Executive Brief  
The State of Technology and Funding  
in U.S. Public Libraries in 2007  

EXECUTIVE SUMMARY  
Libraries have always been about the business of connecting communities of people with the information they want and need in order to learn, explore, create and build success. Computers and the Internet have been a growing part of fulfilling this mission over the past dozen years.

Funded by the Bill & Melinda Gates Foundation and the American Library Association (ALA), the accompanying comprehensive Public Library Funding & Technology Access Study is part of a sustained effort to provide current information that describes access to computers and the Internet in U.S. public libraries.

The study presents national and state data gathered through three integrated approaches: a national survey that collected information about public library Internet connectivity, use, services, funding and sustainability issues (see page 28); a questionnaire sent to the Chief Officers of State Library Agencies (see page 124); and focus groups and site visits held in four states: Delaware, Maryland, Nevada and Utah (see page 144).

Three significant themes emerged from the study research:

- **Technology is bringing more – not less – public library use**  
  Providing education resources and services for job seekers are the Internet services most critical to the role of public libraries (see figure 24). Seventy-three percent of libraries report they are the only source of free public access to computers and the Internet in their communities (see Figure 31).

- **Library infrastructure (space, bandwidth and staffing) is being pushed to capacity**  
  An increased number of visitors to libraries coupled with increasingly complex technology products and services challenge libraries with facilities that were built before the advent of networked services and budgets and staff sizes that have not grown even with the addition of new services (see Figures 13, 14 and Section Three).

- **Libraries need more technology planning and dedicated technology support**  
  Providing technology access does not represent a one-time investment of funds or staff training. More than a quarter of libraries do not have upgrade or replacement schedules for their computers (see Figure 12), and state libraries identified an inability to plan and budget for IT upgrades, replacement and maintenance as a significant challenge for public libraries with vulnerable technology services.

This report – along with more than a decade of research from the Public Libraries and the Internet studies (www.ii.fsu.edu/plinternet) – demonstrates that libraries have moved rapidly into Internet-based services that their communities want and need. Ongoing attention and investments must be made to ensure that these essential services provided by libraries are sustained.
STUDY METHODOLOGY

There are multiple dimensions to consider when looking at public access computing in public libraries. These include: (1) the technology infrastructure (network, desktop, wireless, other) which libraries design and implement; (2) the human infrastructure involved in supporting the technology; (3) the services and resources made available to patrons as a result; and (4) the funding mechanisms used to support public access computing services and infrastructures.

Since the mid-1990s, the ways in which public libraries sustain public access computing services using fiscal and human resources has been of concern to the library and policy community. Complicating this issue of sustainability is the even longer-term concern regarding the status of public library funding in general. Until now, there has been little evidence gathered regarding how libraries are sustaining expenditures related to public access computing. In particular, there is little understanding about the relationship between funding and various levels of services, including how funding impacts innovation, sustainability, maintenance, staffing, and other key variables.

To begin answering these questions, the three-part study methodology used in this comprehensive research effort was implemented. The first was to continue the research initiated by Drs. John Bertot and Charles R. McClure in 1994 with Public Libraries and the Internet Survey. This year, a Web-based survey approach was used, and each library also received an invitation mailing with a print survey. The survey collected connectivity and service data at the branch level, and budget and broad service data at the system level. The fall 2006 survey relied upon the most recent (2002) National Center for Education Statistics public library geocoded dataset as a sample frame, which has 8,921 systems comprised of 16,457 outlets (central libraries and branches). To achieve an adequate response to the survey and ensure the ability to generate national and state level data, the study used a “sample with replacement” strategy. Responses totaled 4,027 with an overall response rate of 57.7 percent of libraries sampled.

Concurrent with this quantitative data collection, an opportunistic iterative learning strategy was employed to explore trends, issues and solutions. This was accomplished using two qualitative methods – a survey of Chief Officers of State Library Agencies (COSLA) to understand state trends, and focus groups and site visits to understand “on-the-ground” trends.

A 12-question survey was sent by e-mail to all COSLA members, focusing on the issues faced by public libraries developing and sustaining networked services. Conducted by Joe Ryan (Ryan Information Management) in December 2006, the questions were designed to align with characteristics identified by McClure and Ryan in their 2005-2006 research around successfully networked public libraries (http://www.ala.org/ala/washoff/contactwo/oitp/2006_plinternet.pdf). Forty-three states responded to the COSLA questionnaire.

Using focus groups and site visits allowed us to drill further into the public access computing services issues facing public libraries. Four states were identified based on three criteria: eligibility to participate in year one of the Bill & Melinda Gates Foundation Opportunity Online grant program; responses to the 2006 and 2007 Internet connectivity survey; and state library
recommendations. Questions were asked in three key areas: use of public access computing and related services; technology infrastructure (including staff and funding); and challenges for sustaining these services into the future. These focus groups and site visits took place in Delaware, Maryland, Nevada and Utah between February and April 2007, conducted by Larra Clark (ALA), and Peggy Barber and Linda Wallace (Library Communications Strategies, Inc.).

KEY FINDINGS
Three significant themes emerged from the various research methods:

- Technology has brought more – not less – library use;
- Library infrastructure (space, bandwidth and staffing) is being pushed to capacity; and
- There is a growing need for technology planning and dedicated technology support.

Technology Has Brought More – Not Less – Library Use
While technology is being woven more and more into people’s everyday lives, about one-third of Americans still do not own desktop computers\(^1\) or have Internet access at home. At the same time, more people are visiting their local public libraries – 1.3 billion visits in fiscal year 2004,\(^2\) up from 821.6 million a decade earlier (more than 4.6 percent annual growth).

Seventy-three percent of libraries report they are the only source of free public access to computers and the Internet in their communities.

The continuing importance of the physical building is sometimes forgotten when talking about the increase in access to online sources. The public library offers more than just access to the hardware – computers, printers, scanners – it offers trained staff to help library users gain technology skills and navigate the extensive material available online. More than 76 percent of libraries offer some information technology training, which encourages and motivates technology use. The library building also is a community meeting place open to everyone, regardless of income, age or background.

A broad range of services are provided by public libraries through their public computing resources. Providing educational resources across the spectrum of learners leads the list of public Internet services that library staff considers most critical to the role of the public library branch in its local community:

- Provide education resources and databases for K-12 students (67.7 percent);
- Provide services for job seekers (44 percent);
- Provide computer and Internet skills training (29.8 percent);
- Provide education resources and databases for adults/continuing education students (27.5 percent); and

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• Provide education resources and databases for students in higher education (21.4 percent).

Of the specific Internet services libraries offer (e.g., digital reference, licensed databases, e-books), more than 68 percent of libraries reported offering homework resources – serving the educational needs of more than 36 million school-age children – up 7.3 percent from last year.

The vital role libraries play for job seekers was particularly pronounced in site visits to dozens of public libraries. An emerging aspect of this use is the apparent increase in the number of businesses that require applicants to apply online. From grocery stores to state governments to casinos, library staff reported that many more library users are coming to the library – often for the first time – to apply for jobs.

Library Infrastructure Is Being Pushed to Capacity

The 2006 Public Libraries and the Internet survey posed a question that came to the forefront in this year’s research: Can libraries continue to add services and resources which require substantial retraining and retooling of librarians and library technology infrastructure? The 2007 study found that many libraries have reached or are nearing their maximum capacity for space, bandwidth, and the additional burden placed on staff support for technology.

Many library buildings predate the Internet – and even TV, in the case of historic Carnegie buildings. As a result, these buildings are ill-equipped to accommodate the space and electrical needs of more than a few workstations. Seventy-six percent of public libraries reported that space limitations are the top factor affecting their ability to add computers. Related to this, 31 percent of libraries reported this year that the availability of electrical outlets, cabling or other infrastructure issues limited additional computers. “As we design new buildings, there’s going to be more of an issue to power them (laptops) all over the library,” said one Utah library director.

Funding is the second greatest factor limiting the ability of libraries to add computers. While operating budgets largely have remained flat for the past several years, costs of providing library services of all types have increased. Add to this that seven states and the District of Columbia reported library capital expenditures (i.e., for new construction or renovations) of less than $2 million total in 2004, the most recent national statistics available. Most capital expenditures are under $10,000 – not enough to pay for major electrical improvements to libraries, for example.

Another consistent capacity concern was the need for more electronic data transfer infrastructure, or simply greater bandwidth at branches. While bandwidth is essentially unchanged since the 2006 survey, state libraries and library staff report significant increases in broadband demand. Fifty-two percent of libraries report their connectivity speed is insufficient some or all of the time, an increase of about 6 percent from only one year ago. One library reported blocking access to the graphics- and media-heavy “March Madness” college basketball Web site after its use brought down the entire library’s network.

Finally, as library patrons become more active and sophisticated technology users, the demand for faster and better service is growing. Patrons are bringing MP3 players, digital cameras, USB drives and laptop computers to the library and often looking to the library for assistance.
configuring their laptops or downloading and emailing photos, for instance. Keeping current with both the technology and how to use that technology is an ongoing challenge for all libraries, but is perhaps the most difficult for smaller and rural libraries with the most limited staff and fewest hours open. About 35 percent of U.S. public libraries have fewer than two full-time equivalent staff members (FTE), making travel and time off for staff training very difficult.

**There Is a Growing Need for Technology Planning and Dedicated Technology Support**

Providing technology access does not represent a one-time investment of funds or staff training. While virtually every library now offers public computers and free Internet access to their patrons, many libraries struggle to evaluate, plan and expand technology in their communities. Just over 25 percent of libraries reported they have no technology replacement plan, and 12.9 percent of libraries reported they didn’t know the maximum speed of their Internet connection.

State library staff also identified an inability to plan and budget for IT upgrades, replacement and maintenance as a significant challenge for public libraries with vulnerable technology services.

“You almost need two levels of IT staff. How do we push to the next level while keeping things running on the floor?” asked one library director.

A lack of local expertise by library staff was the third most common barrier to broadband connectivity reported (40 percent) by state library agencies surveyed this year. This expertise includes the ability to assess the library’s telecommunications needs; identify commercial providers; negotiate rates; identify opportunities for reduced rate connections and complete the application process; develop technology plans; and develop, maintain and upgrade library infrastructure. Ensuring every library user not only has access to a computer and the Internet, but also the skills and support to successfully use emerging technologies depends on continuing – and increasing – investments in staff training and specialized IT support for libraries.

**SNAPSHOT OF FINDINGS FROM THE PUBLIC LIBRARIES AND THE INTERNET SURVEY**

**Connectivity and Access**

Since the first study of public libraries and the Internet in 1994, the significant research question has shifted from “How many U.S. public libraries are online?” to “How are libraries expanding and sustaining the computer and Internet services they make freely available in almost every community in this nation?”

Virtually every public library (99.1 percent) now offers free public access to the Internet (see Figure 3 in Section 1). On average, there are 10.7 computers in U.S. public library branches (Figure 7), a number that has remained nearly constant for libraries of all sizes since 2002. In the

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4 Information about the reports from the 1994-2006 studies is available at: http://www.ii.fsu.edu/plinternet
next year, 17.2 percent of library outlets plan to upgrade their computer workstations (Figure 9), and 25 percent plan to replace computers (Figure 10).

Libraries also are expanding access by providing wireless Internet connectivity. Wireless access is now available in 54.2 percent of outlets (Figure 16), up from 36.7 percent only last year and 17.9 percent of outlets in 2004. Urban libraries are 30 percent more likely to offer wireless access than rural libraries. Focus groups and site visits also reinforced the importance of integrating “anywhere” access to increase access to library resources.

Even with this expansion, demand is still outpacing supply in many libraries. Nearly 80 percent of libraries report there are fewer public Internet computers than patrons who wish to use them at different times throughout a typical day (Figure 15). Space limitations (76 percent) and cost factors (73 percent) are the leading factors influencing library decisions about adding computers (Figure 13).

**Internet Services**

About 62 percent of libraries now have connection speeds of 768kbps or more (Figure 19), compared with 48 percent in 2004. This is an important improvement considering the data also document a broad range of Internet-based services provided by public libraries (Figure 27). Significant numbers of U.S. public libraries offer online resources as follows:

- 85.6 percent of libraries offer licensed databases;
- 68.1 percent offer homework resources;
- 57.7 percent offer digital/virtual reference;
- 38.3 percent offer audio content (podcasts, audiobooks, etc.); and
- 38.3 percent offer e-books.

The number of libraries reporting providing these services increased since 2006 by between 0.4 to 7.2 percent. Many states or state libraries purchase or subsidize at least a basic package of licensed databases – and sometimes virtual reference services and downloadable media, as well – and make these available to all of the libraries in the state. As a result, library users in even the smallest communities have free access not only to the Internet, but also to expensive and specialized resources like those listed above through their local libraries. Databases may include resources as varied as full-text publications, investment information, encyclopedias and other reference works, genealogy resources, health research and automotive repair manuals.

Nationwide, urban libraries were more likely to offer these Internet services. This was particularly pronounced with e-books (67.2 percent of urban libraries compared with 30 percent of rural libraries) and audio content like podcasts and audiobooks (51.4 percent compared with 29.7 percent).

Questions about e-government roles and services highlighted the importance of library staff, as well as library hardware. Fifty-five percent of libraries reported that staff provide assistance to

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patrons applying for or seeking access to e-government services (Figure 29). Another 12.8 percent of libraries are partnering with government agencies, non-profits and others to provide e-government services.

**Funding**

For the first time, the study asked libraries to identify revenue and expenditures for technology by a broad range of categories by fiscal year – staff salaries, hardware, software and telecommunications.

Total technology expenditures reported by state for fiscal year 2006 ranged from a low of $5,181 to just over $1.4 million, with a national average of $166,181. Libraries reported the greatest technology-related expenditure in FY 2006 was on staff ($55,126), followed by licensed resources ($39,788) and telecommunications services ($21,224). The proportion of expenditures is consistent with overall spending by public libraries.

High-poverty public libraries (often located in urban areas) report spending more on public computing software, instructional technology, and licensed resources than any other type of system. Urban and medium-poverty library systems reported spending the most on wireless access ($5,497 and $8,606, respectively) as compared to the average ($1,377). This, too, aligns with other data reported regarding the slower adoption of wireless in rural communities.

The largest single source for technology-related expenditures comes from the local/county sources. With rare exception, federal funds were most likely to be applied to telecommunications expenses across all public libraries. A large proportion of funds from donations and grants were allocated to hardware expenditures, telling us that libraries may not be in a position to rely on local tax support to fund technology, but are relying on external fundraising to provide what have become basic library services.

Further details about technology-related expenditures were complicated by a roughly 50 percent drop off in question completion on these items compared with the rest of the national survey. Follow-up discussions with librarians indicated a range of reasons for this, including the lack of a separate technology budget; lack of knowledge regarding technology expenditures; inability to report as asked because of the library’s or city/county budgeting process; and because this section of the survey was too time-consuming to complete. Despite this complication, the data are still valuable to those interested in gaining a better understanding of patterns of spending in these broad technology categories.

**SNAPSHOT OF FINDINGS FROM THE CHIEF OFFICERS OF STATE LIBRARY AGENCIES SURVEY**

Providing public technology access presents both challenges and opportunities for public libraries, urban and rural. Forty-three states responded to the questionnaire to Chief Officers of State Library Agencies (COSLA), representing 86 percent of all states. When asked to comment on the status of technology access and funding for the public libraries in their state, especially with regard to broadband connections, areas of network vulnerability, challenges, unexpected
successes, and ways in which external agents might be able to improve current conditions, the Chief Officers of State Library Agencies responded as follows:

**Connectivity**

Twenty-eight states (65 percent) reported that over 90 percent of their public libraries currently have broadband connectivity (defined as a connection that is direct, “always on,” and not a dial-up connection). All but one reported that more than 50 percent of their public libraries currently have broadband connectivity.

Public libraries are using a variety of means to obtain the connections to the broadband capacity they need, and often use more than one approach. The most common ways that public libraries achieve broadband connectivity are through:

- Local telecommunications companies (77 percent);
- Local city/county government (65 percent); and
- Local school districts (63 percent).

**Major Barriers**

Twenty-four states (56 percent) identified high cost as the principal major barrier to broadband connectivity. Twenty-one (49 percent) reported that the capacity for connectivity did not exist in all parts of their state. Eighteen respondents (42 percent) reported few or no barriers to their state’s public library broadband connectivity. Sixteen (37 percent) reported the lack of local library staff expertise as a major barrier to implementing or sustaining broadband connectivity. Other major barriers reported are slow and unreliable connections.

**Assistance Needed**

Chief Officers also identified the types of assistance that external partners (including the state library, ALA, external funders and others) might provide to public libraries to demonstrably improve (within a 3-5 year timeframe) and sustain their networked resources and services. Three priorities emerged:

- Obtain enough broadband to meet public library demand at an affordable price;
- Provide adequate IT to make efficient/effective use of broadband connection and meet users’ needs for other IT-based services; and
- Provide library networked services of interest to their communities.

**SNAPSHOT OF FINDINGS FROM THE FOCUS GROUPS AND SITE VISITS**

**Funding**

In general, library funding is stable but flat, and library directors are not optimistic about future increases. Libraries have always had to compete for public dollars, but the competition is becoming more intense, particularly in states with population growth and stretched public
infrastructure. In some of the smaller communities, library directors said their funding was fine, but then described the reality of trying to do more with less.

Directors in Maryland and Delaware reported recent funding successes at the state level. Maryland libraries will see annual increases in state funding through 2010, and Delaware has dedicated matching funding for technology replacement in libraries.

While many libraries have integrated technology costs into their general operating budgets and created line items for equipment, electronic collections and telecommunications costs, some libraries reported that their greatest funding successes were in securing grant funding for new computers – most often from the Library Services and Technology Act (LSTA) and/or the Bill & Melinda Gates Foundation. One director reported: “We wouldn’t have a single computer without LSTA.” Friends groups also are an important fundraising source for general library funding.

Internet Services
Among the services reported to be the most used were:

- Email;
- Job-related searching, applying and resume writing;
- Social networking (including MySpace, YouTube);
- E-commerce (e.g. paying bills, printing boarding passes, investing);
- Research (e.g. genealogy, homework, etc.);
- E-government (e.g. tax forms, immigration services); and
- Online games (e.g. Runescape)

The vital role libraries play for job seekers was particularly pronounced in site visits to dozens of public libraries. For instance, staff in several Las Vegas-area libraries, reported their libraries were inundated when a new casino opened within the last year and required all applicants to apply online. Not only did job seekers need to fill out the online application, they also needed to establish an email account and check back frequently to see if they were a candidate for employment. In addition to low technology skills, many of these new library patrons had low literacy rates and/or spoke English as a second language. Not surprisingly, the impact on staff was significant in helping these users: “Online job applications are a killer.” Nevada and Delaware also recently put their state government jobs online and are encouraging job applicants to go to their local libraries and apply online.

One single mom in Maryland looking for a job put it this way: “You have people who can’t afford computers. People need to find jobs, get on their feet.”

Staffing
High on almost every focus group participant’s wish list is at least one – or additional – dedicated information technology staff. Many library staff, particularly in rural libraries, learned computers skills on the job or in training offered at the state or county level rather than bringing these skills when hired.
Larger libraries with dedicated staff may still have only one IT employee. “We have well over 100 computers and just the one guy,” reported a Maryland library director. While many local libraries reported receiving some support from city or county IT departments, there also was sometimes difficulty balancing the government agency security/firewall concerns with public access needs. A lack of dedicated and skilled library IT staff affects not only day-to-day maintenance and troubleshooting, but, perhaps more importantly, the ability for libraries to plan effectively for future technology innovations.

Advocacy
Library directors reflect a wide-ranging level of skills in advocating support for their libraries. In general, they said it is easier to win support for new buildings than it is for ongoing expenses such as staff or technology. While some directors indicated they make special efforts to build community partnerships and relationships with funders, others, especially in small libraries, indicated they feel they lack the time and resources needed to be effective.