications that actual library spending decisions may reflect a different set of priorities. In Ithaka S+R’s 2011 survey, library directors indicated that their top priority for spending a hypothetical increased budget would be on further developing their digital journal collections, rather than directly on these service-oriented roles.

This growing interest in removing print collections, however, is not shared by all libraries; for example, “the University of Chicago challenges the all-too-common belief that great collections of books are becoming obsolete. We believe, instead, that scholarship will thrive in an environment where print and electronic coexist, now and in the future.”<sup>328</sup> Emphasizing the belief that “the off-site stuff doesn't get used... people go to work where books are easily available,”<sup>329</sup> the University of Chicago is “erecting a new facility that will store collections on campus. The new Mansueto Library will bridge the print and digital worlds by featuring high-density shelving for 3.5 million additional print volumes, an automated storage-and-retrieval system, a grand reading room with seating for 150, a conservation laboratory, and a digital technology laboratory.”<sup>330</sup> This vision reaffirms the centrality of print collections in the library even in a world where materials are rapidly becoming pervasively available in digital form, believing that “mass digitization leads users to collections; it does not take their place... search results will increasingly point the way to our rich print collection, fueling scholarly demand for access to these materials. Effective research depends on ready access to such materials and hospitable spaces in which to use them.”<sup>331</sup> This echoes a faculty concern that “this building is supposed to be the research center of one entire wing of intellectual life at the campus, and we can't afford to let it turn into an Internet cafe.”<sup>332</sup>

### Law libraries

Other visioning exercises focus on evaluating the future of law libraries. In 2002, the American Association of Law Libraries brought together a Special Committee on the Future of Law Libraries in the Digital Age, with the goal of “considering the implications of electronic publishing for the future of law libraries, including those serving law firms and corporations; federal and state courts and agencies; and law schools.”<sup>333</sup> This group set out a number of different scenarios for the future of different kinds of law libraries. These scenarios envision how different aspects of the law library, “including the facility, the collections, staffing, services offered, training and implications for that library's budget” might evolve in a digital environment and they imagine a collaborative future in which law libraries of all kinds would evolve traditional roles and take on new roles to manage and provide services around an increasingly digital set of resources.<sup>334</sup> More recently, the president of the AALL described a vision of the future centered around “more remote access and use of [resources by] employees from around the world. We

will have professional library functions performed off-site and centralized. These functions will encompass all areas of librarianship including research, cataloging/technical services, purchasing and the use of consortia.”<sup>335</sup>

Other visions for the future of the law library include the predictions of Danner, Kauffman, and Palfrey about “The Twenty-First Century Law Library.”<sup>336</sup> Again, this exercise is predicated on the perception that while “questioning the role of the library, particularly the role of the law library, might have been unthinkable fifteen or twenty years ago... it’s now a common question... Why should we care about books and libraries when so much of the information that lawyers, law students, and legal scholars use and need is online, accessible anytime, anywhere, and in many instances to anyone?”<sup>337</sup> In this vision, the authors – law librarians from the Duke, Yale, and Harvard law schools – emphasized the importance of the library as “a third place that speaks to individual study and research,” helping to teach students “how to find that faculty scholarship and distinguish between a source that’s online from another kind of source,” “research collaboration... [on] questions that require much more assistance than in the past,” and substantially greater involvement of the law librarian in faculty research projects.<sup>338</sup>

Elsewhere, Palfrey has suggested that law libraries must collaborate, “not just within, but across countries. And the collaboration must include nonlibrarians, whose work can have a positive impact on the legal information ecosystem.”<sup>339</sup> Palfrey envisions a “digital-plus” future for law libraries, “a hybrid of yesterday’s predominantly print-based world and tomorrow’s primarily digital world” in which libraries “perceive our primary function as serving communities rather than building collections,” “alter the design of our own systems over time, as our goals and the needs of our users change,” “coordinate the digitization of legal materials,” “put our collection policies in writing and to share them with others publicly,” makes “systems more efficient using back-office technology improvements,” and in which librarians are “change agents who listen and respond, all the while having a backbone.”<sup>340</sup>

Donovan, citing discussions about an impending “institutional crisis” for law libraries, argues that “if librarians are to survive the digital revolution what is needed is a rediscovery of what we do that remains uniquely our own.” Donovan presents two approaches – a “weak” model in which “the librarian reacts to a host of external pressures including institutional requirements and patron demands, and regards her primary duty as satisfying those demands by providing something called ‘good service’” and a “strong” model in which “a librarian’s ethical allegiance lies with values and ideals which may or may not align with the demands of particular users.” He suggests that “without a firm commitment to the profession-based strong model, librarianship is destined to fade into oblivion along with other old-fashioned ‘good service’ providers like the milkman, travel agent, and locally owned shops, all replaced by more efficient delivery systems and economies of scale.”<sup>341</sup> In response to Donovan’s argument, Danner suggests that the ultimate “service mission of law librarianship is to help those seeking legal information to find the information they need,” and that while “before ubiquitous access to information of all sorts via the web became commonplace, there was more convergence between the information seeker’s need to find useful information and the library’s traditional roles of acquiring, organizing, and preserving information, as well as providing access to it... in the digital environment, that may no longer be the case.” Danner proposes that although “the ways we meet [the legal information needs of the legal profession and the public] may change along with the formats of the information with which we

work, ... the essence of our work remains grounded in a mission to connect those in need of information with the information they seek, and to provide the context that will help them understand and use what they find.”<sup>342</sup>

In a recent article, Reusch focused on the transformations in academic law library print collections, which are driven by a lack of funding and the increasing “development of electronic information products that are far superior to print versions.”<sup>343</sup> Describing a litany of complexities, both theoretical and practical, with moving entirely away from print, Reusch concludes that although “print books will be in the law library of the future... the proportion of book to digital will continue to shrink, and the rate at which electronic resources dominate our collections will continue to grow,” posing significant challenges for law libraries in developing strategies that will address their communities’ priorities while addressing financial priorities.<sup>344</sup>

One vision has focused specifically on the role of law libraries within the FDLP; Pettinato emphasizes that “perhaps more than any other field, law is dependent on government documents, ... law librarians have particular skills that make them especially suited to work with law-related government documents, ... [and] academic law libraries have significant resources that can add value to government information for the legal researcher.”<sup>345</sup> Although Pettinato admits that “the primary mission of most private law school libraries and many public ones is to serve law professors and students, with the local bar, the rest of the university community, and the public being secondary or even tertiary patron groups,” she argues that participation in the FDLP carries practical benefits, “provid[ing] academic law libraries the opportunity to select and collect a large number of important law-related and, if they so choose, interdisciplinary government documents ... [and] help[ing] to ensure that academic law librarians remain well versed in government documents research” as well as philosophical import: “when librarians help citizens learn about their legal structure, everyone benefits from a more democratic society. Perhaps more importantly, the legal profession benefits by the increased trust that develops in the legislative and judicial process... [and] the profession also gains a chance to understand those whom it serves.”

### **Public libraries**

A variety of important roles are imagined for the public library in a digital age. Wooden describes “four specific areas where civic leadership, public citizens, and library leaders all seem to agree that there is a major opportunity for public libraries to step in and address community needs: (1) developing better programming and services for teens, (2) addressing illiteracy and poor reading skills among adults, (3) offering ready access to information about government services (including making public documents and forms quickly and easily available), and (4) permitting much greater access to computers for all.”<sup>346</sup> But, as described above, despite substantial enthusiasm for important future roles for the public library in American society, “venturing into these areas would likely require financial resources that many libraries do not currently have.”<sup>347</sup>

Many visions for the future of the public library emphasize the sorts of public technology support roles described above, in which the library prioritizes offering access to technology and the internet to the broad public. The Seattle Public Library has emphasized the importance of being “attuned to user needs... everything we do must be customer-focused.” It has reacted to a perception that “what the

public really wanted was more computers,” and this has led to the need to “balance the needs of people who want online services with those who want traditional print resources.”<sup>348</sup>

In addition to providing access to technology, other opportunities to leverage the library’s physical space are also viewed as critical to the future of the public library. A recent ALA policy brief suggesting that “the future of bricks-and-mortar libraries will be less about what products a patron obtains at a library and more about the experiences the patron has while visiting. This notion is a more evolved version of what is seen today: libraries increasingly emphasizing their role as community centers with creative spaces suitable for a number of activities, only one of which is seeking and accessing information.”<sup>349</sup> According to this report, “already public libraries across the country are embracing new trends in technology and community building in an effort to provide relevant, useful, and flexible spaces in which local populations can congregate and interact. The future public library is one of multiple destinations—a place for patrons to experience the world of information in a variety of new ways.”<sup>350</sup>

Others visions of the future emphasize the library’s role as the crossroads of its community. They imagine that “collaboration with other community institutions and organizations will result in educational opportunities and experiences beyond traditional services such as literacy skills and technology training. Shared resources will allow libraries to devote more energy and space to services designed to improve community participation and cohesion, including e-government, arts and culture, and health and wellness programs.”<sup>351</sup>

Although print collections management has been less of a priority concern for public libraries than academics, in large part due to the general custom of public libraries to maintain regularly weeded working collections to support changing local needs, some imagine that print may no longer be a key feature of the local branch library. Other roles – reference services, assistance using technology, and more – are supposed to become the principal role of the local branch library, emphasizing broad coverage through “storefront library service points,” and providing only on-demand access only to print collections.<sup>352</sup>

One potential future for the American public library would be the extension of the outsourcing of public libraries to private vendors. A recent article described “an intense and often acrimonious debate about the role of outsourcing in a ravaged economy” sparked by Library Systems & Services, “A private company in Maryland [that] has taken over public libraries in ailing cities in California, Oregon, Tennessee and Texas, growing into the country’s fifth-largest library system... [and] has been hired for the first time to run a system in a relatively healthy city.”<sup>353</sup>

### **Government information**

Alongside these broad environmental changes, the ways that Americans engage with government information, either directly or through various intermediaries such as the library, have changed substantially.

#### ***Digital availability of government information***

Today, the vast majority of current government publications are made available in digital form; in 2009, it was estimated that “about 97% of materials disseminated to depositories [have] an online

equivalent.”<sup>354</sup> This widespread digital availability of current government information is the result of a long history of efforts by the federal government, building on a rich set of “statutory and regulatory frameworks that serve to make government processes somewhat more accountable, that regulate public access to government-held information.”<sup>355</sup>

McDermott describes the shift towards widespread online availability of government information as beginning with the Paperwork Reduction Act of 1980, which “gave the Office of Management and Budget (OMB) the authority and responsibility for a broad range of responsibilities related to information management.”<sup>356</sup> McDermott characterizes OMB’s initial implementation of this act, through the 1985 Circular A-130, as “epitomiz[ing] the Reagan-era OMB attitude that information held by the government was government information—and not information to which the public necessarily had a right (other than disclosure through the Freedom of Information Act),” but suggests that the 1994 update to this circular “is a sea-change from the 1985 Circular, ... significantly changing information policy and practices across the Executive Branch.”<sup>357</sup> Notably, the 1994 Circular A-130 emphasized the importance of “the availability of government information in diverse media, including electronic formats, [which] permits agencies and the public greater flexibility in using the information.”<sup>358</sup>

Providing digital access to government information has also been a priority of GPO, growing out of the 1993 passage of the Government Printing Office Electronic Information Access Enhancement Act of 1993 (Public Law 103-40), which instructed GPO to: “maintain an electronic directory of Federal electronic information,” “provide a system of online access to the Congressional Record, the Federal Register and other appropriate publications,” and “operate an electronic storage facility for Federal electronic information,”<sup>359</sup> which lead to the creation of GPO Access. GPO Access quickly “evolved into an award winning federal Web site housing thousands of federal publications, various dynamic databases, and a dozen or so agency Web sites.”<sup>360</sup> Aldrich et al chart “soaring popularity for GPO Access” in the years following its launch, establishing “GPO as a major player in Internet delivery of federal information.” Although GPO Access was originally “a restricted access resource (depository libraries received free password access), ... [it] was made freely available to all in 1995.”<sup>361</sup> Shuler et al characterize this act as “a clear sign from both the program’s participants and others that FDLP needed to adapt to an increasingly digital public exchange of government information.”<sup>362</sup> Shuler et al also suggest that “additional alterations in the U.S. federal policy environment during the Reagan, Bush, and Clinton administrations encouraged agencies to rely less on FDLP to make information available.”<sup>363</sup>

More recently, GPO introduced the Federal Digital System (FDsys), the successor to GPO Access, which has the mission to “organize, manage and output authenticated content for any use or purpose and to preserve the content ... for the benefit of future generations.”<sup>364</sup> FDsys is being implemented in a phased process, with “Release 1,” “Establish[ing] the foundational infrastructure; Establish[ing] [a] preservation repository; Replac[ing] [the] current public site; Perform[ing] large scale data migration; [and] Provid[ing] operational continuity for the system.”<sup>365</sup> In December 2010, “FDsys [became] GPO’s official system of record for online Government information. This new phase is characterized by a fully stood-up and implemented system foundation with failover and is accompanied by a brand new logo, FDsys tag line, and a re-designed, more user-friendly interface... For the next several months, GPO Access will continue to be updated in parallel with FDsys, and in mid-2011, GPO Access will be officially retired.”<sup>366</sup>

FDsys “will allow federal content creators to easily create and submit content which will then be preserved, authenticated, managed and delivered upon request,”<sup>367</sup> serving as a content management system, preservation repository, and advanced search engine for government publications.<sup>368</sup> In addition to serving as a robust environment for the centralized discovery of and access to government information, FDsys is designed as a “trusted, secure environment built on the OAIS model” of digital preservation, prioritizing document integrity and the long-term usability of digital content; FDsys is currently working towards certification via the Center for Research Libraries’ *Trustworthy Repositories Audit & Certification* checklist.<sup>369</sup>

Following the GPO Access Act, the E-Government Act of 2002 “was the most comprehensive piece of legislation on e-government to date,” aimed at meeting the public’s expectation of “ever better and more user-friendly access to its government.”<sup>370</sup> In part, this act emphasized improving “the methods by which government information, including information on the internet, is organized, preserved, and made accessible to the public,” requiring agencies to “determine which Government information the agency intends to make available and accessible to the public on the internet ... [and] develop priorities and schedules for making that Government information available and accessible.”<sup>371</sup> In implementing this act, the OMB instructed agencies: “When disseminating information to the public-at-large publish your information directly to the internet. This procedure exposes information to freely available and other search functions and adequately organizes and categorizes your information.”<sup>372</sup>

Not all digitally available government information is broadly and freely available to the public. Several federal agencies disseminate information through fee-based databases, such as the National Technical Information Service’s DARTS database or the Census Bureau’s USA Trade Online. Although some databases may be available for free to FDLP libraries via a password, this access may be limited. For example, depository libraries can only provide access to USA Trade Online via two designated workstations.<sup>373</sup> In other cases, government information may be published by non-governmental service providers and thus not broadly accessible for free, as in the case of Public Health Reports. When it was made available electronically, this journal of the U.S. Public Health Service began to be published by the Association of Schools of Public Health, and is only available in depository libraries that requested electronic access credentials from GPO.<sup>374</sup>

But while digital accessibility is now relatively ubiquitous for current digital information, significant amounts of historical collections remain only available in print form (or, in some cases, only be available digitally through a third-party subscription product), and “given the poor state of the discovery environment for the pre-1976 historical collection, the aphorism ‘if it’s not online, it doesn’t exist’ holds even more strongly for government information than it does for almost all other library collections. As a result, the valuable historical collections of government information that exist only in print have gone increasingly underutilized.”<sup>375</sup> Although “in 2004, GPO proposed digitizing all retrospective Federal publications back to the earliest days of the Federal Government... [and] issued an RFP in 2008 for a cooperative relationship with a public or private sector participant or participants where the uncompressed, unaltered files created as a result of the conversion process would be delivered to GPO at no cost to the Government, for ingest into GPO’s Federal Digital System (FDsys),” the bid expired before GPO could award the contract and the bidder declined to extend it.<sup>376</sup> Subsequently, GPO stated

that its “focus for digitization will be on coordinating projects among institutions, assisting in the establishment and implementation of preservation guidelines, maintaining a registry of digitization projects, and ensuring that there is appropriate bibliographic metadata for the titles in the collection.”<sup>377</sup> More recently, GPO has announced a collaborative effort with the Library of Congress to digitize “the public and private laws, and proposed constitutional amendments passed by Congress as published in the official Statutes at Large from 1951-2002... [and] official debates of Congress from the permanent volumes of the Congressional Record from 1873-1998;” these materials will be made available via FDsys.<sup>378</sup> Several libraries – individually or in collaborative efforts – are leading their own efforts to digitize historical government publications. For example, the TRAIL (Technical Report Archive and Image Library) project is a collaboration of the Greater Western Library Alliance and the Center for Research Libraries to digitize a substantial number of historic federal technical reports.<sup>379</sup> Other individual libraries have prioritized efforts to bring online materials that would otherwise only be available in print form and so might be underutilized. For example, the Thurgood Marshall Law Library at the University of Maryland has begun a major project to “create a complete electronic record of United States Commission on Civil Rights publications held in the Library's collection and available on the USCCR Web site” through the digitization of historical documents. GPO lists many such projects in its “Registry of U.S. Government Publication Digitization Projects” (<http://registry.fdlp.gov>). In some cases, digitized FDLP materials may be brought together with state or local information, as in the case of the North Carolina Digital Repository, which pursues the goal of “support[ing] instructional and research needs related to the history and culture of North Carolina by making many of the unique and valuable holdings of the State Archives and State Library of North Carolina accessible and searchable online.”<sup>380</sup>

In addition to these targeted programs, “the libraries of the CIC universities are partnering with Google to digitize a comprehensive collection of U.S. Federal Documents. It is believed this collection will comprise between 1 and 1.5 million volumes. Digital facsimiles of successfully scanned Federal Documents from CIC institutions will be accessible through Google Book Search, with copies also being returned to the HathiTrust Digital Repository, where public domain material can be universally accessed.”<sup>381</sup>

Finally, several government agencies, including the National Agricultural Library and the U.S. Geological Survey, are undertaking programs of digitization of their own historic publications.<sup>382</sup>

### ***Other sources of government information***

Some materials made available through the FDLP are hosted outside FDsys through content partnerships with agencies or other content providers. Although typically this takes the form of an agreement with an agency to maintain certain materials on the agency's web site and provide them to GPO in the event of their removal, some materials are hosted under other kinds of arrangements. For example, in 2009 GPO announced a “new partnership with the Association of Schools of Public Health (ASPH) to provide electronic access to Public Health Reports. Public Health Reports is the official journal of the U.S. Public Health Service but is published by ASPH;” under this partnership, Public Health Reports is made freely available to registered depository libraries (via a set of login credentials), but carries a fee for non-depository users.<sup>383</sup>



In addition to the FDLP, there are several other federal depository programs that focus on specific categories of government information. For example, the National Network of Libraries of Medicine coordinates with medical libraries nationwide to “advance the progress of medicine and improve the public health by providing all U.S. health professionals with equal access to biomedical information and improving the public's access to information to enable them to make informed decisions about their health,”<sup>384</sup> and the US Patent and Trademark Office coordinates a network of depository libraries that “receive and house copies of U.S. patents and patent and trademark materials, to make them freely available to the public, and to actively disseminate patent and trademark information.”<sup>385</sup> Many or all of the materials disseminated through these programs may also be distributed through the FDLP, but these sorts of more targeted programs allow libraries with focused needs to play a part in a specialized arrangement for facilitating access to certain types of government information. The organization and structure of other depository library programs will be covered in the existing library networks research section of this paper.

There are a number of independent sales programs that supplement these depository programs. They package and sell certain types of government information to the public broadly, serving non-depository libraries as well as a wider range of non-library clients. For example, the National Technical Information Service supports a sales program that sells individual reports and other publications to clients worldwide, enabling end users to purchase their own copies of desired publications if a library copy is insufficient for their needs.<sup>386</sup> Several other targeted sales programs exist, aiming to fill niches of demand not addressed by the FDLP or other depository or dissemination programs.

Although the FDLP is the formal mechanism through which government publications are made available to the public, “fugitive documents” – materials self-published by government agencies without going through GPO – have been identified as a perennial problem that have been exacerbated in the digital age. According to Durant, “the FDLP has never encompassed the entire universe of government publications. In fact, it has been estimated that up to 50% of print government publications are ‘fugitives,’ i.e., not distributed by the FDLP. Typically, tangible fugitive documents were a result of government agencies making their own printing arrangements without going through GPO. Many executive branch agencies, in particular, have long believed that they have no need to respond to the dictates of GPO.”<sup>387</sup> According to Cismowski, publications of regional branches of federal agencies have long been a major source of fugitive documents: “Publications of regional interest and importance on topics such as geology, water supply, reclamation and flood control, the environment, energy, etc. are not being captured and preserved in any coordinated fashion today.”<sup>388</sup> Librarians and members of the public can report apparent fugitive documents to GPO “for cataloging and archiving.”<sup>389</sup> Today, many new government publications never make it to GPO but are instead self-published by the producing agencies in digital form, hosted on their own websites according to their own policies and procedures and without a partnership agreement with GPO.<sup>390</sup>

In addition to the several ways in which the government itself makes information directly available to the public, both formally via the FDLP or informally via self-published “fugitive documents,” there also exist a variety of third-party, non-governmental sources which provide government information to the public. These sources are often tailored to a specific audience and have supporting tools for discovery

and use. They include both commercial and non-profit programs. Such external service providers have long played a role in the government documents ecosystem, although they are outside the scope of the FDLP.

Because of the high value of legal information, and the presence of a well-funded corporate law sector, legal information offers a vivid example of how private companies provide access to government information. A number of firms have built businesses around value-added legal information services for the professional and academic law communities, including especially LexisNexis and WestLaw. In this context, the Legal Information Institute has dedicated itself to the vision that “everyone should be able to read and understand the laws that govern them, without cost.”<sup>391</sup> More recently, the leadership behind Public.Resource.Org has coordinated discussions about a proposed law.gov initiative, which would be a “distributed repository of all primary legal materials in the United States,” potentially overlapping some content with the FDLP and GPO information services.<sup>392</sup> In addition to making both historical and present-day legal information available freely online, in some ways these services could function as building blocks for new value-added services of the type provided by Lexis and West.

Beyond the legal landscape, there has been a significant amount of private-sector digitization of government documents, including Readex’s Serial Sets product, ProQuest Congressional (formerly LexisNexis Congressional, which includes the Serial Set and many materials from the last several decades), HeinOnline, and ProQuest’s Monthly Catalog of US Government Publications 1895-1976. While these digitization projects are often licensed or purchased by FDLP members (albeit differentially relative to their resources), they cannot be considered components of the FDLP because they are not freely available.

### ***Open & transparent government***

Making the workings of government accessible to the public has long been a priority in the United States, reflecting a belief that “in order to hold government accountable for its actions, citizens must know what those actions are.”<sup>393</sup> In recent years interest in “open and transparent government” has grown substantially, both within government and within society.

This movement has not only focused on increasing the amount of government information that is publicly available, but has also emphasized the importance of making government information useful. Brito catalogs several ways in which “statutory requirements for disclosure do not take Internet technology into account,”<sup>394</sup> listing examples of government information that is made public only to those who visit a certain office during business hours or mail in a formal request, arguing that in a digital age it should be a reasonable expectation that this information “be just a web search away.”<sup>395</sup> Furthermore, there is an increasing emphasis on making government information “available in an easily accessible form.”<sup>396</sup> This reflects both a point of view that “if data is difficult to search for and find, the effect might be the same as if it were not online” and that “to allow users to exploit the full potential of the Internet—to subscribe to data streams and to mix and match data sources – data must be presented in a structured machine-readable format.”<sup>397</sup> Open government advocates have developed “ten principles that provide a lens to evaluate the extent to which government data is open and accessible to the public: ... completeness, primacy, timeliness, ease of physical and electronic access, machine

readability, non-discrimination, use of commonly owned standards, licensing, permanence and usage costs.”<sup>398</sup>

President Obama has made transparency in government a major emphasis for his administration, calling for an end to the “culture of secrecy in Washington, where information is locked up, taxpayer dollars disappear without a trace, and lobbyists wield undue influence.”<sup>399</sup> Obama’s “Transparency and Open Government” memorandum, one of his first acts as president, committed his administration to “work together to ensure the public trust and establish a system of transparency, public participation, and collaboration,” out of a belief that “openness will strengthen our democracy and promote efficiency and effectiveness in Government.”<sup>400</sup> The White House later issued an “Open Government Directive,” which instructed executive department agencies to take “specific actions to implement the principles of transparency, participation, and collaboration set forth in the President’s Memorandum.”<sup>401</sup>

For example, this directive tasked agencies with identifying datasets they could make available via the administration’s data.gov platform for making government data publicly accessible. Data.gov is a major administration effort “to improve access to Federal data and expand creative use of those data beyond the walls of government by encouraging innovative ideas (e.g., web applications). Data.gov strives to make government more transparent and is committed to creating an unprecedented level of openness in Government. The openness derived from Data.gov will strengthen our Nation’s democracy and promote efficiency and effectiveness in Government.”<sup>402</sup> While data.gov principally emphasizes supporting the innovative reuse of government information, other government data transparency efforts are more focused on supporting accountability; for example, recovery.gov is meant to “give taxpayers user-friendly tools to track Recovery funds – how and where they are spent – in the form of charts, graphs, and maps that provide national overviews down to specific zip codes. In addition, the site offers the public an opportunity to report suspected fraud, waste, or abuse related to Recovery funding.”<sup>403</sup> Still, some have questioned the efficacy of these initiatives, suggesting that “Recovery.gov offers little beyond news releases, general breakdowns of spending, and acronym-laden spreadsheets and timelines. And congressional Democrats, state officials and advocates of open government worry that the White House cannot come close to clearing the high bar it set.”<sup>404</sup>

GPO has embraced the Obama Administration’s initiative, with the former Public Printer proposing various ways that GPO could serve to support it.<sup>405</sup> The former Public Printer announced GPO’s goals to “position [FDsys] as the official repository for Federal Government publications; ... enable and support Web 2.0 functionality through FDsys to support comments on pending legislation; ... establish a demonstration project to apply Web 2.0 features to rulemaking documents; ... participate and lead efforts to standardize electronic publishing formats; and ... link the White House Web site to FDsys for public searches of Government documents.”<sup>406</sup> Soon thereafter, GPO undertook a high-profile collaboration with the Cornell University Law School to launch the “Federal Register 2.0,” which “supplements the official publishing formats with ‘XML’ – a machine readable form of text that can be manipulated in virtually limitless ways with digital applications, or ‘apps’ – which make it easier for people to access and analyze its contents in novel ways.”<sup>407</sup> GPO has also worked in partnership with the Library of Congress, the California Digital Library, the University of North Texas Libraries, and the Internet Archive “to preserve public United States Government web sites at the end of the [George W.

Bush] presidential administration ... [intending] to document federal agencies' online archive during the transition of government and to enhance the existing collections of the five partner institutions."<sup>408</sup>

Many actors outside the government have also taken steps to make government information more accessible and useful to a broader audience. For example, the Legal Information Institute, hosted at the Cornell University Law School, "believes everyone should be able to read and understand the laws that govern them, without cost," and "[carries] out this vision by: Publishing law online, for free; Creating materials that help people understand law; [and] Exploring new technologies that make it easier for people to find the law;"<sup>409</sup> other efforts like Public.Resource.Org exist "with the broad intent of building 'public works' accessible via the network, and with the specific plan to force the federal government to make information more publicly accessible."<sup>410</sup>

In some cases, these types of initiatives emphasize adding structure to available government data in order to make it more useful. Brito catalogs a number of examples of such added-value services that aim to make government information that is already available more useful, including the Washington Post's U.S. Congress Votes Database, GovTrack.us, LOUIS, MetaVid, and OpenSecrets.org.<sup>411</sup> These initiatives stem from the fact that much government information is only available in difficult-to-use formats, and their "most important contribution ... may not be the accessibility they provide to individual users, but the fact that their hacked data is offered in a structured and open format. This allows yet other third parties to tap into the now useful data and create new applications."

The complexity associated with making government information into a useful structured format and the wide range of potential uses to which such data could be put has convinced some advocates that "the federal government's primary objective as an online publisher is to provide data that is easy for others to reuse, rather than to help citizens use the data in one particular way or another."<sup>412</sup> This approach demonstrates a belief that "Government must provide data, but ... Web sites that provide interactive access for the public can best be built by private parties," especially given the rapidly shifting nature of technological innovation.<sup>413</sup>

Transparency advocates have built a variety of innovative services on top of government data for a variety of purposes. For example, MAPLight.org "mashes together congressional voting data from GovTrack.us and campaign finance information from OpenSecrets.org, in addition to information from other sources. The result is a searchable database that highlights the connections between campaign contributions and how members of Congress vote."<sup>414</sup> Other services emphasize making existing materials more useable, such as "OpenCongress.org ... [which] takes bill and vote data from GovTrack.us and mashes it with data feeds from blogs and mainstream news sources; so that one can pull up a page for a bill or a legislator and see news stories and blog posts that mention the bill and/or legislator."<sup>415</sup>

There is some skepticism about the value of the "naked transparency movement," as constitutional scholar Lawrence Lessig terms it. Although he acknowledges that "there is no questioning the good that transparency creates in a wide range of contexts, government especially," Lessig warns that "we should also recognize that the collateral consequence of that good need not itself be good." Lessig emphasizes that "not all data satisfies the simple requirement that they be information that consumers can use,

presented in a way they can use it,” and suggests that information without interpretation or context may lead to “ignorance [which] produces predictable and huge misunderstandings,” and “will simply push any faith in our political system over the cliff.”<sup>416</sup>

In addition to the broad movement to encourage transparency in government, the burgeoning “Government 2.0” movement suggests that web technologies may also help to more directly engage the public in the work of government. This concept, which builds on the idea of web 2.0, is that the government would become “a platform for innovation ... supply[ing] raw digital data and other forms of support for private sector innovators to build on top of.”<sup>417</sup> In addition to using web tools to increase government transparency and access to government information, some feel that web tools can “[help] policy makers in our government take advantage of the expertise of their fellow citizens,” resulting in “a government that uses the web not just to talk to citizens, but to listen to them.”<sup>418</sup> Although “crowdsourcing” government has had “mixed results,”<sup>419</sup> the notion that “government does not have a monopoly on the best ideas” has grown increasingly entrenched in Washington.<sup>420</sup>

### ***The internet, American government, and the public***

As Americans have come to integrate the internet more deeply into all aspects of their daily lives, they have also come to expect the internet to play a major role in their engagement with their local, state, and federal government. According to Pew, “most Americans expect their government to make information and services available online. Seven in ten (70%) say they expect to be able to get information or services from the government agency website when they need it. Only 23% do not expect that.”<sup>421</sup> The shift towards more online interactions with government also drives concerns about the digital divide, and the impact of lack of access to the internet on ability to engage with government; “29% of Americans believe that lack of broadband is a ‘major disadvantage’ when it comes to using government services. Some 27% think lack of access is a ‘minor disadvantage’ and 37% think it is ‘not a disadvantage.’”<sup>422</sup>

Americans make heavy use of the internet to seek out government information. In 2010, Pew found that “fully 82% of internet users (representing 61% of all American adults) [had] looked for information or completed a transaction on a government website” in the previous year.<sup>423</sup> Most relevantly, “fully 40% of online adults went online in the preceding year to access data and information about government;” more specifically, “23% of online adults looked online to see how money from the recent stimulus package was being spent; 22% downloaded or read the text of legislation; 16% visited a site that provides access to government data, such as data.gov, recovery.gov or usaspending.gov; 14% looked for information on who contributes to the campaigns of their elected officials.”<sup>424</sup> According to Pew,

“nearly four in five internet users (78%) have visited government websites to seek information or assistance. They most commonly visit a local, state or federal government website: a total of 71% have done this, including 66% in the past year. About two in five (38%) have gone online to research official government documents or statistics, including 35% who have done it in the past year. About one in four (24%) have gone online to get advice or information from a government agency about a health or safety problem and 22% have gone online to get information about, or apply for, government benefits.”<sup>425</sup>

In addition to seeking government information, Americans also use the internet to engage with and discuss their government; “nearly one third (31%) of online adults use online platforms such as blogs, social networking sites, email, online video or text messaging to get government information,” and “nearly one quarter (23%) of internet users participate in the online debate around government policies or issues, with much of this discussion occurring outside of official government channels.”<sup>426</sup>

### ***Government information services***

In this rapidly changing environment, the government information services provided by libraries have also shifted, as libraries develop new roles and seek to form new partnerships to more effectively serve the needs of the public.

Public libraries in particular have taken on an important set of new roles “different from traditional government documents provision,”<sup>427</sup> filling important roles in “e-government.” For example, Jaeger and Bertot list six major categories of e-government activities performed by libraries: “formal and informal e-government training,” “e-government web resources,” “e-government support services,” “librarians hired specifically to coordinate and oversee e-government services and education,” “e-government partnerships through which libraries and agencies work together,” and “e-government development for local government agencies.” These roles are highly valued by Americans – even those who have are technically able to reach government information independently often seek access to e-government at the public library “because they know that they can get help using it and they trust the help that they will receive there.”<sup>428</sup> A 2006 Public Agenda report emphasized that Americans perceive an “opportunity for libraries to fill a gap in important community needs... as a ‘hub’ for improved access to government information and services.”<sup>429</sup>

But as Jaeger and Bertot point out, “the process of moving government service provision, such as completing forms, from the government agencies to libraries is a tremendous shift in the social roles of both government agencies. Further, the new role of libraries to ensure that citizens can communicate with government agencies via email and other electronic means is a second major responsibility added to libraries by e-government.”<sup>430</sup> As public libraries take on more and more multi-faceted roles in supporting the government information needs of their patrons, the library community will need to develop new strategies that go beyond “the public library’s traditional role as a provider of government information.”<sup>431</sup>

One major trend in library government information service provision in recent years has been the “mainstreaming” of government information, as libraries increasingly move away from offering access to government documents and support services via a discrete service point and towards integrating government information into their existing reference infrastructure. Although “in theory, government publications should be treated like any other resource and integrated into the collection by subject... economic necessity often required segregating government documents collections and reference services due to the high volume of publications distributed through the FDLP throughout the twentieth century.” More recently, studies indicate that “the majority of FDLP institutions now provide government information reference assistance as part of an integrated service point.”<sup>432</sup> Cheney charts out a path through which researchers could be “better served if libraries and librarians focused more on

how government information should be used and why within the context of the discipline, rather than focusing on the government as a publisher,” encouraging a shift in collection development efforts “from passively accepting and preserving deposited materials to actively collecting government information in support of discipline-based research” and a move “from providing public services in support of government information toward a more active reference and instruction service role within the context of disciplines.”<sup>433</sup>

The underlying goal of mainstreaming – bringing government information into normal workflows rather than requiring users to seek it out independently – also underlies a recent movement to make government information services available more broadly across the library community, building awareness and expertise on the topic among libraries that may not have historically considered government information a part of their purview as non-participants in the FDLP.

Helping constituents access government information and services, which includes both assistance in connecting with government online as well as via more traditional means, is a very important role for public libraries: “Almost 88 percent report that access to government information and services is either very important or most important, rising in importance by nearly 27 percent from last year... About 89 percent of suburban, 88.5 percent of rural, and 82 percent of urban libraries report that access to government information and services is either very important or most important.”<sup>434</sup> Specifically, “88.8 percent [of libraries] provide as-needed assistance to patrons for understanding how to access and use e-government Web sites. Libraries (78.7 percent) provide assistance to patrons applying for or accessing e-government services. About 63.3 percent indicate that staff provide assistance to patrons for completing government forms.”<sup>435</sup> But relatively fewer public libraries have staff with significant expertise in this area. “Nearly 32 percent of urban libraries indicate that at least one staff member has significant knowledge and skills in the provision of e-government services, and 26.4 percent of urban libraries indicate that they are partnering with government agencies and others to provide e-government services,” suggesting that the majority of these libraries lack staff devoted to this topic.<sup>436</sup> Moreover, “nearly 59 percent of libraries report that they do not have enough staff to effectively help patrons with their e-government needs and 52.7 percent report that their library staff does not have the necessary expertise to meet patron e-government needs.”<sup>437</sup>

This skills gap is widely recognized, and many in the library community view it as an increasingly important challenge in a digital era. A forum at the American Library Association 2009 Annual Conference concluded: “Library patrons do not think in terms of ‘government information.’ They simply want information and do not care about the source,” and when on to say that “knowledge of government information and services is crucial for all librarians. Government information is no longer the province of ‘government information specialists’ or of any one segment of the American Library Association. Nor can government information remain defined as the print publication distribution of the Federal Depository Program.”<sup>438</sup> Efforts such as the IMLS-funded Government Information in the 21st Century Project, a collaboration of FDLP member libraries that created “a continuing education program to train reference and public service librarians in Arizona, Colorado, New Mexico, Utah and Wyoming in the use of electronic government information”<sup>439</sup> – including both non-specialist librarians at FDLP member libraries as well as librarians at non-member libraries – have sought to raise awareness of

government information and develop skills among non-specialist librarians. This will provide a first line of assistance with government information to a broader swath of the public and to help librarians understand where to turn for specialist assistance. In addition to such on-the-job training, comments on this project have also highlighted the importance of developing richer models for the development of government information skills in library school curricula.

In addition to such training efforts, a set of organizations has partnered with GPO to offer “a virtual reference desk for government information.”<sup>440</sup> This is conceived both as a model to connect “patrons with questions and government libraries than can supply the answers” and as a set of important future roles for government information specialists; as project founder John Shuler put it, “anybody can figure out what's going to happen with the GPO...it's moving to a depository system that isn't based on collections but on service.”<sup>441</sup> On the local level, government information librarians have developed a range of different approaches to training government information skills that focus on desired outcomes.<sup>442</sup> As government information moves increasingly into a mainstreamed environment, the alignment of government information training with broader library instruction may become increasingly necessary. Downie describes opportunities for collaboration between librarians in developing users’ government information skills alongside in the broader context of library instruction. She seeks to encourage “outreach to, and collaboration with, generalist librarians to design their instruction to incorporate government information.”<sup>443</sup>

### ***Preservation and integrity of digital government information***

Although the digital availability of government information has increased accessibility, an increasing emphasis on providing government information in digital form has posed new challenges for ensuring the long-term preservation and integrity of government information. The movement for open and transparent government has often prioritized near-term access, with little consideration for the long-term preservation of materials. A long-term viewpoint, however, is at the heart of the FDLP, and GPO and the library community continue to work together to navigate complicated policy and technical issues to support the preservation of digital government information and the defense of its integrity against tampering, both accidental and intentional.

GPO has recognized its responsibility for preserving government information in digital form, a change from its role in the earlier print ecosystem; although “in the case of tangible information products, permanent access will remain a responsibility of regional depository libraries, ... in the case of remotely accessible information products, it will be the responsibility of GPO, as the administrator of the FDLP, to coordinate a distributed system that provides continuous, permanent public access.”<sup>444</sup> To fulfill this responsibility, GPO has emphasized “the delivery of trusted content, beginning with digital content designated as official and moving to authentication of digital documents... in a trusted, secure environment build on the OAI model,” actively preserving content through refreshment, migration of data, emulation, and other approaches as appropriate.<sup>445</sup> GPO has also prioritized document integrity, with the goal of preserving both “the document’s content... [and] to the extent that it is possible the original presentation.”<sup>446</sup> To support the long-term preservation of government information, GPO is pursuing certification by the Center for Research Libraries that FDsys meets the Trustworthy Repository Audit & Certification (TRAC) checklist.<sup>447</sup> GPO is also a part of the National Digital Stewardship Alliance,



“a collaborative effort among government agencies, educational institutions, non-profit organizations and businesses to preserve a distributed national digital collection for the benefit of citizens now and in the future.”<sup>448</sup>

GPO is also an “affiliated archive” of the National Archives and Records Administration, a formal agreement which “ensures that the documents available on GPO Access [and presumably, now FDsys], the GPO web site that provides free online public access to more than 250,000 federal government titles, will be available permanently. Although other affiliated archive agreements evolved over time to include electronic records, this agreement was the first of its kind between NARA and another government agency to specifically address electronic government records.”<sup>449</sup> Although beyond the scope of this project, however, NARA’s efforts to “create a modern archive for electronic records... has been plagued by problems, [and] ... was identified last summer by the Office of Management and Budget as one of the government's most troubled information-technology investments.”<sup>450</sup>

GPO has also been a leader in efforts to digitally authenticate and preserve government publications, both internally and through partnerships with external entities. Recognizing “that as more Government publications become available electronically, confidentiality, data integrity, and non-repudiation become more critical,” GPO has implemented “a Public Key Infrastructure (PKI) initiative to ensure the authenticity of its electronically disseminated content,” initially on the GPO Access platform and more recently through FDsys.<sup>451</sup> Through digital signatures and tracking of chains of custody, GPO provides users with information about a document’s “official” or “authentic” status.

Despite these efforts by GPO, however, some members of the community view this transition to centralized provision of government information by GPO as problematic. In addition to concerns that this transition will diminish the relevance of participating libraries,<sup>452</sup> some librarians have raised the concern that digital publications, held centrally in FDsys, would lack the tamper-resistance and tamper-evidence of a distributed network of print publications held independently. One risk is described as “digital government information [being] altered without notice;” although it is noted that “there are no documented instances of this happening to GPO content, the potential is there as long as GPO’s servers continue to be the exclusive source for government information;” a related hypothetical concern is the that “publications [be] withdrawn needlessly or explicitly to protect the government’s reputation,” without clear and transparent processes.<sup>453</sup> Proponents of this point of view prefer redundant independent collections in the hands of trusted entities, and argue that “there are myriad reasons why a distributed digital preservation system for government information is necessary. Among them are: protection from natural disaster, server outage, etc.; assurance of authenticity; prevention of surreptitious withdrawal or tampering of information; and building local services for local collections.”<sup>454</sup> GPO has developed and implemented robust technical measures to preserve and maintain the integrity of its collections; still, in the eyes of some librarians, the risks of government information being altered or withdrawn are too high to allow GPO to be exclusively relied upon to maintain the integrity of these collections.<sup>455</sup> To these librarians, the 2009 failure of GPO’s PURL server (infrastructure providing persistent URLs for GPO content) is viewed as evidence that “FDsys is a monolith where the failure of one piece can cause the whole system to ground to a halt,” and it is used as support for the point of view that “we need to be building a system with built-in redundancies.”<sup>456</sup>

Concern about reliance on the government as a sole provider is amplified by the threat of government interference with the dissemination of information, including concerns about materials being intentionally redacted or removed after release, potentially due to political motivations; these concerns are *not* specific to GPO, but rather general concerns about sole government custody.<sup>457</sup> Although such efforts to restrict access to government information have a long history, the web has offered new threats. Aftergood points to efforts by government agencies to “[restrict] access to **unclassified** information in libraries, archives, Web sites, and official databases. Once freely available, a growing number of these sources are now barred to the public as ‘sensitive but unclassified’ or ‘for official use only.’ Less of a goal-directed policy than a bureaucratic reflex, the widespread clampdown on formerly public information reflects a largely inarticulate concern about ‘security.’”<sup>458</sup> OMB Watch maintains a list (now out of date) of “information removed from government websites... since the 9/11 terrorist attacks,” citing restrictions on access to information or simple removal of previously accessible information.<sup>459</sup>

In June 2010, GPO joined the LOCKSS Alliance to engage in further dialogue with the LOCKSS Alliance on digital access and preservation issues, and “has put LOCKSS permission statements ... throughout the FDsys.gov site in order for LOCKSS-USDOCS to harvest GPO content.”<sup>460</sup> This enables the “USDOCS” private LOCKSS network to store government information published via FDsys “in geographically distributed sites and replicated many times. Citizens have oversight and responsibility for the long-term care and maintenance of the content. All these characteristics mean the content will be preserved so that any alteration of the content (either deliberate or accidental) will be detected and repaired.”<sup>461</sup> Given its emphasis on the distribution of digital content to libraries, LOCKSS is frequently cited as a mechanism for providing “digital deposit” of government publications in FDLP member libraries. While “digital deposit” is not currently a formal provision of the Program some see the need for a more fully developed infrastructure between GPO and depository libraries to bring it into fruition;<sup>462</sup> other libraries, however, have expressed a strong preference to *not* locally host digital collections of government information. Although individual libraries may develop access infrastructure to make these collections publicly available, this duplication does not necessarily entail alternative access points for digital content.

Many libraries have focused on building and providing access to collections of materials that would either otherwise be lost or unavailable in digital form. A significant amount of government information does not find its way into official channels for dissemination and preservation – “fugitive documents,” in the parlance of the FDLP, or simply materials that are of continuing public interest but do not fit within formal parameters of programs for long-term preservation – and many libraries have taken upon themselves the responsibility of capturing and maintaining these at-risk materials. These library-driven efforts complement GPO efforts to capture these materials, through web harvesting or new partnerships. Glenn highlights two major preservation-oriented rationales for such collections development by libraries: “to capture materials in danger of disappearing” and “to capture a particular event, or moment in time” (as well as “to build a collection of similar or related materials,” which will be discussed later).<sup>463</sup> The Legal Information Archive of the Chesapeake Project, hosted by Georgetown Law School, shares a common motivation with many other projects of this type, recognizing that “the

average lifespan of a Web site is 44 to 75 days;" this project has tracked "link rot" in its captured legal/government information, and it has found significant amounts of government information that is no longer readily available from its original source online.<sup>464</sup>

The CyberCemetery project, hosted by the University of North Texas Libraries, has led efforts to capture "government websites that have ceased operation (usually websites of defunct government agencies and commissions that have issued a final report)"<sup>465</sup> that might otherwise be lost to history as well as assisting in the performance of "end-of-term" harvests that capture government websites that might be lost in the transition to a new administration or Congress.<sup>466</sup> In 2003, the California Digital Library pursued an in-depth investigation of the challenges associated with the capture and archiving of digital government information, concluding that "no institution is able or willing to capture the entire government domain" and thus "redundant archiving practices promise to extend the breadth of web-based materials that are brought into persistently managed collections" and "meet a broader range of user requirements."<sup>467</sup> This conclusion underlies both CDL's later creation of the Web Archiving Service, which enables librarians and other curators to "capture, analyze and archive web sites and documents" and supports a number of captures of government information from the federal to the local level (both within and beyond the FDLP),<sup>468</sup> and the Internet Archive's Archive-It service,<sup>469</sup> through which a number of librarians are building collections to support users such as Stanford's collections of local and state government information, materials released due to Freedom of Information Act requests, Congressional Research Service reports, and more.<sup>470</sup>

### **In Sum**

The purpose of this Environmental Scan is to provide the broad context in which the FDLP itself operates. A summary of findings is provided at the close of the Research part of this report, following the following section on Existing Library Networks.

## **Existing Library Networks**

Throughout the library community there exist a wide range of organizations and networks that serve a diverse range of valuable functions. This section explores this universe of library networks, consortia, and depository programs with the goal of understanding the different ways that libraries come together toward common ends and identifying possible characteristics or themes that could be of value for the FDLP.

This section does not attempt to comprehensively list library networks, instead focusing on the development of a framework that will have explanatory value in characterizing the different ways in which libraries work together, built around a set of exemplar networks. It certainly leaves out a number of important library networks, and some library networks may cross the boundaries of the categories laid out herein, but this framework helps to bring some structure to the complex range of library collaborations. In this framework, we fundamentally separate those networks that emphasize bringing together *librarians* from those that bring together *libraries*. Within the latter category, we arrange library networks principally based on their main drivers, including those networks that are driven by institution-level connections, state or federal government structures, library-driven consortia, and other organizations and networks through which libraries collaboratively act.

In evaluating these different ways in which libraries come together, we hope to identify features, structures, and characteristics that might valuably inform the development of a new model or models for the Federal Depository Library Program. Our goal is not to simply identify an alternative existing model that could be directly applied to the FDLP; many library networks offer valuable models of how libraries can work together effectively, but none are direct parallels for the Program, and even those that do address similar challenges rarely have the size or breadth of the FDLP. As such, we principally consider the “feasibility for the FDLP” of broad classes of library networks. We seek to extract themes of library collaborations that may be important in developing a sustainable model for the FDLP, rather than attempt to apply other models directly to the FDLP.

## **Librarian Affinity Groups**

The first major category of library networks that we consider are actually networks of *librarians*, which we describe as “affinity groups.” These are, generally speaking, professional societies and other groups that bring together librarians for a variety of purposes. They may exist as standalone organizations or as components (either formal or informal) of broader library networks. This category is of interest for this project because it affords opportunities for the library community to define shared values, measure and track library inputs and outcomes, and conduct a variety of other work essential to the successful administration of the mission and values of the Federal Depository Library Program.

## ***Categories and Examples***

Affinity groups exist at all levels of size and scope. Generally speaking, the size of a group depends on how broadly or narrowly it has defined its scope; the largest groups are defined around broad themes, while groups that focus on more narrowly defined topics of interest naturally tend to only be of interest to a more limited constituency.

This feature can be seen clearly in the organization of the American Library Association (ALA), which is the major professional society for librarians in the United States.<sup>471</sup> At the highest level, ALA is a prime example of an extremely large and broadly scoped affinity group, with over 60,000 members from all different kinds of libraries and from a broad geographical region. (In addition, there are non-librarian members, including library students, library vendors, and other affiliated members). ALA concentrates its activities in seven major program areas. Many of these program areas directly support the needs of library professionals, including professional education, diversity within the profession, and advocacy on behalf of libraries to the public and to legislators. Through its support for libraries and librarians, ALA also supports the broader information needs of the general public, promoting literacy, advocating for policies that increase access to information, and advancing the cause of intellectual freedom. ALA publishes a number of professional journals, magazines, and newsletters, supports several centralized offices that perform research, draft policy, and coordinate many of the other activities of the association, and hosts two major conferences a year – the ALA Annual Conference and the ALA Midwinter Meeting – which regularly bring together tens of thousands of librarians. Many of ALA’s activities are coordinated through its eleven major divisions or its many round tables and committees, which generally bring together librarians around more narrowly targeted topics. ALA is governed by a council of members, as well as a number of targeted committees, which are supported by ALA staff.

ALA has attracted such a large and diverse membership because it is pitched at a very broad scope – its members have in common that they are librarians (or, for non-librarian members, generally have a professional interest in libraries and librarianship). Although ALA’s largest divisions – including the Association of College and Research Libraries,<sup>472</sup> the Public Libraries Association,<sup>473</sup> and American Association of School Libraries<sup>474</sup> – may in many ways resemble ALA in their breadth of focus, these organizations provide critical infrastructure for more targeted affinity groups that bring together librarians who have much more in common.

ALA supports a tremendous number of smaller affinity groups built around a wide range of themes. Without going into a deep analysis of ALA’s extremely complex administrative organization, several different kinds of affinity groups are apparent. Some bring together librarians around a shared professional responsibility; for example, the ALCTS (Association for Library Collections & Technical Services) division of ALA<sup>475</sup> supports groups such as its Acquisitions, Collection Management & Development, or Preservation & Reformatting sections, which bring together librarians around a common function within the library. Other groups within ALA bring together librarians in certain kinds of libraries, such as the State Library Agency Section of the Association of Specialized and Cooperative Library Agencies division of ALA.<sup>476</sup> Some specialize further, focusing on librarians in certain roles within certain kinds of libraries, such as the Reference Community of Practice of the Public Library Association of ALA.<sup>477</sup> Still others focus on broad topics of interest, drawing librarians with a shared interest in a topic together, such as the Intellectual Freedom Round Table<sup>478</sup> or the Map and Geography Round Table.<sup>479</sup>

Similar themes bring together librarians outside of the ALA. Several other large affinity groups resemble ALA at a slightly smaller scale, drawing together broad categories of librarians on a general shared characteristic: for example, the Medical Library Association,<sup>480</sup> Special Library Association,<sup>481</sup> and

American Association of Law Libraries<sup>482</sup> all serve as the major professional societies for librarians in their particular part of the library community. As an example, the AALL brings together over 5,000 law librarians and other related professionals from across the legal information sector, and – similarly to ALA – hosts an annual meeting, coordinates and supports professional development, organizes librarians into “Special Interest Sections,” and broadly works “to promote and enhance the value of law libraries to the legal and public communities, to foster the profession of law librarianship, and to provide leadership in the field of legal information.”<sup>483</sup> In addition to these activities to bring together librarians, the AALL has also worked – often alongside ALA and the other major professional associations – to support the interests of librarians in the policy arena, advocating on behalf of their constituents on policy matters at a variety of levels. It is probably not very much more than historical contingency which groups are organized outside ALA and which as divisions of ALA, although it is interesting to note that in the academic library context, medical libraries and law libraries often do not report to the main university library but rather to the dean of the respective school.

Some affinity groups are regional. This group includes a number of state-based library associations like the California Library Association,<sup>484</sup> which acts somewhat similarly to a localized version of the American Library Association by bringing together librarians from across the state in conferences, supporting interest groups, and advocating for libraries within California. Other groups bring together librarians based on other shared characteristics, such as the Association for Rural & Small Libraries,<sup>485</sup> which provides a venue for librarians at small and rural libraries to focus on common challenges unique to their particular context. Some emphasize shared professional responsibilities, such as the North American Serials Interest Group,<sup>486</sup> which supports a major annual conference and ongoing professional development opportunities for librarians, vendors, and others with an interest in serials issues. Still others bring together librarians with a common interest, as in the example of code4lib,<sup>487</sup> a loose community of library technologists based around an annual conference and a discussion forum. A variety of themes draw together affinity groups, resulting in a rich spectrum of communities built around librarians’ common interests.

The above examples of affinity groups are generally standalone bodies with the facilitation of interactions between librarians as their principal goal. Many other kinds of networks within the library community, however, have given rise to their own affinity groups, either purposefully or as an informal byproduct of their intended goals. Many of the networks of libraries that will be discussed later also constitute affinity groups, drawing together librarians around a common theme of interest; indeed, the boundary between networks that are principally affinity groups of librarians and networks of libraries that also support affinity groups of librarians can be blurry at times, as the cultivation of affinity groups is a major priority for many library networks. As just one example, the Metropolitan New York Library Council<sup>488</sup> is a New York City-based consortium of libraries that provides shared services to libraries, including facilitating interlibrary lending and organizing discounted licensing, but also serves as a major affinity group for librarians in this region. For example, it provides professional development opportunities and bringing together librarians in local special interest groups. Some other affinity groups are complementary to existing structures, rather than being provided through library networks; for

example, the Librarians Association of the University of California<sup>489</sup> provides a targeted affinity group for librarians who work at the University of California.

While most librarian affinity groups could be described as “natural” affinity groups, based on self-identification with the group’s shared interests, some affinity groups are limited in membership to those that hold certain positions or are employed in certain organizations. For example, the Chief Officers of State Library Agencies<sup>490</sup> provides a venue for directors of state library agencies to meet and address shared concerns; although COSLA advocates broadly on behalf of state libraries, its membership is limited to the leadership of these organizations. Even some groups within ALA are similarly limited in their membership; for example, the ALCTS Technical Services Directors of Large Research Libraries Interest Group,<sup>491</sup> although meeting publicly, is a forum to bring together only this limited group of librarians around the particular challenges unique to their institution type and role. Arguably, the Association of Research Libraries<sup>492</sup> falls into this category as well; although ARL is composed of member libraries that fit a certain profile and has launched several programmatic collaborations, it in many ways resembles an affinity group of leaders of the largest research libraries in North America more than it does a conventional consortium, eschewing many of the operational roles that are central to most library consortia. In general, this purposeful limitation of participation ensures that a group will share certain perspectives and experiences, and may allow for more of a safe space for the discussion of topics that would be politically challenging to air in a more transparent fashion.

### ***Themes***

Librarian affinity groups play a variety of different roles to greater or lesser degrees.

- Professional development: A principal role for many of these affinity groups is the provision of both formal and informal opportunities for professional development, such as classes, workshops, conferences, symposia, etc.
- Information sharing: A related role for many affinity groups is the facilitation of information sharing among members. This may be part and parcel of professional development opportunities, or may be more ongoing and ambient, such as in the provision of listservs, journals, newsletters, or other communications channels among librarians.
- Definition of shared values: Another major role for these affinity groups is the definition of the shared values of the library community. Sometimes, these groups perform this role formally, via resolutions or statements of shared values (e.g. the ALA Code of Ethics),<sup>493</sup> but more often these groups simply promote the development of a shared culture among librarians.
- Identification of best practices: In some cases, a more or less formal role for these affinity groups is to identify and promulgate best practices within their communities of practice.
- Centralized activities: Some affinity groups also perform a degree of centralized activity, often in support of the above roles. For example, affinity groups often support information-sharing roles by programming and organizing meetings, producing publications, or otherwise facilitating communication.

- Standards setting: Some affinity groups have responsibility for coordinating the establishment of formal standards, as in the case of the groups within ALA that manage the setting of metadata standards. This process may be done centrally or by members of the community.
- Policy advocacy: Several of the affinity groups maintain Washington or federal relations offices designed to shape the policy conversation and advance policy objectives that are of importance to their membership. In addition to centralized lobbying, many affinity groups also coordinate their members to advocate on important causes, providing information to their communities to draw attention to critical issues and support members in advocacy efforts.
- Strategic planning: In some cases, affinity groups conduct strategic planning activities designed to shape the future of their profession and/or the future of their libraries, performing or coordinating research and analysis to support their members in decision-making and planning for the future.

The prioritization of each of these roles may be shaped by which of the above categories a group falls into, as well as other factors about its intended goals and purposes.

### ***Librarian affinity groups and the FDLP***

Many such affinity groups already exist in and around the FDLP. The Government Documents Round Table (GODORT) of ALA,<sup>494</sup> founded in 1972, is one of the major affinity groups for government information librarians, providing an official professional community around this topic within the structure of the American Library Association. GODORT supports a number of committees and task forces that focus on more specialized aspects of government information, including the Federal Documents Task Force, and supports professional networking, development, and information sharing through regular meetings and the journal *DttP: Documents to the People*. GODORT also sponsors scholarships and awards for government information professionals, including the W. David Rozkuszka Scholarship, which “provides financial assistance to an individual who is currently working with government documents in a library and is trying to complete a master's degree in library science.”<sup>495</sup> In addition to its major professional development role, GODORT often serves as a venue for the definition and expression of shared professional values, supporting resolutions on topics of importance to the government information librarian community, and advocating for government information within the broader organization of ALA.

On a more local level, many states support affinity groups for government information librarians. For example, the University of Colorado at Boulder organizes the Government Publications Interest Group (GoPIG),<sup>496</sup> an affinity group which brings together government information specialists and others with an interest in government information in Colorado and provides a venue for discussion and information sharing. Similar groups exist in many other states, providing a local community for information sharing and professional development.

Another affinity group, specifically for librarians within the FDLP, has grown up around the Depository Library Council,<sup>497</sup> the official advisory body to the Public Printer, which was established in 1972. Although membership in DLC itself is strictly limited, the biannual Federal Depository Library Council Meeting has come to serve as a conference for depository librarians and a major hub of professional



development and networking within this community. GPO also supports professional development and community building in the FDLP community through regular online training sessions using OPAL, an online presentation and discussion suite that enables virtual conferences.<sup>498</sup>

In addition to these specialized affinity groups, the major professional associations have also worked on behalf of the Program more centrally. Responding to the priorities of their members and in support of the values of their library communities, the FDLP has become a major priority for many of the major professional associations' legislative and policy offices, including AALL, ALA, ARL, and COSLA. In some cases, the professional associations' advocacy efforts have grown directly out of the efforts of affinity groups of librarians focusing on government information, while in other cases they grow out of the priorities of a central office. Many of these associations have historically supported the FDLP through legislative advocacy and policy support.

But while several existing librarian affinity groups emphasize professional development, their efforts are usually focused within the government information community; very few reach into the broader library community to raise awareness of government information among non-specialist librarians. Greater integration with the existing broad professional associations may enable outreach beyond the typical boundaries of the profession, enabling training of library professionals who may not identify with existing government information-centric affinity groups.

### **Networks of Libraries**

Although some of the above affinity groups are tied to library-level memberships, they principally focus on bringing together *librarians*, not libraries. Libraries, of course, also have relationships with each other, grouping together in various ways to advance their shared interests and the common good. These arrangements vary widely, ranging from the very limited to the very broad in scope, the very small to the very large in size, and on a variety of other factors including how they are formed, governed, and incentivized. Although there are substantial idiosyncratic differences between these networks, this section seeks to class them together in ways that will draw out thematic differences between them.

#### ***Institution-driven Networks***

In some cases, libraries are brought together as a part of broader relationships between their host institutions. This context of institutional partnership may enable libraries to undertake deeper collaborations, drawing on existing relationships and infrastructure that support inter-institutional efforts. In addition to enabling innovative exercises, such an environment may support especially durable partnerships, building on histories of trust and an expectation of long-term relationships not tied to any particular collaborative effort. Some of these networks are especially institutionally-driven, their roles and activities shaped directly by the priorities of their members; other networks have a stronger central presence and, although their priorities remain guided by their participants, may have a greater degree of autonomy in determining how best to support their members.

The libraries of the Five Colleges of Massachusetts (Amherst, Hampshire, Mount Holyoke, Smith, and UMass Amherst)<sup>499</sup> offer a prime example of deep relationships rooted in broad institutional connections. These libraries share a joint catalog and generally allow borrowing of materials by faculty

and students across institutional lines, as well as actually sharing ownership of many of those collections deposited in their shared print repository\* and collaborating on a wide range of other projects to advance their common goals. But the collaborations between these schools go well beyond the library, also including “shared use of educational and cultural resources and facilities; ... joint departments and programs; ... [and] inter-campus transportation.”<sup>500</sup> These relationships are formalized through their participation in Five Colleges, Incorporated, “a nonprofit educational consortium established in 1965 to promote the broad educational and cultural objectives of its member institutions.”<sup>501</sup> This consortium, which is governed by a Board of Directors composed of the heads of its member institutions and the executive director of the consortium and supported by its members, supports many different forms of collaboration by bringing together interests from across the Five Colleges, sometimes supported by consortium staff and resources. These institutions credit their successful history of collaboration to “their proximity to one another in the Connecticut River Valley of western Massachusetts ... [and] their commitment to the liberal arts and to undergraduate education.”<sup>502</sup> The Five Colleges are an unusually rich example of regional collaboration among universities; in addition to ongoing programmatic collaborations, the 1970 foundation of Hampshire College in fact grew directly out of the interests of the presidents of the other four institutions creating “a new college in our area... at which major departures in liberal education can be initiated.”<sup>503</sup>

Another broad consortium which has facilitated significant library collaboration is the Committee on Institution Cooperation,<sup>504</sup> which “was established by the presidents of the Big Ten Conference members in 1958 as the athletic league's academic counterpart. An invitation extended to the University of Chicago, one of the founding members of the Big Ten which withdrew from the conference in 1946, was accepted. Following its admittance to the Big Ten in 1990, Pennsylvania State University was invited to join the consortium.”<sup>505</sup> This close linkage of CIC membership to the Big Ten athletic league means that the University of Nebraska-Lincoln will soon join the consortium as it becomes a member of the Big Ten. Although this consortium has pursued a broad range of shared initiatives that go well beyond the library, its Center for Library Initiatives has focused on “three objectives – optimizing student and faculty access to the combined resources of our libraries; maximizing cost, time, and space savings; and supporting a collaborative environment where library staff can work together to solve their mutual problems.”<sup>506</sup> The CIC is governed by the provosts of its member institutions, and has a relatively small centralized staff, which principally serves to coordinate the efforts of the libraries of its member institutions to advance shared programs. In addition to consortial licensing, reciprocal borrowing, and other standard features of a library consortium, the CIC has played an important role in the creation of the HathiTrust Digital Repository, which “began in 2008 as a collaboration of the thirteen universities of the Committee on Institutional Cooperation, the University of California system, and the University of Virginia to establish a repository to archive and share their digitized collections.”<sup>507</sup>

The sets of institutions described above have long histories of multifaceted collaborative enterprises, but ultimately remain discrete institutions. Other groups of institutions may be more fundamentally

---

\* According to depository policies, “Items stored in the Depository by the University [of Massachusetts, Amherst] remain the property of the University. Items given to the Depository by the four colleges become the property of Five Colleges, Inc.”

linked as a part of the same university system. This may provide additional opportunities for innovative efforts. In these cases, shared governance and funding may support unique efforts to share resources and develop innovative services.

Perhaps the richest example of a university system taking advantage of this opportunity for deep library collaborations is the California Digital Library,<sup>508</sup> the “UC’s library without walls.”<sup>509</sup> Building on a history of collaboration among the University of California system’s libraries, including the creation of their joint catalog MELVYL, the California Digital Library works to “provide the infrastructure and support commonly needed by the campus libraries, freeing them to focus their resources on the needs of their users” through centralized shared licensing, technology development, and programmatic support for collaborative efforts by the UC libraries.<sup>510</sup> And unlike many other consortial bodies, which often work principally through coordinating activities among their member libraries, the CDL has significant centralized staff devoted to directly supporting their efforts, in addition to serving a coordinating role. The CDL is a unit within the University of California Office of the President, and as such has close linkages with other centralized information services organizations of the university, including the press and other media. In addition to support from the UCOP, CDL has been successful in attracting millions of dollars in grant funding to support its explorations of “strategic innovations in digital libraries.”<sup>511</sup>

CDL is an almost uniquely strong example of a university system supporting collaboration across its libraries, the result of a strong leadership vision for the new opportunities and savings that could be realized by libraries working together in an unprecedented way; many other university systems support much lighter library collaborations, reflecting a prioritization of local independence by libraries. For example, while the California State University system has leveraged “the purchasing power of the largest system of higher education in the nation” to collectively license a wide range of scholarly materials, and does centrally maintain and develop some shared infrastructure, its activities beyond shared licensing pale in comparison to those of the CDL.<sup>512</sup>

### ***Government-driven Networks***

In contrast to the above networks, which arise out of a sufficient sense of trust between institutions that their libraries can set aside some degree of independence to achieve common goals, other networks are implemented on behalf of a group of libraries to catalyze such collaboration. For example, state governments may create central offices to provide support institutions in their region, providing opportunities for efficiencies and economies of scale that might otherwise not have naturally arisen, or the federal government may create networks to support certain objectives.

For example, the Florida Center for Library Automation<sup>513</sup> provides information technology support, infrastructure, and shared licensing for the libraries of the State University System of Florida. FCLA principally supports the technology needs of these universities, centrally licenses electronic resources, manages shared infrastructure like SFX (or other reference linking software) and a union catalog, and develops centralized digital repositories for both preservation and institutional repository purposes. Although governed by the State University System, FCLA is advised by a board of representatives from its constituent campuses on how they can best serve the needs of its users. The College Center for Library Automation<sup>514</sup> provides a somewhat parallel set of services for Florida’s community colleges.

Many other state university systems have a similar centralized library office which supports shared licensing and infrastructure for their members, although the particular roles of these centralized offices and their relationships to their member campuses range widely. In some cases, centralized offices principally focus on licensing, with shared infrastructure efforts sometimes being eclipsed by the continuing efforts of individual libraries that prefer their own independent solution.

OhioLINK<sup>515</sup> deserves special consideration as a particularly robust state-supported library-driven consortium that has taken on a wide range of activities in support of libraries at private and public academic institutions within Ohio. In addition to common activities such as a union catalog, interlibrary loan, and shared licensing, OhioLINK has also developed a rich set of digital services to support the needs of scholars and students in Ohio, including an innovative journal discovery and use system that relies on local loading of journal content, infrastructure for managing digital content, and more. OhioLINK reports to the Ohio Board of Regents and is advised by a set of advisory councils, composed principally of librarians, focusing on specific topics; the membership of these boards varies, bringing together staff with appropriate skill sets and interests from across OhioLINK's membership to advise on the consortium's activities.

Although many examples of government-driven networks focus on bringing together academic libraries, other networks bring together public libraries around their shared challenges and priorities. For example, the Ohio Public Library Information Network (OPLIN)<sup>516</sup> is a consortium of public libraries in Ohio, which originated as a complement to OhioLINK focused on supporting the unique needs of public libraries in Ohio (as opposed to the academic libraries served by OhioLINK). OPLIN is supported by the State Library of Ohio, and coordinates telecommunications infrastructure and access to subscription databases for public libraries across Ohio, with the goal of "ensur[ing] that all Ohio residents have fast, free public Internet access through the 251 independent local public library systems in Ohio, as well as the use of high-quality research databases not freely available on the World Wide Web."<sup>517</sup> OPLIN is governed by a board of trustees from public libraries across Ohio.

While OPLIN is focused on supporting the development of infrastructure for public libraries in Ohio, public library organizations also exist nationwide to provide shared services for public libraries. Consortia like the Serra Cooperative Library System bring together regional public libraries (as well as selected special libraries), supporting interlibrary loan and providing delivery of items among members, sharing reference burdens, coordinating training, and more.<sup>518</sup> In addition to such collaborations among independent libraries, many cities and regions support *systems* of public libraries, often based around a large central library and a network of branch libraries throughout the city. In this way, library services, which often focusing around provision of computers and community programming, can be delivered to individual neighborhoods, while benefitting from the scale of a much larger library. These libraries share collections, prioritizing interlibrary loan to deliver materials to users at the library branch that is most convenient for them.

While public libraries and academic libraries are often brought together in government-driven networks unique to their type of library – for example, the decision in Ohio to have separate networks of academic libraries and public libraries – some networks bring together all kinds of libraries. For example,

MINITEX,<sup>519</sup> which is a program of the Minnesota Office of Higher Education that is hosted by the University of Minnesota, brings together academic, public, special, and school libraries. Minitex supports a wide variety of consortial activities, including consortial licensing of shared resources, interlibrary loan, and a high density storage facility. It also emphasizes professional development, providing training and consulting on topics including cataloging and digitization. Minitex also supports central shared infrastructure, including the Minnesota Digital Library and the Electronic Library of Minnesota. Some Minitex services reach beyond Minnesota under contracts between Minitex and the North and South Dakota State Libraries.

In addition to these state-level programs, the federal government has created several different kinds of networks of libraries to pursue national information objectives. For example, the National Network of Libraries of Medicine (NN/LM),<sup>520</sup> coordinated by the National Library of Medicine, brings together almost 6,000 libraries of medicine across the United States, including academic health science libraries, hospital libraries, and others. The NLM itself forms the backbone of this network. In addition to serving as a central permanent and trusted national library collection, the NLM maintains materials on behalf of the community and supports the databases that are the principal means of providing access to many materials in this community: PubMed and Medline. The NN/LM is divided into eight regions, with three tiers of libraries supporting each region. Each region has one designated Regional Medical Library which serves under renewable contract with the NLM to coordinate activities within its region. In each region, the Regional Medical Library is responsible for coordinating cooperative activities among libraries and serving as a liaison between the NLM and the libraries of its region. Resource Libraries (often large academic libraries) facilitate local outreach and serve as hubs for document delivery, as well as providing services beyond their immediate local communities. Hospital libraries and a variety of other libraries that serve the health information needs of other communities are known as Primary Access Libraries. The NN/LM supports interlibrary lending among network members via the DOCLINE system, as well as supporting collaboration and information sharing among members, and providing training and grant opportunities. It obliges members to relatively few responsibilities beyond some basic information sharing with the rest of the network.

Other government-driven programs seek to bring together libraries around other kinds of goals. One example is the National Digital Information Infrastructure and Preservation Program (NDIIPP),<sup>521</sup> a program to investigate digital preservation challenges. The Library of Congress provides central leadership and programmatic support as well as coordinating the activities of a large network of institutions, including many libraries as well as other partners. This program was funded specifically by the US Congress to “to develop a national approach to digital preservation.”<sup>522</sup> The Program has funded a substantial number of projects and programs across its community, including efforts to develop technologies, policies, specific preservation programs, and more. More recently, the Program launched the National Digital Stewardship Alliance, which emphasizes the formation of relationships between “government agencies, educational institutions, non-profit organizations and businesses to preserve a distributed national digital collection for the benefit of citizens now and in the future.”<sup>523</sup>

Although not explicitly a network of *libraries*, the Agriculture Network Information Center (AgNIC) is also worth discussing here; AgNIC – a program coordinated by the National Agricultural Library – brings

together libraries, research institutions, and others, coordinating “‘centers of excellence’ ... dedicated to enhancing collective information and services among the members and their partners for all those seeking agricultural information over the Internet.”<sup>524</sup> Participants “select important information sources that are readily available on the Internet for inclusion in the AgNIC system, ... create resources and tools to assist customers in accessing key information on selected topics, ... offer concentrated subject sites, and ... monitor search term logs and usage (or site) statistics to evaluate and modify services.”<sup>525</sup> AgNIC offers an example of a government-coordinated program that focuses on the production and organization of information, collaboratively developing a shared resource, rather than the dissemination of information that is the emphasis of many depository programs.

### **Depository library programs**

Depository programs like the FDLP make up an additional important category of government-run programs, working through networks of libraries to disseminate and support the accessibility of publications broadly. Although the FDLP is the largest depository program managed by the United States federal government, it is not the only such program; the US Patent and Trademark Office disseminates copies of “U.S. patents and patent and trademark materials, to make them freely available to the public, and to actively disseminate patent and trademark information”<sup>526</sup> through a network of Patent & Trademark Depository Libraries and support the intellectual property needs of the public.<sup>527</sup> Members of this program acquire and provide public access to a collection of a “minimum of a 20-year back file collection of U.S. utility patents issued 20 years prior to the date of designation,”<sup>528</sup> currently received from the USPTO in DVD form. Libraries are required to “retain any depository copies of patents until, at the initiative of the library, disposal of them has been arranged through the USPTO. The USPTO retains the right of first refusal to acquire any materials, including microform, being relinquished by a library.”<sup>529</sup>

In addition to national-level depository programs, many states coordinate depository library programs to disseminate and support access to state government documents. For example, the California State Library manages the California State Depository Library Program in order to make California state documents readily available to the citizens of the state,<sup>530</sup> which currently consists of over 100 libraries across the state. California’s Program contains two main tiers of libraries: “full” depositories, which receive all publications within the scope of the program; and “selective” depositories, which “receive copies of each publication distributed by the Office of State Publishing, and may request other state documents distributed directly by the issuing agencies.”<sup>531</sup> Similarly to the FDLP, these roles also entail different retention requirements for these tiers of libraries, although with some greater flexibility in required retention even for complete depositories; in addition to these two roles, a different set of retention requirements apply to law libraries, differentiating between legal materials and general documents for retention purposes.

National depository programs similar to the FDLP exist outside the US as well, such as the Canadian Depository Services Program,<sup>532</sup> which exists to “provide Depository Libraries with free and ready access to the printed and electronic documents and other information products of the federal government, in partnership with Government of Canada departments and agencies.”<sup>533</sup> The Canadian Program consists of more than 800 libraries in Canada and abroad; fewer than 100 of these libraries are located outside Canada, including about 30 participating libraries in the United States. Libraries in this Program are

categorized either as Full Depository Libraries, Selective Depository Libraries, or Map Depository Libraries. The 51 Full Depositories (all within Canada, with the exception of the British Library) are selected by the DSP and the National Library of Canada, and receive all Government of Canada publications distributed through the Program (in English, French, or both, depending on their user population) and “commit to preserving and maintaining a permanent collection of Government of Canada publications, and to providing inter-library loan service for some material no longer available from other sources.” Selective Depositories, on the other hand, select materials at the item level from a weekly checklist of publications, and “commit to preserving and maintaining them for at least 5 years,” while Map Depositories “receive topographic and geological printed maps and other cartographic products ... and have qualified map librarians on staff and the equipment and facilities for storing and consulting printed maps.”<sup>534</sup> The DSP faces several challenges similar to those faced by the FDLP, including working to effectively balance print and electronic materials within the Program, integrating all appropriate government publications into dissemination and preservation infrastructures, and raising awareness of library services.<sup>535</sup>

Depository programs also exist at the international level; the Dag Hammarskjold Library of the United Nations Secretariat in New York (not a “government,” but discussed here among its closest correlate programs) coordinates the United Nations Depository Library System, distributing “United Nations documents and publications to users around the world through its depository library system,” a network of “more than 400 depository libraries in over 140 countries” (including almost 50 libraries in the United State).<sup>536</sup> These libraries pay a modest annual fee to participate in this program, and generally receive a “regular deposit” of an established set of UN publications or a “print plus deposit” of this set of materials plus a complement of other specified materials, although libraries are free to select to receive only a desired subset of these deposited materials. In both cases, libraries may choose to substitute online access via the Official Document System for hard copy distribution of materials. These materials must be made freely available to the public, and although libraries may choose to deaccession materials in certain specified categories, “the essence of the collection as a record of United Nations activities from the date of designation to the present must be preserved.”<sup>537</sup> In addition to maintaining and supporting access to the public locally and via interlibrary loan, UN depository libraries are encouraged to organize activities regularly to raise awareness of these materials.

The Europe Direct information network<sup>538</sup> contains a depository component as only one aspect of a broader strategic campaign to meet the information needs of Europeans. Europe Direct also provides centralized chat, telephone, and email assistance with EU topics, coordinates nearly 500 Europe Direct Information Centres across Europe to provide general information to the public, and organizes “Team Europe,” a network of outreach specialists who can “lead presentations, workshops or debates at trade fairs and conferences or within organizations” and “give interviews and write articles for the media.”<sup>539</sup> In addition to these efforts to coordinate outreach and the provision of basic information about the EU, Europe Direct also coordinates 400 European Documentation Centres principally hosted in university and research institute libraries, which receive and support public access to EU publications. The European Union has also organized “a network of depository libraries across the US to provide Americans with access to many of its official publications,”<sup>540</sup> automatically and freely disseminating to

member libraries a predefined set of EU publications. These libraries can also choose to receive certain sets of additional EU publications.

Although these programs generally serve a role similar to that played by the FDLP, there are substantive differences between these programs and the FDLP. None have the scale of the FDLP; only the Canadian Depository Services Program comes close, and several others operate on a significantly smaller scale. Some of these programs charge fees for participation, rather than freely distributing materials (although the value of materials generally far outweighs the fee). Several disseminate relatively small and fixed sets of materials, rather than allowing libraries significant flexibility in selecting desired materials; on the other hand, the Canadian DSP enables a much more granular item-level selection process. And some programs seem designed principally as services to support libraries in developing desired collections, lacking the long-term emphasis on maintaining collections that is at the core of the FDLP. Furthermore, many of these programs face familiar challenges in successfully negotiating the print to electronic transition – including fugitive documents and more – and reaching sustainability in the digital environment. Table 9 provides a brief summary overview of these depository programs.\*

---

\* As we have been unable to find substantial details on the formal workings of the European Documentation Centres program, this program is excluded from this summary; we would value community input to help us better understand this program.



Modeling a Sustainable Future for the Federal Depository Library Program

Table 9: Overview of Depository Library Programs

	Participation	Levels of participation	Types of participating libraries	Selection process	Retention requirement	Fees for participation	Governing authority	Changes in digital era
<b>Federal Depository Library Program*</b>	1221 libraries in the United States	Regional libraries and Selective libraries	Broad participation from large and small academic libraries, public libraries, academic and public law libraries, and state and federal libraries	Regional libraries receive all appropriate materials in print form; Selective libraries receive a core set, plus any selected materials by item number	Regional libraries must retain all non-superseded materials; Selectives must retain materials for five years, and then deaccession through their Regional	None	44 USC 1901-1916; managed by Government Printing Office	See Background paper
<b>USPTO Depository Libraries</b>	89 libraries in the United States	All libraries play the same formal role in the program	Heavy participation from state, public, and research libraries; often specialized science libraries	None; all libraries receive all materials in digital form.	Disposal of materials requires permission from USPTO	\$50 annual fee	35 U.S.C. 12; managed by Patent and Trademark Office	Materials are distributed primarily in digital form, on DVD

\* The FDLP is included in this chart for comparative purposes only.

Modeling a Sustainable Future for the Federal Depository Library Program

	Participation	Levels of participation	Types of participating libraries	Selection process	Retention requirement	Fees for participation	Governing authority	Changes in digital era
<b>California State Depository Library Program</b>	114 libraries in California	Complete depositories, Selective depositories, and Law Libraries	College & university libraries, public libraries, law libraries, and some state libraries	Complete depositories receive all materials; Selective depositories receive a designated set of materials, and can choose to receive others	Complete depositories retain all materials (with defined exceptions), Selective libraries retain certain materials for at least five years; Law libraries retain legal materials	None	California Government Code 14900 – 14912; managed by California State Library	Limited central hosting of digital materials; most materials hosted by agency websites
<b>Canadian Depository Services Program</b>	More than 800 libraries, including about 30 in the United States	Full depositories and Selective depositories	Full depositories include government libraries, university libraries, and public libraries; similarly for selectives	Full depositories receive all materials; Selective libraries choose desired materials from a weekly checklist	Full depositories retain all materials; Selective libraries retain materials for at least five years	None	Canadian Order-in-Council; managed by Depository Services Program	Many materials available through centralized digital “E-collection”

Modeling a Sustainable Future for the Federal Depository Library Program

	Participation	Levels of participation	Types of participating libraries	Selection process	Retention requirement	Fees for participation	Governing authority	Changes in digital era
<b>UN Depository Library System</b>	More than 400 libraries in 140 countries, including almost 50 in the United States	Regular depositories and Print plus depositories	Principally research libraries, also law libraries and public libraries	Libraries generally receive a predefined set of materials for their role, although may modify this profile in limited ways	Libraries may only deaccession certain classes of materials	Annual fee, varies with role and other factors (such as development status of nation)	Official Document of the United Nations (Secretariat / Administrative Instruction - ST/AI/189/Added.11/Rev.2; managed by Dag Hammarskjöld Library	Many materials available through centralized Official Document System
<b>EU Depository Libraries in the US</b>	55 libraries in the United States	All libraries play the same formal role in the program	Principally research libraries	Libraries generally receive a predefined set of materials for their role, and may choose to receive certain additional materials	Not clearly documented	None	???	Many materials available via europa.eu

### ***Library consortia***

In addition to networks for library collaboration that are built upon institutional relationships or at the behest of an external entity, libraries themselves often recognize opportunities for common goals to be more efficiently or effectively realized through the development of partnerships between libraries. The consortia that they form generally draw together libraries out of a perceived commonality of interests, which often has a strong regional component. Libraries may participate in multiple consortia, ranging from broad groupings that bring together a wide variety of libraries in a region to more specialized groupings that focus on the common concerns of similar libraries. Common activities pursued by many consortia include:

- Facilitating the licensing of electronic resources, either by jointly licensing access for a group of libraries or by arranging for discounts or deals that enable individual libraries to more cost-effectively license these resources
- Supporting reciprocal borrowing, both through reciprocal lending policies and the provision of tools and services in support of these policies
- Supporting collaborative collections management, with activities ranging from the coordination of distributed collections to the provision of shared print storage facilities, to coordination of acquisitions to develop complementary collections strengths
- Providing centralized technological infrastructure, including centralized instances of common library tools; in some cases, they may simply outsource technology support, while in other cases shared infrastructure may provide the groundwork for information sharing, as in the case of a union catalog
- Supporting professional development and training of librarians by organizing conferences and playing other roles that resemble those played by many of the affinity groups described above

Many library collaborative endeavors are shaped by one or a very few shared objectives, such as reciprocal borrowing agreements, facilitated interlibrary lending, and shared licensing of electronic resources. While these roles undergird many more complex consortial arrangements, some consortia focus principally on these common functions, and have few other roles beyond facilitating resource sharing.

An example of an especially focused collaboration is BorrowDirect,<sup>541</sup> a network of the eight Ivy League universities focused around patron-driven interlibrary loan fulfillment. BorrowDirect formalizes relationships between these universities and shares infrastructure to enable users at these institutions to directly request books from BorrowDirect partners without intervention from the library. It is a streamlined system for a network of interlibrary loan that can offer rapid service. Initially a project by Columbia, the University of Pennsylvania, and Yale, facilitated by RLG, this network now exists as shared infrastructure for these institutions, with little public face or broader programmatic elements having developed to date and no central office to serve as a focal point.

Another example of a focused consortial effort that grew out of a related group of libraries is the NorthEast Research Libraries consortium (NERL),<sup>542</sup> which brings together academic research libraries in the northeastern United States “with the common objectives of access and cost containment, joint licensing, and possible joint deployment of electronic resources.”<sup>543</sup> NERL focuses principally on “licensing on-line products and the deployment of online products and services,” with the goal of “obtain[ing] the best resources, license terms, and prices possible for our institutions and users,” especially for expensive resources.<sup>544</sup> Hosted by Yale University and governed by representatives of its member institutions, NERL has several dedicated staff based at Yale, but relies on coordinating efforts by its members to advance its work.

Although there are many examples of library networks driven principally by a focused set of programmatic activities, many groups of libraries take on a wider range of responsibilities, often also including these basic roles. These consortia serve a variety of different self-selected constituents, shaping their roles to address the needs of their member libraries, and so may take on very different sets of responsibilities or patterns of activities based on the unique needs of their constituents.

Many regional library consortia serve the full range of libraries in their state or region, ranging from small public libraries to the largest academic institutions. For example, the Midwest Collaborative for Library Services<sup>545</sup> (which serves libraries in Indiana and Michigan) encompasses school, corporate, public, and academic libraries in its region, from high school libraries to the University of Michigan. MCLS arranges for discounts on databases, provides some central support to facilitate licensing, supports a union catalog, offers workshops and training on a variety of topics, and provides several other services and tools to their community. Other states and regions have similar consortia which play a range of roles with accompanying varied service offerings. In addition to their consortial roles these broad regional consortia can play an important role in forming local affinity groups of librarians often also supporting professional development and job seeking activities.

Regional consortia that focus on serving academic libraries (occasionally also including a handful of large non-academic libraries such as the state library) are also common. Although there is substantial variation among these consortia, PALCI (the Pennsylvania Academic Library Consortium, Inc.)<sup>546</sup> offers a good example of this model. PALCI brings together academic libraries (most of which are located in Pennsylvania, with some additional membership in New Jersey and West Virginia). In addition to facilitating cooperative licensing of electronic resources, reciprocal borrowing, and interlibrary loan, PALCI is also working to develop a distributed print journal archive, to facilitate cooperative planning and setting of standards on other print and digital collections management issues and to provide professional development activities for librarians at member institutions. Although the specific menu and weight of services may vary, many similar consortia play these sorts of roles for regional groups of libraries nationwide. Several of these consortia have pursued activities in support of their member depositories. For example, the Pacific Northwest’s Orbis Cascade has served as the basis for a GPO-sanctioned distributed Regional collection,<sup>547</sup> and Louisiana’s LOUIS consortium has supported its member FDLP libraries by coordinating with records vendors. Other library consortia draw together a more select set of libraries, focusing on research libraries or other unique communities within a region. For example, the Association of Southeastern Research Libraries (ASERL)<sup>548</sup> supports a variety of

collaborative activities, ranging from shared licensing and reciprocal borrowing to professional development to programmatic collaborations around print collections, government documents, digital collections, and more. Although some of ASERL's activities are commonly beneficial across its membership (such as some of its infrastructural roles like rapid interlibrary loan support) several more programmatic activities include only a subset of ASERL members interested in a particular topic. ASERL is governed by a board of directors elected from among ASERL members, and has a small central staff that principally facilitates programmatic collaboration driven by its members.

The Greater Western Library Alliance (GWLA)<sup>549</sup> forms multifaceted relationships between a group of research libraries in the Midwestern and Western United States. As with ASERL, GWLA has a small central staff and is governed by representatives of its member libraries, and emphasizes both standing programs (such as resource sharing agreements, jointly negotiated licenses, and professional development activities) and collaborative projects that bring together some or all of its members. Programmatic projects are typically championed by one or more libraries and address one of four broad programmatic goals for the Alliance, reflecting both an interest in advancing the shared objectives of members and addressing broader thematic goals that could have benefits well beyond the GWLA community.

Other library consortia focus on the unique challenges faced by particular sectors of libraries, again often with a regional component. For example, the New England Law Library Consortium (NELLCO)<sup>550</sup> brings together 25 New England law libraries that are full members of the consortium, as well as affiliate member law libraries from across the country and internationally. While many are academic libraries, NELLCO also includes government libraries and independent law libraries; although there is substantial diversity among these libraries, their shared emphasis on serving the needs of the legal community enables them to work together on common ground to address challenges and priorities unique to law libraries. NELLCO provides many familiar features of a library consortium, including collaborative licensing, reciprocal interlibrary loan, and shared infrastructure (including a shared digital repository), as well as emphasizing professional development and information sharing through special interest groups. NELLCO has limited permanent staff, and is governed by board composed of the directors of all full member libraries.

### ***Other library collaborations***

Libraries also come together in a variety of other configurations to accomplish shared objectives, sometimes more informally than the above consortial examples and sometimes through different kinds of formal organizations. Like the library-driven consortial examples described above, these collaborative efforts principally bring together libraries that self-identify with a shared goal or face a common challenge.

### **Ad hoc collaborations**

While many of these consortial activities and collaborative efforts seek to build stable networks of libraries to continue to support shared goals over time, libraries also come together in more ad hoc collaborative efforts, bringing together a group of libraries or librarians to address a specific project through collaborative effort. Many such projects are grant-funded initiatives and they are focused on

short-term collaborations with a defined goal in sight. For example, the Government Information in the 21<sup>st</sup> Century project<sup>551</sup> was a collaborative project, funded by the Institute of Museum and Library Services, by five libraries to implement “a five-state continuing education program to train reference and public service librarians and library workers in the use of electronic government information.”<sup>552</sup> Through this project, participating libraries worked together to develop content resources, train government information staff, and coordinate outreach and training to non-specialist librarians throughout the region. This grant-funded, limited-term, ad hoc collaboration among libraries is a common model for joint efforts by libraries to address shared priorities. Although numerous further examples of such short-term, ad hoc collaborations could be listed, many of the most successful and longest-lasting collaborations that begin with ad hoc groups of libraries eventually grow to take on more formal organization structures or are integrated into existing organizations.

### **Programmatic collaborations**

While these ad hoc collaborations typically take on a project that is relatively limited in scope and timeline, aiming to accomplish a set task, other collaborations among libraries seek to set up long-term networks to support shared goals. In many ways, these collaborations are similar to consortia, but the collaborations described here are principally oriented towards programmatic action around a relatively focused goal; they are goal-oriented rather than relationship-oriented.

One example of such an organization is the LOCKSS Alliance,<sup>553</sup> which brings together libraries that have implemented the LOCKSS (Lots of Copies Keep Stuff Safe) technology to maintain local replicated digital collections. Members of the LOCKSS Alliance have self-identified based on a shared interest in developing local digital collections using the LOCKSS technology. “LOCKSS Alliance participants are able to collect and preserve premium content not available to the general LOCKSS community. Participant fees support ongoing technical development as well as regular monitoring and tuning of LOCKSS Alliance boxes.”<sup>554</sup> The LOCKSS Alliance is a unit of the Stanford University Libraries, with input into technical and collection development directions provided by Alliance participants. (The LOCKSS-USDOCS initiative is discussed separately in a section below.)

Other private networks have also been built up around the LOCKSS technology. These groups of libraries work collaboratively in maintaining complementary digital collections. Their relationships are technical, as digital collections regularly and automatically audit each other to detect damage and repair any damaged content they find to ensure the content’s authoritative version is preserved, and they are also social, as within any particular Private LOCKSS Network, each library’s relationship with each other is based on mutual trust and in most cases a legal contract.

Other networks bring together libraries to actively develop shared community infrastructure. For example, HathiTrust<sup>555</sup> is a growing network of libraries that is working toward the development of shared infrastructure to support the goal “that the cultural record is preserved and accessible long into the future.”<sup>556</sup> HathiTrust has taken on a broader life of its own as a collaborative effort among libraries, as a growing range of other research institutions have become members of HathiTrust, in order to support its vision of developing shared infrastructure for the management and preservation of digitized collections. All of the current partners “have deposited content in HathiTrust and are paying for

preservation and access services for that content. However, HathiTrust has introduced a new cost model that allows institutions to join that do not necessarily have content to deposit, but wish to contribute to the curation of existing volumes in return for specialized services and participation in governance.<sup>557</sup> To evolve in accordance with this growing membership, a Constitutional Convention will be held for HathiTrust in 2011, “to create new governance, partnership, and cost models for HathiTrust.”<sup>558</sup>

While HathiTrust focuses on the collaborative development of shared digital infrastructure to support the goals of its member institutions and the broader community, other collaborative programs focus on supporting members in more efficiently managing their print collections. WEST,<sup>559</sup> which began as a grant-funded project of the University of California, brings together “U of California libraries, Washington, Washington State, Oregon, Oregon State, Arizona, Arizona State, other members of Orbis-Cascade Alliance, GWLA, and others” with the goal of developing “shared retrospective journals repository among research libraries in the Western Region of the U.S.”<sup>560</sup> With the support of the Center for Research Libraries, WEST seeks to formalize relationships and facilitate information-sharing between research libraries about their respective holdings, thus enabling libraries to confidently deaccession local holdings of materials sufficiently maintained elsewhere within the WEST group of libraries. Although WEST builds on existing relationships among partner libraries, the major goal of this network are to formalize bonds of trust among member libraries and enable libraries to rely on remote collections.

### **National or international collaborations**

Although most library consortia – even the larger examples discussed above – have a strong geographical component, some library consortia have grown to serve a much broader spectrum of libraries across the community. These large-scale consortia often play very specialized roles in the community.

The world’s largest library network is OCLC,<sup>561</sup> a non-profit organization that was founded in 1965 as the Ohio College Library Center, with the goal of being a “cooperative, computerized network in which most, if not all, Ohio libraries would participate.”<sup>562</sup> OCLC has since grown well beyond Ohio, and currently is made up of tens of thousands of members world-wide. OCLC’s original programmatic goal – “merg[ing] the catalogs of Ohio libraries electronically through a computer network and database”<sup>563</sup> – remains one of its most important community roles, serving as the basis for what has become Worldcat, “the world’s foremost bibliographic database.”<sup>564</sup> Through OCLC’s system for sharing bibliographic records (supported by a system of credits and charges associated with various activities), libraries worldwide have been able to realize substantial efficiencies in their cataloging activities, reducing redundancy by drawing on work done elsewhere to more easily and rapidly catalog their own materials. In addition to this core activity, OCLC also offers a wide range of other products and services to the library community, as well as pursuing research and programs on behalf of the library community, a function enhanced by OCLC’s 2006 merger with RLG, a former competitor. OCLC is governed by a board of trustees from the library community and beyond, and is advised by a Global Council and Regional Councils world-wide, which provide a major venue for member libraries to communicate their concerns and priorities to OCLC leadership.



Another large network of libraries is the Center for Research Libraries,<sup>565</sup> a consortium of hundreds of U.S. and international libraries that focuses on “acquir[ing] and preserv[ing] newspapers, journals, documents, archives, and other traditional and digital resources from a global network of sources.”<sup>566</sup> CRL began in the 1940s as the Midwest Inter-Library Corporation, a shared depository and collection for ten Midwestern universities; since then, CRL has broadened its membership and taken on more affirmative collecting responsibilities, especially for serials, prioritizing the development of collections that are “costly, ... [require]critical language skills to catalog, ... or [are] difficult to obtain.”<sup>567</sup> In addition to its primary role gathering, preserving, and providing access to these materials, CRL offers a variety of other services and professional development activities largely focused around helping libraries navigate the print to electronic transition, such as including certification and audit of digital repositories and coordination among print archiving initiatives. CRL is governed by its member organizations, which elect its board of directors and shape CRL’s broad collecting priorities, via a council of representatives.

LYRASIS,<sup>568</sup> a relatively new entrant to this category of library networks, was formed in 2009 by the merger of PALINET, SOLINET, and NELINET, former OCLC regional networks. LYRASIS currently emphasizes professional development activities and shared licensing of tools and content for its members, and is beginning to serve a role hosting grant-funded workshops and discussion groups to advance shared research agendas. LYRASIS is governed by a board elected by its membership, and is currently forming a set of advisory groups composed of members that focus on particular topics of interest, which will serve both a professional development role and to advise LYRASIS on strategic directions.

### **New models**

Several other innovative models have been pursued across the library community to bring together libraries in collaborative efforts, typically aimed at realizing savings and enabling service innovations. For example, the Dr. Martin Luther King Jr. Library in San Jose, CA<sup>569</sup> represents a relatively unique collaboration between academic and public libraries, housing both the San Jose Public Library’s main branch and the San Jose State University Library. To satisfy the growing space needs of both libraries, the city and the university “agreed that by pooling resources they could build one new facility that would provide both city and university library users with access to more materials and services than either constituency would enjoy in separate locations.”<sup>570</sup> In addition to sharing space, the libraries have merged several services, under the “guiding principle... ‘Merge everything that it makes sense to merge.’”<sup>571</sup> Although balancing the needs of these diverse communities has been challenging, this collaboration has enabled significant economies of scale and enhanced collections and services available. Another library that is “shared” by multiple parent institutions is the Auraria Library in Denver, which supports the University of Colorado Denver, Metropolitan State College of Denver, and the Community College of Denver.

Although research libraries in particular have a long history of prioritizing independence, experiments in deep collaboration exist even within this community. For example, Columbia and Cornell University Libraries have recently announced their intention to “pool resources to provide content, expertise, and services that are impossible to accomplish acting alone” through a partnership called 2CUL.<sup>572</sup> This collaboration seeks to “fill gaps in the scholarly record that exist because our separate institutional

resources are insufficient to meet inflationary publisher costs and an expanding scholarly output,” and early efforts are focused on “enabling infrastructure, such as a shared back-end cataloging/acquisitions system, a shared long-term digital archive, fast and reliable book and digital document delivery, a better sense of collection strengths and gaps, and a more refined understanding of user expectations.”<sup>573</sup> As this project evolves, it may serve as a valuable model for how even the largest research libraries can transition into a much more collaborative mode of working.<sup>574</sup>

### ***Feasibility for FDLP***

Few other networks offer a close enough parallel to the FDLP to imagine the direct application of an existing network model to the FDLP. Most library networks are driven principally by the needs of libraries, and seek to leverage collaborative effort to enable libraries to more efficiently or effectively perform a set of shared goals. The FDLP, on the other hand, balances the interests of libraries in supporting their users’ government information needs with the interest of the government in supporting the broad American public’s needs for government information; although these goals overlap substantially, the Program’s pursuit of two distinct goals adds a level of complexity not paralleled in many other library networks. This difference makes it difficult to directly apply another model of arranging libraries to the context of the FDLP, and even similar programs – such as other depository programs – may have only limited value.

Some non-library programs may in fact more closely resemble the FDLP in some ways than do examples of library consortia and other such collaborations. For example, the Cooperative Extension System, organized by the National Institute of Food and Agriculture, coordinates land-grant colleges and universities around the shared mission of “‘reaching out’ ... [to] ‘extend’ their resources, solving public needs with college or university resources through non-formal, non-credit programs... to address a wide range of human, plant, and animal needs in both urban and rural areas.”<sup>575</sup> The Cooperative Extension System has evolved in recent years, developing the eXtension web site, which provides “round-the-clock access to trustworthy, balanced views of specialized information and education on a wide range of topics,” coordinating the efforts of member institutions to create and shape the information resources provided.<sup>576</sup> But while the Cooperative Extension Program provides an interesting parallel for the FDLP as an information dissemination program that deeply engages participants with target audiences, it lacks the focus on long-term preservation and integrity that is a strong emphasis of the FDLP. Instead it focuses principally on near-term access.

### **Specific networks as models for the FDLP**

Although most existing network models could not simply be applied directly to the FDLP, some of the models that are most closely related to the FDLP may offer valuable lessons, highlighting features that could be productively applied within the context of the FDLP.

For example, the Patent & Trademark Depository Library Program offers a comparable model of public dissemination of government materials through a network of libraries. But the “bargain” entailed by participation is very different than in the case of the FDLP. The patent & trademark collection is substantially more focused, and indeed smaller, than the FDLP collections, and is a fairly high value collection for certain clearly-defined audiences, providing a valuable resource “for small businesses,

research and development firms, university and governmental laboratories, and independent inventors and entrepreneurs.”<sup>577</sup> Participants in the PTDL also attend an annual USPTO- sponsored PTDL training seminar at the USPTO. In addition to having a high value and a defined audience, participation in the Program has a relatively low cost to member libraries. Members of the Program have a great deal of flexibility about their collections; they are mandated to acquire a local electronic collection of relatively recent patents from the USPTO, but may collect more broadly or in alternate formats at their own discretion, and have significant flexibility in disposing of unwanted collections in direct partnership with the USPTO. The Patent & Trademark program thus demonstrates a balance that has been disrupted in the FDLP, offering benefits that outweigh any perceived burden for many participants. Although the specifics of this program are very different, due to its significantly narrower mandate, this principle of balance may be valuably applied in the FDLP context.

The National Network of Libraries of Medicine also offers valuable thematic lessons for the FDLP, although its goals and particulars are also sufficiently different from the FDLP as to make direct comparisons challenging. Unlike the FDLP, which is structured around collections, the NN/LM emphasizes coordination among libraries. Most members have minimal formal responsibilities, with coordinating responsibilities vested with only eight libraries nationwide, which serve to organize activities within their region. Regional libraries serve on a contract basis, and both the regional library and the NLM must agree to renew these contracts every five years. These regional libraries, as well as many of the projects pursued alone or collaboratively among member libraries, are funded directly by grants from the NLM. Although some themes from the NN/LM may be relevant to the FDLP – notably, the reliance on time-limited, renewable responsibilities and emphasis on coordinating library services and training – several fundamental differences make it difficult to directly apply the model of the NN/LM to the FDLP. The FDLP brings together a significantly broader diversity of libraries than the NN/LM, around a much wider array of materials, including many that are not available online. Furthermore, the NN/LM centers around a national library which maintains collections and supports online access to materials; it is outside the scope of this project to consider whether the FDLP should be centered in a national library or whether GPO should attempt to play such a role itself.

Although other formal depository programs may more closely mirror the FDLP than these other networks, there remain significant differences between these programs and the FDLP, and there are few indications that any of these programs have developed especially robust models for a depository program in an increasingly digital environment. Other depository programs generally include a smaller and sometimes less diverse group of libraries, and in many cases deal with a far narrower set of tangible materials, limiting their direct applicability to the FDLP. More importantly, however, many of these programs face the same challenges as the FDLP in adapting to a rapidly changing environment. The FDLP remains a leader among depository programs in confronting the challenges facing this kind of network in the digital age; the models in place at other depository programs generally share many characteristics with the existing FDLP, and offer few obvious solutions to the challenges facing the Program.

### **Networks in the FDLP**

In addition to considering how these specific examples of library networks could offer insight into potential structures for the FDLP, broader themes emerge in considering how existing library networks could potentially play a larger role in the Program.

GPO has supported and facilitated a number of library networks in working together to address Program priorities. This has included supporting networks of libraries in coordinating their activities and collections management, as in the example of the ASERL Centers of Excellence project. ASERL has begun to self-organize around government documents, assigning responsibilities for the development of “Centers of Excellence” within its community.<sup>578</sup> These collaborative roles and responsibilities, however, remain solely governed by the relationships among ASERL members, and as a collaboration lack formal status within the Program (beyond any formal partnerships individually between an ASERL member library and GPO). Similarly, GPO has cooperated with the LOCKSS-USDOCS network, putting permissions statements in FDsys to allow participants to download collections and joining the LOCKSS Alliance, but libraries hosting local digital collections do not have any formal status in the Program; GPO’s cooperation is at-will, rather than mandated, and participating libraries have no particular roles or responsibilities within the Program. With regard to the ASERL and the LOCKSS-USDOCS initiatives, their lack of formalized responsibilities within the FDLP structure yields a lack of clarity for the community on the extent to which others can (or should) formally rely on these contributions. But with a few limited exceptions – such as, for example, the distributed Regional collection in Oregon – these efforts generally exist outside of the Program, as informal supplements to the Program’s underlying structure that, in some cases, require not only custom planning but also approval. Most of the collaborations that do currently exist are independent of the formal structures of the FDLP and lack any official status within the Program, and several classes of collaboration – especially those around collections – may be difficult to implement within the current structures of the Program.

Different kinds of networks may have different strengths to contribute to the Program by taking on more formal roles. Existing strong trust networks of libraries, for example, may be best suited to roles that require durable collaboration, such as supporting preservation collections. These roles can build upon firmly established trust relationships between libraries that support sharing of critical collections and infrastructure, and may complement existing activities to build and maintain shared collections for other material types. Other kinds of networks, such as ad hoc networks purpose-built around a particular problem, may offer greater flexibility, enabling experimentation with digital collections and services. They could potentially form the basis for the development of new formalized networks of libraries around common interests. Broad-based library consortia, on the other hand, may be well suited to coordinate training across a region by extending the professional development roles that they already support. Were library networks enabled to take on formal roles within the Program, existing and potential networks would be empowered to take on a spectrum of roles and responsibilities that could be more efficiently or effectively accomplished through collaboration.

## Appendix B: Title 44

This appendix presents the sections of Title 44 that are most relevant to the FDLP.

### CHAPTER 19—DEPOSITORY LIBRARY PROGRAM

#### ***§1901. Definition of Government publication***

“Government publication” as used in this chapter, means informational matter which is published as an individual document at Government expense, or as required by law.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1283.)

#### **HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §81a (Pub. L. 87–579, §1, Aug. 9, 1962, 76 Stat. 352).

#### ***§1902. Availability of Government publications through Superintendent of Documents; lists of publications not ordered from Government Printing Office***

Government publications, except those determined by their issuing components to be required for official use only or for strictly administrative or operational purposes which have no public interest or educational value and publications classified for reasons of national security, shall be made available to depository libraries through the facilities of the Superintendent of Documents for public information. Each component of the Government shall furnish the Superintendent of Documents a list of such publications it issued during the previous month, that were obtained from sources other than the Government Printing Office.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1283.)

#### **HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §81b (Pub. L. 87–579, §1, Aug. 9, 1962, 76 Stat. 352).

#### ***§1903. Distribution of publications to depositories; notice to Government components; cost of printing and binding***

Upon request of the Superintendent of Documents, components of the Government ordering the printing of publications shall either increase or decrease the number of copies of publications furnished for distribution to designated depository libraries and State libraries so that the number of copies delivered to the Superintendent of Documents is equal to the number of libraries on the list. The number thus delivered may not be restricted by any statutory limitation in force on August 9, 1962. Copies of publications furnished the Superintendent of Documents for distribution to designated depository libraries shall include—

- the journals of the Senate and House of Representatives;
- all publications, not confidential in character, printed upon the requisition of a congressional committee;
- Senate and House public bills and resolutions; and
- reports on private bills, concurrent or simple resolutions;

but not so-called cooperative publications which must necessarily be sold in order to be self-sustaining.

The Superintendent of Documents shall currently inform the components of the Government ordering printing of publications as to the number of copies of their publications required for distribution to depository libraries. The cost of printing and binding those publications distributed to

depository libraries obtained elsewhere than from the Government Printing Office, shall be borne by components of the Government responsible for their issuance; those requisitioned from the Government Printing Office shall be charged to appropriations provided the Superintendent of Documents for that purpose.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1283.)

#### HISTORICAL AND REVISION NOTES

Based on 44 U.S. Code, 1964 ed., §85 (part) (Mar. 1, 1907, ch. 2284, §4, 34 Stat. 1014; June 25, 1938, ch. 708, 52 Stat. 1206; Aug. 9, 1962, Pub. L. 87–579, §5, 76 Stat. 354).

The last paragraph of former section 85 will be found in section 1906 of the revision.

#### ***§1904. Classified list of Government publications for selection by depositories***

The Superintendent of Documents shall currently issue a classified list of Government publications in suitable form, containing annotations of contents and listed by item identification numbers to facilitate the selection of only those publications needed by depository libraries. The selected publications shall be distributed to depository libraries in accordance with regulations of the Superintendent of Documents, as long as they fulfill the conditions provided by law.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1284.)

#### HISTORICAL AND REVISION NOTES

Based on 44 U.S. Code, 1964, ed. §83 (R.S. §502; Jan. 12, 1895, ch. 23, §§53, 61, 28 Stat. 608, 610; Aug. 9, 1962, Pub. L. 87–579, §3, 76 Stat. 353).

#### ***§1905. Distribution to depositories; designation of additional libraries; justification; authorization for certain designations***

The Government publications selected from lists prepared by the Superintendent of Documents, and when requested from him, shall be distributed to depository libraries specifically designated by law and to libraries designated by Senators, Representatives, and the Resident Commissioner from Puerto Rico, by the Commissioner of the District of Columbia,<sup>1</sup> and by the Governors of Guam, American Samoa, and the Virgin Islands, respectively. Additional libraries within areas served by Representatives or the Resident Commissioner from Puerto Rico may be designated by them to receive Government publications to the extent that the total number of libraries designated by them does not exceed two within each area. Not more than two additional libraries within a State may be designated by each Senator from the State. Before an additional library within a State, congressional district or the Commonwealth of Puerto Rico is designated as a depository for Government publications, the head of that library shall furnish his Senator, Representative, or the Resident Commissioner from Puerto Rico, as the case may be, with justification of the necessity for the additional designation. The justification, which shall also include a certification as to the need for the additional depository library designation, shall be signed by the head of every existing depository library within the congressional district or the Commonwealth of Puerto Rico or by the head of the library authority of the State or the Commonwealth of Puerto Rico, within which the additional depository library is to be located. The justification for additional depository library designations shall be transmitted to the Superintendent of Documents by the Senator, Representative, or the Resident Commissioner from Puerto Rico, as the case may be. The Commissioner of the District of Columbia may designate two depository libraries in the District of Columbia, the Governor of Guam and the Governor of American Samoa may each designate one depository library in Guam and American Samoa, respectively, and the Governor of the Virgin Islands may designate one depository library on the island of Saint Thomas and one on the island of Saint Croix.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1284.)

#### **HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §82 (R.S. §501; Mar. 1, 1907, ch. 2284, §4, 34 Stat. 1014; Aug. 9, 1962, Pub. L. 87–579, §2, 76 Stat. 353).

#### **TRANSFER OF FUNCTIONS**

Office of Commissioner of District of Columbia, as established under Reorg. Plan No. 3 of 1967, eff. Nov. 3, 1967 (in part), 32 F.R. 11669, 81 Stat. 948, abolished as of noon Jan. 2, 1975, by Pub. L. 93–198, title VII, §711, Dec. 24, 1973, 87 Stat. 818, and replaced by office of Mayor of District of Columbia by section 421 of Pub. L. 93–198.

#### **NORTHERN MARIANAS COLLEGE AS DEPOSITORY**

Pub. L. 101–219, title II, §202, Dec. 12, 1989, 103 Stat. 1874, provided that: “The Northern Marianas College is hereby constituted a depository to receive Government publications, and the Superintendent of Documents shall supply to the Northern Marianas College one copy of each such publication in the same form as supplied to other designated depositories.”

#### **DISTRICT OF COLUMBIA PUBLIC LIBRARY AS DEPOSITORY**

Act Sept. 28, 1943, ch. 243, 57 Stat. 568, provided: “That the Public Library of the District of Columbia is hereby constituted a designated depository of governmental publications, and the Superintendent of Documents shall supply to such library one copy of each such publication, in the same form as supplied to other designated depositories.”

#### ***§1906. Land-grant colleges constituted depositories***

Land-grant colleges are constituted depositories to receive Government publications subject to the depository laws.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1284.)

#### **HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §85 (part) (Mar. 1, 1907, ch. 2284, §4, 34 Stat. 1014; June 25, 1938, ch. 708, 52 Stat. 1206; Aug. 9, 1962, Pub. L. 87–579, 76 Stat. 354).

This section is from the last paragraph of former section 85; the remainder of that section will be found in section 1903 of the revision.

#### ***§1907. Libraries of executive departments, service academies, and independent agencies constituted depositories; certifications of need; disposal of unwanted publications***

The libraries of the executive departments, of the United States Military Academy, of the United States Naval Academy, of the United States Air Force Academy, of the United States Coast Guard Academy, and of the United States Merchant Marine Academy are designated depositories of Government publications. A depository library within each independent agency may be designated upon certification of need by the head of the independent agency to the Superintendent of Documents. Additional depository libraries within executive departments and independent agencies may be designated to receive Government publications to the extent that the number so designated does not exceed the number of major bureaus or divisions of the departments and independent agencies. These designations may be made only after certification by the head of each executive department or independent agency to the Superintendent of Documents as to the justifiable need for additional depository libraries. Depository libraries within executive departments and independent agencies may dispose of unwanted Government publications after first offering them to the Library of Congress and the Archivist of the United States.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1285.)

**HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §87 (Jan. 12, 1895, ch. 23, §98, 28 Stat. 624; Aug. 9, 1962, Pub. L. 87–579, §7, 76 Stat. 355).

**TRANSFER OF FUNCTIONS**

For transfer of authorities, functions, personnel, and assets of the Coast Guard, including the authorities and functions of the Secretary of Transportation relating thereto, to the Department of Homeland Security, and for treatment of related references, see sections 468(b), 551(d), 552(d), and 557 of Title 6, Domestic Security, and the Department of Homeland Security Reorganization Plan of November 25, 2002, as modified, set out as a note under section 542 of Title 6.

**ARCHIVIST OF THE UNITED STATES**

References to Archivist of the United States deemed to refer to Archivist appointed under section 2103 of this title with respect to functions transferred by Pub. L. 98–497 or an amendment made by Pub. L. 98–497 and exercised after Apr. 1, 1985, see sections 106 and 108 of Pub. L. 98–497, set out as notes under section 2102 of this title.

***§1908. American Antiquarian Society to receive certain publications***

One copy of the public journals of the Senate and of the House of Representatives, and of the documents published under the orders of the Senate and House of Representatives, respectively, shall be transmitted to the Executive of the Commonwealth of Massachusetts for the use and benefit of the American Antiquarian Society of the Commonwealth.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1285.)

**HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §88 (Dec. 1, 1814, No. 7, 3 Stat. 248).

***§1909. Requirements of depository libraries; reports on conditions; investigations; termination; replacement***

Only a library able to provide custody and service for depository materials and located in an area where it can best serve the public need, and within an area not already adequately served by existing depository libraries may be designated by Senators, Representatives, the Resident Commissioner from Puerto Rico, the Commissioner of the District of Columbia,<sup>1</sup> or the Governors of Guam, American Samoa, or the Virgin Islands as a depository of Government publications. The designated depository libraries shall report to the Superintendent of Documents at least every two years concerning their condition.

The Superintendent of Documents shall make firsthand investigation of conditions for which need is indicated and include the results of investigations in his annual report. When he ascertains that the number of books in a depository library is below ten thousand, other than Government publications, or it has ceased to be maintained so as to be accessible to the public, or that the Government publications which have been furnished the library have not been properly maintained, he shall delete the library from the list of depository libraries if the library fails to correct the unsatisfactory conditions within six months. The Representative or the Resident Commissioner from Puerto Rico in whose area the library is located or the Senator who made the designation, or a successor of the Senator, and, in the case of a library in the District of Columbia, the Commissioner of the District of Columbia, and, in the case of a library in Guam, American Samoa, or the Virgin Islands, the Governor, shall be notified and shall then be authorized to designate another library within the area served by him, which shall meet the conditions



herein required, but which may not be in excess of the number of depository libraries authorized by laws within the State, district, territory, or the Commonwealth of Puerto Rico, as the case may be.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1285.)

#### **HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §86 (Jan. 12, 1895, ch. 23, §70, 28 Stat. 612; Aug. 9, 1962, Pub. L. 87–579, §6, 76 Stat. 354).

#### **TRANSFER OF FUNCTIONS**

Office of Commissioner of District of Columbia, as established under Reorg. Plan No. 3 of 1967, eff. Nov. 3, 1967 (in part), 32 F.R. 11669, 81 Stat. 948, abolished as of noon Jan. 2, 1975, by Pub. L. 93–198, title VII, §711, Dec. 24, 1973, 87 Stat. 818, and replaced by office of Mayor of District of Columbia by section 421 of Pub. L. 93–198.

#### ***§1910. Designations of replacement depositories; limitations on numbers; conditions***

The designation of a library to replace a depository library, other than a depository library specifically designated by law, may be made only within the limitations on total numbers specified by section 1905 of this title, and only when the library to be replaced ceases to exist, or when the library voluntarily relinquishes its depository status, or when the Superintendent of Documents determines that it no longer fulfills the conditions provided by law for depository libraries.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1286.)

#### **HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §84 (June 23, 1913, ch. 3, §5, 38 Stat. 75; Aug. 9, 1962, Pub. L. 87–579, §4, 76 Stat. 353).

#### ***§1911. Free use of Government publications in depositories; disposal of unwanted publications***

Depository libraries shall make Government publications available for the free use of the general public, and may dispose of them after retention for five years under section 1912 of this title, if the depository library is served by a regional depository library. Depository libraries not served by a regional depository library, or that are regional depository libraries themselves, shall retain Government publications permanently in either printed form or in microfacsimile form, except superseded publications or those issued later in bound form which may be discarded as authorized by the Superintendent of Documents.

(Pub. L. 90–620, Oct. 22, 1968, 82 Stat. 1286.)

#### **HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §92 (part) (Jan. 12, 1895, ch. 23, §74, 28 Stat. 620; June 20, 1936, ch. 630, title VII, §11, 49 Stat. 1552; Aug. 9, 1962, Pub. L. 87–579, §8, 76 Stat. 355).

The first sentence of section 92, is classified to section 1119; the remainder comprises this section of the revision.

#### ***§1912. Regional depositories; designation; functions; disposal of publications***

Not more than two depository libraries in each State and the Commonwealth of Puerto Rico may be designated as regional depositories, and shall receive from the Superintendent of Documents copies of all new and revised Government publications authorized for distribution to depository libraries.

Designation of regional depository libraries may be made by a Senator or the Resident Commissioner from Puerto Rico within the areas served by them, after approval by the head of the library authority of

the State or the Commonwealth of Puerto Rico, as the case may be, who shall first ascertain from the head of the library to be so designated that the library will, in addition to fulfilling the requirements for depository libraries, retain at least one copy of all Government publications either in printed or microfacsimile form (except those authorized to be discarded by the Superintendent of Documents); and within the region served will provide interlibrary loan, reference service, and assistance for depository libraries in the disposal of unwanted Government publications. The agreement to function as a regional depository library shall be transmitted to the Superintendent of Documents by the Senator or the Resident Commissioner from Puerto Rico when the designation is made.

The libraries designated as regional depositories may permit depository libraries, within the areas served by them, to dispose of Government publications which they have retained for five years after first offering them to other depository libraries within their area, then to other libraries.

(Pub. L. 90-620, Oct. 22, 1968, 82 Stat. 1286.)

#### **HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §84a (Pub. L. 87-579, §9, Aug. 9, 1962, 76 Stat. 355.)

#### ***§1913. Appropriations for supplying depository libraries; restriction***

Appropriations available for the Office of Superintendent of Documents may not be used to supply depository libraries documents, books, or other printed matter not requested by them, and their requests shall be subject to approval by the Superintendent of Documents.

(Pub. L. 90-620, Oct. 22, 1968, 82 Stat. 1286.)

#### **HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §85a (June 27, 1956, ch. 453, §101, 70 Stat. 369).

#### ***§1914. Implementation of depository library program by Public Printer***

The Public Printer, with the approval of the Joint Committee on Printing, as provided by section 103 of this title, may use any measures he considers necessary for the economical and practical implementation of this chapter.

(Pub. L. 90-620, Oct. 22, 1968, 82 Stat. 1287.)

#### **HISTORICAL AND REVISION NOTES**

Based on 44 U.S. Code, 1964 ed., §81c (Pub. L. 87-579, §10, Aug. 9, 1962, 76 Stat. 356).

#### ***§1915. Highest State appellate court libraries as depository libraries***

Upon the request of the highest appellate court of a State, the Public Printer is authorized to designate the library of that court as a depository library. The provisions of section 1911 of this title shall not apply to any library so designated.

(Added Pub. L. 92-368, §1(a), Aug. 10, 1972, 86 Stat. 507.)

#### ***§1916. Designation of libraries of accredited law schools as depository libraries***

(a) Upon the request of any accredited law school, the Public Printer shall designate the library of such law school as a depository library. The Public Printer may not make such designation unless he determines that the library involved meets the requirements of this chapter, other than those requirements of the first undesignated paragraph of section 1909 of this title which relate to the location of such library.

(b) For purposes of this section, the term "accredited law school" means any law school which is accredited by a nationally recognized accrediting agency or association approved by the Commissioner

## Modeling a Sustainable Future for the Federal Depository Library Program

of Education for such purpose or accredited by the highest appellate court of the State in which the law school is located.

(Added Pub. L. 95–261, §1, Apr. 17, 1978, 92 Stat. 199.)

### **EFFECTIVE DATE**

Section 3 of Pub. L. 95–261 provided that: “The amendments made by this Act [enacting this section] shall take effect on October 1, 1978.”

### **TRANSFER OF FUNCTIONS**

Functions of Commissioner of Education transferred to Secretary of Education pursuant to section 3441(a)(1) of Title 20, Education.

## CHAPTER 41—ACCESS TO FEDERAL ELECTRONIC INFORMATION

### ***§4101. Electronic directory; online access to publications; electronic storage facility***

(a) In General.—The Superintendent of Documents, under the direction of the Public Printer, shall—

- (1) maintain an electronic directory of Federal electronic information;
- (2) provide a system of online access to the Congressional Record, the Federal Register, and, as determined by the Superintendent of Documents, other appropriate publications distributed by the Superintendent of Documents; and
- (3) operate an electronic storage facility for Federal electronic information to which online access is made available under paragraph (2).

(b) Departmental Requests.—To the extent practicable, the Superintendent of Documents shall accommodate any request by the head of a department or agency to include in the system of access referred to in subsection (a)(2) information that is under the control of the department or agency involved.

(c) Consultation.—In carrying out this section, the Superintendent of Documents shall consult—

- (1) users of the directory and the system of access provided for under subsection (a); and
- (2) other providers of similar information services.

The purpose of such consultation shall be to assess the quality and value of the directory and the system, in light of user needs.

(Added Pub. L. 103–40, §2(a), June 8, 1993, 107 Stat. 112.)

#### **STATUS REPORT**

Section 3 of Pub. L. 103–40 provided that: “Not later than June 30, 1994, the Public Printer shall submit to the Congress a report on the status of the directory, the system of access, and the electronic storage facility referred to in section 4101 of title 44, United States Code, as added by section 2(a).”

#### **OPERATIONAL DEADLINE**

Section 4(a) of Pub. L. 103–40 provided that: “The directory, the system of access, and the electronic storage facility referred to in section 4101 of title 44, United States Code, as added by section 2(a), shall be operational not later than one year after the date of the enactment of this Act [June 8, 1993].”

### ***§4102. Fees***

(a) In General.—The Superintendent of Documents, under the direction of the Public Printer, may charge reasonable fees for use of the directory and the system of access provided for under section 4101, except that use of the directory and the system shall be made available to depository libraries without charge. The fees received shall be treated in the same manner as moneys received from sale of documents under section 1702 of this title.

(b) Cost Recovery.—The fees charged under this section shall be set so as to recover the incremental cost of dissemination of the information involved, with the cost to be computed without regard to section 1708 of this title.

(Added Pub. L. 103–40, §2(a), June 8, 1993, 107 Stat. 113.)

### ***§4103. Biennial report***

Not later than December 31 of each odd-numbered year, the Public Printer shall submit to the Congress, with respect to the two preceding fiscal years, a report on the directory, the system of access, and the electronic storage facility referred to in section 4101(a). The report shall include a description of

the functions involved, including a statement of cost savings in comparison with traditional forms of information distribution.

(Added Pub. L. 103–40, §2(a), June 8, 1993, 107 Stat. 113.)

**FIRST BIENNIAL REPORT**

Section 4(b) of Pub. L. 103–40 provided that: “The first report referred to in section 4103 of title 44, United States Code, as added by section 2(a), shall be submitted not later than December 31, 1995.”

***§4104. Definition***

As used in this chapter, the term “Federal electronic information” means Federal public information stored electronically.

(Added Pub. L. 103–40, §2(a), June 8, 1993, 107 Stat. 113.)

## Works Cited

- “A Strategic Vision for the 21st Century.” Government Printing Office, December 1, 2004.  
<http://www.gpo.gov/pdfs/congressional/04strategicplan.pdf>.
- “A Strategic Vision for the 21st Century.” Government Printing Office, December 1, 2004.  
<http://www.gpo.gov/pdfs/congressional/04strategicplan.pdf>.
- “AALLNET About: The American Association of Law Libraries,” n.d.  
<http://www.aallnet.org/about/>.
- Abbott Hoduski, Bernadine E., and Michele McKnelly. “Does the Federal Depository Library Program Require Title 44 Revision to Improve Public Access to Government Information?,” December 2008.
- “About CDL: California Digital Library,” n.d. <http://www.cdlib.org/about/>.
- “About Open Government,” n.d. <http://www.whitehouse.gov/open/about>.
- “About OPLIN | OPLIN,” n.d. <http://www.oplin.lib.oh.us/content/about-oplin>.
- “About the AgNIC Partnership,” n.d. <http://www.agnic.org/about/>.
- “About the FDLP,” n.d. <http://www.fdlp.gov/home/about>.
- “About the Program - Digital Preservation (Library of Congress),” n.d.  
<http://www.digitalpreservation.gov/library/>.
- “About the Program - Digital Preservation (Library of Congress),” n.d.  
<http://www.digitalpreservation.gov/library/>.
- “Access to Government Information Post September 11th.” *OMB Watch*, n.d.  
<http://www.ombwatch.org/node/182>.
- ACRL Research Planning and Review Committee. “2010 top ten trends in academic libraries.” *College & Research Libraries News* 71, no. 6 (June 2010): 286-292.
- “AdMob Mobile Metrics: Metrics Highlights.” AdMob, May 2010.  
<http://metrics.admob.com/wp-content/uploads/2010/06/May-2010-AdMob-Mobile-Metrics-Highlights.pdf>.
- Aftergood, Steven. “The age of missing information.” *Slate Magazine*, May 17, 2005.  
<http://www.slate.com/id/2114963/>.
- “AgNIC Frequently Asked Questions.” AgNIC, n.d. [http://www.agnic.org/about/agnic\\_faq.pdf](http://www.agnic.org/about/agnic_faq.pdf).
- Agosto, Denise E. “Bounded rationality and satisficing in young people's Web-based decision making.” *Journal of the American Society for Information Science and Technology* 53, no. 1 (January 2002).
- Ahrens, Aric, and Luke Griffin. “Deposits & Withdrawals: A Survey of Depository Libraries That Have Recently Changed Status” presented at the Depository Library Council Meeting, Reno, Nevada, April 8, 2003.  
[http://www.fdlp.gov/home/repository/doc\\_download/693-deposits-a-withdrawals](http://www.fdlp.gov/home/repository/doc_download/693-deposits-a-withdrawals).
- Aldrich, Duncan M., Gary Cornwell, and Daniel Barkley. “Changing Partnerships? Government Documents Departments at the Turn of the Millenium.” *Government Information Quarterly* 17, no. 3 (2000).
- “An Act Providing for the Public Printing and Binding and the Distribution of Public Documents.” 28 U.S. Statutes at Large 601, January 12, 1895.
- “Archive-It.org,” n.d. <http://www.archive-it.org/>.
- “Archive-It.org - Partner - Stanford University, Social Sciences Resource Group,” n.d.  
<http://www.archive-it.org/public/partner.html?id=159>.
- “ARL Statement of Principles on the Federal Depository Library Program.” Association of

- Research Libraries, October 2010. <http://www.arl.org/bm~doc/fdlpprinciples14oct10.pdf>.
- Armbrust, Michael, Armando Fox, Rean Griffith, Anthony D. Joseph, Randy Katz, Andy Konwinski, Gunho Lee, et al. "A view of cloud computing." *Commun. ACM* 53, no. 4 (2010): 50-58.
- Arrigo, Paul A. "The reinvention of the FDLP: A paradigm shift from product provider to service provider." *Journal of Government Information* 30, no. 5 (2004).
- . "The reinvention of the FDLP: A paradigm shift from product provider to service provider." *Journal of Government Information* 30, no. 5 (2004).
- Arrison, Sonia. "What digital divide?." *CNET News*, March 13, 2002. <http://news.cnet.com/2010-1071-858537.html>.
- "ASERL's Collaborative Federal Depository Program," n.d. <http://www.aserl.org/projects/gov-doc/gov-doc-intro.htm>.
- "Authentication." U.S. Government Printing Office, October 13, 2005. <http://www.gpoaccess.gov/authentication/authenticationwhitepaperfinal.pdf>.
- Barber, C.L., Donald Sheehan, Stuart M. Stoke, and Shannon McCune. "The New College Plan: A Proposal for a Major Departure in Higher Education," 1958. <http://www.hampshire.edu/archives/files/NewColl.pdf>.
- Barnard, Anne. "City Libraries Say Cuts Will Mean Closings and Layoffs." *The New York Times*, May 14, 2010, sec. N.Y. / Region. <http://www.nytimes.com/2010/05/15/nyregion/15library.html?scp=1&sq=budget%20cuts%20new%20york%20city%20libraries&st=cse>.
- "BART - For Developers," n.d. <http://www.bart.gov/schedules/developers/>.
- "Benefits [OCLC - Membership]," n.d. <http://www.oclc.org/uk/en/membership/benefits/default.htm>.
- Benkler, Yochai. "Coase's Penguin, or, Linux and The Nature of the Firm." *The Yale Law Journal* 112, no. 369 (2002).
- Bennett, Scott. *Report on the Conoco Project in German Literature and Geology*. Mountain View, CA: Research Libraries Group, 1987.
- . "The Information or the Learning Commons: Which Will We Have?." *The Journal of Academic Librarianship* 34, no. 3 (May 2008): 183-185.
- Bizer, Christian. "The Emerging Web of Linked Data" presented at the 4th Berlin Semantic Web Meetup, Berlin, Germany, February 26, 2010. [http://lumano.de/cms\\_files/images/content/2010-02-26-meetup/Bizer-Berlin-SW-Meetup-LinkedData-Talk.pdf](http://lumano.de/cms_files/images/content/2010-02-26-meetup/Bizer-Berlin-SW-Meetup-LinkedData-Talk.pdf).
- Bizer, Christian, Tom Heath, and Tim Berners-Lee. "Linked Data - The Story So Far." *International Journal on Semantic Web and Information Systems* 5, no. 3 (2009): 1-22.
- Blumenstyk, Goldie. "Moody's Sees Continued Financial Challenges for Private Colleges." *The Chronicle of Higher Education*, June 10, 2010, sec. Finance. <http://chronicle.com/article/Moodys-Sees-Continued/65847/>.
- boyd, danah. "White Flight in Networked Publics? How Race and Class Shaped American Teen Engagement with MySpace and Facebook." In *Digital Race Anthology*. Routledge Press. <http://www.danah.org/papers/2009/WhiteFlightDraft3.pdf>.
- Brandt, D. Scott. "Librarians as partners in e-research: Purdue University Libraries promote collaboration." *C&RL News* 68, no. 6 (June 2007).
- Brito, Jerry. "Hack, Mash, & Peer: Crowdsourcing Government Transparency." *The Columbia Science and Technology Law Review* 9 (May 14, 2008): 119.

- “California State Library - State Document Depositories,” n.d.  
[http://www.library.ca.gov/gps/gps\\_cal3.html](http://www.library.ca.gov/gps/gps_cal3.html).
- Calore, Michael. “Magnolia Suffers Major Data Loss, Site Taken Offline | Epicenter | Wired.com.” *Wired.com*, n.d. <http://www.wired.com/epicenter/2009/01/magnolia-suffer/>.
- Carlson, Scott. “Are Reference Desks Dying Out?.” *The Chronicle of Higher Education*, April 20, 2007.
- . “Library Renovation Leads to Soul Searching at Cal Poly.” *The Chronicle of Higher Education*, n.d. <http://chronicle.com/article/Library-Renovation-Leads-to/33045/>.
- . “Lost in a Sea of Science Data.” *The Chronicle of Higher Education*, June 23, 2006.
- . “Thoughtful Design Keeps New Libraries Relevant.” *The Chronicle of Higher Education*, September 30, 2005, Volume 52, Issue 6 edition, sec. Libraries.
- Cassidy, Anne. “The Chesapeake Project: Preserving the Digital Future.” *Res Ipsa Loquitur: Georgetown Law Alumni Magazine*, Fall/Winter 2009.  
<http://www.law.georgetown.edu/alumni/magazine/2009-fall/feature-articles/chesapeake-1/>.
- “Center for Library Initiatives,” n.d. <http://www.cic.net/Home/Projects/Library/Home.aspx>.
- “Center for Research Libraries - About CRL,” n.d. <http://www.crl.edu/about/>.
- “Center for Research Libraries - History of CRL,” n.d. <http://www.crl.edu/about/history/>.
- “Center for Research Libraries - Portico Audit Report 2010,” n.d. <http://www.crl.edu/archiving-preservation/digital-archives/certification-and-assessment-digital-repositories/portico>.
- “Chapter 9: Housing - Page 8,” n.d. <http://www.fdlp.gov/administration/handbook/126-chapter9?start=7>.
- Cheney, Debora. “Government Information Collections and Services in the Social Sciences: The Subject Specialist Integration Model.” *The Journal of Academic Librarianship* 32, no. 3 (May 2006).
- Chowdhury, Gobinda, Alan Poulter, and David McMenemy. “Public Library 2.0: Towards a new mission for public libraries as a 'network of community knowledge'.” *Online Information Review* 30, no. 4 (2006): 454-460.
- “CIC-Google Government Documents Project,” n.d.  
<http://www.cic.net/Home/Projects/Library/BookSearch/Govdocs.aspx>.
- “CIC-Google Government Documents Project,” n.d.  
<http://www.cic.net/Home/Projects/Library/BookSearch/Govdocs.aspx>.
- Clark, Kirsten, and Jennifer Gerke. “Government Information in the 21st Century: A New Model for Academic Outreach.” In *Academic Library Outreach: Beyond the Campus Walls*. Libraries Unlimited/Teacher Ideas Press, 2008. <http://www.webjunction.org/gi21>.
- “Code of Ethics.” *American Library Association*, n.d.  
<http://www.ala.org/ala/issuesadvocacy/proethics/codeofethics/codeethics.cfm>.
- Coffman, Steve. “Changing public library funding.” *American City & County*, May 1, 2003.  
[http://americacityandcounty.com/mag/government\\_changing\\_public\\_library/](http://americacityandcounty.com/mag/government_changing_public_library/).
- Cooney, Patrick. “Understanding Web Services.” *A List Apart*, January 31, 2002.  
<http://www.alistapart.com/articles/webservices/>.
- Cornwall, Daniel, and James R. Jacobs. “Distributed Globally, Collected Locally: LOCKSS for Digital Government Information.” *Against the Grain* 21, no. 1 (February 2009).
- Cornwell, Gary. “GOVDOC-L posting April 16, 1993,” April 16, 1993.  
<http://www.arl.org/arldocs/pp/access/fdlp/duPontcircle/reporter.txt>.
- Courant, Paul N., and Matthew Nielsen. “On the Cost of Keeping a Book.” In *The Idea of Order:*



- Transforming Research Collections for 21st Century Scholarship*. Council on Library and Information Resources, 2010. <http://www.clir.org/pubs/reports/pub147/pub147.pdf>.
- Coyle, Frank P. "Web Services, Simply Put - Computerworld," May 19, 2003. [http://www.computerworld.com/s/article/81271/Web\\_Services\\_Simply\\_Put](http://www.computerworld.com/s/article/81271/Web_Services_Simply_Put).
- Croft, Janet Brennan. "Model Licenses and Interlibrary Loan/Document Delivery from Electronic Resources." *Interlending & Document Supply* 29, no. 4 (2001): 165.
- Dalecky, Selene, and Lisa LaPlant. "FDsys Update" presented at the Depository Library Council Meeting & Conference, Arlington, VA, October 19, 2010. [http://www.fdlp.gov/home/repository/doc\\_download/1767-fdsys-update](http://www.fdlp.gov/home/repository/doc_download/1767-fdsys-update).
- Danner, Richard A. "Skating with Donovan: Thoughts on Librarianship as a Profession." *Legal Reference Services Quarterly* 27 (October 13, 2008): 117-136.
- Danner, Richard A., S. Blair Kauffman, and John G. Palfrey. "The Twenty-First Century Law Library." *Law Library Journal* 101, no. 2 (2009): 143-156.
- "Data.gov - About," n.d. <http://www.data.gov/about>.
- Davis, Richard. "What Will the Future of the FDLP Look Like?" presented at the American Library Association 2008 Annual Conference, Anaheim, CA, June 28, 2008. [http://www.fdlp.gov/home/repository/doc\\_download/528-what-will-the-future-of-the-fdlp-look-like-ala-2008](http://www.fdlp.gov/home/repository/doc_download/528-what-will-the-future-of-the-fdlp-look-like-ala-2008).
- "Decision Framework for Federal Document Repositories (Discussion Draft)." Government Printing Office, April 12, 2004. [http://www.fdlp.gov/home/repository/doc\\_view/1717-decision-framework-discussion-draft-april-2004](http://www.fdlp.gov/home/repository/doc_view/1717-decision-framework-discussion-draft-april-2004).
- "Definitions of Digital Preservation." American Library Association, ALCTS Preservation and Reformatting Sections, Working Group on Defining Digital Preservation, June 24, 2007. <http://www.ala.org/ala/mgrps/divs/alcts/resources/preserv/defdigpres0408.cfm>.
- "Depository Libraries - Government of Canada Publications," n.d. <http://publications.gc.ca/site/eng/locatingOurPublications/depositoryLibraries/index.html>.
- Depository Library Council. "Alternatives for Restructuring the Depository Library Program: a report to the Superintendent of Documents and the Public Printer from the Depository Library Council," September 1993. [http://www.fdlp.gov/home/repository/doc\\_download/1092-alternatives-for-restructuring-the-depository-library-program](http://www.fdlp.gov/home/repository/doc_download/1092-alternatives-for-restructuring-the-depository-library-program).
- . "Federal Depository Library Program Strategic Plan, 2009-2014 (Draft Discussion Document, 04/17/2009)." Government Printing Office, April 17, 2009. [http://www.fdlp.gov/component/docman/doc\\_download/37-fdlp-stratigic-plan-2009-2014-draft-3?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/37-fdlp-stratigic-plan-2009-2014-draft-3?ItemId=45).
- . "'Knowledge Will Forever Govern:' A vision statement for Federal Depository Libraries in the 21st century," September 26, 2006. [http://www.fdlp.gov/component/docman/doc\\_download/35-knowledge-will-forever-govern?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/35-knowledge-will-forever-govern?ItemId=45).
- "Development - GODORT," n.d. <http://wikis.ala.org/godort/index.php/Development>.
- "Digital Preservation at the U.S. Government Printing Office: White Paper." Government Printing Office, July 8, 2008. [http://www.gpo.gov/pdfs/fdsys-info/documents/preservation-white-paper\\_20080709.pdf](http://www.gpo.gov/pdfs/fdsys-info/documents/preservation-white-paper_20080709.pdf).
- "Digital Preservation Inside the Library of Congress - Digital Preservation (Library of Congress)," n.d. [http://www.digitalpreservation.gov/library/inside\\_library.html](http://www.digitalpreservation.gov/library/inside_library.html).
- Donovan, James M. "Skating on Thin Intermediation: Can Libraries Survive?." *SSRN eLibrary*

- (n.d.). [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1347151](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1347151).
- Downie, Judith A. "Instruction design collaborations with government information specialists: Opening the conversation." *Reference Services Review* 35, no. 1 (2007).
- "DRAMBORA: About," n.d. <http://www.repositoryaudit.eu/about/>.
- Duguid, Paul. "Inheritance and loss? A brief survey of Google Books." *First Monday* 12, no. 8 (August 2007).  
<http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1972/1847>.
- Dupont Circle Group. "Open Letter to the Depository Community," May 5, 1993.  
<http://www.arl.org/arldocs/pp/access/fdlp/dupontcircle/reporter.txt>.
- Durant, David. "The Federal Depository Library Program: Anachronism or Necessity?." *North Carolina Libraries* 62, no. 1 (Spring 2004): 30-39.
- . "The Federal Depository Library Program: Anachronism or Necessity?." *North Carolina Libraries* 62, no. 1 (Spring 2004): 30-39.
- Ebbett, Gwendolyn. "Building the Case for Local Loading" presented at the Serials Ecosystem Conference, September 26, 2004. <http://www.lib.unb.ca/SEC/ppt/Ebbett.zip>.
- "Electronic Access to Public Health Reports," n.d. <http://www.fdlp.gov/administration/45-partnerships/503-eaccessreports>.
- "Electronic Access to Public Health Reports," n.d.  
<http://www.fdlp.gov/component/content/article/45-partnerships/503>.
- "Eligibility and Agreements | www.hathitrust.org," n.d.  
[http://www.hathitrust.org/eligibility\\_agreements](http://www.hathitrust.org/eligibility_agreements).
- Epstein, Jennifer. "A Win for the Stacks." *Inside Higher Ed*, November 13, 2009.  
<http://www.insidehighered.com/news/2009/11/13/syracuse>.
- Estabrook, Leigh, Evans Witt, and Lee Rainie. "Information Searches That Solve Problems." Pew Internet & American Life Project, December 30, 2007.  
[http://pewinternet.org/~media/Files/Reports/2007/Pew\\_UI\\_LibrariesReport.pdf.pdf](http://pewinternet.org/~media/Files/Reports/2007/Pew_UI_LibrariesReport.pdf.pdf).
- "Europe Direct information network," n.d. [http://europa.eu/europedirect/meet\\_us/index\\_en.htm](http://europa.eu/europedirect/meet_us/index_en.htm).
- "EUROPEAN UNION - Delegation of the European Union to the USA - DEPOSITORY LIBRARIES IN THE US," n.d.  
[http://www.eurunion.org/eu/index.php?option=com\\_content&task=view&id=2927&Itemid=9](http://www.eurunion.org/eu/index.php?option=com_content&task=view&id=2927&Itemid=9).
- "Expert Labs," n.d. <http://expertlabs.org/>.
- "Falling Through the Net: Defining the Digital Divide." National Telecommunications & Information Administration, 1999.  
<http://www.ntia.doc.gov/ntiahome/fttn99/contents.html>.
- "FAQ - CLOCKSS," n.d. <http://www.clockss.org/clockss/FAQ>.
- FDLP Listserv. Letter. "GPO & Digitization of Historical Depository Collection," October 7, 2009.
- "FDsys: GPO's Official System of Record," n.d.  
<http://www.fdlp.gov/component/content/article/19-general/866-fdsyssysofrecord>.
- "Features and Benefits | www.hathitrust.org," n.d. [http://www.hathitrust.org/features\\_benefits](http://www.hathitrust.org/features_benefits).
- "Federal Agencies Digitization Guidelines Initiative," n.d.  
<http://www.digitizationguidelines.gov/stillimages/organizations.html>.
- "Federal Depository Library Handbook." Government Printing Office, n.d.  
<http://www.fdlp.gov/administration/handbook>.
- Fitzgerald, Michael. "Mobile Web: So Close Yet So Far." *The New York Times*, November 25,

- 2007, sec. Technology.  
[http://www.nytimes.com/2007/11/25/technology/25proto.html?\\_r=1](http://www.nytimes.com/2007/11/25/technology/25proto.html?_r=1).
- “Five Colleges, Incorporated: About Us,” n.d. [http://www.fivecolleges.edu/about\\_us/](http://www.fivecolleges.edu/about_us/).
- Ford, Kevin. “ID.LOC.GOV, 1 1/2 Years: Review, Changes, Future Plans, MADS/RDF” presented at the 2010 Digital Library Federation Fall Forum, Palo Alto, CA, November 2, 2010. [http://id.loc.gov/static/presentations/kefo\\_dlf\\_id.pdf](http://id.loc.gov/static/presentations/kefo_dlf_id.pdf).
- “Frequently Asked Questions,” n.d. <http://www.gpo.gov/about/faq.htm>.
- “Future of Law Libraries in the Digital Age - Scenarios,” n.d.  
<http://www.aallnet.org/committee/scenarios.asp>.
- Gahrn, Amy. “Most Americans still don’t have smartphones.” *CNN.com*, September 30, 2010.  
<http://www.cnn.com/2010/TECH/mobile/09/30/gahrn.smartphone.ownership/index.html>
- Gibbons, Susan, and Nancy Fried Foster. “Conclusion: Creating Student-Centered Academic Libraries.” In *Studying Students: The Undergraduate Research Project at the University of Rochester*. Association of College and Research Libraries, 2007.  
[http://www.ala.org/ala/mgrps/divs/acrl/publications/digital/Foster-Gibbons\\_cmpd.pdf](http://www.ala.org/ala/mgrps/divs/acrl/publications/digital/Foster-Gibbons_cmpd.pdf).
- Gladwell, Malcolm. “Small Change: Why the revolution will not be tweeted.” *New Yorker*, October 4, 2010.  
[http://www.newyorker.com/reporting/2010/10/04/101004fa\\_fact\\_gladwell](http://www.newyorker.com/reporting/2010/10/04/101004fa_fact_gladwell).
- Glenn, Valerie D. “Preserving Government and Political Information: The Web-At-Risk Project.” *First Monday* 12, no. 7 (July 2007).  
<http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/1917/1799>.
- “Google Books Settlement Agreement,” n.d. <http://www.google.com/googlebooks/agreement/>.
- “Google Checks Out Library Books.” Google, December 14, 2004.  
[http://www.google.com/press/pressrel/print\\_library.html](http://www.google.com/press/pressrel/print_library.html).
- “Government Information in the 21st Century - IMLS Final Report,” December 22, 2008.  
<http://www.webjunction.org/gi21/-/articles/content/35603072>.
- “Government Information: A Topic for All Librarians” presented at the American Library Association Annual Conference, July 10, 2009.  
<http://www.cosla.org/documents/kb/Government%20Information%20Forum%20report%20gaw%20corr3%20sep%2004%202009.pdf>.
- “GPO and Library of Congress to Digitize Historic Documents.” Government Printing Office, February 16, 2011. <http://www.gpo.gov/pdfs/news-media/press/11news13.pdf>.
- “Grants and Partnerships: California Digital Library,” n.d.  
<http://www.cdlib.org/about/grants.html>.
- Grossman, Lev. “Time's Person of the Year: You.” *Time*, December 13, 2006.  
<http://www.time.com/time/magazine/article/0,9171,1569514,00.html>.
- Hafner, Katie. “History, Digitized (and Abridged).” *The New York Times*, March 10, 2007, sec. Business / Your Money.  
<http://www.nytimes.com/2007/03/10/business/yourmoney/11archive.html?ex=1331269200&en=b62832ef455385e9&ei=5090&partner=rssuserland&emc=rss>.
- Halstead, T.J. “GPO Authority Over Regional Depository Libraries.” Congressional Research Service, November 6, 2007. [http://www.fdlp.gov/component/docman/doc\\_download/46-congressional-research-service-memorandum?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/46-congressional-research-service-memorandum?ItemId=45).
- Hausenblas, M. “Exploiting Linked Data to Build Web Applications.” *Internet Computing, IEEE* 13, no. 4 (August 2009): 68-73.

- Hawkins, Donald T. "Seattle Public Library: Keeping the Focus on the Customer." *Information Today*, September 1, 2008.
- Healy, Leigh Watson. "FDLP Libraries Segmentation Analysis." Government Printing Office, July 17, 2009. [http://www.fdlp.gov/component/docman/doc\\_download/1380-fdlp-libraries-segmentation-analysis](http://www.fdlp.gov/component/docman/doc_download/1380-fdlp-libraries-segmentation-analysis).
- Hebel, Sara. "State Cuts Are Pushing Public Colleges Into Peril." *The Chronicle of Higher Education*, March 14, 2010, sec. Government. <http://chronicle.com/article/In-Many-States-Public-High/64620/>.
- Hedstrom, Margaret. "Digital Preservation: A Time Bomb for Digital Libraries." *Computers and the Humanities* 31, no. 3 (May 1997): 189-202.
- Henderson, Everett, and Carlos Manjarrez. "State Library Agency Service Trends: 1999-2008." Institute of Museum and Library Services, March 2010. [http://www.imls.gov/pdf/Brief2010\\_02.pdf](http://www.imls.gov/pdf/Brief2010_02.pdf).
- Hendrix, Jennifer C. "Checking Out the Future: Perspectives from the Library Community on Information Technology and 21st Century Libraries." American Library Association Office for Information Technology Policy, February 2010. [http://www.ala.org/ala/aboutala/offices/oitp/publications/policybriefs/ala\\_checking\\_out\\_the.pdf](http://www.ala.org/ala/aboutala/offices/oitp/publications/policybriefs/ala_checking_out_the.pdf).
- Hernon, Peter, and Laura Saunders. "The Federal Depository Library Program in 2023: One Perspective on the Transition to the Future." *College and Research Libraries* 70, no. 4 (July 2009).
- Hill, Nate. "Library Outposts, a new service model for urban public libraries." *Catch and Release*, March 15, 2008. <http://natehill.wordpress.com/2008/03/15/library-outposts-a-new-service-model-for-urban-public-libraries/>.
- "History and Background," n.d. <http://www.uspto.gov/products/library/ptdl/background/index.jsp>.
- "History and Background," n.d. <http://www.uspto.gov/products/library/ptdl/background/index.jsp>.
- "History of CIC," n.d. <http://www.cic.net/Home/AboutCIC/CicHistory.aspx>.
- Hogenboom, Karen, and Stephen Woods. "Choosing the right approach: Three models for teaching government information sources." *Research Strategies* 20 (2007): 397-408.
- Holley, Rose. "Crowdsourcing: How and Why Should Libraries Do It?." *D-Lib Magazine* 16, no. 3 (April 2010). <http://www.dlib.org/dlib/march10/holley/03holley.html>.
- "Home - CLOCKSS," n.d. <http://www.clockss.org/clockss/Home>.
- "Home - LOCKSS," n.d. <http://www.lockss.org/lockss/Home>.
- "Home | 2CUL," n.d. <http://2cul.org/>.
- "Home Broadband Adoption." Pew Internet & American Life Project, n.d. <http://pewinternet.org/Trend-Data/Home-Broadband-Adoption.aspx>.
- Horrigan, John B. "Use of Cloud Computing Applications and Services." Pew Internet & American Life Project, September 2008. [http://pewinternet.org/~/media//Files/Reports/2008/PIP\\_Cloud.Memo.pdf.pdf](http://pewinternet.org/~/media//Files/Reports/2008/PIP_Cloud.Memo.pdf.pdf).
- Housewright, Ross. "Themes of Change in Corporate Libraries: Considerations for Academic Libraries." *portal: Libraries and the Academy* 9, no. 2 (2009): 253-271.
- Housewright, Ross, and Roger Schonfeld. "Ithaka's 2006 Studies of Key Stakeholders in the Digital Transformation in Higher Education," August 18, 2008. <http://www.ithaka.org/ithaka-s-r/research/faculty-and-librarian-surveys>.

- Howard, Alex. "Collaborative innovation in open government: Is there an app for that?," August 30, 2010. <http://gov20.govfresh.com/collaborative-innovation-in-open-government-is-there-an-app-for-that/>.
- Howard, Jennifer. "In Face of Professors' 'Fury,' Syracuse U. Library Will Keep Books on Shelves - Libraries." *The Chronicle of Higher Education*, November 12, 2009. <http://chronicle.com/article/In-Face-of-Professors-Fury/49133/>.
- . "Library Protesters to Ohio State U.: Digital's OK, but Save Our Books." *Wired Campus*, n.d.
- . "U. of California Tries Just Saying No to Rising Journal Costs." *The Chronicle of Higher Education*, June 8, 2010, sec. Research. <http://chronicle.com/article/U-of-California-Tries-Just/65823/>.
- "In the beginning [OCLC - Heritage]," n.d. <http://www.oclc.org/about/history/beginning.htm>.
- "Information Behaviour of the Researcher of the Future." CIBER, January 11, 2008. <http://www.ucl.ac.uk/infostudies/research/ciber/downloads/ggexecutive.pdf>.
- "Internet adoption over time." Pew Internet & American Life Project, n.d. <http://pewinternet.org/Trend-Data/Internet-Adoption.aspx>.
- Jackson, William. "Next GPO head must guide agency to the digital future." *Government Computer News*, May 25, 2010. <http://gcn.com/Articles/2010/05/25/Public-Printer-hearing-052510.aspx?Page=2>.
- Jacobs, James A. "Questions and answers about the future of FDLP," October 13, 2010. <http://freegovinfo.info/node/3108>.
- . "Who Do You Serve and What Do You Do?: Defining Your Role to Ensure the Future of Our FDLP." *Free Government Information*, October 7, 2010. <http://freegovinfo.info/node/3103>.
- Jacobs, James A., James R. Jacobs, and Shinjoung Yeo. "Government Information in the Digital Age: The Once and Future Federal Depository Library Program." *The Journal of Academic Librarianship* 31, no. 3 (2005).
- Jacobs, James R. "Critical GPO systems and the FDLP cloud | Free Government Information (FGI)." *Free Government Information*, August 30, 2009. <http://freegovinfo.info/node/2704>.
- . "GPO joins LOCKSS: digital deposit a reality." *Free Government Information*, June 15, 2010. <http://freegovinfo.info/node/3017>.
- Jacobs, James R., and Michael Keller. Letter. "Open government publications: The distributed, tamper-evident, collaborative digital FDLP ecosystem," April 7, 2010. <http://www.scribd.com/doc/30200674/Digital-FDLP-Ecosystem>.
- Jaeger, Paul T., and John Carlo Bertot. "E-government Education in Public Libraries: New Service Roles and Expanding Social Responsibilities." *Journal of Education for Library and Information Science* 50, no. 1 (Winter 2009).
- Jaeger, Paul T., John Carlo Bertot, and John A. Shuler. "The Federal Depository Library Program (FDLP), Academic Libraries, and Access to Government Information." *The Journal of Academic Librarianship* (2010).
- Jaschik, Scott. "The Joy of Stacks." *Inside Higher Ed*, June 9, 2005. <http://www.insidehighered.com/news/2005/06/09/stacks>.
- Johnson III, Clay. "Improving Public Access to and Dissemination of Government Information and Using the Federal Enterprise Architecture Data Reference Model (OMB Memorandum M-06-02)," n.d.

- <http://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2006/m06-02.pdf>.
- Kamensky, John M. "Crowdsourcing Government Reform." ICM Center for the Business of Government, July 15, 2010. <http://www.businessofgovernment.org/blog/crowdsourcing-government-reform>.
- Kane, Laura Townsend. "Access vs. Ownership: Do We Have to Make a Choice?." *College & Research Libraries* 58, no. 1 (January 1997): 58 -66.
- Kauppila, Paul. "Economies of scale in the library world: The Dr. Martin Luther King Jr. Library in San Jose, California." *New Library World* 104, no. 7 (2003): 255.
- Keller, Michael A, Victoria A Reich, and Andrew C Herkovic. "What is a library anymore, anyway?." Text, May 5, 2003.  
<http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/1053/973>.
- Kenney, Anne R., Richard Entlich, Peter B. Hirtle, Nancy Y. McGovern, and Ellie Buckley. "E-Journal Archiving Metes and Bounds: A Survey of the Landscape." Council on Library and Information Resources, 2006. <http://www.clir.org/pubs/reports/pub138/contents.html>.
- Kessler Jr., Ridley R. "A brief history of the Federal Depository Library Program: a personal perspective." *Journal of Government Information* 23, no. 4 (1996): 369-380.
- Kieft, Bob. "A College Library, Its Print Monograph Collection, and the New Information Ecology." *Against the Grain* 22, no. 5 (November 2010).
- Kieft, Robert H., and Lizanne Payne. "A Nation-Wide Planning Framework for Large-Scale Collaboration on Legacy Print Monograph Collections." *Collaborative Librarianship* 2, no. 4 (2010).
- Kirkpatrick, Marshall. "How Tim O'Reilly Aims to Change Government." ReadWriteWeb, August 20, 2009.  
[http://www.readwriteweb.com/archives/how\\_tim\\_oreilly\\_aims\\_to\\_change\\_government.php](http://www.readwriteweb.com/archives/how_tim_oreilly_aims_to_change_government.php).
- Kniffel, Leonard, and Charles W. Bailey. "Cuts, Freezes Widespread in Academic Libraries," May 13, 2009.  
<http://www.ala.org/ala/online/currentnews/newsarchive/2009/may2009/academiclibrarywoes051309.cfm>.
- Kolowich, Steve. "Bookless Libraries?." *Inside Higher Ed*, November 6, 2009.  
<http://www.insidehighered.com/news/2009/11/06/library>.
- . "E-Library Economics." *Inside Higher Ed*, February 10, 2010.  
<http://www.insidehighered.com/news/2010/02/10/libraries>.
- . "Embedded Librarians." *Inside Higher Ed*, June 9, 2010.  
<http://www.insidehighered.com/news/focus/technology/recent/hopkins>.
- . "Libraries of the Future." *Inside Higher Ed*, September 24, 2009.  
<http://www.insidehighered.com/news/2009/09/24/libraries>.
- Koontz, Linda D. "Government Printing Office: Technological Changes Create Transformation Opportunities." General Accounting Office, April 24, 2004.  
<http://www.gao.gov/new.items/d04729t.pdf>.
- Kosewski, Peter. "Everyone Wins: The JSTOR "Single Copy" Project." *Harvard University Library Notes*, October 2010. [http://publications.hul.harvard.edu/ln\\_1356/everyone-wins-the-jstor-single-copy-project.html](http://publications.hul.harvard.edu/ln_1356/everyone-wins-the-jstor-single-copy-project.html).
- Lanier, Jaron. *You Are Not a Gadget: A Manifesto*. Knopf, 2010.
- "Law.Gov: America's Operating System, Open Source,." n.d. <http://resource.org/law.gov/>.
- Lee, Jane. "Shared Print: The Patron Perspective." California Digital Library, January 13, 2006.

- [http://www.cdlib.org/inside/assess/evaluation\\_activities/docs/2005/sharedPrintReport\\_no\\_v2005.pdf](http://www.cdlib.org/inside/assess/evaluation_activities/docs/2005/sharedPrintReport_no_v2005.pdf).
- “Legal Information Institute at Cornell Law School,” n.d. <http://www.law.cornell.edu/>.
- Lessig, Lawrence. “Against Transparency: The perils of openness in government.” *The New Republic*, October 9, 2009. <http://www.tnr.com/print/article/books-and-arts/against-transparency>.
- “Letter of Introduction to Vendors,” n.d. <http://www.library.yale.edu/NERLpublic/RFPletter.html>.
- Lev-Ram, Michal. “Putting mobile services on the map.” *Business 2.0 Magazine*, January 26, 2007. <http://money.cnn.com/2007/01/26/magazines/business2/gpsservices.biz2/index.htm>.
- Lewis, David W. “A Strategy for Academic Libraries in the First Quarter of the 21st Century.” *College and Research Libraries* 68, no. 5 (September 2007): 418-434.
- . “The User-Driven Purchase Give Away Library: A Thought Experiment.” *EDUCAUSE Review*, October 2010.
- “Library Partnership Saves Government Sites.” Library of Congress, August 14, 2008. <http://www.loc.gov/today/pr/2008/08-139.html>.
- “LII | Legal Information Institute at Cornell Law School,” n.d. <http://www.law.cornell.edu/>.
- “LOCKSS Alliance - LOCKSS,” n.d. [http://lockss.stanford.edu/lockss/LOCKSS\\_Alliance](http://lockss.stanford.edu/lockss/LOCKSS_Alliance).
- “Long Overdue: A Fresh Look at Public and Leadership Attitudes About Libraries in the 21st Century.” Public Agenda, 2006. [http://www.publicagenda.org/files/pdf/Long\\_Overdue.pdf](http://www.publicagenda.org/files/pdf/Long_Overdue.pdf).
- “Long-Term Strategic Vision Would Help Ensure Targeting of E-rate Funds to Highest-Priority Uses.” United States Government Accountability Office, March 2009. <http://www.gao.gov/new.items/d09253.pdf>.
- “Lost Docs Reporting Form,” n.d. <http://www.fdlp.gov/lostdocs>.
- Luce, Richard E. “A New Value Equation Challenge: The Emergence of eResearch and Roles for Research Libraries.” In *No Brief Candle: Reconceiving Research Libraries for the 21st Century*. Council on Library and Information Resources, 2008. <http://www.clir.org/pubs/reports/pub142/luce.html>.
- Lynch, Clifford. “Authenticity and Integrity in the Digital Environment: An Exploratory Analysis of the Central Role of Trust.” In *Authenticity in a Digital Environment*. Council on Library and Information Resources, 2000. <http://www.clir.org/pubs/reports/pub92/lynch.html>.
- MacGillis, Alec. “Tracking Stimulus Spending May Not Be as Easy as Promised.” *The Washington Post*, May 21, 2009. <http://www.washingtonpost.com/wp-dyn/content/article/2009/05/20/AR2009052003535.html>.
- Macky, T. “Interlibrary Loan: An Acceptable Alternative to Purchase.” *Wilson Library Bulletin* 63, no. 5 (January 1989): 54-56.
- Malpas, Constance. “Cloud-sourcing Research Collections: Managing Print in the Mass-digitized Library Environment.” OCLC Research, 2011. <http://www.oclc.org/research/publications/library/2011/2011-01.pdf>.
- Markoff, John. “A Quest to Get More Court Rulings Online, and Free.” *New York Times*, August 20, 2007. <http://www.nytimes.com/2007/08/20/technology/20westlaw.html>.
- Masterson, Kathryn. “The Library's End? A Long Way Off.” *The Chronicle of Higher Education*, January 23, 2011, sec. Letters to the Editor. <http://chronicle.com/article/The->

- Library's-End-A-Long-Way/126018/?sid=at&utm\_source=at&utm\_medium=en.
- Matthews, Richard J., and Mary Alice Baish. "State-by-State Report on Authentication of Online Legal Resources." American Association of Law Libraries, March 2007.  
[http://www.aallnet.org/aallwash/authen\\_rprt/AuthenFinalReport.pdf](http://www.aallnet.org/aallwash/authen_rprt/AuthenFinalReport.pdf).
- McDermott, Patrice. "Building Open Government." *Government Information Quarterly* 27, no. 4 (October 2010): 401-413.
- McGarr, Sheila M. "Snapshots of the Federal Depository Library Program." Government Printing Office, 1994. [http://www.gpo.gov/su\\_docs/fdlp/history/snapshot.html](http://www.gpo.gov/su_docs/fdlp/history/snapshot.html).
- McGray, Douglas. "iGov: How geeks are opening up government on the Web." *The Atlantic Magazine*, February 2009.  
<http://www.theatlantic.com/magazine/archive/2009/01/igov/7200/>.
- Meltzer, Ellen. "Mellon Grant Awarded to University of California Libraries to Implement the Western Regional Storage Trust (WEST)," January 31, 2011.  
<http://www.cdlib.org/cdlinfo/2011/01/31/mellon-grant-awarded-to-university-of-california-libraries-to-implement-the-western-regional-storage-trust-west/>.
- Merrill, Duane. "Mashups: The new breed of Web app." IBM, August 8, 2006.  
<http://www.ibm.com/developerworks/xml/library/x-mashups.html>.
- Miller, Michael. "Cloud Computing Pros and Cons for End Users." *InformIT*, February 13, 2009.  
<http://www.informit.com/articles/article.aspx?p=1324280>.
- Miller, Rich. "Magnolia Data is Gone For Good « Data Center Knowledge." *Data Center Knowledge*, n.d. <http://www.datacenterknowledge.com/archives/2009/02/19/magnolia-data-is-gone-for-good/>.
- "Mobile Web Best Practices 1.0." *W3C*, July 29, 2008. <http://www.w3.org/TR/mobile-bp/>.
- Nadler, Judith. "Director's Message," n.d. <http://mansueto.lib.uchicago.edu/director.html>.
- "National Digital Stewardship Alliance - Digital Preservation (Library of Congress)," n.d. <http://www.digitalpreservation.gov/nds/>.
- "National Digital Stewardship Alliance - Digital Preservation (Library of Congress)," n.d. <http://www.digitalpreservation.gov/nds/>.
- "NERL Public Web Site," n.d. <http://www.library.yale.edu/NERLpublic/>.
- NIFA, USDA: Extension. "NIFA Extension page," n.d.  
<http://www.csrees.usda.gov/qlinks/extension.html>.
- "NN/LM: About Us," n.d. <http://nnlm.gov/about/>.
- "North Carolina Digital Repository: About Us," n.d.  
<http://digitalstatelibnc.cdmhost.com/cdm4/about.php>.
- Nunberg, Geoffrey. "Google's Book Search: A Disaster for Scholars." *The Chronicle of Higher Education*, August 31, 2009, sec. The Chronicle Review.  
<http://chronicle.com/article/Googles-Book-Search-A/48245/>.
- Oakleaf, Megan. "The Value of Academic Libraries." Association of College and Research Libraries, September 2010. <http://www.acrl.ala.org/value/>.
- . *The Value of Academic Libraries: A Comprehensive Research Review and Report*. Association of College and Research Libraries, 2010.
- Obama, Barack. "Transparency and Open Government," January 21, 2009.  
[http://www.whitehouse.gov/the\\_press\\_office/Transparency\\_and\\_Open\\_Government/](http://www.whitehouse.gov/the_press_office/Transparency_and_Open_Government/).
- Oder, Norman. "Library of Michigan, Facing Cuts, To Drop Genealogy and Federal Documents." *Library Journal*, March 4, 2010.
- Ohri, Mukta, and David Powell. "Federal Depository Library Needs Assessment and Biennial



- Survey 2009,” June 2010. [http://www.fdlp.gov/component/docman/cat\\_view/72-about-the-fdlp/283-customer-relations-program/286-needs-assessmentbiennial-survey-oct-2009-feb-2010](http://www.fdlp.gov/component/docman/cat_view/72-about-the-fdlp/283-customer-relations-program/286-needs-assessmentbiennial-survey-oct-2009-feb-2010).
- Okerson, Ann. “The LIBLICENSE Project and How it Grows.” *D-Lib Magazine* 5, no. 9 (9, 1999). <http://www.dlib.org/dlib/september99/okerson/09okerson.html>.
- . “What Academic Libraries Need in Electronic Content Licenses” presented at the STM Annual General Meeting, October 1, 1996. <http://www.library.yale.edu/~okerson/stm.html>.
- “Ordering Methods,” n.d. <http://www.ntis.gov/help/ordermethods.aspx>.
- “Oregon libraries sharing the regional collection (Oregon State Library, OSU, PSU, and UO),” n.d. <http://www.fdlp.gov/outreach/spotlight/470-oregon-state-library-oregon-state-university-valley-library-portland-state-university-library-and>.
- O'Reilly, Tim. “What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software.” O'Reilly Media, September 30, 2005. <http://oreilly.com/pub/a/web2/archive/what-is-web-20.html>.
- O'Reilly, Tim, and John Battelle. “Web Squared: Web 2.0 Five Years On.” Web 2.0 Summit, 2009. [http://assets.en.oreilly.com/1/event/28/web2009\\_websquared-whitepaper.pdf](http://assets.en.oreilly.com/1/event/28/web2009_websquared-whitepaper.pdf).
- Orszag, Peter R. “Open Government Directive.” Office of Management and Budget, December 8, 2009.
- “Our Partnership | www.hathitrust.org,” n.d. <http://www.hathitrust.org/partnership>.
- “Our Partnership | www.hathitrust.org,” n.d. <http://www.hathitrust.org/partnership>.
- “Overview : Google Goggles (Labs) - Google Mobile Help,” n.d. <http://www.google.com/support/mobile/bin/answer.py?hl=en&answer=166331>.
- Owusu-Ansah, Edward K. “Information Literacy and Higher Education: Placing the Academic Library in the Center of a Comprehensive Solution.” *The Journal of Academic Librarianship* 30, no. 1 (January 2004).
- Oxnam, Maliaca. “Capturing America's Scientific History through Technical Report Literature.” *Focus on Global Resources* 30, no. 1 (Fall 2010). <http://www.crl.edu/focus/article/6780>.
- Palfrey, John. “Cornerstones of Law Libraries for an Era of Digital Plus.” *Law Library Journal* 102, no. 2 (2010). [http://www.aallnet.org/products/pub\\_llj\\_v102n02/2010-11.pdf](http://www.aallnet.org/products/pub_llj_v102n02/2010-11.pdf).
- “Passworded Databases,” n.d. <http://www.fdlp.gov/collections/building-collections/137-passworded-databases>.
- Payne, Lizanne. “Models for Shared Print Archives: WEST and CRL” presented at the 156th ARL Membership Meeting, Seattle, WA, April 28, 2010. <http://www.arl.org/bm~doc/mm10sp-payne.pdf>.
- “Perceptions of Libraries, 2010: Context and Community.” OCLC, 2011. [http://www.oclc.org/reports/2010perceptions/2010perceptions\\_all.pdf](http://www.oclc.org/reports/2010perceptions/2010perceptions_all.pdf).
- Pettinato, Tammy R. “Legal Information, the Informed Citizen, and the FDLP: The Role of Academic Law Librarians in Promoting Democracy.” *Law Library Journal* 99, no. 4 (Fall 2007).
- Podboy, Alvin. “Embracing Intangible Law Libraries.” *Law Technology News*, July 6, 2007. <http://www.law.com/jsp/lawtechnologynews/PubArticleLTN.jsp?id=1183626388950>.
- Pool, Rebecca. “Big-deal packages squeeze recession-hit libraries.” *Research Information*, July 2010. [http://www.researchinformation.info/features/feature.php?feature\\_id=269](http://www.researchinformation.info/features/feature.php?feature_id=269).
- “Preservation | www.hathitrust.org,” n.d. <http://www.hathitrust.org/preservation>.
- “Preservation Approach – Portico,” n.d. <http://www.portico.org/digital->

- preservation/services/preservation-approach/.
- “Preservation Step-by-Step – Portico,” n.d. <http://www.portico.org/digital-preservation/services/preservation-approach/preservation-step-by-step/>.
- “Private LOCKSS Networks - LOCKSS,” n.d. [http://lockss.stanford.edu/lockss/Private\\_LOCKSS\\_Networks](http://lockss.stanford.edu/lockss/Private_LOCKSS_Networks).
- “Public Library Funding Landscape.” *American Libraries*, Summer 2010.
- “Public Library Technology Landscape.” *American Libraries*, Summer 2010.
- Purcell, Kristen, Roger Entner, and Nichole Henderson. “The Rise of Apps Culture.” Pew Internet & American Life Project, September 15, 2010. [http://pewinternet.org/~media/Files/Reports/2010/PIP\\_Nielsen%20Apps%20Report.pdf](http://pewinternet.org/~media/Files/Reports/2010/PIP_Nielsen%20Apps%20Report.pdf)
- “Quick Reference Guide for Depository Libraries - Government of Canada Publications,” n.d. <http://publications.gc.ca/site/eng/depositoryLibraries/dspReferenceGuide.html>.
- Quinn, Brian. “The McDonaldization of Academic Libraries?.” *College & Research Libraries* 61, no. 3 (May 2000): 248-261.
- Rainie, Lee, Susannah Fox, John Horrigan, and Tom Spooner. “Who's not online: 57% of those without Internet access say they do not plan to log on.” Pew Internet & American Life Project, September 21, 2000. [http://pewinternet.org/~media/Files/Reports/2000/Pew\\_Those\\_Not\\_Online\\_Report.pdf](http://pewinternet.org/~media/Files/Reports/2000/Pew_Those_Not_Online_Report.pdf).
- Rapp, David. “GPO Hires First Preservation Librarian.” *Library Journal*, July 19, 2010. [http://www.libraryjournal.com/lj/community/academiclibraries/885931-419/gpo\\_hires\\_first\\_preservation\\_librarian.html.csp](http://www.libraryjournal.com/lj/community/academiclibraries/885931-419/gpo_hires_first_preservation_librarian.html.csp).
- Ras, Marcel. “The KB e-Depot: Building and Managing a Safe Place for e-Journals.” *Liber Quarterly* 19, no. 1 (April 2009). <http://liber.library.uu.nl/publish/articles/000276/article.pdf>.
- Rawan, Atifa, Cheryl Knott Malone, and Laura J. Bender. “Assessing the virtual depository program: The Arizona experience.” *Journal of Government Information* 30, no. 5 (2004).
- “Recovery.gov - About Recovery.gov,” n.d. <http://www.recovery.gov/About/Pages/Recoverygov.aspx>.
- “Regional Depository Libraries in the 21st Century: A Preliminary Assessment.” U.S. Government Printing Office, December 2008. [http://www.fdlp.gov/home/repository/doc\\_download/564-regional-depository-libraries-in-the-21st-century-a-preliminary-assessment](http://www.fdlp.gov/home/repository/doc_download/564-regional-depository-libraries-in-the-21st-century-a-preliminary-assessment).
- “Regional Depository Libraries in the 21st Century: A Time for Change?,” n.d. [http://www.fdlp.gov/component/docman/doc\\_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?ItemId=45).
- “Regional Depository Libraries in the 21st Century: A Time for Change?.” Government Printing Office, June 2008. [http://www.fdlp.gov/component/docman/doc\\_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?ItemId=45).
- “Regional Depository Libraries in the 21st Century: Regional Librarian's Joint Perspective.” Federal Depository Library Program, May 19, 2008. [http://www.fdlp.gov/component/docman/doc\\_download/57-regional-librarians-joint-perspective?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/57-regional-librarians-joint-perspective?ItemId=45).
- Reich, Victoria, and David Rosenthal. “Distributed Digital Preservation: Private LOCKSS Networks as Business, Social, and Technical Frameworks.” *Library Trends* 57, no. 3

- (Winter 2009): 461.
- Reilly Jr., Bernard F. "Preserving American Print Resources." *Library Management* 26, no. 1 (2005): 102.
- Rein, Lisa. "Costs soaring for Archives' digital library, auditors say." *The Washington Post*, February 4, 2011. <https://www.washingtonpost.com/wp-dyn/content/article/2011/02/04/AR2011020402286.html>.
- "Report to Publishing and Distribution Services, Public Works and Government Services Canada," March 2009. <http://dsp-psd.pwgsc.gc.ca/Rapports/mar2009/index-e.html>.
- "Report to the Congress: Study to Identify Measures Necessary for a Successful Transition to a More Electronic Federal Depository Library Program." Government Printing Office, June 1996. [http://www.fdlp.gov/home/repository/doc\\_download/1768-report-to-the-congress-study-to-identify-measures-necessary-for-a-successful-transition-to-a-more-e](http://www.fdlp.gov/home/repository/doc_download/1768-report-to-the-congress-study-to-identify-measures-necessary-for-a-successful-transition-to-a-more-e).
- "Request for Quotation - Library Consultant Services." Government Printing Office, 2010. [https://www.fbo.gov/index?s=opportunity&mode=form&id=d1bb8dbde1ee92de476e486dca58ca24&tab=core&\\_cview=1](https://www.fbo.gov/index?s=opportunity&mode=form&id=d1bb8dbde1ee92de476e486dca58ca24&tab=core&_cview=1).
- "Resolution for the Printing and Distribution of an Additional Number of the Journals of Congress, and of the Documents Published Under Their Order." 3 U.S Statutes at Large 140, December 27, 1813.
- Reusch, Rita. "By the Book: Thoughts on the Future of Our Print Collections." *Law Library Journal* 100, no. 3 (2008): 555-562.
- Robertson, Nancy. Letter. "Moving the FDLP forward in Michigan," October 8, 2010. <http://blogpublic.lib.msu.edu/index.php/2010/10/08/moving-the-fdlp-forward-in-michigan?blog=5>.
- Robinson, David, Harlan Yu, William P. Zeller, and Edward W. Felten. "Government Data and the Invisible Hand." *Yale Journal of Law & Technology* 11, no. 160 (2009). [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1138083](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1138083).
- Rochkind, Jonathan. "(Meta)search Like Google." *Library Journal*, February 15, 2007. <http://www.libraryjournal.com/article/CA6413442.html>.
- Rodger, Eleanor Jo. "What's A Library Worth?." *American Libraries* 38, no. 8 (September 2007): 58-61.
- Rogers, Michael. "Illinois Libraries/OCLC Tackle Government Information Online." *Library Journal*, June 1, 2005. [http://www.libraryjournal.com/lj/ljinprint/currentissue/868416-403/illinois\\_librariesoclc\\_tackle\\_government\\_information.html.csp](http://www.libraryjournal.com/lj/ljinprint/currentissue/868416-403/illinois_librariesoclc_tackle_government_information.html.csp).
- Rosenthal, David. "Format Obsolescence: the Prostate Cancer of Preservation," May 7, 2007. <http://blog.dshr.org/2007/05/format-obsolescence-prostate-cancer-of.html>.
- . "Spring CNI Plenary: The Remix." dshr's blog, April 10, 2009. <http://blog.dshr.org/2009/04/spring-cni-plenary-remix.html>.
- . "The Anonymity of Crowds," November 18, 2010. <http://blog.dshr.org/2010/11/anonymity-of-crowds.html>.
- Salem Jr., Joseph A. "The Way We Work Now: A Survey of Reference Service Arrangement in Federal Depository Libraries." In *The Changing Face of Government Information: Providing Access in the Twenty-Frist Century*. The Haworth Information Press, 2006.
- Schecker, Jay. "The Unseen Scholars: Researching Information in the Digital Age." *1663: Los Alamos Science and Technology Magazine*, December 2008. [http://www.lanl.gov/1663/files/documents/Item/627/1663\\_dec08\\_dialogue.pdf](http://www.lanl.gov/1663/files/documents/Item/627/1663_dec08_dialogue.pdf).
- Schonfeld, Roger, and Ross Housewright. "Documents for a Digital Democracy: A Model for

- the Federal Depository Library Program in the 21st Century,” December 17, 2009.
- Schonfeld, Roger, and Matthew Long. “Ithaka S+R Library Survey 2010.” Ithaka S+R, forthcoming 2011.
- Schonfeld, Roger C. “Conclusion.” In *The Idea of Order: Transforming Research Collections for 21st Century Scholarship*. Council on Library and Information Resources, 2010. <http://www.clir.org/pubs/reports/pub147/pub147.pdf>.
- . “The Role of Information-Sharing in Book Survivability in the United States, 1890-1940” presented at the Society for the History of Technology, Las Vegas, NV, October 2006.
- Schonfeld, Roger C., and Ross Housewright. “Faculty Survey 2009: Strategic Insights for Librarians, Publishers, and Societies.” Ithaka S+R, April 7, 2010. <http://ithaka.org/ithaka-s-r/research/faculty-surveys-2000-2009/faculty-survey-2009>.
- . “What to Withdraw? Print Collections Management in the Wake of Digitization.” Ithaka S+R, September 29, 2009. <http://www.ithaka.org/ithaka-s-r/research/what-to-withdraw>.
- Schonfeld, Roger C., Donald W. King, Ann Okerson, and Eileen Gifford Fenton. *The Nonsubscription Side of Periodicals: Changes in Library Operations and Costs between Print and Electronic Formats*. Washington, D.C.: Council on Library and Information Resources, June 2004.
- Schottlaender, Brian E. C., Gary Lawrence, Cecily Johns, Claire Le Donne, and Laura Fosbender. “Collections Management Strategies in a Digital Environment.” University of California Office of the President, January 2004. <http://www.ucop.edu/cmi/finalreport/cmireportfinal.pdf>.
- Schwarzkopf, LeRoy C. “Regional Libraries and the Depository Library Act of 1962,” 6, 1972. <http://www.eric.ed.gov/PDFS/ED066177.pdf>.
- Seavey, Charles A. “GPO Must Go.” *American Libraries*, October 2010.
- “Serra Cooperative Library System,” n.d. <http://www.serralib.org/>.
- “Shared Web Experiences: Barriers Common to Mobile Device Users and People with Disabilities,” n.d. <http://www.w3.org/WAI/mobile/experiences>.
- Shirky, Clay. *Here Comes Everybody: The Power of Organizing Without Organizations*. New York, NY: Penguin Books, 2008.
- Shuler, John A., Paul T. Jaeger, and John Carlo Bertot. “Implications of harmonizing the future of the Federal Depository Library Program within e-government principles and policies.” *Government Information Quarterly* 27, no. 1 (January 2010).
- Singel, Ryan. “Are You Ready for Web 2.0?.” *Wired*, October 6, 2005.
- Smith, Aaron. “Government Online.” Pew Internet & American Life Project, May 27, 2010. [http://pewinternet.org/~media/Files/Reports/2010/PIP\\_Government\\_Online\\_2010\\_with\\_toplevel.pdf](http://pewinternet.org/~media/Files/Reports/2010/PIP_Government_Online_2010_with_toplevel.pdf).
- . “Home Broadband 2010.” Pew Internet & American Life Project, July 11, 2010. <http://pewinternet.org/~media/Files/Reports/2010/Home%20broadband%202010.pdf>.
- . “Mobile Access 2010.” Pew Internet & American Life Project, July 7, 2010. [http://pewinternet.org/~media/Files/Reports/2010/PIP\\_Mobile\\_Access\\_2010.pdf](http://pewinternet.org/~media/Files/Reports/2010/PIP_Mobile_Access_2010.pdf).
- Spiro, Lisa, and Geneva Henry. “Can a New Research Library Be All-Digital?.” In *The Idea of Order: Transforming Research Collections for 21st Century Scholarship*. Washington, D.C.: Council on Library and Information Resources, 2010. <http://www.clir.org/pubs/reports/pub147/>.
- “Springer Partners With CLOCKSS For Its First E-book Agreement,” February 1, 2011.

- <http://www.clockss.org/clockss/News>.
- Stambaugh, Emily. "Heading West: Circling the Wagons to Ensure Preservation." *Against the Grain* 22, no. 5 (November 2010).
- "Status Report: GPO Access: A service of the U.S. Government Printing Office." Government Printing Office, June 30, 1994. <http://www.gpoaccess.gov/biennial/1994/report.pdf>.
- Streitfeld, David. "As L.S.S.I. Takes Over Libraries, Patrons Can't Keep Quiet." *The New York Times*, September 26, 2010, sec. Business. [http://www.nytimes.com/2010/09/27/business/27libraries.html?\\_r=2&ref=business&page\\_wanted=all](http://www.nytimes.com/2010/09/27/business/27libraries.html?_r=2&ref=business&page_wanted=all).
- Sullivan, Brian T. "Academic Library Autopsy Report, 2050." *The Chronicle of Higher Education*, January 2, 2011, sec. Commentary. <http://chronicle.com/article/Academic-Library-Autopsy/125767/>.
- Tapella, Robert. "GPO's Federal Digital System (FDsys): Open and Transparent Government" presented at the 102nd American Association of Law Libraries Annual Meeting and Conference, Washington, D.C., July 29, 2009. [http://www.gpo.gov/pdfs/news-media/PrepRe\\_072709](http://www.gpo.gov/pdfs/news-media/PrepRe_072709).
- Tapella, Robert C. "Public Printer's Letter to President Obama Regarding Transparency in Government," March 9, 2009. [http://www.gpo.gov/pdfs/news-media/letter\\_030909.pdf](http://www.gpo.gov/pdfs/news-media/letter_030909.pdf).
- "Ten Principles for Opening Up Government Information." Sunlight Foundation, August 11, 2010. <http://sunlightfoundation.com/policy/documents/ten-open-data-principles/>.
- "The Archive: Content & Access – Portico," n.d. <http://www.portico.org/digital-preservation/the-archive-content-access/>.
- "The ARL 2030 Scenarios: A User's Guide for Research Libraries." Association of Research Libraries, October 2010. <http://www.arl.org/bm~doc/arl-2030-scenarios-users-guide.pdf>.
- "The Committee on House Administration - Printing Committee," n.d. <http://cha.house.gov/printing.aspx>.
- Thomas, Lisa Carlucci. "Gone Mobile? (Mobile Libraries Survey 2010)." *Library Journal*, October 15, 2010. [http://www.libraryjournal.com/lj/communityacademiclibraries/886987-265/gone\\_mobile\\_mobile\\_libraries\\_survey.html.csp](http://www.libraryjournal.com/lj/communityacademiclibraries/886987-265/gone_mobile_mobile_libraries_survey.html.csp).
- "Trustworthy Repositories Audit & Certification: Criteria and Checklist." OCLC and CRL, 2007. [http://www.crl.edu/sites/default/files/attachments/pages/trac\\_0.pdf](http://www.crl.edu/sites/default/files/attachments/pages/trac_0.pdf).
- Turkle, Sherry. *Alone Together: Why We Expect More from Technology and Less from Each Other*. Basic Books, 2011.
- Turri, William. Letter. "Letter from Acting Public Printer William Turri to the Honorable Robert Brady," September 13, 2007. [http://www.fdlp.gov/component/docman/doc\\_download/49-letter-from-acting-public-printer-william-turri-to-the-honorable-robert-brady?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/49-letter-from-acting-public-printer-william-turri-to-the-honorable-robert-brady?ItemId=45).
- "U.S. Government Documents Private LOCKSS Network," n.d. [http://lockss.org/lockss/Government\\_Documents\\_PLN](http://lockss.org/lockss/Government_Documents_PLN).
- "UC Announces Founding of the California Digital Library," October 14, 1997. <http://www.universityofcalifornia.edu/news/article/20579>.
- "United Nations depository libraries: About deposit," n.d. <http://www.un.org/depts/dhl/deplib/aboutdeposit.htm>.
- "United Nations depository libraries: Depository Library System," n.d. <http://www.un.org/depts/dhl/deplib/deplibsystem.htm>.

- “United States Population and Housing Narrative Profile: 2006-2008.” U.S. Census Bureau, n.d. [http://factfinder.census.gov/servlet/NPTable?\\_bm=y&-geo\\_id=01000US&-qr\\_name=ACS\\_2008\\_3YR\\_G00\\_NP01&-ds\\_name=&-redoLog=false](http://factfinder.census.gov/servlet/NPTable?_bm=y&-geo_id=01000US&-qr_name=ACS_2008_3YR_G00_NP01&-ds_name=&-redoLog=false).
- “UNT Libraries: CyberCemetery Home,” n.d. <http://govinfo.library.unt.edu/>.
- Vaidhyathan, Siva. *The Googlization of Everything (and Why We Should Worry)*. Berkeley, CA: University of California Press, 2011.
- “Value Proposition for the FDLP.” Government Printing Office, November 2009. [http://www.fdlp.gov/component/docman/doc\\_download/1112-value-proposition-for-the-fdlp](http://www.fdlp.gov/component/docman/doc_download/1112-value-proposition-for-the-fdlp).
- Van Orsdel, Lee C., and Kathleen Born. “Reality Bites: Periodicals Price Survey 2009.” *Library Journal*, April 15, 2009. <http://www.libraryjournal.com/article/CA6651248.html>.
- Vogt-O'Connor, Diane. “NARA's Oldest Partnerships.” *Prologue* 38, no. 2 (Summer 2006). <http://www.archives.gov/publications/prologue/2006/summer/affiliates.html>.
- Walters, Tyler, and Katherine Skinner. “New Roles for New Times: Digital Curation for Preservation.” Association of Research Libraries, March 2011. [http://www.arl.org/bm~doc/nrnt\\_digital\\_curation17mar11.pdf](http://www.arl.org/bm~doc/nrnt_digital_curation17mar11.pdf).
- Wang, Avery. “The Shazam music recognition service.” *Communications of the ACM* 49, no. 8 (2006): 44-48.
- Wash, Mike. “GPO's Federal Digital System (FDsys) Briefing” presented at the Future of Today's Legal Scholarship Symposium, July 25, 2009. [http://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=1003&context=future\\_scholarship](http://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=1003&context=future_scholarship).
- Waters, Donald, and John Garrett. “Preserving Digital Information.” Task Force on Archiving of Digital Information, May 1, 1996. <http://www.clir.org/pubs/reports/pub63watersgarrett.pdf>.
- Waters, Donald J. “Urgent Access Needed to Preserve Scholarly Electronic Journals,” October 15, 2005. <http://www.diglib.org/pubs/waters051015.pdf>.
- “Web Archives: yesterday's web; today's archives,” n.d. <http://webarchives.cdlib.org/>.
- “Web-Based Government Information: Evaluating Solutions for Capture, Curation, and Preservation.” California Digital Library, November 2003. [http://www.cdlib.org/services/uc3/docs/Web-based\\_archiving\\_mellon\\_Final.pdf](http://www.cdlib.org/services/uc3/docs/Web-based_archiving_mellon_Final.pdf).
- “Welcome to the Shared Digital Future | www.hathitrust.org,” n.d. <http://www.hathitrust.org/about>.
- “White House Announces Federal Register 2.0 Transforming the Chronicle of the Executive Branch for the 21st Century.” The White House, October 5, 2009. [http://www.whitehouse.gov/the\\_press\\_office/White-House-Announces-Federal-Register-20-Transforming-the-Chronicle-of-the-Executive-Branch-for-the-21st-Century/](http://www.whitehouse.gov/the_press_office/White-House-Announces-Federal-Register-20-Transforming-the-Chronicle-of-the-Executive-Branch-for-the-21st-Century/).
- Wooden, Ruth A. “The Future of Public Libraries in an Internet Age.” *National Civic Review* 95, no. 4 (Winter 2006). <http://www.ncl.org/publications/ncr/95-4/0107libraries.pdf>.
- “World Urbanization Prospects: The 2009 Revision.” United Nations Department of Economic and Social Affairs, Population Division, March 2010. [http://esa.un.org/unpd/wup/doc\\_highlights.htm](http://esa.un.org/unpd/wup/doc_highlights.htm).

## Endnotes

---

<sup>1</sup> “Regional Depository Libraries in the 21st Century: A Time for Change?” (Government Printing Office, June 2008), 18, [http://www.fdlp.gov/component/docman/doc\\_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?Itemid=45](http://www.fdlp.gov/component/docman/doc_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?Itemid=45).

<sup>2</sup> Government Printing Office, “Request for Quotation – Library Consultant Services,” RFQ GPO-LSCM-2010.

<sup>3</sup> William Jackson, “Next GPO head must guide agency to the digital future,” *Government Computer News*, May 25, 2010, <http://gcn.com/Articles/2010/05/25/Public-Printer-hearing-052510.aspx?Page=2>.

<sup>4</sup> “Request for Quotation - Library Consultant Services” (Government Printing Office, 2010), [https://www.fbo.gov/index?s=opportunity&mode=form&id=d1bb8dbde1ee92de476e486dca58ca24&tab=core&\\_cvview=1](https://www.fbo.gov/index?s=opportunity&mode=form&id=d1bb8dbde1ee92de476e486dca58ca24&tab=core&_cvview=1).

<sup>5</sup> *Ibid.*

<sup>6</sup> Depository Library Council, “Federal Depository Library Program Strategic Plan, 2009-2014 (Draft Discussion Document, 04/17/2009)” (Government Printing Office, April 17, 2009), [http://www.fdlp.gov/component/docman/doc\\_download/37-fdlp-strategic-plan-2009-2014-draft-3?Itemid=45](http://www.fdlp.gov/component/docman/doc_download/37-fdlp-strategic-plan-2009-2014-draft-3?Itemid=45).

<sup>7</sup> The Privacy Policy stated: “Ithaka S+R’s agreement with GPO stipulates that an archive of this web site, including all comments submitted to the site, must be provided to GPO for permanent, public archiving on the FDLP Desktop at the conclusion of the project. As a result, and solely with respect to this program, any Personally Identifying Information (“PII”) provided to this site, including, but not limited to, name and affiliation, will be maintained and made publicly accessible via the FDLP Desktop. Beyond any user-provided PII in the context of comments, we will gather statistics on usage of the FDLP Modeling site that may include IP addresses; these usage logs will only be used in the aggregate to evaluate the use of the site, and not to identify any individual user.”

<sup>8</sup> “Frequently Asked Questions,” n.d., <http://www.gpo.gov/about/faq.htm>.

<sup>9</sup> “The Committee on House Administration - Printing Committee,” n.d., <http://cha.house.gov/printing.aspx>. Viewed in November, 2010.

<sup>10</sup> “Federal Depository Library Handbook” (Government Printing Office, n.d.), <http://www.fdlp.gov/administration/handbook>.

<sup>11</sup> “About the FDLP,” n.d., <http://www.fdlp.gov/home/about>.

<sup>12</sup> “Federal Depository Library Handbook.”

<sup>13</sup> *Ibid.*

<sup>14</sup> “Resolution for the Printing and Distribution of an Additional Number of the Journals of Congress, and of the Documents Published Under Their Order” (3 U.S. Statutes at Large 140, December 27, 1813).

<sup>15</sup> “An Act Providing for the Public Printing and Binding and the Distribution of Public Documents” (28 U.S. Statutes at Large 601, January 12, 1895).

<sup>16</sup> “Federal Depository Library Handbook.”

<sup>17</sup> Ibid.

<sup>18</sup> "Chapter 9: Housing - Page 8," n.d., <http://www.fdlp.gov/administration/handbook/126-chapter9?start=7>.

<sup>19</sup> "Oregon libraries sharing the regional collection (Oregon State Library, OSU, PSU, and UO)," n.d., <http://www.fdlp.gov/outreach/spotlight/470-oregon-state-library-oregon-state-university-valley-library-portland-state-university-library-and>.

<sup>20</sup> "Status Report: GPO Access: A service of the U.S. Government Printing Office" (Government Printing Office, June 30, 1994), <http://www.gpoaccess.gov/biennial/1994/report.pdf>.

<sup>21</sup> Duncan M. Aldrich, Gary Cornwell, and Daniel Barkley, "Changing Partnerships? Government Documents Departments at the Turn of the Millenium," *Government Information Quarterly* 17, no. 3 (2000).

<sup>22</sup> David Durant, "The Federal Depository Library Program: Anachronism or Necessity?," *North Carolina Libraries* 62, no. 1 (Spring 2004): 30-39.

<sup>23</sup> John A. Shuler, Paul T. Jaeger, and John Carlo Bertot, "Implications of harmonizing the future of the Federal Depository Library Program within e-government principles and policies," *Government Information Quarterly* 27, no. 1 (January 2010).

<sup>24</sup> Ibid.

<sup>25</sup> "A Strategic Vision for the 21st Century" (Government Printing Office, December 1, 2004), 4, <http://www.gpo.gov/pdfs/congressional/04strategicplan.pdf>.

<sup>26</sup> Selene Dalecky and Lisa LaPlant, "FDsys Update" (presented at the Depository Library Council Meeting & Conference, Arlington, VA, October 19, 2010), [http://www.fdlp.gov/home/repository/doc\\_download/1767-fdsys-update](http://www.fdlp.gov/home/repository/doc_download/1767-fdsys-update).

<sup>27</sup> "FDsys: GPO's Official System of Record," n.d., <http://www.fdlp.gov/component/content/article/19-general/866-fdsyssysofrecord>.

<sup>28</sup> "Digital Preservation at the U.S. Government Printing Office: White Paper" (Government Printing Office, July 8, 2008), [http://www.gpo.gov/pdfs/fdsys-info/documents/preservation-white-paper\\_20080709.pdf](http://www.gpo.gov/pdfs/fdsys-info/documents/preservation-white-paper_20080709.pdf).

<sup>29</sup> Mike Wash, "GPO's Federal Digital System (FDsys) Briefing," July 25, 2009, [http://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=1003&context=future\\_scholarship](http://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=1003&context=future_scholarship).

<sup>30</sup> "Digital Preservation at the U.S. Government Printing Office: White Paper." Note: Ithaka S+R is currently providing consulting services to the Center for Research Libraries.

<sup>31</sup> LeRoy C. Schwarzkopf, "Regional Libraries and the Depository Library Act of 1962," 6, 1972, <http://www.eric.ed.gov/PDFS/ED066177.pdf>.

<sup>32</sup> Leigh Watson Healy, "FDLP Libraries Segmentation Analysis" (Government Printing Office, July 17, 2009), [http://www.fdlp.gov/component/docman/doc\\_download/1380-fdlp-libraries-segmentation-analysis](http://www.fdlp.gov/component/docman/doc_download/1380-fdlp-libraries-segmentation-analysis).

<sup>33</sup> <http://catalog.gpo.gov/fdlpdir/FDLPdir.jsp>



<sup>34</sup> These bullets are adapted from Roger Schonfeld and Ross Housewright, “Documents for a Digital Democracy: A Model for the Federal Depository Library Program in the 21st Century,” December 17, 2009.

<sup>35</sup> Sheila M. McGarr, “Snapshots of the Federal Depository Library Program” (Government Printing Office, 1994), [http://www.gpo.gov/su\\_docs/fdlp/history/snapshot.html](http://www.gpo.gov/su_docs/fdlp/history/snapshot.html).

<sup>36</sup> Paul T. Jaeger, John Carlo Bertot, and John A. Shuler, “The Federal Depository Library Program (FDLP), Academic Libraries, and Access to Government Information,” *The Journal of Academic Librarianship* (2010).

<sup>37</sup> Depository Library Council, “Alternatives for Restructuring the Depository Library Program: a report to the Superintendent of Documents and the Public Printer from the Depository Library Council,” September 1993, [http://www.fdlp.gov/home/repository/doc\\_download/1092-alternatives-for-restructuring-the-depository-library-program](http://www.fdlp.gov/home/repository/doc_download/1092-alternatives-for-restructuring-the-depository-library-program).

<sup>38</sup> *Ibid.*

<sup>39</sup> “Regional Depository Libraries in the 21st Century: A Time for Change?” (Government Printing Office, June 2008), 18, [http://www.fdlp.gov/component/docman/doc\\_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?ItemId=45).

<sup>40</sup> “Regional Depository Libraries in the 21st Century: A Time for Change?,” n.d., [http://www.fdlp.gov/component/docman/doc\\_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/54-regional-depository-libraries-in-the-21st-century-a-time-for-change?ItemId=45).

<sup>41</sup> Schonfeld and Housewright, “Documents for a Digital Democracy: A Model for the Federal Depository Library Program in the 21st Century.”

<sup>42</sup> Nancy Robertson, “Moving the FDLP forward in Michigan,” October 8, 2010, <http://blogpublic.lib.msu.edu/index.php/2010/10/08/moving-the-fdlp-forward-in-michigan?blog=5>. This statement was originally emailed to “Michigan Selective Federal Depository Library Directors and Coordinators,” but is reproduced at <http://blogpublic.lib.msu.edu/index.php/2010/10/08/moving-the-fdlp-forward-in-michigan?blog=5>.

<sup>43</sup> William Turri, “Letter from Acting Public Printer William Turri to the Honorable Robert Brady,” September 13, 2007, [http://www.fdlp.gov/component/docman/doc\\_download/49-letter-from-acting-public-printer-william-turri-to-the-honorable-robert-brady?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/49-letter-from-acting-public-printer-william-turri-to-the-honorable-robert-brady?ItemId=45).

<sup>44</sup> T.J. Halstead, “GPO Authority Over Regional Depository Libraries” (Congressional Research Service, November 6, 2007), [http://www.fdlp.gov/component/docman/doc\\_download/46-congressional-research-service-memorandum?ItemId=45](http://www.fdlp.gov/component/docman/doc_download/46-congressional-research-service-memorandum?ItemId=45).

<sup>45</sup> “Regional Depository Libraries in the 21st Century: A Preliminary Assessment” (U.S. Government Printing Office, December 2008), [http://www.fdlp.gov/home/repository/doc\\_download/564-regional-depository-libraries-in-the-21st-century-a-preliminary-assessment](http://www.fdlp.gov/home/repository/doc_download/564-regional-depository-libraries-in-the-21st-century-a-preliminary-assessment).

<sup>46</sup> Paul A. Arrigo, “The reinvention of the FDLP: A paradigm shift from product provider to service provider,” *Journal of Government Information* 30, no. 5 (2004).

<sup>47</sup> Aric Ahrens and Luke Griffin, "Deposits & Withdrawals: A Survey of Depository Libraries That Have Recently Changed Status" (presented at the Depository Library Council Meeting, Reno, Nevada, April 8, 2003), [http://www.fdlp.gov/home/repository/doc\\_download/693-deposits-a-withdrawals](http://www.fdlp.gov/home/repository/doc_download/693-deposits-a-withdrawals).

<sup>48</sup> Atifa Rawan, Cheryl Knott Malone, and Laura J. Bender, "Assessing the virtual depository program: The Arizona experience," *Journal of Government Information* 30, no. 5 (2004).

<sup>49</sup> Ibid.

<sup>50</sup> Mukta Ohri and David Powell, "Federal Depository Library Needs Assessment and Biennial Survey 2009," June 2010, [http://www.fdlp.gov/component/docman/cat\\_view/72-about-the-fdlp/283-customer-relations-program/286-needs-assessmentbiennial-survey-oct-2009-feb-2010](http://www.fdlp.gov/component/docman/cat_view/72-about-the-fdlp/283-customer-relations-program/286-needs-assessmentbiennial-survey-oct-2009-feb-2010).

<sup>51</sup> Arrigo, "The reinvention of the FDLP: A paradigm shift from product provider to service provider."

<sup>52</sup> Ibid.

<sup>53</sup> Ibid.

<sup>54</sup> Ibid.

<sup>55</sup> Jaeger, Bertot, and Shuler, "The Federal Depository Library Program (FDLP), Academic Libraries, and Access to Government Information."

<sup>56</sup> Ibid.

<sup>57</sup> James A. Jacobs, James R. Jacobs, and Shinjoung Yeo, "Government Information in the Digital Age: The Once and Future Federal Depository Library Program," *The Journal of Academic Librarianship* 31, no. 3 (2005); James R. Jacobs and Michael Keller, "Open government publications: The distributed, tamper-evident, collaborative digital FDLP ecosystem," April 7, 2010, <http://www.scribd.com/doc/30200674/Digital-FDLP-Ecosystem>.

<sup>58</sup> Jacobs, Jacobs, and Yeo, "Government Information in the Digital Age: The Once and Future Federal Depository Library Program."

<sup>59</sup> Ibid.

<sup>60</sup> James A. Jacobs, "Questions and answers about the future of FDLP," October 13, 2010, <http://freegovinfo.info/node/3108>.

<sup>61</sup> Richard J. Matthews and Mary Alice Baish, "State-by-State Report on Authentication of Online Legal Resources" (American Association of Law Libraries, March 2007), [http://www.aallnet.org/aallwash/authen\\_rprt/AuthenFinalReport.pdf](http://www.aallnet.org/aallwash/authen_rprt/AuthenFinalReport.pdf).

<sup>62</sup> Note: Ithaka S+R is currently providing consulting services to HathiTrust.

<sup>63</sup> Depository Library Council, "Federal Depository Library Program Strategic Plan, 2009-2014 (Draft Discussion Document, 04/17/2009)."

<sup>64</sup> Ridley R. Kessler Jr., "A brief history of the Federal Depository Library Program: a personal perspective," *Journal of Government Information* 23, no. 4 (1996): 369-380.

<sup>65</sup> To support and facilitate the realization of these values, GPO also provides a variety of ancillary services to member libraries, supporting libraries in managing their collections, communicating and collaborating with each other and with GPO, and more. See GPO's "Value Proposition for the FDLP."

<sup>66</sup> See Paul N. Courant and Matthew Nielsen, "On the Cost of Keeping a Book," in *The Idea of Order: Transforming Research Collections for 21st Century Scholarship* (Council on Library and Information Resources, 2010), <http://www.clir.org/pubs/reports/pub147/pub147.pdf>; Roger C. Schonfeld et al., *The Nonsubscription Side of Periodicals: Changes in Library Operations and Costs between Print and Electronic Formats* (Washington, D.C.: Council on Library and Information Resources, June 2004).

<sup>67</sup> "Regional Depository Libraries in the 21st Century: Regional Librarian's Joint Perspective" (Federal Depository Library Program, May 19, 2008), [http://www.fdlp.gov/component/docman/doc\\_download/57-regional-librarians-joint-perspective?Itemid=45](http://www.fdlp.gov/component/docman/doc_download/57-regional-librarians-joint-perspective?Itemid=45).

<sup>68</sup> Paul A. Arrigo, "The reinvention of the FDLP: A paradigm shift from product provider to service provider," *Journal of Government Information* 30, no. 5 (2004).

<sup>69</sup> Dupont Circle Group, "Open Letter to the Depository Community," May 5, 1993, <http://www.arl.org/arldocs/pp/access/fdlp/dupontcircle/reporter.txt>.

<sup>70</sup> Gary Cornwell, "GOVDOC-L posting April 16, 1993," April 16, 1993, <http://www.arl.org/arldocs/pp/access/fdlp/dupontcircle/reporter.txt>.

<sup>71</sup> Arrigo, "The reinvention of the FDLP: A paradigm shift from product provider to service provider."

<sup>72</sup> Depository Library Council, "Alternatives for Restructuring the Depository Library Program: a report to the Superintendent of Documents and the Public Printer from the Depository Library Council."

<sup>73</sup> Arrigo, "The reinvention of the FDLP: A paradigm shift from product provider to service provider."

<sup>74</sup> Ibid.

<sup>75</sup> Ibid.

<sup>76</sup> Arrigo, "The reinvention of the FDLP: A paradigm shift from product provider to service provider."

<sup>77</sup> "A Strategic Vision for the 21st Century" (Government Printing Office, December 1, 2004), <http://www.gpo.gov/pdfs/congressional/04strategicplan.pdf>.

<sup>78</sup> "Decision Framework for Federal Document Repositories (Discussion Draft)" (Government Printing Office, April 12, 2004), [http://www.fdlp.gov/home/repository/doc\\_view/1717-decision-framework-discussion-draft-april-2004](http://www.fdlp.gov/home/repository/doc_view/1717-decision-framework-discussion-draft-april-2004).

<sup>79</sup> "A Strategic Vision for the 21st Century."

<sup>80</sup> Depository Library Council, "Federal Depository Library Program Strategic Plan, 2009-2014 (Draft Discussion Document, 04/17/2009)."

<sup>81</sup> Richard Davis, "What Will the Future of the FDLP Look Like?" (presented at the American Library Association 2008 Annual Conference, Anaheim, CA, June 28, 2008), [http://www.fdlp.gov/home/repository/doc\\_download/528-what-will-the-future-of-the-fdlp-look-like-ala-2008](http://www.fdlp.gov/home/repository/doc_download/528-what-will-the-future-of-the-fdlp-look-like-ala-2008).

<sup>82</sup> Depository Library Council, "'Knowledge Will Forever Govern:' A vision statement for Federal Depository Libraries in the 21st century," September 26, 2006, [http://www.fdlp.gov/component/docman/doc\\_download/35-knowledge-will-forever-govern?Itemid=45](http://www.fdlp.gov/component/docman/doc_download/35-knowledge-will-forever-govern?Itemid=45).

<sup>83</sup> Ibid.

<sup>84</sup> Ibid.

<sup>85</sup> Ibid.

<sup>86</sup> Ibid.

<sup>87</sup> Bernadine E. Abbott Hoduski and Michele McKnelly, "Does the Federal Depository Library Program Require Title 44 Revision to Improve Public Access to Government Information?," December 2008.

<sup>88</sup> Peter Herson and Laura Saunders, "The Federal Depository Library Program in 2023: One Perspective on the Transition to the Future," *College and Research Libraries* 70, no. 4 (July 2009).

<sup>89</sup> Ibid.

<sup>90</sup> Schonfeld and Housewright, "Documents for a Digital Democracy: A Model for the Federal Depository Library Program in the 21st Century."

<sup>91</sup> Ibid.

<sup>92</sup> Ibid.

<sup>93</sup> "ARL Statement of Principles on the Federal Depository Library Program" (Association of Research Libraries, October 2010), <http://www.arl.org/bm~doc/fdlpprinciples14oct10.pdf>.

<sup>94</sup> Charles A. Seavey, "GPO Must Go," *American Libraries*, October 2010.

<sup>95</sup> Ibid.

<sup>96</sup> "World Urbanization Prospects: The 2009 Revision" (United Nations Department of Economic and Social Affairs, Population Division, March 2010), [http://esa.un.org/unpd/wup/doc\\_highlights.htm](http://esa.un.org/unpd/wup/doc_highlights.htm).

<sup>97</sup> "United States Population and Housing Narrative Profile: 2006-2008" (U.S. Census Bureau, n.d.), [http://factfinder.census.gov/servlet/NPTable?\\_bm=y&-geo\\_id=01000US&-qr\\_name=ACS\\_2008\\_3YR\\_G00\\_NP01&-ds\\_name=&-redoLog=false](http://factfinder.census.gov/servlet/NPTable?_bm=y&-geo_id=01000US&-qr_name=ACS_2008_3YR_G00_NP01&-ds_name=&-redoLog=false).

<sup>98</sup> "Internet adoption over time" (Pew Internet & American Life Project, n.d.), <http://pewinternet.org/Trend-Data/Internet-Adoption.aspx>.

<sup>99</sup> "Home Broadband Adoption" (Pew Internet & American Life Project, n.d.), <http://pewinternet.org/Trend-Data/Home-Broadband-Adoption.aspx>.

<sup>100</sup> Aaron Smith, "Home Broadband 2010" (Pew Internet & American Life Project, July 11, 2010), <http://pewinternet.org/~media/Files/Reports/2010/Home%20broadband%202010.pdf>.

<sup>101</sup> "Falling Through the Net: Defining the Digital Divide" (National Telecommunications & Information Administration, 1999), <http://www.ntia.doc.gov/ntiahome/fttn99/contents.html>.

<sup>102</sup> Sonia Arrison, "What digital divide?," *CNET News*, March 13, 2002, <http://news.cnet.com/2010-1071-858537.html>.

<sup>103</sup> "Falling Through the Net: Defining the Digital Divide."

<sup>104</sup> Ibid.

<sup>105</sup> Leigh Estabrook, Evans Witt, and Lee Rainie, "Information Searches That Solve Problems" (Pew Internet & American Life Project, December 30, 2007), [http://pewinternet.org/~media/Files/Reports/2007/Pew\\_UI\\_LibrariesReport.pdf.pdf](http://pewinternet.org/~media/Files/Reports/2007/Pew_UI_LibrariesReport.pdf.pdf).

<sup>106</sup> Smith, "Home Broadband 2010."

<sup>107</sup> Ibid.

<sup>108</sup> Ibid.

<sup>109</sup> Ibid.

<sup>110</sup> Ibid.

<sup>111</sup> Lee Rainie et al., "Who's not online: 57% of those without Internet access say they do not plan to log on" (Pew Internet & American Life Project, September 21, 2000), [http://pewinternet.org/~media/Files/Reports/2000/Pew\\_Those\\_Not\\_Online\\_Report.pdf.pdf](http://pewinternet.org/~media/Files/Reports/2000/Pew_Those_Not_Online_Report.pdf.pdf).

<sup>112</sup> Aaron Smith, "Mobile Access 2010" (Pew Internet & American Life Project, July 7, 2010), [http://pewinternet.org/~media/Files/Reports/2010/PIP\\_Mobile\\_Access\\_2010.pdf](http://pewinternet.org/~media/Files/Reports/2010/PIP_Mobile_Access_2010.pdf).

<sup>113</sup> Ibid.

<sup>114</sup> Ibid.

<sup>115</sup> Michael Fitzgerald, "Mobile Web: So Close Yet So Far," *The New York Times*, November 25, 2007, sec. Technology, [http://www.nytimes.com/2007/11/25/technology/25proto.html?\\_r=1](http://www.nytimes.com/2007/11/25/technology/25proto.html?_r=1).

<sup>116</sup> "AdMob Mobile Metrics: Metrics Highlights" (AdMob, May 2010), <http://metrics.admob.com/wp-content/uploads/2010/06/May-2010-AdMob-Mobile-Metrics-Highlights.pdf>.

<sup>117</sup> Amy Gahran, "Most Americans still don't have smartphones," *CNN.com*, September 30, 2010, <http://www.cnn.com/2010/TECH/mobile/09/30/gahran.smartphone.ownership/index.html>.

<sup>118</sup> Smith, "Mobile Access 2010."

<sup>119</sup> "Shared Web Experiences: Barriers Common to Mobile Device Users and People with Disabilities," n.d., <http://www.w3.org/WAI/mobile/experiences>.

<sup>120</sup> “Mobile Web Best Practices 1.0,” *W3C*, July 29, 2008, <http://www.w3.org/TR/mobile-bp/>.

<sup>121</sup> Michal Lev-Ram, “Putting mobile services on the map,” *Business 2.0 Magazine*, January 26, 2007, <http://money.cnn.com/2007/01/26/magazines/business2/gpsservices.biz2/index.htm>.

<sup>122</sup> “Overview : Google Goggles (Labs) - Google Mobile Help,” n.d., <http://www.google.com/support/mobile/bin/answer.py?hl=en&answer=166331>.

<sup>123</sup> Avery Wang, “The Shazam music recognition service,” *Communications of the ACM* 49, no. 8 (2006): 44-48.

<sup>124</sup> Kristen Purcell, Roger Entner, and Nichole Henderson, “The Rise of Apps Culture” (Pew Internet & American Life Project, September 15, 2010), [http://pewinternet.org/~media/Files/Reports/2010/PIP\\_Nielsen%20Apps%20Report.pdf](http://pewinternet.org/~media/Files/Reports/2010/PIP_Nielsen%20Apps%20Report.pdf).

<sup>125</sup> John B. Horrigan, “Use of Cloud Computing Applications and Services” (Pew Internet & American Life Project, September 2008), [http://pewinternet.org/~media/Files/Reports/2008/PIP\\_Cloud.Memo.pdf.pdf](http://pewinternet.org/~media/Files/Reports/2008/PIP_Cloud.Memo.pdf.pdf).

<sup>126</sup> Ibid.

<sup>127</sup> Tim O'Reilly, “What Is Web 2.0: Design Patterns and Business Models for the Next Generation of Software” (O'Reilly Media, September 30, 2005), <http://oreilly.com/pub/a/web2/archive/what-is-web-20.html>.

<sup>128</sup> Michael Armbrust et al., “A view of cloud computing,” *Commun. ACM* 53, no. 4 (2010): 50-58.

<sup>129</sup> Michael Miller, “Cloud Computing Pros and Cons for End Users,” *InformIT*, February 13, 2009, <http://www.informit.com/articles/article.aspx?p=1324280>.

<sup>130</sup> Horrigan, “Use of Cloud Computing Applications and Services.”

<sup>131</sup> Michael Calore, “Magnolia Suffers Major Data Loss, Site Taken Offline | Epicenter | Wired.com,” *Wired.com*, n.d., <http://www.wired.com/epicenter/2009/01/magnolia-suffer/>.

<sup>132</sup> Rich Miller, “Magnolia Data is Gone For Good « Data Center Knowledge,” *Data Center Knowledge*, n.d., <http://www.datacenterknowledge.com/archives/2009/02/19/magnolia-data-is-gone-for-good/>.

<sup>133</sup> Duane Merrill, “Mashups: The new breed of Web app” (IBM, August 8, 2006), <http://www.ibm.com/developerworks/xml/library/x-mashups.html>.

<sup>134</sup> Jerry Brito, “Hack, Mash, & Peer: Crowdsourcing Government Transparency,” *The Columbia Science and Technology Law Review* 9 (May 14, 2008): 119.

<sup>135</sup> Ibid.

<sup>136</sup> “BART - For Developers,” n.d., <http://www.bart.gov/schedules/developers/>.

<sup>137</sup> Douglas McGray, “iGov: How geeks are opening up government on the Web,” *The Atlantic Magazine*, February 2009, <http://www.theatlantic.com/magazine/archive/2009/01/igov/7200/>.

<sup>138</sup> Patrick Cooney, “Understanding Web Services” (A List Apart, January 31, 2002), <http://www.alistapart.com/articles/webservices/>.

<sup>139</sup> Frank P. Coyle, "Web Services, Simply Put - Computerworld," May 19, 2003, [http://www.computerworld.com/s/article/81271/Web\\_Services\\_Simply\\_Put](http://www.computerworld.com/s/article/81271/Web_Services_Simply_Put).

<sup>140</sup> Tim Berners-Lee, James Hendler, and Ora Lassila. "The Semantic Web," *Scientific American*

<sup>141</sup> Ibid.

<sup>142</sup> Ibid.

<sup>143</sup> Christian Bizer, "The Emerging Web of Linked Data" (presented at the 4th Berlin Semantic Web Meetup, Berlin, Germany, February 26, 2010), [http://lumano.de/cms\\_files/images/content/2010-02-26-meetup/Bizer-Berlin-SW-Meetup-LinkedData-Talk.pdf](http://lumano.de/cms_files/images/content/2010-02-26-meetup/Bizer-Berlin-SW-Meetup-LinkedData-Talk.pdf).

<sup>144</sup> M. Hausenblas, "Exploiting Linked Data to Build Web Applications," *Internet Computing, IEEE* 13, no. 4 (August 2009): 68-73.

<sup>145</sup> Christian Bizer, Tom Heath, and Tim Berners-Lee, "Linked Data - The Story So Far," *International Journal on Semantic Web and Information Systems* 5, no. 3 (2009): 1-22.

<sup>146</sup> Kevin Ford, "ID.LOC.GOV, 1 1/2 Years: Review, Changes, Future Plans, MADS/RDF" (presented at the 2010 Digital Library Federation Fall Forum, Palo Alto, CA, November 2, 2010), [http://id.loc.gov/static/presentations/kefo\\_dlf\\_id.pdf](http://id.loc.gov/static/presentations/kefo_dlf_id.pdf).

<sup>147</sup> Ryan Singel, "Are You Ready for Web 2.0?" (Wired, October 6, 2005).

<sup>148</sup> Tim O'Reilly and John Battelle, "Web Squared: Web 2.0 Five Years On" (Web 2.0 Summit, 2009), [http://assets.en.oreilly.com/1/event/28/web2009\\_websquared-whitepaper.pdf](http://assets.en.oreilly.com/1/event/28/web2009_websquared-whitepaper.pdf).

<sup>149</sup> Yochai Benkler, "Coase's Penguin, or, Linux and The Nature of the Firm," *The Yale Law Journal* 112, no. 369 (2002).

<sup>150</sup> Lev Grossman, "Time's Person of the Year: You," *Time*, December 13, 2006, <http://www.time.com/time/magazine/article/0,9171,1569514,00.html>.

<sup>151</sup> Rose Holley, "Crowdsourcing: How and Why Should Libraries Do It?," *D-Lib Magazine* 16, no. 3 (April 2010), <http://www.dlib.org/dlib/march10/holley/03holley.html>.

<sup>152</sup> Clay Shirky, *Here Comes Everybody: The Power of Organizing Without Organizations* (New York, NY: Penguin Books, 2008).

<sup>153</sup> Jaron Lanier, *You Are Not a Gadget: A Manifesto* (Knopf, 2010).

<sup>154</sup> Malcolm Gladwell, "Small Change: Why the revolution will not be tweeted," *New Yorker*, October 4, 2010, [http://www.newyorker.com/reporting/2010/10/04/101004fa\\_fact\\_gladwell](http://www.newyorker.com/reporting/2010/10/04/101004fa_fact_gladwell).

<sup>155</sup> danah boyd, "White Flight in Networked Publics? How Race and Class Shaped American Teen Engagement with MySpace and Facebook," in *Digital Race Anthology* (Routledge Press), <http://www.danah.org/papers/2009/WhiteFlightDraft3.pdf>.

<sup>156</sup> See also the recently released book: Sherry Turkle, *Alone Together: Why We Expect More from Technology and Less from Each Other* (Basic Books, 2011).

<sup>157</sup> “Public Library Funding Landscape,” *American Libraries*, Summer 2010.

<sup>158</sup> *Ibid.*

<sup>159</sup> *Ibid.*

<sup>160</sup> *Ibid.*

<sup>161</sup> Steve Coffman, “Changing public library funding,” *American City & County*, May 1, 2003, [http://americancityandcounty.com/mag/government\\_changing\\_public\\_library/](http://americancityandcounty.com/mag/government_changing_public_library/).

<sup>162</sup> Anne Barnard, “City Libraries Say Cuts Will Mean Closings and Layoffs,” *The New York Times*, May 14, 2010, sec. N.Y. / Region, <http://www.nytimes.com/2010/05/15/nyregion/15library.html?scp=1&sq=budget%20cuts%20new%20york%20city%20libraries&st=cse>.

<sup>163</sup> “Public Library Technology Landscape,” *American Libraries*, Summer 2010.

<sup>164</sup> Norman Oder, “Library of Michigan, Facing Cuts, To Drop Genealogy and Federal Documents,” *Library Journal*, March 4, 2010.

<sup>165</sup> Everett Henderson and Carlos Manjarrez, “State Library Agency Service Trends: 1999-2008” (Institute of Museum and Library Services, March 2010), [http://www.imls.gov/pdf/Brief2010\\_02.pdf](http://www.imls.gov/pdf/Brief2010_02.pdf).

<sup>166</sup> Sara Hebel, “State Cuts Are Pushing Public Colleges Into Peril,” *The Chronicle of Higher Education*, March 14, 2010, sec. Government, <http://chronicle.com/article/In-Many-States-Public-High/64620/>.

<sup>167</sup> Goldie Blumenstyk, “Moody's Sees Continued Financial Challenges for Private Colleges,” *The Chronicle of Higher Education*, June 10, 2010, sec. Finance, <http://chronicle.com/article/Moodys-Sees-Continued/65847/>.

<sup>168</sup> Leonard Kniffel and Charles W. Bailey, “Cuts, Freezes Widespread in Academic Libraries,” May 13, 2009, <http://www.ala.org/ala/online/currentnews/newsarchive/2009/may2009/academiclibrarywoes051309.cfm>.

<sup>169</sup> Lee C. Van Orsdel and Kathleen Born, “Reality Bites: Periodicals Price Survey 2009,” *Library Journal*, April 15, 2009, <http://www.libraryjournal.com/article/CA6651248.html>.

<sup>170</sup> Estabrook, Witt, and Rainie, “Information Searches That Solve Problems.”

<sup>171</sup> *Ibid.*

<sup>172</sup> *Ibid.*

<sup>173</sup> *Ibid.*

<sup>174</sup> *Ibid.*

<sup>175</sup> *Ibid.*

<sup>176</sup> Katie Hafner, “History, Digitized (and Abridged),” *The New York Times*, March 10, 2007, sec. Business / Your Money,



<http://www.nytimes.com/2007/03/10/business/yourmoney/11archive.html?ex=1331269200&en=b62832ef455385e9&ei=5090&partner=rssuserland&emc=rss>.

<sup>177</sup> “Information Behaviour of the Researcher of the Future” (CIBER, January 11, 2008), <http://www.ucl.ac.uk/infostudies/research/ciber/downloads/ggexecutive.pdf>.

<sup>178</sup> Roger C. Schonfeld and Ross Housewright, “Faculty Survey 2009: Strategic Insights for Librarians, Publishers, and Societies” (Ithaka S+R, April 7, 2010), <http://ithaka.org/ithaka-s-r/research/faculty-surveys-2000-2009/faculty-survey-2009>.

<sup>179</sup> “Information Behaviour of the Researcher of the Future.”

<sup>180</sup> “Perceptions of Libraries, 2010: Context and Community” (OCLC, 2011), [http://www.oclc.org/reports/2010perceptions/2010perceptions\\_all.pdf](http://www.oclc.org/reports/2010perceptions/2010perceptions_all.pdf).

<sup>181</sup> “Information Behaviour of the Researcher of the Future.”

<sup>182</sup> Denise E. Agosto, “Bounded rationality and satisficing in young people's Web-based decision making,” *Journal of the American Society for Information Science and Technology* 53, no. 1 (January 2002).

<sup>183</sup> This disconnect is to some degree demonstrated by faculty perceptions in the Ithaka S+R 2009 Faculty Survey. Faculty perceive the role of the library as a *gateway* to content as in decline, but continue to highly value the role of the library as a *purchaser* of needed resources; these roles are critically linked, but suggest shifting perceptions of the library's role in supporting access. Schonfeld and Housewright, “Faculty Survey 2009: Strategic Insights for Librarians, Publishers, and Societies.”

<sup>184</sup> Gobinda Chowdhury, Alan Poulter, and David McMenemy, “Public Library 2.0: Towards a new mission for public libraries as a 'network of community knowledge',” *Online Information Review* 30, no. 4 (2006): 454-460.

<sup>185</sup> Lisa Carlucci Thomas, “Gone Mobile? (Mobile Libraries Survey 2010)” (Library Journal, October 15, 2010), [http://www.libraryjournal.com/lj/communityacademiclibraries/886987-265/gone\\_mobile\\_mobile\\_libraries\\_survey.html.csp](http://www.libraryjournal.com/lj/communityacademiclibraries/886987-265/gone_mobile_mobile_libraries_survey.html.csp).

<sup>186</sup> “Perceptions of Libraries, 2010: Context and Community.”

<sup>187</sup> “Public Library Technology Landscape.”

<sup>188</sup> “Long-Term Strategic Vision Would Help Ensure Targeting of E-rate Funds to Highest-Priority Uses” (United States Government Accountability Office, March 2009), <http://www.gao.gov/new.items/d09253.pdf>.

<sup>189</sup> *Ibid.*

<sup>190</sup> Samantha Becker et al., “Opportunity for All: How the American Public Benefits from Internet Access at U.S. Libraries,” Mar 2010

<sup>191</sup> “Public Library Technology Landscape.”

<sup>192</sup> *Ibid.*

<sup>193</sup> “Perceptions of Libraries, 2010: Context and Community.”

<sup>194</sup> Ibid.

<sup>195</sup> "Information Behaviour of the Researcher of the Future."

<sup>196</sup> Scott Bennett, "The Information or the Learning Commons: Which Will We Have?," *The Journal of Academic Librarianship* 34, no. 3 (May 2008): 183-185.

<sup>197</sup> Geoffrey Freeman, "The Library as Place: Changes in learning Patterns, Collections, Technology, and Use," *Library as Place: Rethinking Roles, Rethinking Space* (Feb 2005): 1-9

<sup>198</sup> Ibid.

<sup>199</sup> Ibid.

<sup>200</sup> Susan Gibbons and Nancy Fried Foster, "Conclusion: Creating Student-Centered Academic Libraries," in *Studying Students: The Undergraduate Research Project at the University of Rochester* (Association of College and Research Libraries, 2007), [http://www.ala.org/ala/mgrps/divs/acrl/publications/digital/Foster-Gibbons\\_cmpd.pdf](http://www.ala.org/ala/mgrps/divs/acrl/publications/digital/Foster-Gibbons_cmpd.pdf).

<sup>201</sup> Edward K. Owusu-Ansah, "Information Literacy and Higher Education: Placing the Academic Library in the Center of a Comprehensive Solution," *The Journal of Academic Librarianship* 30, no. 1 (January 2004).

<sup>202</sup> Megan Oakleaf, *The Value of Academic Libraries: A Comprehensive Research Review and Report* (Association of College and Research Libraries, 2010).

<sup>203</sup> Scott Carlson, "Are Reference Desks Dying Out?," *The Chronicle of Higher Education*, April 20, 2007.

<sup>204</sup> Steve Kolowich, "Embedded Librarians," *Inside Higher Ed*, June 9, 2010, <http://www.insidehighered.com/news/focus/technology/recent/hopkins>.

<sup>205</sup> Scott Carlson, "Lost in a Sea of Science Data," *The Chronicle of Higher Education*, June 23, 2006.

<sup>206</sup> D. Scott Brandt, "Librarians as partners in e-research: Purdue University Libraries promote collaboration," *C&RL News* 68, no. 6 (June 2007).

<sup>207</sup> Thomas, "Gone Mobile? (Mobile Libraries Survey 2010)."

<sup>208</sup> Roger C. Schonfeld, "The Role of Information-Sharing in Book Survivability in the United States, 1890-1940" (presented at the Society for the History of Technology, Las Vegas, NV, October 2006).

<sup>209</sup> See, for example, Scott Bennett, *Report on the Conoco Project in German Literature and Geology* (Mountain View, CA: Research Libraries Group, 1987); T. Macky, "Interlibrary Loan: An Acceptable Alternative to Purchase," *Wilson Library Bulletin* 63, no. 5 (January 1989): 54-56.

<sup>210</sup> Bob Kieft, "A College Library, Its Print Monograph Collection, and the New Information Ecology," *Against the Grain* 22, no. 5 (November 2010).

<sup>211</sup> Bernard F. Reilly Jr., "Preserving American Print Resources," *Library Management* 26, no. 1 (2005): 102.

<sup>212</sup> Jane Lee, "Shared Print: The Patron Perspective" (California Digital Library, January 13, 2006), [http://www.cdlib.org/inside/assess/evaluation\\_activities/docs/2005/sharedPrintReport\\_nov2005.pdf](http://www.cdlib.org/inside/assess/evaluation_activities/docs/2005/sharedPrintReport_nov2005.pdf).

<sup>213</sup> Steve Kolowich, "Bookless Libraries?," *Inside Higher Ed*, November 6, 2009, <http://www.insidehighered.com/news/2009/11/06/library>.

<sup>214</sup> Ibid.

<sup>215</sup> Jennifer Epstein, "A Win for the Stacks," *Inside Higher Ed*, November 13, 2009, <http://www.insidehighered.com/news/2009/11/13/syracuse>.

<sup>216</sup> Roger C. Schonfeld and Ross Housewright, "What to Withdraw? Print Collections Management in the Wake of Digitization" (Ithaka S+R, September 29, 2009), <http://www.ithaka.org/ithaka-s-r/research/what-to-withdraw>.

<sup>217</sup> Brian E. C. Schottlaender et al., "Collections Management Strategies in a Digital Environment" (University of California Office of the President, January 2004), <http://www.ucop.edu/cmi/finalreport/cmireportfinal.pdf>.

<sup>218</sup> Ross Housewright and Roger Schonfeld, "Ithaka's 2006 Studies of Key Stakeholders in the Digital Transformation in Higher Education," August 18, 2008, <http://www.ithaka.org/ithaka-s-r/research/faculty-and-librarian-surveys>.

<sup>219</sup> Emily Stambaugh, "Heading West: Circling the Wagons to Ensure Preservation," *Against the Grain* 22, no. 5 (November 2010).

<sup>220</sup> Peter Kosewksi, "Everyone Wins: The JSTOR "Single Copy" Project," *Harvard University Library Notes*, October 2010, [http://publications.hul.harvard.edu/ln\\_1356/everyone-wins-the-jstor-single-copy-project.html](http://publications.hul.harvard.edu/ln_1356/everyone-wins-the-jstor-single-copy-project.html).

<sup>221</sup> Schonfeld and Housewright, "What to Withdraw? Print Collections Management in the Wake of Digitization."

<sup>222</sup> Ellen Meltzer, "Mellon Grant Awarded to University of California Libraries to Implement the Western Regional Storage Trust (WEST)," January 31, 2011, <http://www.cdlib.org/cdlinfo/2011/01/31/mellon-grant-awarded-to-university-of-california-libraries-to-implement-the-western-regional-storage-trust-west/>.

<sup>223</sup> Lizanne Payne, "Models for Shared Print Archives: WEST and CRL" (presented at the 156th ARL Membership Meeting, Seattle, WA, April 28, 2010), <http://www.arl.org/bm~doc/mm10sp-payne.pdf>. Note: Ithaka S+R is providing advisory services to the Center for Research Libraries in connection with the development of this registry.

<sup>224</sup> Kieft, "A College Library, Its Print Monograph Collection, and the New Information Ecology."

<sup>225</sup> Lee, "Shared Print: The Patron Perspective."

<sup>226</sup> Kieft, "A College Library, Its Print Monograph Collection, and the New Information Ecology."

<sup>227</sup> Robert H. Kieft and Lizanne Payne, "A Nation-Wide Planning Framework for Large-Scale Collaboration on Legacy Print Monograph Collections," *Collaborative Librarianship* 2, no. 4 (2010). Note: Schonfeld participated in the meeting described herein.

<sup>228</sup> Steve Kolowich, "E-Library Economics," *Inside Higher Ed*, February 10, 2010, <http://www.insidehighered.com/news/2010/02/10/libraries>.

<sup>229</sup> Lisa Spiro and Geneva Henry, "Can a New Research Library Be All-Digital?," in *The Idea of Order: Transforming Research Collections for 21st Century Scholarship* (Washington, D.C.: Council on Library and Information Resources, 2010), <http://www.clir.org/pubs/reports/pub147/>.

<sup>230</sup> Ibid.

<sup>231</sup> Roger C. Schonfeld, "Conclusion," in *The Idea of Order: Transforming Research Collections for 21st Century Scholarship* (Council on Library and Information Resources, 2010), <http://www.clir.org/pubs/reports/pub147/pub147.pdf>.

<sup>232</sup> Spiro and Henry, "Can a New Research Library Be All-Digital?."

<sup>233</sup> "Google Checks Out Library Books" (Google, December 14, 2004), [http://www.google.com/press/pressrel/print\\_library.html](http://www.google.com/press/pressrel/print_library.html).

<sup>234</sup> See, for example, Geoffrey Nunberg, "Google's Book Search: A Disaster for Scholars," *The Chronicle of Higher Education*, August 31, 2009, sec. The Chronicle Review, <http://chronicle.com/article/Googles-Book-Search-A/48245/>; Paul Duguid, "Inheritance and loss? A brief survey of Google Books," *First Monday* 12, no. 8 (August 2007), <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1972/1847>.

<sup>235</sup> Siva Vaidhyanathan, *The Googlization of Everything (and Why We Should Worry)* (Berkeley, CA: University of California Press, 2011).

<sup>236</sup> "Google Books Settlement Agreement," n.d., <http://www.google.com/googlebooks/agreement/>.

<sup>237</sup> Ibid.

<sup>238</sup> Vaidhyanathan, *The Googlization of Everything (and Why We Should Worry)*.

<sup>239</sup> "Our Partnership | [www.hathitrust.org](http://www.hathitrust.org)," n.d., <http://www.hathitrust.org/partnership>. Ithaka S+R is currently engaged in a consulting project for HathiTrust to assess its progress and growth.

<sup>240</sup> Constance Malpas, "Cloud-sourcing Research Collections: Managing Print in the Mass-digitized Library Environment" (OCLC Research, 2011), <http://www.oclc.org/research/publications/library/2011/2011-01.pdf>.

<sup>241</sup> Scott Carlson, "Library Renovation Leads to Soul Searching at Cal Poly," *The Chronicle of Higher Education*, n.d., <http://chronicle.com/article/Library-Renovation-Leads-to/33045/>.

<sup>242</sup> Jennifer Howard, "In Face of Professors' 'Fury,' Syracuse U. Library Will Keep Books on Shelves - Libraries," *The Chronicle of Higher Education*, November 12, 2009, <http://chronicle.com/article/In-Face-of-Professors-Fury/49133/>.

<sup>243</sup> Jennifer Howard, "Library Protesters to Ohio State U.: Digital's OK, but Save Our Books," *Wired Campus*, n.d.

<sup>244</sup> Epstein, "A Win for the Stacks."

<sup>245</sup> Scott Jaschik, "The Joy of Stacks," *Inside Higher Ed*, June 9, 2005, <http://www.insidehighered.com/news/2005/06/09/stacks>.

<sup>246</sup> David W. Lewis, "A Strategy for Academic Libraries in the First Quarter of the 21st Century," *College and Research Libraries* 68, no. 5 (September 2007): 418-434.

<sup>247</sup> Laura Townsend Kane, "Access vs. Ownership: Do We Have to Make a Choice?," *College & Research Libraries* 58, no. 1 (January 1997): 58 -66.

<sup>248</sup> James A. Jacobs, "Who Do You Serve and What Do You Do?: Defining Your Role to Ensure the Future of Our FDLP," *Free Government Information*, October 7, 2010, <http://freegovinfo.info/node/3103>.

<sup>249</sup> Ibid.

<sup>250</sup> Ann Okerson, "What Academic Libraries Need in Electronic Content Licenses," October 1, 1996, <http://www.library.yale.edu/~okerson/stm.html>.

<sup>251</sup> Janet Brennan Croft, "Model Licenses and Interlibrary Loan/Document Delivery from Electronic Resources," *Interlending & Document Supply* 29, no. 4 (2001): 165.

<sup>252</sup> Ann Okerson, "The LIBLICENSE Project and How it Grows," *D-Lib Magazine* 5, no. 9 (9, 1999), <http://www.dlib.org/dlib/september99/okerson/09okerson.html>.

<sup>253</sup> Rebecca Pool, "Big-deal packages squeeze recession-hit libraries," *Research Information*, July 2010, [http://www.researchinformation.info/features/feature.php?feature\\_id=269](http://www.researchinformation.info/features/feature.php?feature_id=269).

<sup>254</sup> Jennifer Howard, "U. of California Tries Just Saying No to Rising Journal Costs," *The Chronicle of Higher Education*, June 8, 2010, sec. Research, <http://chronicle.com/article/U-of-California-Tries-Just/65823/>.

<sup>255</sup> Jay Schecker, "The Unseen Scholars: Researching Information in the Digital Age," *1663: Los Alamos Science and Technology Magazine*, December 2008, [http://www.lanl.gov/1663/files/documents/Item/627/1663\\_dec08\\_dialogue.pdf](http://www.lanl.gov/1663/files/documents/Item/627/1663_dec08_dialogue.pdf).

<sup>256</sup> Gwendolyn Ebbett, "Building the Case for Local Loading," September 26, 2004, <http://www.lib.unb.ca/SEC/ppt/Ebbett.zip>.

<sup>257</sup> Tyler Walters and Katherine Skinner, "New Roles for New Times: Digital Curation for Preservation" (Association of Research Libraries, March 2011), [http://www.arl.org/bm~doc/nrnt\\_digital\\_curation17mar11.pdf](http://www.arl.org/bm~doc/nrnt_digital_curation17mar11.pdf).

<sup>258</sup> Donald Waters and John Garrett, "Preserving Digital Information" (Task Force on Archiving of Digital Information, May 1, 1996), <http://www.clir.org/pubs/reports/pub63watersgarrett.pdf>.

<sup>259</sup> Donald J. Waters, "Urgent Access Needed to Preserve Scholarly Electronic Journals," October 15, 2005, <http://www.diglib.org/pubs/waters051015.pdf>.

<sup>260</sup> Waters and Garrett, "Preserving Digital Information."

<sup>261</sup> Ibid.

<sup>262</sup> Ibid.

<sup>263</sup> Ibid.

<sup>264</sup> Ibid.

<sup>265</sup> “Definitions of Digital Preservation” (American Library Association, ALCTS Preservation and Reformatting Sections, Working Group on Defining Digital Preservation, June 24, 2007), <http://www.ala.org/ala/mgrps/divs/alcts/resources/preserv/defdigpres0408.cfm>.

<sup>266</sup> “Preservation Approach – Portico,” n.d., <http://www.portico.org/digital-preservation/services/preservation-approach/>.

<sup>267</sup> Margaret Hedstrom, “Digital Preservation: A Time Bomb for Digital Libraries,” *Computers and the Humanities* 31, no. 3 (May 1997): 189-202.

<sup>268</sup> Brian Lavoie, Lorcan Dempsey. “Thirteen Ways of Looking at...Digital Preservation.” *D-Lib Magazine* 10, no. 7/8 (July/August 2004). <http://dlib.org/dlib/july04/lavoie/07lavoie.html>

<sup>269</sup> Ibid.

<sup>270</sup> David Rosenthal, “Spring CNI Plenary: The Remix” (dshr's blog, April 10, 2009), <http://blog.dshr.org/2009/04/spring-cni-plenary-remix.html>.

<sup>271</sup> David Rosenthal, “Format Obsolescence: the Prostate Cancer of Preservation,” May 7, 2007, <http://blog.dshr.org/2007/05/format-obsolescence-prostate-cancer-of.html>. [Internal links omitted.]

<sup>272</sup> Robert P. Dellavalle et al. “Going, Going, Gone: Lost Internet References.” *Science* 302, no. 5646 (Oct 2003): 787-788.

<sup>273</sup> <http://www.archive.org/about/about.php>

<sup>274</sup> Clifford Lynch, “Authenticity and Integrity in the Digital Environment: An Exploratory Analysis of the Central Role of Trust,” in *Authenticity in a Digital Environment* (Council on Library and Information Resources, 2000), <http://www.clir.org/pubs/reports/pub92/lynch.html>.

<sup>275</sup> Ibid.

<sup>276</sup> “Home - LOCKSS,” n.d., <http://www.lockss.org/lockss/Home>.

<sup>277</sup> Reich and Rosenthal, “Distributed Digital Preservation: Private LOCKSS Networks as Business, Social, and Technical Frameworks.”

<sup>278</sup> David Rosenthal, “The Anonymity of Crowds,” November 18, 2010, <http://blog.dshr.org/2010/11/anonymity-of-crowds.html>.

<sup>279</sup> “Private LOCKSS Networks - LOCKSS,” n.d., [http://lockss.stanford.edu/lockss/Private\\_LOCKSS\\_Networks](http://lockss.stanford.edu/lockss/Private_LOCKSS_Networks).

<sup>280</sup> Ibid.

<sup>281</sup> Reich and Rosenthal, “Distributed Digital Preservation: Private LOCKSS Networks as Business, Social, and Technical Frameworks.”

<sup>282</sup> Rosenthal, “The Anonymity of Crowds.”

<sup>283</sup> “Home - CLOCKSS,” n.d., <http://www.clockss.org/clockss/Home>.

<sup>284</sup> “FAQ - CLOCKSS,” n.d., <http://www.clockss.org/clockss/FAQ>.

<sup>285</sup> “Springer Partners With CLOCKSS For Its First E-book Agreement,” February 1, 2011, <http://www.clockss.org/clockss/News>.

<sup>286</sup> “The Archive: Content & Access – Portico,” n.d., <http://www.portico.org/digital-preservation/the-archive-content-access/>.

<sup>287</sup> “Preservation Step-by-Step – Portico,” n.d., <http://www.portico.org/digital-preservation/services/preservation-approach/preservation-step-by-step/>.

<sup>288</sup> “Center for Research Libraries - Portico Audit Report 2010,” n.d., <http://www.crl.edu/archiving-preservation/digital-archives/certification-and-assessment-digital-repositories/portico>.

<sup>289</sup> “Preservation | www.hathitrust.org,” n.d., <http://www.hathitrust.org/preservation>.

<sup>290</sup> “CIC-Google Government Documents Project,” n.d., <http://www.cic.net/Home/Projects/Library/BookSearch/Govdocs.aspx>.

<sup>291</sup> Marcel Ras, “The KB e-Depot: Building and Managing a Safe Place for e-Journals,” *Liber Quarterly* 19, no. 1 (April 2009), <http://liber.library.uu.nl/publish/articles/000276/article.pdf>.

<sup>292</sup> “Digital Preservation Inside the Library of Congress - Digital Preservation (Library of Congress),” n.d., [http://www.digitalpreservation.gov/library/inside\\_library.html](http://www.digitalpreservation.gov/library/inside_library.html).

<sup>293</sup> “About the Program - Digital Preservation (Library of Congress),” n.d., <http://www.digitalpreservation.gov/library/>.

<sup>294</sup> “DRAMBORA: About,” n.d., <http://www.repositoryaudit.eu/about/>.

<sup>295</sup> “Trustworthy Repositories Audit & Certification: Criteria and Checklist” (OCLC and CRL, 2007), [http://www.crl.edu/sites/default/files/attachments/pages/trac\\_0.pdf](http://www.crl.edu/sites/default/files/attachments/pages/trac_0.pdf).

<sup>296</sup> Ibid.

<sup>297</sup> Megan Oakleaf, “The Value of Academic Libraries” (Association of College and Research Libraries, September 2010), <http://www.acrl.ala.org/value/>.

<sup>298</sup> Ibid.

<sup>299</sup> Eleanor Jo Rodger, “What's A Library Worth?,” *American Libraries* 38, no. 8 (September 2007): 58-61.

<sup>300</sup> Ibid.

<sup>301</sup> Ross Housewright, “Themes of Change in Corporate Libraries: Considerations for Academic Libraries,” *portal: Libraries and the Academy* 9, no. 2 (2009): 253-271.

<sup>302</sup> Ibid.

<sup>303</sup> Lewis, "A Strategy for Academic Libraries in the First Quarter of the 21st Century."

<sup>304</sup> Ibid.

<sup>305</sup> David W. Lewis, "The User-Driven Purchase Give Away Library: A Thought Experiment," *EDUCAUSE Review*, October 2010.

<sup>306</sup> Steve Kolowich, "Libraries of the Future," *Inside Higher Ed*, September 24, 2009, <http://www.insidehighered.com/news/2009/09/24/libraries>.

<sup>307</sup> Ibid.

<sup>308</sup> "The ARL 2030 Scenarios: A User's Guide for Research Libraries" (Association of Research Libraries, October 2010), <http://www.arl.org/bm~doc/arl-2030-scenarios-users-guide.pdf>.

<sup>309</sup> Brian T. Sullivan, "Academic Library Autopsy Report, 2050," *The Chronicle of Higher Education*, January 2, 2011, sec. Commentary, <http://chronicle.com/article/Academic-Library-Autopsy/125767/>.

<sup>310</sup> Kathryn Masterson, "The Library's End? A Long Way Off," *The Chronicle of Higher Education*, January 23, 2011, sec. Letters to the Editor, [http://chronicle.com/article/The-Librarys-End-A-Long-Way/126018/?sid=at&utm\\_source=at&utm\\_medium=en](http://chronicle.com/article/The-Librarys-End-A-Long-Way/126018/?sid=at&utm_source=at&utm_medium=en).

<sup>311</sup> Kieft, "A College Library, Its Print Monograph Collection, and the New Information Ecology."

<sup>312</sup> Richard E. Luce, "A New Value Equation Challenge: The Emergence of eResearch and Roles for Research Libraries," in *No Brief Candle: Reconceiving Research Libraries for the 21st Century* (Council on Library and Information Resources, 2008), <http://www.clir.org/pubs/reports/pub142/luce.html>.

<sup>313</sup> Ibid.

<sup>314</sup> Jonathan Rochkind, "(Meta)search Like Google," *Library Journal*, February 15, 2007, <http://www.libraryjournal.com/article/CA6413442.html>.

<sup>315</sup> Ibid.

<sup>316</sup> Jacobs, "Who Do You Serve and What Do You Do?: Defining Your Role to Ensure the Future of Our FDLP."

<sup>317</sup> Michael A Keller, Victoria A Reich, and Andrew C Herkovic, "What is a library anymore, anyway?," text, May 5, 2003, <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/1053/973>.

<sup>318</sup> Jacobs, "Questions and answers about the future of FDLP."

<sup>319</sup> ACRL Research Planning and Review Committee, "2010 top ten trends in academic libraries," *College & Research Libraries News* 71, no. 6 (June 2010): 286-292.

<sup>320</sup> Brian Quinn, "The McDonaldization of Academic Libraries?," *College & Research Libraries* 61, no. 3 (May 2000): 248-261.

<sup>321</sup> Kolowich, "Embedded Librarians."



<sup>322</sup> Ibid.

<sup>323</sup> Ibid.

<sup>324</sup> Ibid.

<sup>325</sup> Ibid.

<sup>326</sup> Oakleaf, *The Value of Academic Libraries: A Comprehensive Research Review and Report*.

<sup>327</sup> Roger Schonfeld and Matthew Long, "Ithaka S+R Library Survey 2010" (Ithaka S+R, 2011).

<sup>328</sup> Judith Nadler, "Director's Message," n.d., <http://mansueto.lib.uchicago.edu/director.html>.

<sup>329</sup> Scott Carlson, "Thoughtful Design Keeps New Libraries Relevant," *The Chronicle of Higher Education*, September 30, 2005, Volume 52, Issue 6 edition, sec. Libraries.

<sup>330</sup> Spiro and Henry, "Can a New Research Library Be All-Digital?."

<sup>331</sup> Nadler, "Director's Message."

<sup>332</sup> Carlson, "Thoughtful Design Keeps New Libraries Relevant."

<sup>333</sup> "Future of Law Libraries in the Digital Age - Scenarios," n.d., <http://www.aallnet.org/committee/scenarios.asp>.

<sup>334</sup> Ibid.

<sup>335</sup> Alvin Podboy, "Embracing Intangible Law Libraries," *Law Technology News*, July 6, 2007, <http://www.law.com/jsp/lawtechnologynews/PubArticleLTN.jsp?id=1183626388950>.

<sup>336</sup> Richard A. Danner, S. Blair Kauffman, and John G. Palfrey, "The Twenty-First Century Law Library," *Law Library Journal* 101, no. 2 (2009): 143-156.

<sup>337</sup> Ibid.

<sup>338</sup> Ibid.

<sup>339</sup> John Palfrey, "Cornerstones of Law Libraries for an Era of Digital Plus," *Law Library Journal* 102, no. 2 (2010), [http://www.aallnet.org/products/pub\\_llj\\_v102n02/2010-11.pdf](http://www.aallnet.org/products/pub_llj_v102n02/2010-11.pdf).

<sup>340</sup> Ibid.

<sup>341</sup> James M. Donovan, "Skating on Thin Intermediation: Can Libraries Survive?," *SSRN eLibrary* (n.d.), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1347151](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1347151).

<sup>342</sup> Richard A. Danner, "Skating with Donovan: Thoughts on Librarianship as a Profession," *Legal Reference Services Quarterly* 27 (October 13, 2008): 117-136.

<sup>343</sup> Rita Reusch, "By the Book: Thoughts on the Future of Our Print Collections," *Law Library Journal* 100, no. 3 (2008): 555-562.

<sup>344</sup> Ibid.

<sup>345</sup> Tammy R. Pettinato, "Legal Information, the Informed Citizen, and the FDLP: The Role of Academic Law Librarians in Promoting Democracy," *Law Library Journal* 99, no. 4 (Fall 2007).

<sup>346</sup> Ruth A. Wooden, "The Future of Public Libraries in an Internet Age," *National Civic Review* 95, no. 4 (Winter 2006), <http://www.ncl.org/publications/ncr/95-4/0107libraries.pdf>.

<sup>347</sup> Ibid.

<sup>348</sup> Donald T. Hawkins, "Seattle Public Library: Keeping the Focus on the Customer," *Information Today*, September 1, 2008.

<sup>349</sup> Jennifer C. Hendrix, "Checking Out the Future: Perspectives from the Library Community on Information Technology and 21st Century Libraries" (American Library Association Office for Information Technology Policy, February 2010), [http://www.ala.org/ala/aboutala/offices/oitp/publications/policybriefs/ala\\_checking\\_out\\_the.pdf](http://www.ala.org/ala/aboutala/offices/oitp/publications/policybriefs/ala_checking_out_the.pdf).

<sup>350</sup> Ibid.

<sup>351</sup> Ibid.

<sup>352</sup> Nate Hill, "Library Outposts, a new service model for urban public libraries," *Catch and Release*, March 15, 2008, <http://natehill.wordpress.com/2008/03/15/library-outposts-a-new-service-model-for-urban-public-libraries/>.

<sup>353</sup> David Streitfeld, "As L.S.S.I. Takes Over Libraries, Patrons Can't Keep Quiet," *The New York Times*, September 26, 2010, sec. Business, [http://www.nytimes.com/2010/09/27/business/27libraries.html?\\_r=2&ref=business&pagewanted=all](http://www.nytimes.com/2010/09/27/business/27libraries.html?_r=2&ref=business&pagewanted=all).

<sup>354</sup> Depository Library Council, "Federal Depository Library Program Strategic Plan, 2009-2014 (Draft Discussion Document, 04/17/2009)."

<sup>355</sup> Patrice McDermott, "Building Open Government," *Government Information Quarterly* 27, no. 4 (October 2010): 401-413.

<sup>356</sup> Ibid.

<sup>357</sup> Ibid.

<sup>358</sup> Ibid.

<sup>359</sup> "Status Report: GPO Access: A service of the U.S. Government Printing Office" (Government Printing Office, June 30, 1994), <http://www.gpoaccess.gov/biennial/1994/report.pdf>.

<sup>360</sup> Duncan M. Aldrich, Gary Cornwell, and Daniel Barkley, "Changing Partnerships? Government Documents Departments at the Turn of the Millenium," *Government Information Quarterly* 17, no. 3 (2000).

<sup>361</sup> David Durant, "The Federal Depository Library Program: Anachronism or Necessity?," *North Carolina Libraries* 62, no. 1 (Spring 2004): 30-39.

<sup>362</sup> John A. Shuler, Paul T. Jaeger, and John Carlo Bertot, "Implications of harmonizing the future of the Federal Depository Library Program within e-government principles and policies," *Government Information Quarterly* 27, no. 1 (January 2010).

<sup>363</sup> Ibid.

<sup>364</sup> "A Strategic Vision for the 21st Century" (Government Printing Office, December 1, 2004), 4, <http://www.gpo.gov/pdfs/congressional/04strategicplan.pdf>.

<sup>365</sup> Selene Dalecky and Lisa LaPlant, "FDsys Update" (presented at the Depository Library Council Meeting & Conference, Arlington, VA, October 19, 2010), [http://www.fdlp.gov/home/repository/doc\\_download/1767-fdsys-update](http://www.fdlp.gov/home/repository/doc_download/1767-fdsys-update).

<sup>366</sup> "FDsys: GPO's Official System of Record," n.d., <http://www.fdlp.gov/component/content/article/19-general/866-fdssyssofrecord>.

<sup>367</sup> "Digital Preservation at the U.S. Government Printing Office: White Paper" (Government Printing Office, July 8, 2008), [http://www.gpo.gov/pdfs/fdsys-info/documents/preservation-white-paper\\_20080709.pdf](http://www.gpo.gov/pdfs/fdsys-info/documents/preservation-white-paper_20080709.pdf).

<sup>368</sup> Mike Wash, "GPO's Federal Digital System (FDsys) Briefing," July 25, 2009, [http://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=1003&context=future\\_scholarship](http://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=1003&context=future_scholarship).

<sup>369</sup> "Digital Preservation at the U.S. Government Printing Office: White Paper."

<sup>370</sup> McDermott, "Building Open Government."

<sup>371</sup> Ibid.

<sup>372</sup> Clay Johnson III, "Improving Public Access to and Dissemination of Government Information and Using the Federal Enterprise Architecture Data Reference Model (OMB Memorandum M-06-02)," n.d., <http://www.whitehouse.gov/sites/default/files/omb/memoranda/fy2006/m06-02.pdf>.

<sup>373</sup> "Passworded Databases," n.d., <http://www.fdlp.gov/collections/building-collections/137-passworded-databases>.

<sup>374</sup> "Electronic Access to Public Health Reports," n.d., <http://www.fdlp.gov/administration/45-partnerships/503-eaccessreports>.

<sup>375</sup> Schonfeld and Housewright, "Documents for a Digital Democracy: A Model for the Federal Depository Library Program in the 21st Century."

<sup>376</sup> FDLP Listserv, "GPO & Digitization of Historical Depository Collection," October 7, 2009.

<sup>377</sup> Ibid.

<sup>378</sup> "GPO and Library of Congress to Digitize Historic Documents" (Government Printing Office, February 16, 2011), <http://www.gpo.gov/pdfs/news-media/press/11news13.pdf>.

<sup>379</sup> Maliaca Oxnam, "Capturing America's Scientific History through Technical Report Literature," *Focus on Global Resources* 30, no. 1 (Fall 2010), <http://www.crl.edu/focus/article/6780>.

<sup>380</sup> “North Carolina Digital Repository: About Us,” n.d., <http://digitalstatelibnc.cdmhost.com/cdm4/about.php>.

<sup>381</sup> “CIC-Google Government Documents Project,” n.d.,  
<http://www.cic.net/Home/Projects/Library/BookSearch/Govdocs.aspx>.

<sup>382</sup> “Federal Agencies Digitization Guidelines Initiative,” n.d.,  
<http://www.digitizationguidelines.gov/stillimages/organizations.html>.

<sup>383</sup> “Electronic Access to Public Health Reports,” n.d., <http://www.fdlp.gov/component/content/article/45-partnerships/503>.

<sup>384</sup> “NN/LM: About Us,” n.d., <http://nlnm.gov/about/>.

<sup>385</sup> “History and Background,” n.d., <http://www.uspto.gov/products/library/ptdl/background/index.jsp>.

<sup>386</sup> “Ordering Methods,” n.d., <http://www.ntis.gov/help/ordermethods.aspx>.

<sup>387</sup> David Durant, “The Federal Depository Library Program: Anachronism or Necessity?,” *North Carolina Libraries* 62, no. 1 (Spring 2004): 30-39.

<sup>388</sup> Feedback provided on this project by David Cismowski, January 2011.

<sup>389</sup> “Lost Docs Reporting Form,” n.d., <http://www.fdlp.gov/lostdocs>.

<sup>390</sup> Linda D. Koontz, “Government Printing Office: Technological Changes Create Transformation Opportunities” (General Accounting Office, April 24, 2004), 11, <http://www.gao.gov/new.items/d04729t.pdf>.

<sup>391</sup> “Legal Information Institute at Cornell Law School,” n.d., <http://www.law.cornell.edu/>.

<sup>392</sup> “Law.Gov: America's Operating System, Open Source.,” n.d., <http://resource.org/law.gov/>.

<sup>393</sup> Brito, “Hack, Mash, & Peer: Crowdsourcing Government Transparency.”

<sup>394</sup> Ibid.

<sup>395</sup> Ibid.

<sup>396</sup> Ibid.

<sup>397</sup> Ibid.

<sup>398</sup> “Ten Principles for Opening Up Government Information” (Sunlight Foundation, August 11, 2010), <http://sunlightfoundation.com/policy/documents/ten-open-data-principles/>.

<sup>399</sup> “About Open Government,” n.d., <http://www.whitehouse.gov/open/about>.

<sup>400</sup> Barack Obama, “Transparency and Open Government,” January 21, 2009,  
[http://www.whitehouse.gov/the\\_press\\_office/Transparency\\_and\\_Open\\_Government/](http://www.whitehouse.gov/the_press_office/Transparency_and_Open_Government/).

<sup>401</sup> Peter R. Orszag, “Open Government Directive” (Office of Management and Budget, December 8, 2009).

<sup>402</sup> “Data.gov - About,” n.d., <http://www.data.gov/about>.

<sup>403</sup> “Recovery.gov - About Recovery.gov,” n.d., <http://www.recovery.gov/About/Pages/Recoverygov.aspx>.

<sup>404</sup> Alec MacGillis, “Tracking Stimulus Spending May Not Be as Easy as Promised,” *The Washington Post*, May 21, 2009, <http://www.washingtonpost.com/wp-dyn/content/article/2009/05/20/AR2009052003535.html>.

<sup>405</sup> Robert C. Tapella, “Public Printer's Letter to President Obama Regarding Transparency in Government,” March 9, 2009, [http://www.gpo.gov/pdfs/news-media/letter\\_030909.pdf](http://www.gpo.gov/pdfs/news-media/letter_030909.pdf).

<sup>406</sup> Robert Tapella, “GPO's Federal Digital System (FDsys): Open and Transparent Government” (presented at the 102nd American Association of Law Libraries Annual Meeting and Conference, Washington, D.C., July 29, 2009), [http://www.gpo.gov/pdfs/news-media/PrepRe\\_072709](http://www.gpo.gov/pdfs/news-media/PrepRe_072709).

<sup>407</sup> “White House Announces Federal Register 2.0 Transforming the Chronicle of the Executive Branch for the 21st Century” (The White House, October 5, 2009), [http://www.whitehouse.gov/the\\_press\\_office/White-House-Announces-Federal-Register-20-Transforming-the-Chronicle-of-the-Executive-Branch-for-the-21st-Century/](http://www.whitehouse.gov/the_press_office/White-House-Announces-Federal-Register-20-Transforming-the-Chronicle-of-the-Executive-Branch-for-the-21st-Century/).

<sup>408</sup> “Library Partnership Saves Government Sites” (Library of Congress, August 14, 2008), <http://www.loc.gov/today/pr/2008/08-139.html>.

<sup>409</sup> “LII | Legal Information Institute at Cornell Law School,” n.d., <http://www.law.cornell.edu/>.

<sup>410</sup> John Markoff, “A Quest to Get More Court Rulings Online, and Free,” *New York Times*, August 20, 2007, <http://www.nytimes.com/2007/08/20/technology/20westlaw.html>.

<sup>411</sup> Brito, “Hack, Mash, & Peer: Crowdsourcing Government Transparency.”

<sup>412</sup> David Robinson et al., “Government Data and the Invisible Hand,” *Yale Journal of Law & Technology* 11, no. 160 (2009), [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1138083](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1138083).

<sup>413</sup> Ibid.

<sup>414</sup> Brito, “Hack, Mash, & Peer: Crowdsourcing Government Transparency.”

<sup>415</sup> Ibid.

<sup>416</sup> Lawrence Lessig, “Against Transparency: The perils of openness in government,” *The New Republic*, October 9, 2009, <http://www.tnr.com/print/article/books-and-arts/against-transparency>.

<sup>417</sup> Marshall Kirkpatrick, “How Tim O'Reilly Aims to Change Government” (ReadWriteWeb, August 20, 2009), [http://www.readwriteweb.com/archives/how\\_tim\\_oreilly\\_aims\\_to\\_change\\_government.php](http://www.readwriteweb.com/archives/how_tim_oreilly_aims_to_change_government.php).

<sup>418</sup> “Expert Labs,” n.d., <http://expertlabs.org/>.

<sup>419</sup> John M. Kamensky, “Crowdsourcing Government Reform” (ICM Center for the Business of Government, July 15, 2010), <http://www.businessofgovernment.org/blog/crowdsourcing-government-reform>.

<sup>420</sup> Alex Howard, “Collaborative innovation in open government: Is there an app for that?,” August 30, 2010, <http://gov20.govfresh.com/collaborative-innovation-in-open-government-is-there-an-app-for-that/>.

<sup>421</sup> Estabrook, Witt, and Rainie, "Information Searches That Solve Problems."

<sup>422</sup> Smith, "Home Broadband 2010."

<sup>423</sup> Aaron Smith, "Government Online" (Pew Internet & American Life Project, May 27, 2010), [http://pewinternet.org/~media/Files/Reports/2010/PIP\\_Government\\_Online\\_2010\\_with\\_topleveline.pdf](http://pewinternet.org/~media/Files/Reports/2010/PIP_Government_Online_2010_with_topleveline.pdf).

<sup>424</sup> Ibid.

<sup>425</sup> Estabrook, Witt, and Rainie, "Information Searches That Solve Problems."

<sup>426</sup> Smith, "Government Online."

<sup>427</sup> Paul T. Jaeger and John Carlo Bertot, "E-government Education in Public Libraries: New Service Roles and Expanding Social Responsibilities," *Journal of Education for Library and Information Science* 50, no. 1 (Winter 2009).

<sup>428</sup> Ibid.

<sup>429</sup> "Long Overdue: A Fresh Look at Public and Leadership Attitudes About Libraries in the 21st Century" (Public Agenda, 2006), [http://www.publicagenda.org/files/pdf/Long\\_Overdue.pdf](http://www.publicagenda.org/files/pdf/Long_Overdue.pdf).

<sup>430</sup> Jaeger and Bertot, "E-government Education in Public Libraries: New Service Roles and Expanding Social Responsibilities."

<sup>431</sup> Ibid.

<sup>432</sup> Joseph A. Salem Jr., "The Way We Work Now: A Survey of Reference Service Arrangement in Federal Depository Libraries," in *The Changing Face of Government Information: Providing Access in the Twenty-First Century* (The Haworth Information Press, 2006).

<sup>433</sup> Debora Cheney, "Government Information Collections and Services in the Social Sciences: The Subject Specialist Integration Model," *The Journal of Academic Librarianship* 32, no. 3 (May 2006).

<sup>434</sup> "Public Library Technology Landscape."

<sup>435</sup> Ibid.

<sup>436</sup> Ibid.

<sup>437</sup> Ibid.

<sup>438</sup> "Government Information: A Topic for All Librarians," July 10, 2009, <http://www.cosla.org/documents/kb/Government%20Information%20Forum%20report%20gaw%20corr3%20sep%204%202009.pdf>.

<sup>439</sup> "Government Information in the 21st Century - IMLS Final Report," December 22, 2008, <http://www.webjunction.org/gi21/-/articles/content/35603072>. The program includes both non-specialist librarians at FDLP member libraries as well as librarians at non-member libraries.

<sup>440</sup> Michael Rogers, "Illinois Libraries/OCLC Tackle Government Information Online," *Library Journal*, June 1, 2005, [http://www.libraryjournal.com/lj/ljinprint/currentissue/868416-403/illinois\\_librariesoclc\\_tackle\\_government\\_information.html.csp](http://www.libraryjournal.com/lj/ljinprint/currentissue/868416-403/illinois_librariesoclc_tackle_government_information.html.csp).

<sup>441</sup> Ibid.

<sup>442</sup> Karen Hogenboom and Stephen Woods, "Choosing the right approach: Three models for teaching government information sources," *Research Strategies* 20 (2007): 397-408.

<sup>443</sup> Judith A. Downie, "Instruction design collaborations with government information specialists: Opening the conversation," *Reference Services Review* 35, no. 1 (2007).

<sup>444</sup> "Report to the Congress: Study to Identify Measures Necessary for a Successful Transition to a More Electronic Federal Depository Library Program" (Government Printing Office, June 1996), [http://www.fdlp.gov/home/repository/doc\\_download/1768-report-to-the-congress-study-to-identify-measures-necessary-for-a-successful-transition-to-a-more-e](http://www.fdlp.gov/home/repository/doc_download/1768-report-to-the-congress-study-to-identify-measures-necessary-for-a-successful-transition-to-a-more-e).

<sup>445</sup> "Digital Preservation at the U.S. Government Printing Office: White Paper."

<sup>446</sup> Ibid.

<sup>447</sup> David Rapp, "GPO Hires First Preservation Librarian," *Library Journal*, July 19, 2010, [http://www.libraryjournal.com/lj/community/academiclibraries/885931-419/gpo\\_hires\\_first\\_preservation\\_librarian.html.csp](http://www.libraryjournal.com/lj/community/academiclibraries/885931-419/gpo_hires_first_preservation_librarian.html.csp).

<sup>448</sup> "National Digital Stewardship Alliance - Digital Preservation (Library of Congress)," n.d., <http://www.digitalpreservation.gov/ndsa/>.

<sup>449</sup> Diane Vogt-O'Connor, "NARA's Oldest Partnerships," *Prologue* 38, no. 2 (Summer 2006), <http://www.archives.gov/publications/prologue/2006/summer/affiliates.html>.

<sup>450</sup> Lisa Rein, "Costs soaring for Archives' digital library, auditors say," *The Washington Post*, February 4, 2011, <https://www.washingtonpost.com/wp-dyn/content/article/2011/02/04/AR2011020402286.html>.

<sup>451</sup> "Authentication" (U.S. Government Printing Office, October 13, 2005), <http://www.gpoaccess.gov/authentication/authenticationwhitepaperfinal.pdf>.

<sup>452</sup> Jacobs, "Who Do You Serve and What Do You Do?: Defining Your Role to Ensure the Future of Our FDLP."

<sup>453</sup> Daniel Cornwall and James R. Jacobs, "Distributed Globally, Collected Locally: LOCKSS for Digital Government Information," *Against the Grain* 21, no. 1 (February 2009).

<sup>454</sup> Ibid.

<sup>455</sup> Ibid.

<sup>456</sup> James R. Jacobs, "Critical GPO systems and the FDLP cloud | Free Government Information (FGI)," *Free Government Information*, August 30, 2009, <http://freegovinfo.info/node/2704>.

<sup>457</sup> Cornwall and Jacobs, "Distributed Globally, Collected Locally: LOCKSS for Digital Government Information."

<sup>458</sup> Steven Aftergood, "The age of missing information," *Slate Magazine*, May 17, 2005, <http://www.slate.com/id/2114963/>.

<sup>459</sup> "Access to Government Information Post September 11th," *OMB Watch*, n.d., <http://www.ombwatch.org/node/182>.

<sup>460</sup> James R. Jacobs, "GPO joins LOCKSS: digital deposit a reality" (Free Government Information, June 15, 2010), <http://freegovinfo.info/node/3017>.

<sup>461</sup> "U.S. Government Documents Private LOCKSS Network," n.d., [http://lockss.org/lockss/Government\\_Documents\\_PLN](http://lockss.org/lockss/Government_Documents_PLN).

<sup>462</sup> Jacobs, "Questions and answers about the future of FDLP."

<sup>463</sup> Valerie D. Glenn, "Preserving Government and Political Information: The Web-At-Risk Project," *First Monday* 12, no. 7 (July 2007), <http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/1917/1799>.

<sup>464</sup> Anne Cassidy, "The Chesapeake Project: Preserving the Digital Future," *Res Ipsa Loquitur: Georgetown Law Alumni Magazine*, Fall/Winter 2009, <http://www.law.georgetown.edu/alumni/magazine/2009-fall/feature-articles/chesapeake-1/>.

<sup>465</sup> "UNT Libraries: CyberCemetery Home," n.d., <http://govinfo.library.unt.edu/>.

<sup>466</sup> Glenn, "Preserving Government and Political Information: The Web-At-Risk Project."

<sup>467</sup> "Web-Based Government Information: Evaluating Solutions for Capture, Curation, and Preservation" (California Digital Library, November 2003), [http://www.cdlib.org/services/uc3/docs/Web-based\\_archiving\\_mellon\\_Final.pdf](http://www.cdlib.org/services/uc3/docs/Web-based_archiving_mellon_Final.pdf).

<sup>468</sup> "Web Archives: yesterday's web; today's archives," n.d., <http://webarchives.cdlib.org/>.

<sup>469</sup> "Archive-It.org," n.d., <http://www.archive-it.org/>.

<sup>470</sup> "Archive-It.org - Partner - Stanford University, Social Sciences Resource Group," n.d., <http://www.archive-it.org/public/partner.html?id=159>.

<sup>471</sup> For more information, see <http://www.ala.org>

<sup>472</sup> <http://www.ala.org/acrl>

<sup>473</sup> <http://www.ala.org/ala/mgrps/divs/pla/index.cfm>

<sup>474</sup> <http://www.ala.org/ala/mgrps/divs/aasl/index.cfm>

<sup>475</sup> <http://www.ala.org/ala/mgrps/divs/alcts/index.cfm>

<sup>476</sup> <http://www.ala.org/ala/mgrps/divs/ascla/ascla.cfm>

<sup>477</sup> <http://www.ala.org/ala/mgrps/divs/pla/plagroups/placops/index.cfm>

<sup>478</sup> <http://www.ala.org/ala/mgrps/rts/ifrt/index.cfm>



<sup>479</sup> <http://www.ala.org/ala/mgrps/rts/magert/index.cfm>

<sup>480</sup> <http://www.mlanet.org>

<sup>481</sup> <http://www.sla.org>

<sup>482</sup> <http://www.aallnet.org>

<sup>483</sup> "AALLNET About: The American Association of Law Libraries," n.d., <http://www.aallnet.org/about/>.

<sup>484</sup> <http://www.cla-net.org/>

<sup>485</sup> <http://www.arsl.info/>

<sup>486</sup> <http://www.nasig.org/>

<sup>487</sup> <http://www.code4lib.org/>

<sup>488</sup> <http://www.metro.org/>

<sup>489</sup> <http://www.ucop.edu/lauc/>

<sup>490</sup> <http://www.cosla.org/>

<sup>491</sup> <http://connect.ala.org/node/71917>

<sup>492</sup> <http://www.arl.org/>

<sup>493</sup> "Code of Ethics," *American Library Association*, n.d., <http://www.ala.org/ala/issuesadvocacy/proethics/codeofethics/codeethics.cfm>.

<sup>494</sup> <http://www.ala.org/ala/mgrps/rts/godort/index.cfm>

<sup>495</sup> "Development - GODORT," n.d., <http://wikis.ala.org/godort/index.php/Development>.

<sup>496</sup> <http://ucblibraries.colorado.edu/govpubs/de/gopig/gopig.htm>

<sup>497</sup> <http://www.fdlp.gov/home/about/61-dlc>

<sup>498</sup> <http://www.opal-online.org/>

<sup>499</sup> <http://www.fivecolleges.edu/>

<sup>500</sup> "Five Colleges, Incorporated: About Us," n.d., [http://www.fivecolleges.edu/about\\_us/](http://www.fivecolleges.edu/about_us/).

<sup>501</sup> *Ibid.*

<sup>502</sup> *Ibid.*

<sup>503</sup> C.L. Barber et al., "The New College Plan: A Proposal for a Major Departure in Higher Education," 1958, <http://www.hampshire.edu/archives/files/NewColl.pdf>.

504 <http://www.cic.net/>

505 “History of CIC,” n.d., <http://www.cic.net/Home/AboutCIC/CicHistory.aspx>.

506 “Center for Library Initiatives,” n.d., <http://www.cic.net/Home/Projects/Library/Home.aspx>.

507 “Our Partnership | [www.hathitrust.org](http://www.hathitrust.org),” n.d., <http://www.hathitrust.org/partnership>.

508 <http://www.cdlib.org/>

509 “UC Announces Founding of the California Digital Library,” October 14, 1997, <http://www.universityofcalifornia.edu/news/article/20579>.

510 “About CDL: California Digital Library,” n.d., <http://www.cdlib.org/about/>.

511 “Grants and Partnerships: California Digital Library,” n.d., <http://www.cdlib.org/about/grants.html>.

512 <http://seir.calstate.edu/>

513 <http://fclaweb.fcla.edu/>

514 <http://www.cclaflorida.org/>

515 <http://www.ohiolink.edu/>

516 <http://www.oplin.lib.oh.us>

517 “About OPLIN | OPLIN,” n.d., <http://www.oplin.lib.oh.us/content/about-oplin>.

518 “Serra Cooperative Library System,” n.d., <http://www.serralib.org/>.

519 <http://www.minitex.umn.edu/>

520 <http://nnlm.gov/>

521 <http://www.digitalpreservation.gov/>

522 “About the Program - Digital Preservation (Library of Congress),” n.d., <http://www.digitalpreservation.gov/library/>.

523 “National Digital Stewardship Alliance - Digital Preservation (Library of Congress),” n.d., <http://www.digitalpreservation.gov/nds/>.

524 “About the AgNIC Partnership,” n.d., <http://www.agnic.org/about/>.

525 “AgNIC Frequently Asked Questions” (AgNIC, n.d.), [http://www.agnic.org/about/agnic\\_faq.pdf](http://www.agnic.org/about/agnic_faq.pdf).

526 “History and Background,” n.d., <http://www.uspto.gov/products/library/ptdl/background/index.jsp>.

527 <http://www.uspto.gov/products/library/ptdl/index.jsp>

528 “History and Background.”

<sup>529</sup> Ibid.

<sup>530</sup> [http://www.library.ca.gov/gps/gps\\_cal1.html](http://www.library.ca.gov/gps/gps_cal1.html)

<sup>531</sup> “California State Library - State Document Depositories,” n.d., [http://www.library.ca.gov/gps/gps\\_cal3.html](http://www.library.ca.gov/gps/gps_cal3.html).

<sup>532</sup> <http://dsp-psd.pwgsc.gc.ca/index-e.html>

<sup>533</sup> “Quick Reference Guide for Depository Libraries - Government of Canada Publications,” n.d., <http://publications.gc.ca/site/eng/depositoryLibraries/dspReferenceGuide.html>.

<sup>534</sup> “Depository Libraries - Government of Canada Publications,” n.d., <http://publications.gc.ca/site/eng/locatingOurPublications/depositoryLibraries/index.html>.

<sup>535</sup> “Report to Publishing and Distribution Services, Public Works and Government Services Canada,” March 2009, <http://dsp-psd.pwgsc.gc.ca/Rapports/mar2009/index-e.html>.

<sup>536</sup> “United Nations depository libraries: Depository Library System,” n.d., <http://www.un.org/depts/dhl/deplib/deplibsystem.htm>.

<sup>537</sup> “United Nations depository libraries: About deposit,” n.d., <http://www.un.org/depts/dhl/deplib/aboutdeposit.htm>.

<sup>538</sup> [http://europa.eu/europedirect/index\\_en.htm](http://europa.eu/europedirect/index_en.htm)

<sup>539</sup> “Europe Direct information network,” n.d., [http://europa.eu/europedirect/meet\\_us/index\\_en.htm](http://europa.eu/europedirect/meet_us/index_en.htm).

<sup>540</sup> “EUROPEAN UNION - Delegation of the European Union to the USA - DEPOSITORY LIBRARIES IN THE US,” n.d., [http://www.eurunion.org/eu/index.php?option=com\\_content&task=view&id=2927&Itemid=9](http://www.eurunion.org/eu/index.php?option=com_content&task=view&id=2927&Itemid=9).

<sup>541</sup> No central web page

<sup>542</sup> <http://www.library.yale.edu/NERLpublic/>

<sup>543</sup> “NERL Public Web Site,” n.d., <http://www.library.yale.edu/NERLpublic/>.

<sup>544</sup> “Letter of Introduction to Vendors,” n.d., <http://www.library.yale.edu/NERLpublic/RFPIletter.html>.

<sup>545</sup> <http://mlc.lib.mi.us/cms/sitem.cfm>

<sup>546</sup> <http://www.palci.org/>

<sup>547</sup> <http://www.orbiscascade.org/>

<sup>548</sup> <http://www.aserl.org/>

<sup>549</sup> <http://www.gwla.org/>

<sup>550</sup> <http://www.nellco.org>

<sup>551</sup> <http://www.webjunction.org/gi21>

<sup>552</sup> Kirsten Clark and Jennifer Gerke, "Government Information in the 21st Century: A New Model for Academic Outreach," in *Academic Library Outreach: Beyond the Campus Walls* (Libraries Unlimited/Teacher Ideas Press, 2008), <http://www.webjunction.org/gi21>.

<sup>553</sup> [http://lockss.stanford.edu/lockss/LOCKSS\\_Alliance](http://lockss.stanford.edu/lockss/LOCKSS_Alliance)

<sup>554</sup> "LOCKSS Alliance - LOCKSS," n.d., [http://lockss.stanford.edu/lockss/LOCKSS\\_Alliance](http://lockss.stanford.edu/lockss/LOCKSS_Alliance).

<sup>555</sup> <http://www.hathitrust.org/>

<sup>556</sup> "Welcome to the Shared Digital Future | [www.hathitrust.org](http://www.hathitrust.org/)," n.d., <http://www.hathitrust.org/about>.

<sup>557</sup> "Eligibility and Agreements | [www.hathitrust.org](http://www.hathitrust.org/)," n.d., [http://www.hathitrust.org/eligibility\\_agreements](http://www.hathitrust.org/eligibility_agreements).

<sup>558</sup> "Features and Benefits | [www.hathitrust.org](http://www.hathitrust.org/)," n.d., [http://www.hathitrust.org/features\\_benefits](http://www.hathitrust.org/features_benefits).

<sup>559</sup> No central web page

<sup>560</sup> Payne, "Models for Shared Print Archives: WEST and CRL."

<sup>561</sup> <http://www.oclc.org>

<sup>562</sup> "In the beginning [OCLC - Heritage]," n.d., <http://www.oclc.org/about/history/beginning.htm>.

<sup>563</sup> Ibid.

<sup>564</sup> "Benefits [OCLC - Membership]," n.d., <http://www.oclc.org/uk/en/membership/benefits/default.htm>.

<sup>565</sup> <http://www.crl.edu/>

<sup>566</sup> "Center for Research Libraries - About CRL," n.d., <http://www.crl.edu/about/>.

<sup>567</sup> "Center for Research Libraries - History of CRL," n.d., <http://www.crl.edu/about/history/>.

<sup>568</sup> <http://www.lyrasis.org>

<sup>569</sup> <http://www.sjlibrary.org/>

<sup>570</sup> Paul Kauppila, "Economies of scale in the library world: The Dr. Martin Luther King Jr. Library in San Jose, California," *New Library World* 104, no. 7 (2003): 255.

<sup>571</sup> Ibid.

<sup>572</sup> <http://2cul.org/>

<sup>573</sup> "Home | 2CUL," n.d., <http://2cul.org/>.

<sup>574</sup> Ithaka S+R is currently providing consulting services to the 2CUL collaboration.

<sup>575</sup> USDA: Extension NIFA, "NIFA Extension page," n.d., <http://www.csrees.usda.gov/qlinks/extension.html>.

<sup>576</sup> Ibid.

<sup>577</sup> "History and Background."

<sup>578</sup> "ASERL's Collaborative Federal Depository Program," n.d., <http://www.aserl.org/projects/gov-doc/gov-doc-intro.htm>.