Executive Brief

The State of Technology and Funding in U.S. Public Libraries in 2008

Libraries Connect Communities: Public Library Funding and Technology Access Study 2007–2008 marks the second year of the study, funded by the Bill and Melinda Gates Foundation and the American Library Association (ALA), and continues the research of previous surveys conducted by John Carlo Bertot and Charles R. McClure, with others, since 1994. 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; a questionnaire sent to the Chief Officers of State Library Agencies (COSLA); and focus groups and site visits held in four states: New York, North Carolina, Pennsylvania and Virginia.

This year’s study reinforces a key finding from 2006–2007: Library infrastructure (staffing, space and bandwidth) is being stretched to capacity. This year’s report expands our understanding regarding the strain on public libraries to provide public access to the Internet and other technology, and sounds a warning about the long-term sustainability and future quality of free public access to the Internet and other technology in our nation’s libraries. Report highlights include:

- Libraries serve a unique and important role in providing free access to all types of information and telecommunications services. The demand for such services has increased significantly with growing need for access to digital and online information—including e-government, continuing education and employment opportunities. Almost 73 percent of libraries report they are the only source of free access to computers and the Internet in their communities.

- Funding data indicate volatility in how libraries support this public technology access. Even libraries with historically stable funding are experiencing flat levels of local funding, and have reacted to this by shifting to soft funding sources (fees/fines, donations, grants, etc.) as a way to support public access computing services. Local government revenue and “other” (soft funding) account for nearly 90 percent of overall public library funding.2

- Staffing levels are not keeping pace with patron demand—both for those staff who provide training and other direct patron services, as well as for those staff who maintain the information technology infrastructure. Libraries cite the need for greater staff expertise and availability as a barrier to being able to support and manage public access technologies.

- An increase in the number of libraries reporting connection speeds greater than 769 kbps (up 11 percent from last year) is tempered by the vast majority of libraries (75 percent) who report their wireless and desktop computers share the same network, thus diminishing the effective speed of access to the Internet at the workstation. Further, libraries are not moving above the 1.5 Mbps speed as had been anticipated during 2006–2007.

1. Information about the reports from the 1994–2006 studies is available at http://www.ii.fsu.edu/plinternet.
Public access Internet services (including homework resources, e-books, audio and video) grew dramatically over the past year. These resources provide far more options for library patrons to use inside the library and remotely from home, work and school, but also impact the library’s public services and technology infrastructure.

Many library buildings, inadequate in terms of space and infrastructure (e.g., wiring and cabling), cannot support additional public access computers and technology infrastructure.

The interconnectedness of funding, staffing, buildings and maintenance cannot be underestimated, as all have a direct impact on the amount and quality of public access technology services that public libraries can provide to their patrons.

KEY FINDINGS

For some library users and supporters, library technology is defined simply as a working computer on a desk with Internet access and a printer. Anyone working in a public library, however, knows that simple definition inadequately describes the range of technology infrastructure support needed to provide current public access computing. A range of issues detailed in this report require attention to maintain and improve technology access, and can be dangerous if ignored.

The last decade has seen steady growth in the integration of public access computing services within libraries. Public libraries provide an impressive array of services that are critical to the communities they serve, but the underlying support needed to maintain and improve these services has been lagging for many U.S. public libraries. As libraries introduce more computers and more robust technology-based services, keeping up with patron demand is an ongoing challenge.

Funding Remains Flat for Many Public Libraries

“Money is going to be tight. There’ll be more pressure to do more with less as we’ve been doing.”

Between 2006–2007 and 2007–2008, overall budgets have remained level for most libraries. Although libraries experienced an average annual increase of 4 percent in operating funds from 1996–2005, preliminary national data suggest decreases during fiscal year 2006 in both library expenditures and their distribution. Indications are that individual libraries have experienced a shifting of expenditures away from collections to other line items (e.g., technology, utilities, building maintenance). Redistributing existing resources to other types of expenditures is not uncommon, especially with staffing expenses being the most inflexible of library expenditures. In a 2006 ALA study on funding, libraries reported that when operating budgets decline, reductions in staff, services and collections follow this pattern, in priority of order of cuts:

1. Materials (average of 68.3 percent of libraries responding)
2. Staffing (average of 41.6 percent of libraries responding)
3. Hours open (average of 24.6 percent of libraries responding)
4. Electronic access (12.6 percent of libraries responding)

When scrutinized at a local level, expenditures varied much more than could be discerned at the national level. For instance, when comparing anticipated FY2007 operating expenditures reported in the 2006–2007 Public Library Funding and Technology Access Study (PLFTAS) with actual expenditures in this year's study, it is apparent that projected expenditures were not realized. Overall operating expenditures fell short of anticipated levels by 15.5 percent, and varied by specific expenditure type from those anticipated by as much 20 percent:

- 20 percent below anticipated expenditures for salaries
- 0.8 percent below anticipated expenditures for collections
- 12.5 percent above anticipated expenditures for other expenditures

Libraries reported actual spending of about 58 percent of operating budgets on salaries in FY2007 and about 26 percent of the operating budget on “other” expenditures—building maintenance, technology, utilities, etc. In addition to the steady shift of expenditures away from collections to “other,” it appears we may be starting to see a shift away from salaries to “other” expenditures, as well.

In this year’s questionnaire to COSLA, a majority of state libraries reported level or modest increases in state funding for public libraries in FY2007, similar to previous years. Coupled with the 2006 ALA study on funding, such spending suggests that public libraries have been grappling with declining purchasing power since as early as 2003. State funding makes up about 10 percent of public library operating revenue. Half of state libraries estimated flat or 1–2 percent increases in overall funding for public libraries, and 28.6 percent estimated overall funding growth at 5–10 percent. The extent to which these gains can be sustained given the recent economic downturn remains unclear.

While the detailed financial data section of this study provides more in–depth information, it is important to note that a greater reliance on non-tax sources of funding and a larger proportion of expenditures shifting toward “other” line items and away from staff and collections expenditures are important trends to watch. These are key questions to track when the national public library data (Institute of Museum and Library Services) are reported for FY2007.

Staffing at a Standstill

“The technology was brought in, and a whole new service created, without additional staff. It was just double the work for no more money, you know.”

Library staff members at all levels play vital intermediary roles in supporting, managing and maintaining public access to computers and the Internet. For first-time users, a computer is only as good as the library staff available to orient them—including how to use a mouse, how to open an email account and how to search the Internet effectively. In addition to the one-on-one assistance offered in all libraries, almost three-quarters of libraries (73.4 percent) offer information technology training for library patrons. More library staff report they are scheduling one-hour sessions with patrons to orient them to the broad range of skills necessary to do research, find jobs or apply for government assistance. Many librarians report that applying for jobs and government services are among the most staff-intensive patron Internet needs.

Another impact on front-line staff is evident in the high percentage of libraries reporting that managing time limits imposed on patron use of workstations has to be done manually. Close to half (45.9 percent) of all public libraries and 63.6 percent of rural libraries manage computer time limits with paper lists and taps on the shoulder. Not only is this labor intensive, but many library staff reported that it is the most stressful

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task that they perform. Libraries increasingly are turning to software solutions that allow users to reserve access to a computer and/or automatically cut off Internet sessions without staff intervention. While all library staff interviewed prefer this time management method, they agree that it adds a level of complexity to the computing environment, and implementation snags are common.

While the reported average is about 50 percent, some library staff, particularly those on library reference desks and in libraries that manually manage computer time limits, estimate that as much as 80 percent of their time is spent in any given day on technology-related tasks.

Beyond direct patron assistance and training, library technical staff develop technology plans and hardware replacement schedules; build and support integrated library systems for circulation, cataloging, online public access catalog, acquisitions and computer management; troubleshoot hardware, software and telecommunications networks; select, purchase and organize databases and other electronic resources for patron use; plan for and negotiate telecommunications networks; build and update library Web pages; raise awareness of new Internet services...and more.

Like additional cars on the interstate, additional computers and Internet services in libraries contribute to the “traffic” and create additional demands for staff to orient patrons and mediate public access to these resources. Along with an 86 percent increase in the number of computers in U.S. public libraries, there was an 18.6 percent increase in library visits from 1.15 billion in 2000 to 1.36 billion in 2005. The number of full-time equivalent (FTE) staff grew only 6 percent over the same time period.7

When examined by population service size, the impact on the smallest public libraries (serving fewer than 10,000 residents) is even stronger. Libraries serving fewer than 1,000 residents saw the greatest percentage increase in the number of public computers (up 98 percent), along with a decline in the number of FTE staff (-3 percent).

Responding to an open-ended question about the three most significant challenges libraries face in maintaining their public access computers and Internet access, adequate staffing topped the list, closely followed by financial concerns and computer maintenance and management. These challenges included staff skill levels and training needs, availability of IT staff support and overall inadequate staff levels. Rural libraries (65.2 percent) were more likely to name the need for more staff as their top challenge, when compared with their suburban (60.5 percent) and urban (44.4 percent) counterparts.

Staff Training Needs Outpace Supply

“I really wish there was an easier way to get the technology and training. We teach ourselves, and we try to help each other. It should be easier.”

The impact on staff to support the increasing services is often expressed with frustration. There is a limited amount of time for staff to train themselves on the new technology-based services offered to the public, as well as the time to adequately support their patrons’ needs for training and instruction.

With almost 60 percent of libraries staffed by fewer than five full-time staff members,8 the difficulty of providing coverage for staff to receive training elsewhere is a challenge often compounded by long travel times for rural library staff. Scheduling time for in-library training is also complicated, especially when there is little overlap time in schedules for part-time and full-time staff.

In the questionnaire to COSLA, about 90 percent reported offering some formal training to public library staff in six categories that build skills in funding, public awareness and/or management of technology in libraries. Technology planning (34 percent) was most likely to be offered at least once a year, followed by advocacy/marketing (22 percent) and technology evaluation (19 percent).

IT Support Lags

“It comes down to me. I’m learning as I go. I’ve waited up to a week to get a computer hard drive fixed by county IT staff.”

The need for dedicated technology support staff was identified as one of three main themes that emerged from the 2006–2007 study, and this need continues unresolved, as evidenced by data collected during the

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current study. In fact, for the first time, the 2007–2008 survey asked who provides information technology (IT) support (e.g., troubleshooting desktop issues, Internet connectivity, the library Web page) for the library. The three most common types of support reported were:

- Building-based staff, not trained as an IT specialist (39.6 percent)
- System-level IT staff (38.5 percent)
- Outside vendor or contractor (30 percent)

The disparities are once again pronounced between urban and rural libraries, however. Rural libraries are far more likely than urban libraries to depend on librarians or other library staff who are not trained in IT (44.1 percent) and on outside vendors (36.3 percent)—or even volunteers (14.4 percent)—to support their technology. Urban libraries are most likely to have system-level IT staff (76 percent).

One source of IT support for about 21 percent of urban libraries and 16 percent of suburban libraries—county/city IT staff—can be both a benefit and a challenge. Several library directors reported a clash between the library’s mission of providing open access to computer and Internet resources for a wide range of users and user abilities, and the typical county/city IT approach that protects data and limits access, as would be more common in an office environment. One director reported this is an issue for ongoing education and discussion—including the decisions about when to schedule live updates on the city/county network, and what may be uploaded or downloaded via library computers. Additionally, many city/county IT departments are understaffed, and libraries are one of many agencies in need of technology support.

Another complicating factor for libraries working to hire and retain IT staff is the salary available to compensate these high-demand staff. In the general population, computer and information systems managers are compensated at an average of $101,580,9 compared with $59,974 in a public library setting.10 The 2007 average public library director salary is $77,200.11

**Internet Access Speeds Bump Up, Fall Short**

“Our IT department looked at our bandwidth (1.5Mbps) and found that at 2 p.m. in the afternoon, it was slower than dial-up, we had so many people using it.”

A positive development is that the number of libraries reporting connection speeds of 769 kbps or faster increased 11 percent since last year. More than half of urban libraries (51.6 percent), 42.1 percent of suburban and 32.1 percent of rural libraries now report offering a T1 connection. In the COSLA questionnaire, several state librarians suggested T1 should be the minimum level of connectivity for all libraries in their states. Although many libraries improved access by moving to T1 from lower speeds, there was a slight decline (about 3 percent) in the number of libraries reporting access speeds above 1.5 Mbps.

There also is evidence in the 2007–2008 study that more libraries have reached capacity in their technology infrastructure. Even with more libraries at T1 speeds, the percentage of libraries that report their connection speed is insufficient to meet patron demand some or all of the time is up about 5 percent over the 2006-2007 study. This may be attributed to shared connections between wireless and desktop computers (up 25 percent from last year), the broadband demands of online services and resources, and the continual use of library public access computers.

About 17 percent of libraries reporting in 2007-2008 had plans to increase access speeds in the coming year, up about 3 percent from the 2006–2007 study. Slightly more libraries reported that they were at their maximum connection speed available (17.1 percent compared with 16.6 percent last year), or were unable to afford additional bandwidth (21.2 percent compared with 18.1 percent last year). Proportionally, all libraries

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11. Ibid.
(rural, suburban and urban) considered the cost of increasing access speeds to be a barrier hindering upgrades, but rural libraries (24.8 percent) disproportionately reported that they are at the maximum level of connectivity.

Although funding is a strong indicator of growth and sustainability when providing computer-based services for the public, the overall quality of these services depends heavily both on access speeds and on the adequacy of hardware—having enough computers as well as the age of those computers.

This year’s study revealed that the age range for library computers in use is quite broad; libraries in all types of communities are keeping computers older than four years in use to support patron demand. When asked about key factors affecting the replacement of public access computers, 89.6 percent of libraries reported cost and 33.1 percent reported maintenance and general upkeep issues as factors. Clearly, the impact of reliance on soft funding and insufficient IT staff are recognized as growing barriers to supporting ongoing public technology access.

**Internet Services Show Double-Digit Growth**

“We’re not being used less; we’re being used differently.”

In addition to the hardware and software offered in every U.S. public library building, most libraries have created increasingly robust virtual collections of online resources via their Web sites and online catalogs. This year’s survey found that nearly every category of public Internet service offered in U.S. public libraries increased—sometimes dramatically—from the 2006–2007 study.

The survey indicated double-digit growth in the availability of a range of resources in five key online services:

- Audio content increased 33 percent (from 38 to 71 percent).
- Video content is up 32 percent (from 16.6 to 48.9 percent).
- Homework resources grew 15 percent (from 68.1 to 83.4 percent).
E-book availability increased 13.5 percent (from 38.3 to 51.8 percent).
Digitized special collections increased by almost 13 percent (from 21.1 to 33.8 percent).

Licensed databases to support education (like World Book and test preparation materials), business (like Standard and Poor’s) and life interests (such as genealogy) are still the most commonly provided Internet-based services—available in 98 percent of urban libraries, 93 percent of suburban libraries and 80 percent of rural libraries.

Also of interest is that these online services grew in libraries of all sizes. Urban libraries—which generally benefit from greater Internet access speeds, dedicated technology budgets and dedicated IT staff—lead in every category of online services. But their rural counterparts reported the greatest percentage growth in offering homework resources (up 15 percent) and audio content (up 34 percent). Suburban libraries, too, increased all online services and led their counterparts in the percentage growth of online instructional courses/tutorials provision (up 13 percent).

Library staff rank the top two uses of public Internet service that are as critical to their community: education for K-12 students (78.7 percent); and job-seeking services (62.2 percent). In fact, these responses increased significantly in both categories since last year. The third most critical use is providing access to government information (55.6 percent), which has now grown larger than the service categories for providing education resources and databases for adults/continuing education services (46.9 percent) or computer and Internet skills training (37.6 percent).

In addition to providing these informational and lifelong learning resources, libraries also provide peripheral device support to library patrons. The 2007–2008 study asked about these devices for the first time and found that public libraries allow users to access and store content on USB storage devices (e.g., flash drives, portable drives) or other devices (72 percent), make use of digital camera connection and

![Figure A4. Public Library Services Available to Users by 2007 and 2008](image-url)
manipulation (37.4 percent) and burn CDs/DVDs (34.7 percent).

The results and effects of these increases in online public library services are manifold. The good news is that library users who visit the library in person or virtually via its Web site have more access to more resources—many of which are unavailable or too expensive to purchase at the individual consumer level. The tradeoff is that these services often come at the expense of reduced Internet speeds, funding for other library resources and higher expectations by patrons for library staff assistance in using these resources.

**Buildings and Infrastructure Further Stretched**

“Our headquarters library is twenty years old this year, and it was built with no provision for Internet access.”

This year also marked the first increase in the number of new computers in libraries since 2002.12 The average number of public access computers increased by 1.3 per library in 2007–2008. Urban libraries gained the most—2.7 more, now averaging 21 per library. Suburban libraries reported modest gains, adding about one computer per library and now averaging nearly 14 computers per library outlet. Rural libraries gained the least, adding only about 0.4 computers, averaging about 7.5 computers per library in 2007–2008.

For the second year, libraries reported space issues and challenges in maintaining an adequate supply of building-based electrical and IT wiring to support technology-based services. More than three-quarters of libraries (77.7 percent) reported that space limitations are a key factor when considering adding public access computers. Another 36.4 percent reported the lack of availability of electrical outlets, cabling or other infrastructure as a barrier—up from 31.2 percent in 2006–2007.

Although purchasing equipment and basic building maintenance may be paid from annual operating sources, significant building improvements are typically made from capital revenue sources. Fewer than 50 percent of public libraries benefit from capital revenue sources and most receive less than $10,000—an inadequate amount when rewiring or significant cabling is required to increase technology-based services.13 A majority of library buildings are 25 to 50 years old, and 40 percent of library buildings are estimated to be in fair or poor condition.14

To respond to these challenges, many libraries have added wireless to support patrons bringing their own computers to the library or to support laptop check-out for in-library users. Libraries also reported the growing need for staff training in implementing wireless, as they continue to dedicate desktop computers to patron use, and rely on wireless laptops for training or the demonstration of new Internet services.

During site visits, a number of library directors indicated there was high demand for more workstations and wireless connectivity at their libraries. But, for the reasons noted above, such was unlikely to occur. Moreover, obtaining more workstations or wireless connectivity might only exacerbate the strain of providing technology training to users and staff, and could put even more pressure on the library’s budget to purchase additional software and other resources for the workstations, as well as require additional funds to address workstation maintenance issues.

Fifty-six percent of libraries have no plans to add computers in the coming year. This, together with the issues of insufficiency of bandwidth access, ongoing challenges to fund staff support for IT and the inadequacy of building capacity and technology infrastructure, suggest the growing strain that libraries face to keep up with user demand for public access computing.

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CALL TO ACTION

There must be a greater awareness of the challenging issues facing public libraries and a renewed focus on sustainable solutions that improve the quality—as well as the quantity—of public technology access in U.S. public libraries.

Millions of people throughout the United States depend upon libraries for their access to online educational opportunities, job-seeking assistance, e-government interactions, and help in using information resources. Almost 73 percent of libraries report they are the only source of free access to computers and the Internet in their communities.

This study also revealed that public libraries indicate that their workstations are in near constant use. Although wireless access is available in almost two-thirds of libraries, there are also increased levels of service and resource demands for e-government, digital content and a range of other patron services that impose a greater load and impact on available bandwidth.

Public library advocates must focus on specific areas needing urgent attention:

- Public libraries need stable and sustainable funding for technology services. Libraries currently are shifting expenditures to cover technology costs and/or relying on “soft” (non-tax) support to fund technology. In doing so, libraries mask the impacts of funding cuts and increased operating costs—sometimes until they are literally forced to close their doors.

- Librarians and policymakers must re-think federal and state support to public libraries. Only a small portion of public library funding (0.5 percent) comes from the federal government, yet public libraries have important social roles and responsibilities to American society and overall quality of life. New strategies for national support to public libraries should be developed.

- The public library community needs to develop new models for deploying and managing technology. In addition to participating in library networks, cooperatives and consortia that leverage shared resources, libraries need to develop strategies to work with other community organizations to promote additional public access technologies. Collaboration with educational organizations, such as public schools and community colleges, other local community groups and private sector firms may produce ideas and strategies that can integrate with, extend and/or enhance public library networked services. Such collaborations can be an important component of the library’s advocacy strategy, alleviate pressure on the public library as the sole provider of public access and create a more robust community-wide public access infrastructure.

- Investing in additional public library staff and staff training activities are investments in technology. The one-on-one and formal trainings offered in libraries are essential for many patrons, and for many, this is the only avenue for them to learn how to successfully use Internet-based resources for work, school and life interests. Increasingly complex networked environments also demand dedicated IT staffing.

These are only some of the most important areas where public library advocates should focus their attention. Additional suggestions and possible strategies are discussed elsewhere in this report.