PUBLIC LIBRARY TECHNOLOGY LANDSCAPE

With their nearly ubiquitous presence, U.S. public libraries provide their communities with a wide array of essential public access technologies and Internet-enabled services. Through these services and technologies, public libraries help to build digitally inclusive communities by serving as gateways to diverse services including broadband and computer access, technology training, and e-government and employment services.

PUBLIC LIBRARY FUNDING & TECHNOLOGY ACCESS STUDY 2011–2012

The 2011-2012 study tracks the continuously expanding technology landscape of U.S. public libraries, and how they provide the digital skills essential to full participation in civic life and the national economy in the 21st century.

New data indicate that library technology resources continue to be in great demand:

■ Over 60 percent of libraries report increased use of public access workstations.

■ Most libraries (74.1 percent) report increased use of Wi-Fi.

■ More than half of libraries (58.2 percent) report increased use of electronic resources.

■ More than one-third of libraries (36.3 percent) report increased use of training services.

The following section presents selected key findings from library outlets (branches) and the implications of these findings. The complete set of data tables, as well as previous findings, are available at http://pl internetsurvey.org. This year's participation in the survey had an 83.5 percent response rate and was completed by respondents between September 7, 2011 and November 18, 2011.

Public Access Infrastructure

Public libraries provide public workstations and laptops, wireless (Wi-Fi) and broadband connectivity as part of their public access infrastructure:

■ Over 62 percent of library outlets report they are the only provider of free public computer and Internet access in their communities.

■ Overall, public library outlets report an average of 16.4 public access computers (desktop and laptop per outlet.

■ Almost 89 percent of public library outlets now offer wireless Internet access.

■ Nearly 70 percent of libraries provide connections speeds greater

FIGURE C-1: U.S. PUBLIC LIBRARIES: SOLE COMMUNITY PROVIDER OF FREE ACCESS TO COMPUTERS AND INTERNET

URBAN 41%

SUBURBAN 60%

RURAL 70%

Percentage of libraries reporting
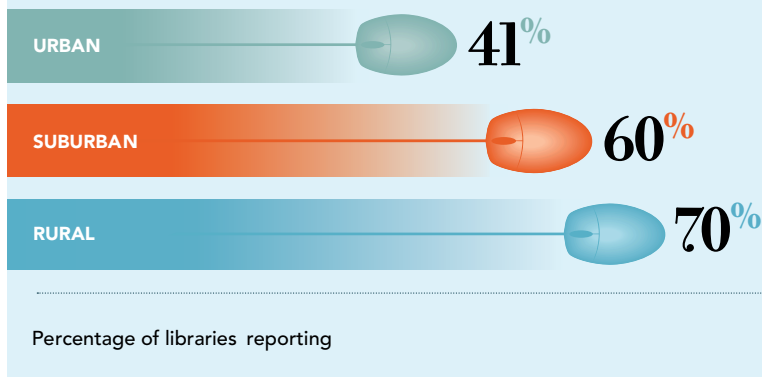
than 1.5 Mbps, up from 60.3 percent last year.

■ Newly reported for the first time this year, 39.1 percent of libraries provide e-readers for check-out.

Patron Technology Training and Internet Services

Beyond Internet access, public libraries play an essential role in boosting their patrons' technology proficiency and digital literacy skills. Overall, 90.2 percent of public libraries offer some type of formal or informal technology training:

■ Over 44 percent of libraries offer formal technology training classes. This increases to 63.2 percent for urban libraries.

■ Over one-third (34.8 percent) of libraries provide one-on-one training by appointment.

■ A large majority (82.7 percent) of libraries offer informal point-of-use training assistance.

In all, over 36 percent of public libraries report increased use of technology training classes for patrons. Libraries staff report there is still a large pool of people who are new to computers and need the most basic level of training. For libraries offering formal training, general computer skills (e.g.,

how to use mouse, keyboard, printing) are the most common (87 percent).

Libraries report providing services to job-seekers as the most vital public Internet service they offer, with 92.2 percent of all libraries reporting they provide access to jobs databases and other job opportunity resources. Providing access to online government information follows closely in importance. Almost all public libraries (96.6) report assisting patrons with applying for and accessing e-government services.

Libraries also broker and provide access to a wide range of Internet resources, including:

■ Licensed databases
■ Online homework assistance
■ Digital/virtual reference
■ E-books and e-readers

In the 2011-2012 study, 76.3 percent of libraries reported offering e-books, an increase of 9 percent from last year.

U.S. libraries are increasingly turning to social media and mobile applications to increase their community interactions and the dissemination of information. For the first time, this year's survey asked libraries to report on their use of specific social media tools. Nearly 71 percent of libraries report using social networking tools (e.g., Facebook), and 45.6 percent report using communications tools (e.g.,

FIGURE C-2: AVERAGE NUMBER OF PUBLIC ACCESS INTERNET WORKSTATIONS, BY AGE AND METROPOLITAN STATUS

Average Age	Metropolitan Status			
	Urban	Suburban	Rural	Overall
Less than 1 year old	15.7	10.1	5.4	7.8
1 year old	12.5	9.2	4.3	6.7
2 years old	15.9	8.3	4.7	7.4
3 years old	14.9	8.2	4.5	7.2
4 years old	13.0	9.3	4.4	7.3
5 years old	14.8	8.8	4.9	7.1
Overall	27.9	20.1	10.7	16.4

FIGURE C-3: SUFFICIENCY OF PUBLIC ACCESS INTERNET WORKSTATIONS, BY METROPOLITAN STATUS

Sufficiency of Public Access Workstations	Metropolitan Status			
	Urban	Suburban	Rural	Overall
There are consistently fewer public Internet workstations than patrons who wish to use them throughout a typical day	27.1%	13.2%	8.7%	13.2%
There are fewer public Internet workstations than patrons who wish to use them at different times throughout a typical day	59.8%	53.3%	49.0%	52.2%
There are sufficient public Internet workstations available for patrons who wish to use them during a typical day	13.1%	33.5%	42.3%	34.6%

Twitter). New this year is the collection of data on how libraries are using mobile technologies. Over 14 percent of libraries have websites optimized for mobile devices, nearly 12 percent use scanned codes (e.g., QR codes), and over 7 percent have smartphone apps.

Decreased Funding Increase Challenges

As the public library funding landscape reflects, there is insufficient funding available to maintain and improve library operations, including technology. The greatest challenges to continuing to provide free public access to computers and the Internet at public libraries include:

Costs: A majority of libraries (77.9 percent) report cost factors as one of the major challenges in maintaining, sustaining, and enhancing their public access technology infrastructure.

Sufficiency: Although libraries re-

port increases in public access computers and bandwidth, 41.7 percent of libraries report their connection speeds are insufficient, and 65.4 percent of libraries report they had fewer public access computers to meet demand.

Limited Gains Ahead for Connectivity and Access

While public libraries plan to add, replace, or upgrade workstations and make other enhancements to their public computers and Internet resources, many do not know if they will have the anticipated funding. While more than a third (35.5 percent) of libraries have a computer replacement schedule, 30.6 percent of libraries report that this replacement schedule is every five years.

Despite the fact that 64.5 percent of libraries report having an insufficient number of public access computers, only 14.6 percent of libraries plan to add more computers within the next year. Almost 4 percent of libraries plan to add wireless access in the next year. If they do, over 92 percent of libraries will then offer Wi-Fi. Overall, 38.5 percent of libraries report Internet connection speeds of 1.6 Mbps – 10 Mbps, up 5 percent from last year. Even though libraries have enhanced their capacity by adding more public access computers, increasing broadband, and offering Wi-Fi, they report usage that suggests this additional library capacity has not resolved their community's demands for access and connectivity.

HARDWARE and IT SUPPORT

Each year, the survey asks detailed questions about outlet-level public access computing hardware. The responses indicate trends in information technology infrastructure, and its impact on technology-related services. This section describes the number and age of workstations/laptops, hardware replacement and procurement sched-

ules, and whether libraries are able to adhere to their replacement schedules, keep hardware in operation, and other mitigating factors.

This year, public libraries report:

■ Offering an average of 16.4 public access computers (desktop and laptop per outlet).

■ Experiencing increased dependency on non-IT specialists (public service staff and library directors) to provide the majority of IT support.

■ Anticipating fewer new computer purchases in the coming year.

Despite more Computers, Sufficiency Still Lags Behind Demand

Overall, public library outlets report an average of 16.4 public access computers (Figure C-2), up slightly from 16.0 in 2010-2011 and 14.2 in 2009-2010. Rural libraries report an average of 10.7 public access computers, up from 9.6 in 2010-2011 and 9.2 in 2009-2010. Suburban libraries report an average of 20.1 public access computers, up from 19.6 in 2010-2011 and 15.8 in 2009-2010. Urban libraries report an average of 27.9 public access computers, essentially unchanged from 28.0 in 2010-2011 and up from 25.4 in 2009-2010.

It is encouraging that libraries report more new computers this year (7.8 workstations less than 1 year old) than in 2010-2011 (6.5 workstations less than 1 year old).

Libraries continue to battle supply issues: 65.4 percent of libraries report having insufficient public access Internet workstations to meet patrons' needs at least some of the time during a typical day (Figure C-3). This is a decrease of 10.8 percent from the 2010-2011 study.

Urban libraries continue to face the greatest challenge in providing a sufficient number of public access workstations: 86.9 percent reported insufficient numbers, followed by 66.5 percent of suburban libraries, and 57.7 percent of rural libraries. On

a brighter note, 34.6 percent of libraries reported having sufficient workstations available during a typi-

cal day in the 2011-2012 study, an increase from the 23.8 percent reported in the 2010-2011 study.

FIGURE C-4: PUBLIC ACCESS WORKSTATION REPLACEMENT PROCEDURE, BY METROPOLITAN STATUS

Replacement Procedure	Metropolitan Status			
	Urban	Suburban	Rural	Overall
Yes, library has a replacement schedule	66.4%	41.9%	29.0%	35.5%
No (As Needed)	31.4%	57.3%	69.5%	63.2%
Don't Know	2.2%	*	1.5%	1.3%

Key: * : Insufficient data to report

FIGURE C-5: PUBLIC ACCESS WORKSTATION REPLACEMENT SCHEDULE, BY METROPOLITAN STATUS

Schedule	Metropolitan Status			
	Urban	Suburban	Rural	Overall
Every year	1.4%	1.2%	4.1%	2.6%
Every 2 years	1.4%	3.2%	6.0%	4.4%
Every 3 years	25.9%	22.8%	29.1%	26.2%
Every 4 years	34.7%	28.8%	21.7%	25.9%
Every 5 years	29.9%	34.0%	28.1%)	30.6%
Other	6.8%	8.9%	11.0%	10.2%

FIGURE C-6: PUBLIC ACCESS WORKSTATIONS ADDITIONS, BY METROPOLITAN STATUS

Plans to add workstations	Metropolitan Status			
	Urban	Suburban	Rural	Overall
Yes	22.3%	13.4%	14.6%	14.6%
No	53.2%	58.2%	58.4%	58.1%
Unsure at this time if adding workstations	22.7%	23.8%	21.5%	22.3%
Don't Know	-	*	1.3%	1.0%
Other	1.8%	4.0%	4.2%	4.0%
The average number of workstations that the library plans to add within the next year	41.8	7.3	5.1	9.0

Key: - : No data to report,*: Insufficient data to report

FIGURE C-7: AVERAGE PUBLIC ACCESS WORKSTATIONS ADDITIONS DUE TO BTOP/BIP AWARDS, BY METROPOLITAN STATUS

	Metropolitan Status			
Schedule	Urban	Suburban	Rural	Overall
Workstations added/replaced LAST year due to BTOP/BIP awards	84.3	13.8	7.1	13.1
Workstations added/replaced in the NEXT year due to BTOP/BIP awards	88.1	7.6	5.3	12.1

FIGURE C-8: SOURCES OF IT SUPPORT PROVIDED TO PUBLIC LIBRARY OUTLETS, BY METROPOLITAN STATUS

	Metropolitan Status			
Source of IT Support	Urban	Suburban	Rural	Overall
Public service staff	41.7%	45.5%	32.8%	37.6%
Library director	10.8%	40.8%	59.5%	50.4%
Building-based IT staff (IT specialist)	36.3%	25.1%	10.9%	17.2%
System-level IT staff	58.3%	28.6%	18.2%	24.0%
Library consortia or other library organization	13.0%	24.8%	17.3%	19.6%
County/City IT staff	34.5%	19.5%	9.9%	14.5%
State telecommunications network staff	2.7%	2.7%	3.0%	2.9%
State library IT staff	4.0%	6.9%	9.9%	8.6%
Outside vendor/contractor	19.3%	34.2%	42.8%	38.5%
Volunteer(s)	2.7%	7.0%	16.3%	12.4%
Other source	1.3%	6.0%	6.1%	5.8%

Replacement Schedules

Overall, a majority of public libraries (63.2 percent) do not have replacement schedules and replace their workstations only as needed (Figure C-4). There is a stark difference between the replacement policy schedules of urban and rural libraries. The majority of urban libraries (57.3 percent) have an established replacement policy, whereas the majority of rural libraries (69.5 percent) do not. The majority of suburban libraries (53.4 percent) had a replacement schedule in 2010-2011, but this percentage decreased to 41.9 percent in 2011-2012.

A majority of public libraries (82.7) replace workstations every three to five years (Figure C-5), a slight decrease from the 86.9 percent reported last year. The 30.6 percent of libraries that report their replacement frequency at every five years is of significance, an increase of 3 percent from last year.

Most of the public libraries interviewed for the field study in Georgia report that they are unable to maintain the replacement schedules for their public workstations. One IT manager reports having to maintain computers that are about seven years old and being able to replace computers only upon complete hardware failure. Another IT manager said, "If there is money available at the end of the year, we replace what we can."

In all, only 31.2 percent of libraries report they are able to adhere to their replacement schedules, while 49.9 percent indicate they are able to maintain their schedule but do not know how many public access computers or laptops they will replace (detail available on Study website, Figure 37). An average of 19.5 public access workstations per outlet are scheduled to be replaced within the next year, which is a substantial increase over the average number of scheduled replacements (7.9 workstations) reported in the 2010-2011 study.

Few Plan to Add Computers

The majority of public libraries (58.1 percent) do not plan to add public access workstations in the next year (Figure C-6). The percentage of libraries that do plan to add workstations decreased to 14.6 percent this year from 22.7 percent in 2010-2011, an even more dramatic decrease from the 28.7 percent reported in 2009-2010. This year, 22.3 percent of urban libraries report plans to add workstations, followed by 14.6 percent of rural libraries and 13.4 percent of suburban libraries, unlike last year, when more rural libraries reported plans to add workstations (24.4 percent) than urban (22.8 percent) and suburban libraries (20.3 percent).

In responding to a new question in this year's study (Figure C-7), 13.1 percent of libraries report adding or replacing computers last year with funding provided by the Broadband Technologies Opportunities Program (BTOP) or the Broadband Initiative Program (BIP), while 12.1 percent plan

to add or replace systems with such funds next year. Despite the fact that a higher percent of urban libraries participate in these programs, the majority of computer replacements or additions are reported by suburban or rural libraries.

Keeping Computers in Service

Non-IT specialists provide the majority of IT support services (88 percent) for public libraries (Figure C-8), a large increase from the 70.7 percent reported in the 2010-2011 study. In urban (41.7 percent) and suburban libraries (45.5 percent), public service staff provide most of this type of support, while rural libraries depend more upon their library directors (59.5 percent) for IT support.

This variation by metropolitan status is related to overall staffing differences in rural libraries, as compared to larger suburban and urban libraries. There are large metropolitan discrepancies for system-level IT staff as a source of IT support, as urban (58.3 percent) and suburban libraries (40.8 percent) far outpace rural libraries (18.2 percent). Outside vendors/contractors are another important source (38.5 percent overall), particularly for rural libraries (42.8 percent). There was an unexpected increase in the number of libraries that depend on volunteers for IT support (12.4 percent), compared to 6.7 percent last year. Rural libraries (16.3 percent) depend the most on volunteers.

This year, 44.5 percent of libraries report taking one day or less to restore

an "out of service" public access computer, an improvement of 6.1 percent from 2010-2011. Suburban libraries report a spike in response time, with 23.5 percent of machines being repaired in less than one day compared to 16.7 percent last year. However, the 2011-2012 report still finds most libraries (47.8 percent) take two or more days to restore a public access computer to working order. This year, urban libraries are more likely to require more than two days (28.3 percent) to repair a machine than last year (18.1 percent). Rural libraries and urban libraries are significantly more likely to require more than two days to repair machines (28.3 and 28.3 percent, respectively) than suburban libraries (21.8 percent). (Details available on Study website, Figure 5.)
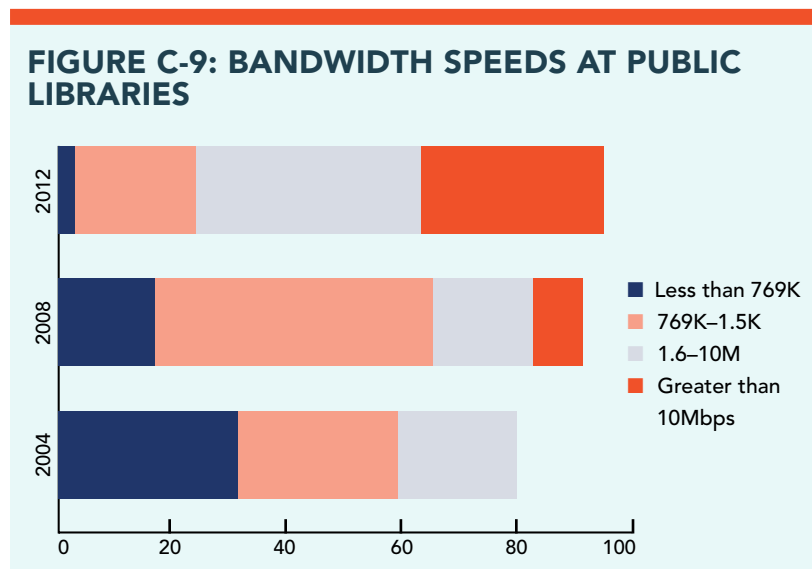
CONNECTIVITY

Public libraries are trying to keep pace with patron demand for Internet access by making continuous improvements to bandwidth speeds and access to wireless connections. In 2011-2012, public libraries report:

■ Increasing access speeds of greater than 10 Mbps (31.2 percent, up from 24.9 percent last year).

■ More library outlets offering wireless access (90.5 percent, up from 85.7 last year).

■ Despite gains in access speeds, 41.4 percent of libraries report insufficient speeds.

Connection Speeds Continue to Improve

The percentage of libraries offering speeds greater than 1.5 Mbps (T1) has increased to 69.7 percent in 2011-2012, up from 61.0 percent last year (Figure C-10). There is also a drop in the percentage of libraries with connection speeds of less than 1.5 Mbps (6.9 percent in 2011-2012 versus 12.0 percent last year). In addition, the percentage of libraries reporting connection speeds greater than 10 Mbps is 31.2 percent,

FIGURE C-9: BANDWIDTH SPEEDS AT PUBLIC LIBRARIES

Legend:
- Less than 769K
- 769K–1.5K
- 1.6–10M
- Greater than 10Mbps

up over last year's 24.6 percent.

The percentage of urban libraries reporting connection speeds greater than 40 Mbps grew to 26.6 percent this year, up from 20.7 percent in 2010-2011. Suburban libraries reporting the same top connection speed grew to 14.7 percent, up from 12.6 percent last year. Only 6.9 percent of rural libraries reported connection speeds greater than

40 Mbps this year. However, the percentage of rural libraries reporting connection speeds greater than 1.5 Mbps has grown to 61 percent this year, an increase from 49.4 percent last year.

Wireless Access Nears Ubiquity

Public libraries are increasing wireless availability, with 90.5 percent of

FIGURE C-10: PUBLIC LIBRARY OUTLETS MAXIMUM SPEED OF PUBLIC ACCESS INTERNET SERVICES, BY METROPOLITAN STATUS

Maximum Speed	Metropolitan Status			
	Urban	Suburban	Rural	Overall
768 Kbps (kilobits/second) or less	*	1.1%	4.8%	2.8%
769 Kbps - 1.4 Mbps (megabits/second) or less	1.6%	3.6%	5.1%	4.1%
1.5 Mbps (T1)	8.1%	13.6%	21.2%	16.5%
1.6 Mbps - 3.0 Mbps	4.4%	11.1%	16.7%	12.9%
3.1 Mbps - 4.0 Mbps	7.0%	3.2%	6.9%	5.7%
4.1 Mbps – 6.0 Mbps	4.4%	6.7%	9.5%	7.7%
6.1 Mbps - 10 Mbps	10.6%	15.0%	10.9%	12.2%
10.1 Mbps - 20.0 Mbps	17.3%	13.1%	7.0%	10.7%
20.1 Mbps - 30.0 Mbps	8.9%	6.5%	3.1%	5.1%
30.1 Mbps - 40.0 Mbps	4.6%	2.4%	*	1.9%
40.1. Mbps – 99.9 Mbps	8.4%	3.6%	2.0%	4.4%
100 Mbps or greater	18.2%	11.1%	4.9%	9.1%
Don't Know	6.6%	6.6%	7.2%	6.9%

Key: * : Insufficient data to report

FIGURE C-11: PUBLIC ACCESS WIRELESS INTERNET CONNECTIVITY IN PUBLIC LIBRARY OUTLETS, BY METROPOLITAN STATUS

Availability of Public Access Wireless Internet Services	Metropolitan Status			
	Urban	Suburban	Rural	Overall
Currently available for public use when the library is open and closed	68.4%	67.8%	69.1%	68.5%
Currently available for public use only when library is open	28.3%	26.0%	17.2%	22.0%
Not currently available, but there are plans to make it available within the next year	1.7%	1.9%	6.0%	3.9%
Not currently available and no plans to make it available within the next year	1.6%	4.3%	7.7%	5.6%

libraries offering Wi-Fi this year, up from 85.8 percent in 2010-2011 (Figure C-11). Urban and suburban libraries provide wireless access at similar rates (96.7 percent and 93.8 percent, respectively). Wireless access in rural libraries has increased to 86.3 percent, up 4.8 percent from last year. The percentage of libraries that do not provide wireless access and have no plans to make it available decreased to 5.6 percent this year, down from 8.2 percent last year.

More urban libraries report sharing wireless and public access workstation connections this year (41.6 percent, up from 35.8 percent), with a concomitant decrease in separate connections (20.9 percent, down from 27.3 percent). Urban libraries report a slight increase in shared connections with management techniques used to mitigate traffic congestion (37.0 percent in 2011-2012, up from 36.2 percent in 2010-2011). Similar to previous years, the percentage of rural libraries reporting shared wireless and public access workstation connections without management techniques to alleviate traffic congestion is the highest at 67.9 percent (details available on Study website, Figure 14).

Adequate connection speeds are reported by 58.3 percent of public libraries, with suburban libraries reporting the greatest increases of nearly 6 percent (62.5 percent, up from 56.7 percent last year). Urban (55.8 percent) and rural libraries (56.3 percent) report slight increases in the adequacy of connection speeds (up from 55.0 percent and 53.1 percent, respectively). Although libraries report increases in their connection speeds in 2011-2012 (Figure 11), 41.4 percent of libraries indicate these connection speeds are insufficient to meet patron needs some or most of the time (Figure C-12), which is consistent with the 2010-2011 report.

A wide range of Internet services and resources are provided to library patrons — inside the library and remotely through library websites. In addition to providing downloadable media, virtual reference, homework resources and other specialized databases to support education and research, library staff also help community members obtain the digital literacy skills needed for today's increasingly digital world.

Patron Technology Training

As more and more essential services and resources increasingly move to exclusive digital access, many citizens depend on public libraries to provide the expertise and training needed to gain digital skill fluency, often at the most basic level.

Overall, 90.2 percent of public libraries offer some type of formal or informal technology training (Figure C-13). A growing percentage of public libraries offers formal technology training classes (44.3 percent, up from 38.0 percent in 2010-2011). Nearly two-thirds of urban libraries (63.2 percent) offer this type of training, followed by 54.5 percent of suburban libraries and 31.8 percent of rural libraries. Additionally, 34.8 percent of public libraries report they provide one-on-one technology training sessions by appointment (up from 28.1 percent in 2010-2011), and 82.7 percent offer informal point-of-use training assistance (up from 78.8 percent in 2010-2011).

Overall, 36.3 percent of public libraries report increasing enrollments in patron technology training classes since last year (details available on Study website, Figure 9.)

Figure C-14 depicts the types of formal technology classes offered. For libraries offering formal training, general computer skills classes are the most common (87 percent), followed by general Internet use classes

FIGURE C-12: ADEQUACY OF PUBLIC LIBRARY OUTLETS PUBLIC ACCESS INTERNET CONNECTION, BY METROPOLITAN STATUS

Adequacy of Public Access Internet Connection	Metropolitan Status			
	Urban	Suburban	Rural	Overall
The connection speed is insufficient to meet patron needs most of the time	10.1%	13.3%	13.6%	13.0%
The connection speed is sufficient to meet patron needs at some times	33.8%	24.0%	29.5%	28.4%
The connection speed is sufficient to meet patron needs almost all of the time	55.8%	62.5%	56.3%	58.3%
Don't know	*	*	*	*

FIGURE C-13: PUBLIC LIBRARY OUTLETS OFFERING FORMAL OR INFORMAL TECHNOLOGY TRAINING, AVAILABILITY BY METROPOLITAN STATUS

Training Availability	Metropolitan Status			
	Urban	Suburban	Rural	Overall
Offers formal technology training classes	63.2%	54.5%	31.8%	44.3%
Offers one-on-one technology training sessions by appointment	43.4%	37.9%	30.1%	34.8%
Offers informal point-of-use assistance	85.2%	85.9%	79.9%	82.7%
Offers online training material	36.3%	33.7%	21.9%	28.1%
Does not offer any technology training	5.1%	8.0%	12.5%	9.8%
Will not total 100%, as categories are not mutually exclusive				

(86.5 percent). About three-quarters of libraries (75.6 percent) report training patrons on general online/Web searching and general software use classes (73.3 percent). The percentage of libraries offering classes on accessing online job-seeking and career-related information grew slightly this year (49.2 percent, up from 48.1 percent in 2010-2011).

The percentage of libraries offering classes on accessing genealogy infor-

mation grew the most dramatically (46.3 percent, up from 40.8 percent in 2010-2011). Relatively few outlets (17.1 percent) provide training on accessing online investment information, although this is up slightly from 14.5 percent in 2010-2011. Training in the use of social networking continues to grow for the second year in a row, with 39.2 percent of libraries now offering this training, up from 35.3 percent in 2010-11. In urban

FIGURE C-14: FORMAL TECHNOLOGY TRAINING CLASSES OFFERED BY PUBLIC LIBRARY OUTLETS, BY METROPOLITAN STATUS

Technology Training Classes	Metropolitan Status			
	Urban	Suburban	Rural	Overall
General computer skills (e.g., how to use mouse, keyboard, printing)	85.5%	87.0%	88.0%	87.0%
General software use (e.g., word processing, spreadsheets, presentation)	74.0%	73.7%	72.3%	73.3%
General Internet use (e.g., set up e-mail, Web browsing)	83.0%	87.9%	87.2%	86.5%
General online/Web searching (e.g., using Google, Yahoo, others)	75.4%	76.2%	75.0%	75.6%
Using library's Online Public Access Catalog (OPAC)	45.2%	51.2%	42.3%	46.6%
Using online databases (e.g., commercial databases to search and find content)	51.4%	58.0%	49.1%	53.2%
Safe online practices (e.g., not divulging personal information)	36.7%	38.4%	35.7%	37.0%
Accessing online government information (e.g., Medicare, taxes, how to complete forms)	30.2%	29.4%	29.8%	29.7%
Accessing online job-seeking and career-related information	50.5%	54.6%	42.4%	49.2%
Accessing online health and wellness information (e.g., consumer health)	26.5%	24.0%	22.2%	23.9%
Accessing online investment information	21.4%	19.7%	11.5%	17.1%
Accessing genealogy information	39.0%	48.0%	40.6%	46.3%
Accessing consumer information (e.g., product value, safety, reliability, warranty information)	17.3%	24.1%	18.0%	20.3%
Digital photography, software and online applications (e.g., Photoshop, Flickr)	21.9%	34.2%	27.6%	29.0%
Social media (e.g., blogging, Twitter, Facebook, YouTube)	28.2%	42.8%	42.6%	39.4%
Other technology-based training classes	6.6%	7.7%	5.5%	6.7%

Will not total 100%, as categories are not mutually exclusive

*Data in this figure is from the subset of libraries that report they offer formal technology training (Figure C-13)

libraries, trainings about safe online practices (36.7 percent) and accessing online investment information (21.4 percent) grew from 29.2 percent and 16.4 percent, respectively.

Libraries Expand Offerings of Online Resources and E-books

Figure C-15 illustrates the range of Internet-based resources and services public libraries provide to their patrons. Licensed databases continued to be the most commonly provided service. Libraries also offer substantial homework assistance, with 81.8 percent offering such services inside the library and 62.7 percent supporting external access. A majority of libraries also provide downloads of audio content, with 82.9 percent offering these services within the library and 61.9 percent supporting external access.

This past year, the online resources with the highest public profile are e-books and e-readers. As demand for e-books soars, libraries of all sizes have added e-books to their collections. In the 2011-2012 study, 76.3 percent of libraries report offering access to e-books, up from 67.2 percent in 2010-2011 and 38.3 percent in 2007 (the first year this question appeared in the study). Additionally, e-readers have increasingly become a fixture in public libraries, with 39.1 percent of outlets providing access to such devices.

Increasing e-book circulation statistics is likely attributed to a growing awareness of the availability of e-books at public libraries and Kindle's compatibility with OverDrive, the subscription service that the majority of libraries with e-book collections use. According to a recent Pew Research Center study, there are four times more people reading e-books on a typical day now than there were less than two years ago.[1] One-fifth of American adults (21 percent) reported that they have read an e-book

FIGURE C-15: ONLINE RESOURCES AND SERVICES THAT THE LIBRARY MAKES AVAILABLE TO PATRONS

	Overall		
	Does Not Offer Service	Offers Service in Library	Offers Service Remotely (e.g., via the Web)
Resources			
Digital Reference/Virtual Reference	30.4%	69.7%	69.8%
Licensed databases	1.2%	98.7%	98.7%
E-books	23.7%	76.3%	76.1%
Web/business conferencing (e.g., Skype, WebEx)	73.6%	26.5%	2.2%
Online instructional courses/tutorials	45.6%	54.2%	40.0%
Homework resources (e.g., tutor.com, databases)	17.7%	81.8%	62.7%
Audio content (e.g., music, audiobooks, other)	16.8%	82.9%	61.9%
Video content (e.g., streaming video, video clips, other)	40.0%	60.0%	38.5%
Digitized special collections (e.g., letters, postcards, documents, other)	46.6%	53.3%	40.6%
Library social networking (e.g., blogs, Flixster, Goodreads)	37.7%	61.8%	46.7%
Online book clubs	61.8%	30.8%	30.7%
Services			
Allow patrons to access and store content on USB or other portable devices/drives (e.g., iPods, MP3 players, flash drives, other)	6.8%	93.2%	---
Allow patrons to connect digital cameras and manipulate content	35.6%	64.4%	---
Allow patrons to burn compact discs/DVDs	43.8%	56.2%	---
Provide access to recreational gaming consoles, software or websites	31.0%	69.2%	---
Provide access to mobile devices (e.g., e-readers, netbooks)	52.2%	49.0%	---
Provide access to e-readers for accessing e-books (e.g., Kindle, Nook)	60.9%	39.1%	---

Will not total 100%, as categories are not mutually exclusive

in the past year. The Pew study also reported that the majority of people who read e-books prefer to purchase their own copies of the books; only 14% reported borrowing their most recent e-book from a library.

In field interviews conducted for this report, as well as in other anecdotal reports, libraries without e-book collections report that the cost is prohibitive, particularly in light of cuts made to their collections budget.

Moving into Social Media Technologies

Overall, 61.8 percent of libraries report they provide access to a range of Internet-based and social media types of services and resources (Figure

FIGURE C-16: PUBLIC LIBRARY SYSTEMS USE OF SOCIAL MEDIA TECHNOLOGIES

	Overall Public Libraries	
	Internal Library Use (e.g., staff training, development, communication)	External Library Use (e.g., communicating with library users, general public, marketing)
Social Media Technologies		
Communication (e.g., Blogger, WordPress, Vox, Twitter)	21.6%	45.6%
Social networking (e.g., Facebook, Hi5)	25.4%	70.7%
Collaboration (e.g., PBWorks, Wetpaint)	12.3%	8.2%
Bookmarking (e.g., CiteULike, Delicious, GoogleReader)	14.9%	8.1%
News (e.g., Digg, Mixx, Newsvine)	6.4%	6.0%
Video Sharing (e.g., YouTube, Vimeo, Openfilm)	16.1%	27.5%
Photography (e.g., Flickr, Zoomr)	20.6%	37.3%
Location (e.g., Foursquare, Facebook places)	10.6%	19.0%
Events (e.g., Meetup.com, Eventful)	13.0%	14.9%
Will not total 100%, as categories are not mutually exclusive		

FIGURE C-17: PUBLIC LIBRARY SYSTEMS USE OF MOBILE TECHNOLOGY

	Metropolitan Status			
Mobile Technologies	Urban	Suburban	Rural	Overall
The library's website is optimized for mobile device access	36.1%	19.3%	9.3%	14.2%
The library has developed smartphone apps for access to library services and content	27.8%	9.7%	3.7%	7.2%
The library uses scanned codes for access to library services and content	31.9%	17.8%	6.5%	11.8%
Library does not make use of mobile technologies	35.2%	61.9%	82.3%	72.7%
Other	8.3%	6.7%	2.8%	4.4%
Will not total 100%, as respondents could select more than one option				

C-15). For the first time, this year's survey asked libraries to report on their use of specific areas of social media tools for internal and external communication (Figure C-16):

■ Over 70 percent of public libraries report using social networking tools (e.g., Facebook, Hi5)

to connect with library users and the general public, and for marketing purposes.

■ Nearly 46 percent of public libraries report using communication tools (e.g., Blogger, WordPress, Vox, Twitter) to reach the public.

■ More than 37 percent report using photography sites (e.g., Flickr, Zoomr).

■ About 28 percent use video sharing tools (e.g., YouTube, Vimeo, and Openfilm).

In addition, newly collected survey data illustrate how libraries are starting to make use of mobile technologies: 14.2 percent of libraries report their websites are optimized for mobile devices, 11.8 percent report they use scanned codes (e.g., QR codes) for access to library services and content, and 7.2 percent report they have developed smartphone apps for access to library services and content (Figure C-17). Not surprisingly, early adoption of these new technologies and resource/service

FIGURE C-18: JOB-SEEKING SERVICES PROVIDED BY PUBLIC LIBRARY OUTLETS, BY METROPOLITAN STATUS

Job-seeking roles and services	Metropolitan Status			
	Urban	Suburban	Rural	Overall
The library provides access to jobs databases and other job opportunity resources	97.5%	94.5%	88.9%	92.2%
The library provides access to civil service exam materials	85.9%	83.5%	70.0%	77.1%
The library helps patrons complete online job applications	78.2%	74.0%	76.6%	76.0%
The library collaborates with outside agencies or individuals to help patrons seek or attain employment	47.3%	34.6%	29.8%	34.3%
The library helps patrons develop business plans and other materials to start businesses	35.1%	18.7%	12.1%	18.1%
The library collaborates with outside agencies or individuals to help patrons develop business plans and other materials to start businesses	33.0%	20.5%	14.4%	19.5%
The library offers classes (either by librarians or others working with the library) on job-seeking strategies, interview tips, etc.	48.2%	39.4%	20.3%	31.3%
The library offers software and other resources to help patrons create resumes and other employment materials	83.7%	80.7%	73.2%	77.5%
Other	6.3%	3.3%	3.6%	4.0%

Will not total 100%, as categories are not mutually exclusive

development approaches is considerably higher among urban public libraries than by suburban and rural libraries.

Jobs and E-government Services Still in High Demand

Public libraries are critical providers of employment and e-government services, resources, and support. Libraries report they provide a number of resources and services to assist individuals seeking employment, applying for jobs, and interacting with government agencies. These service roles are in high demand as government agencies and employers increasingly require online interactions. These services are related to the need to build patrons' digital literacy skill levels. For example, an individual applying for e-government social services requires a continuum of services related to computer and Internet train-

ing, and hands-on assistance, making the public library even more essential as the community's only free provider of public access technologies, training, and professional assistance. Public libraries support job-seekers in numerous ways (Figure C-18):

■ Libraries (92.2 percent) provide access to jobs databases and other job opportunity resources, up from 90.9 percent in 2010-2011 and 88.2 percent in 2009-2010.

■ Libraries (77.1 percent) provide access to civil service examination materials, unchanged from 77.0 percent in 2010-2011 and up from 74.9 percent in 2009-2010.

■ Libraries (77.5 percent) provide software and other resources to help patrons create resumes and employment materials, up from 74.5 percent in 2010-2011 and 68.9 percent in 2009-2010.

■ Libraries (76 percent) provide patrons with assistance in complet-

ing online job applications, up from 72 percent in 2010-2011 and 67 percent in 2009-2010.

In providing these job-seeking services, nearly half of libraries (49.8 percent) report the library does not have enough staff to help patrons effectively with their job-seeking needs. Further, 41.3 percent report library staff does not have the necessary expertise to meet patron job-seeking needs.

Figure C-19 illustrates e-government services public library outlets provide to patrons. Almost all public libraries (96.6 percent) report assisting patrons with applying for and accessing e-government services, an increase of almost 16 percent over the past year. Urban libraries report the greatest increases: 97.3 percent report they provide assistance in applying for and accessing e-government services, up significantly from 77.7 percent last year. The percentage of

FIGURE C-19: E-GOVERNMENT ROLES AND SERVICES OF PUBLIC LIBRARY OUTLETS, BY METROPOLITAN STATUS

E-Government roles and services	Metropolitan Status			
	Urban	Suburban	Rural	Overall
Staff provide assistance to patrons applying for or accessing e-government services	97.3%	96.6%	96.4%	96.6%
Staff provide as needed assistance to patrons for understanding how to access and use e-government websites	93.6%	91.9%	91.1%	91.8%
Staff provide assistance to patrons for understanding government programs and services	57.8%	52.9%	45.6%	50.0%
Staff provide assistance to patrons for completing government forms	71.0%	70.6%	70.7%	70.7%
The library developed guides, tip sheets, or other tools to help patrons use e-government websites and services	33.6%	22.2%	15.3%	20.6%
The library offers training classes regarding the use of government websites, understanding government programs, and completing electronic forms	24.5%	11.9%	6.2%	11.2%
The library offered translation services for forms and services in other languages	10.9%	11.5%	4.4%	7.8%
The library partnered with government agencies, non-profit organizations, and others to provide e-government services	43.1%	32.6%	25.7%	30.9%
The library worked with government agencies (local, state, or federal) to help agencies improve their websites and/or e-government services	12.3%	13.1%	9.3%	11.0%
The library has at least one staff member with significant knowledge and skills in provision of e- government services	31.4%	25.0%	20.0%	23.6%
Other	2.9%	2.8%	3.2%	3.0%

Will not total 100%, as categories are not mutually exclusive

libraries that partner with government agencies and others to provide e-government services also continues to increase (30.9 percent, up from 25.1 percent last year).

Over 70 percent of libraries report assisting patrons with completing government forms. Anecdotal reports from libraries indicate this percentage would be significantly higher were it not for privacy and liability issues that restrict the level of e-government assistance that can be provided.

CONCLUSION

Although libraries continue to enhance their public access services wherever possible, ongoing reductions in budgets, staffing levels, and open hours inhibit any planned upgrades to broadband connectivity and public access technology, thus creating continuing barriers to access. This difficult environment has not prevented public libraries from offering innovative public access services and resources. Indeed, public libraries continue to

serve as essential community access points that build digitally inclusive communities, in spite of their inability to meet high public demand for public access technology, training and Internet-based resources.

ENDNOTES

1   Rainie, Lee, et. al. *The Rise of E-reading*. Pew Internet & American Life Project, April 5, 2012, http://libraries.pewinternet. org/2012/04/04/the-rise-of-e-reading (accessed April 23, 2012)