



CENTER FOR LIBRARY  
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2009-2010 PUBLIC  
LIBRARY FUNDING AND  
TECHNOLOGY ACCESS SURVEY:  
SURVEY FINDINGS AND RESULTS

REPORT SUBMITTED TO:  
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## Executive Summary

Public libraries offer their communities a substantial array of public access technologies and Internet-enabled services:

- **Infrastructure.** Libraries reported an average of 14.2 public access workstations, up from 11.0 in 2008-2009, and 82.2 percent of public library branches offer wireless Internet access, up from 76.4 percent reported in 2008-2009.
- **Broadband.** Libraries reported increased connectivity speeds, with 51.8 percent of libraries reporting connectivity speeds of greater than 1.5mbps, as compared to 44.5 percent in 2008-2009.
- **Wireless.** Libraries reported an increase in providing wireless (Wi-Fi) access to the Internet, with 82.2 percent of public library branches offering wireless Internet access, up from 76.4 percent reported in 2008-2009.
- **Content.** Libraries reported offering access to a number of resources, including licensed databases (95.0 percent, up from 89.6 percent in 2008-2009); homework resources (88.2 percent, up from 79.6 percent in 2008-2009); audio content, such as podcasts and audiobooks (82.5 percent, up from 72.9 percent in 2008-2009); digital reference (72.3 percent, up from 62.4 percent in 2008-2009); and e-books (65.9 percent, up from 55.4 percent in 2008-2009).
- **Employment support.** 88.2 percent of libraries reported providing access to jobs databases and other job opportunity resources, and 67.1 percent of those libraries also reported providing patrons with assistance in completing online job applications.
- **E-government.** 78.7 percent of libraries reported providing patrons assistance in applying for or accessing E-government services, and 63.3 percent of reported that staff provide assistance to patrons for completing government forms.

Libraries also indicated, however, that they face challenges in supporting their public access technology services and resources in key areas:

- **Cost.** Libraries reported cost factors (79.8 percent) as a challenge in maintaining, sustaining, and enhancing their public access technology infrastructure.
- **Buildings.** Library buildings increasingly 1) lack adequate electrical outlets to support either the addition of workstations or support user-owned laptops; 2) lack cabling to wire/connect more workstations; and 3) are out of space and unable to install more workstations.
- **Staff.** Libraries reported challenges with adequate staff for providing e-government and employment support, but also with access to technology staff. 43.7 percent of rural libraries report that it is the library director that provides IT support, as compared to 75.3 percent of urban libraries that report IT support provided by system-level IT staff.
- **Reduced hours.** Libraries also reported a reduction in hours open, with 14.5 percent reporting a reduction in hours. Nearly 24 percent (23.7 percent) of urban libraries reported a reduction in hours open, impacting patron access to public access technologies.

The survey, therefore, demonstrates an important paradox: libraries continue to provide and enhance their public access services where possible, but they do so in an increasingly challenged environment of reduced hours and funding.

## Overview of Findings

The national survey identified a number of issues related to the current state of public access technology and Internet-enabled services provided by public libraries to the communities that they serve. The following presents selected survey key findings from the survey and their implications. The discussion is not exhaustive, but rather highlights a range of findings and implications that the survey identified. The complete set of data tables, as well as findings from previous surveys, are available at <http://www.plinternetsurvey.org>.

## Public Access Connectivity and Infrastructure

Public libraries offer a range of public access technology and Internet access services to users. As community-based public access centers, libraries employ a range of strategies to maintain, upgrade, and make available public access resources and services. The findings indicate that, public libraries provide substantial public access services and resources across a range of key areas such as wireless (Wi-Fi), public access computers, and broadband. Libraries report improvements in the average number of workstations, provision of Wi-Fi, and broadband capacity. And yet, libraries responding to the survey reported challenges in terms of the availability of computers and adequate broadband capacity – indicating that the enhancements over the last year still fall short of meeting demand and needs.

## *Libraries as Community Access Computing and Internet Access Points*

Public libraries continue to provide important public access computing and Internet access in their communities:

- 99.0 percent of public library branches offer public Internet access (see Figure 3), nearly identical to that found in the 2008-2009 survey (98.7 percent);
- 66.6 percent of library branches report that they are the only provider of free public computer and Internet access in their communities (see Figure 4), down from that reported in 2008-2009 (71.4 percent), but still significant;
- Overall, public library branches report an average of 14.2 public access workstations, up from 11.0 in 2008-2009 (see Figure 5). Rural libraries reported an average of 9.2 workstations (up from an average of 7.6 workstations in 2008-2009), suburban libraries reported an average of 15.8 workstations (up from an average of 12.7 workstations reported in 2008-2009), and urban libraries reported an average of 25.4 workstations (up from an average of 18.7 reported in 2008-2009);
- 82.2 percent of public library branches offer wireless Internet access, up from 76.4 percent reported in 2008-2009 (see Figure 22); and
- 33.4 percent of libraries report public access connection speeds of 1.6mbps-10mbps, followed by 27.4 percent that report public access connection speeds of 1.5mbps, 14.8 percent less than 1.5mbps, 9.4 percent greater than 30mbps, and 9.0 percent 10.1mbps-30mbps (see Figure 34). 53.0 percent of rural libraries report public access speeds of 1.5mbps or less, while 77.2 percent of urban libraries and 55.4 percent of suburban libraries report public access speeds of greater than 1.5mbps.<sup>1</sup>

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<sup>1</sup> Direct comparisons to the 2008-2009 survey are difficult due to the change in broadband categories adopted for the 2009-2010 survey. However, in general, libraries reported higher connectivity speeds in 2009-2010.

This core infrastructure – public access workstations, broadband, and Wi-Fi – serves as the backbone of the public library’s public access services and resources

### **Infrastructure Progress and Challenges**

The 2009-2010 survey asked libraries to identify issues regarding the ability of public libraries to maintain their public access Internet and technology services. As with the 2008-2009 and 2006-2007 surveys, respondents reported that they face a range of challenges with their buildings, costs, and staff. The 2009-2010 survey also identified additional challenges that libraries face in terms of maintaining and supporting their public access technology infrastructure. Respondents indicated the following issues regarding their ability to offer public access technologies (see Figures 10-17):

- **Cost.** Respondents once again indicated that funding workstation replacements, upgrades, bandwidth enhancements, and a range of other services related to public Internet access and technologies was difficult and increasingly problematic (see Figure 10). Just as with the 2008-2009 survey, libraries reported cost factors more highly (79.8 percent versus 77.4 percent in 2008-2009) than space limitations (75.1 percent versus 75.9 percent in 2008-2009).
- **Buildings.** Library buildings increasingly 1) lack adequate electrical outlets to support either the addition of workstations or support user-owned laptops; 2) lack cabling to wire/connect more workstations; and 3) are out of space and unable to install more workstations (see Figures 11-17).
- **Staff.** By and large, public libraries rely on non-technical staff to support their public access computers and Internet access. This is particularly true for rural public libraries, though urban public libraries are more likely to have access to technology staff (see Figures 10-17). In fact, 43.7 percent of rural libraries report that it is the library director that provides IT support, as compared to 75.3 percent of urban libraries that report IT support provided by system-level IT staff.
- **Keeping workstations in service.** As with the 2008-2009 survey, roughly one quarter of libraries reported that that it takes two or more days to get a public access computer back into service when it goes down (23.4 percent to 26.4 percent). In general, urban and suburban libraries had a turn around time of two or less days, but nearly a third (30.0 percent) of rural libraries indicated that it could take two or more days to get a computer back into service (see Figure 18).
- **Increased usage.** New to the 2009-2010 survey was a series of questions regarding the increased use of workstations, Wi-fi, training services, and electronic resources (i.e., databases). In all, 75.7 percent of libraries reported increased use of public access workstations, 71.1 percent increased use of Wi-fi, 26.3 percent increased use of training services, and 45.6 percent increased use of electronic resources (see Figures 21-24).
- **Reduced workstation congestion.** At the same time, fewer libraries in 2009-2010 reported insufficient numbers of workstations some or all of the time (73.5 percent, see Figure 20) as compared to 2008-2009 (81.2 percent). This coincides with a jump in the number of libraries offering Wi-Fi (82.2 percent of public library branches now offer wireless Internet access, up from 76.4 percent in 2008-2009 (see Figure 22)).

Together, these data further support the trend reported essentially since the 2006-2007 survey regarding the challenges that public libraries face in maintaining their public access technology

and Internet access services, but some progress is evident in terms of relieving workstation congestion through additional Wi-Fi services. It is also significant to note that libraries are experiencing increased usage of key public access services – workstations, Wi-Fi, training, and electronic resources – due to economic and governmental pressures.

### **Quality of Public Access**

The quality of the public access that libraries provide has many dimensions – numbers of workstations available, workstation time limits, speed of connectivity, availability of Wi-Fi, and number of simultaneous users and uses of resources and services, to name a few. As with previous survey findings, libraries report that, even with increases in connectivity speeds (as reported in the Libraries as Community Access Computing and Internet Access Points section previously and in Figures 20 and 36), their connection speeds and numbers of workstations do not meet their needs:

- 45.1 percent (down from 59.6 percent in 2008-2009) of respondents reported that their connectivity speed is insufficient some or all of the time (see Figure 36). This is a substantial drop that shows the impact of libraries having increased their bandwidth in the last year. Urban libraries (47.6 percent) are less likely than suburban libraries (57.9 percent) and rural libraries (54.3 percent) to report that their connection speeds are sufficient to meet patron needs at all times.
- 29.5 percent (up from 22.9 percent in 2008-2009) of libraries reported that though they have an interest in increasing their current Internet speed, they cannot afford to do so (see Figure 37).
- 73.5 percent of libraries reported that they have insufficient availability of workstations some or all of the time (see Figure 20). Though this is down from 81.2 percent reported in 2008-2009, and likely due to the increased percentage of libraries providing Wi-fi access, the data still indicate that nearly three quarters of libraries report insufficient workstations to meet demand at some time during the day.
- 79.3 percent of public libraries report that their wireless connections share the same bandwidth as their public desktop computers, though 23.2 percent (down slightly from 24.9 percent in 2008-2009) indicate that they use bandwidth management techniques (see Figure 39). The shared connectivity is a slight decrease from 82.4 percent reported in 2008-2009.
- As with the 2008-2009 findings, 92.3 percent (94.1 percent reported in 2008-2009) of libraries have time limits imposed on the use of their public access workstations (see Figure 25). About half of libraries with time limits report that, upon request, they allow additional workstation time for seeking employment (49.2 percent, urban libraries 33.0 percent), E-government (50.0 percent, urban libraries 33.0 percent), and educational uses (54.6 percent, urban libraries 36.3 percent). As can be seen, however, urban libraries are less likely to allow users extra workstation time for these purposes; this is likely due to the high demand among many users for public access workstations.

Together, these data point to an improved technology infrastructure, but one that continues to struggle to keep up with the demands on public access services and resources that are expanding as the economic downturn has driven increasing numbers of patrons to rely on the library technology for jobs applications, social services, government information and services, educational materials, and entertainment options. And, one can see areas in which the urban

library community in particular is struggling to meet demand. Also, libraries continue to limit their resource availability through time limits and sharing bandwidth with wireless connectivity in order to accommodate more users. And increased provision of Wi-Fi has alleviated some congestion in terms of workstation availability, but in doing so, public libraries are affecting the quality of their public access technology environment.

### **Supporting Employment and E-government**

New questions in the 2009-2010 survey explored the support public libraries provide to those seeking employment and engaging in E-government activities. Responding libraries indicate that they provide substantial resources and services to assist individuals seek employment and interact with government agencies.

Underlying specific employment and E-government services are a range of technology and Internet training content and classes (see Figures 44 and 45). Nearly 80 percent (76.6 percent) of libraries report providing point-of-use technology training, while 37.0 percent provide formal training classes (59.2 percent of urban libraries). In terms of libraries that report offering formal classes:

- 93.4 percent provide general computer skill training;
- 91.7 percent provide general Internet use training;
- 81.0 percent provide general online/Web searching training; and
- 75.5 percent provide general software (e.g., word processing, spreadsheets, presentation) training.

### **Employment and Job Seeking Support**

Nearly all libraries – 90.8 percent – report that it is very important or most important for the library to provide services to job seekers. In particular (see Figures 51-56):

- 88.2 percent of reporting libraries provide access to jobs databases and other job opportunity resources;
- 74.9 percent of reporting libraries provide access to civil service examination materials, a figure that increases to 85.7 percent in urban libraries;
- 68.9 percent of reporting libraries provide software and other resources to assist patrons with the creation of resumes and employment material, a figure that increases to 81.2 percent in urban libraries;
- 67.1 percent of reporting libraries provide patrons with assistance in completing online job applications;
- In providing these job-seeking services, 58.6 percent of libraries reported that the library did not have enough staff to effectively help patrons with their job seeking needs and 46.0 percent reported that the library staff did not have the necessary expertise to meet the needs of patrons seeking employment.

### **E-government Support**

A substantial percentage of libraries – 82.4 percent – report that it is very important or most important for the library to provide access to government information and services such as unemployment benefits, tax information, forms, Medicare information, and the like. In particular (see Figures 56-60):

- 88.8 percent of reporting libraries provide as-needed assistance to patrons for understanding how to access and use e-government websites;
- 78.7 percent of reporting libraries provide assistance to patrons applying for or accessing e-government services;
- 63.3 percent of reporting libraries indicate that staff provide assistance to patrons for completing government forms;
- 31.5 percent of urban libraries indicate that at least one staff member has significant knowledge and skills in the provision of e-government services;
- In providing these job-seeking services, 58.9 percent of libraries reported that the library did not have enough staff to effectively help patrons with their E-government needs and 52.7 percent reported that the library staff did not have the necessary expertise to meet patron E-government needs.

### **Extensive Range of Library Services Provided**

Beyond employment and E-government services, Figure 40 indicates that public libraries consider it important to provide an array of services that are critical to the communities they serve. Also identified as being ‘very’ or ‘most important’ is the provision of education resources and databases for adult/continuing education students (73.6 percent), education resources and databases for home schooling (69.9 percent), and education resources and databases for students in higher education (66.9 percent).

More specifically, libraries broker and provide access to a wide range of Internet services and resources (see Figure 46), including:

- Licensed databases (95.0 percent, up from 89.6 percent in 2008-2009);
- Homework resources (88.2 percent, up from 79.6 percent in 2008-2009);
- Audio content, such as podcasts and audiobooks (82.5 percent, up from 72.9 percent in 2008-2009);
- Digital reference (72.3 percent, up from 62.4 percent in 2008-2009); and
- E-books (65.9 percent, up from 55.4 percent in 2008-2009).

Also, as Figure 46 shows, public libraries continue to incorporate user technologies into their public access technology offerings, by allowing users to:

- Access and store content on USB storage devices (e.g., flash drives, portable drives) or other devices (91.6 percent, up from 81.4 percent in 2008-2009);
- Access to gaming consoles, software, or websites (70.9 percent, up from 57.2 percent in 2008-2009);
- Connect digital cameras and manipulate content (67.6 percent, up from 47.9 percent in 2008-2009); and
- Burn CDs/DVDs (56.3 percent, up from 42.9 percent reported in 2008-2009).

The challenge for public libraries is the extent to which they can maintain and/or expand upon the above Internet services in a time of increased usage while still ensuring the availability of access, bandwidth, infrastructure, and trained staff necessary to support these services for millions of library users.

### **Moving Connectivity and Public Access Forward**

Though public libraries continue to prepare for the future of their public access Internet services, resources, and infrastructure, the survey shows that the ability of libraries to do so is diminishing. Public libraries continue to face a range of challenges – a condition made worse by the economic downturn – as they seek to enhance and/or maintain their public access technology services and resources.

### **Enhancing Public Access Infrastructure**

Public libraries plan to add, replace, or upgrade workstations and make other enhancements to their public access computing and Internet access services in the coming year:

- 13.3 percent (down from 16.7 percent reported in 2008-2009) of public library branches plan to add more workstations within the next year, while 15.4 percent of public library branches (about the same as the 16.3 percent reported in 2007-2008) (see Figure 10);
- 39.9 percent (down substantially from the 62 percent reported in 2008-2009) of public libraries have a workstation/laptop replacement schedule that essentially occurs every three (27.3 percent, up from 15.9 percent reported in 2008-2009), four (28.8 percent, up from 18.4 percent in 2008-2009), or five (31.6 percent, up from 14.2 percent reported in 2008-2009) years (see Figure 7); and
- 6.8 percent plan to add wireless access within the next year, which means that if they do so, by the end of 2010 about 90 percent of public libraries will offer wireless access (see Figure 22). Thus, wireless access is rapidly approaching ubiquity within the public libraries and becoming a core service.

These data demonstrate that libraries do consider the need for continual upgrades and replacements to their public access technology infrastructure. The data indicate, however, that planning, addition, and replacement horizons are increasing, while firm upgrades and replacements are slipping and that time horizons are extending. The data, therefore, show that libraries intend to keep their existing public access infrastructure in use for longer time periods, a likely situation due to actual budget decreases and/or anticipated budget decreases.

### **Significant Challenges Continue**

Challenges continue as public libraries improve their public access computing and Internet access services:

- 45.1 percent (down from 59.6 percent in 2008-2009) of public library branches indicate that their connection speeds are inadequate to meet user demands some or all of the time. Urban libraries (52.2 percent) report the most congestion challenges. This is clearly an improvement and an indication that increased bandwidth speeds adopted by public libraries is having a positive effect – but it is important to note that about half of public libraries still report congestion problems (see Figure 32);
  - Only 23.2 percent of libraries reported an increase in connectivity speeds in the last year, while 74.6 percent of libraries reported that their connection speed stayed the same (see Figure 35). Urban libraries (33.3 percent) were more likely than suburban (23.8 percent) and rural (19.1 percent) to report an increase in connection speed.

- 20.7 percent (down from 26.0 percent in 2008-2009) of respondents reported that their current connection is the maximum speed that they can acquire, 29.5 percent (up from 22.9 percent in 2008-2009) cannot afford to increase their bandwidth, 12.4 percent (down from 16.8 percent in 2008-2009) indicated that they had no interest in increasing their bandwidth, and 16.1 percent (down from 14.7 percent in 2008-2009) indicated that they could increase their bandwidth but had no plans to do so. Overall, the absence of plans and/or the economic or technological inability to increase connectivity speeds and the maximum available speeds reported, 91.5 percent of libraries indicate that they will not be increasing their bandwidth in the next year (see Figure 37).
- 62.5 percent (about the same as the reported 61.0 percent in 2008-2009) of public library branches have no plans to add workstations in the next year (see Figure 15), largely due to cost factors (79.8 percent reported as important or most important), space factors (75.1 percent reported as important or most important), and the availability of infrastructure factors (e.g., electrical outlets, cabling, etc.) (54.1 percent reported as important or most important);
- 14.5 percent of libraries reported a decrease in hours open since last year, with 23.7 of urban libraries reporting a decrease in hours open, 16.3 percent of suburban libraries reporting a decrease in hours open, and 10.1 percent of rural libraries reporting a decrease in hours open (see Figure 2); and
- Libraries that reported that they do not offer Internet-enabled services services or offer limited services (e.g., databases, e-books) also indicated that they cannot afford to purchase and/or support the service(s) (62.2 percent, up from the 58.9 percent in 2008-2009), library computer hardware/software will not support the service(s) (40.9 percent, essentially unchanged as the 40.7 percent in 2008-2009), or library policy restricts the provision of the service(s) (33.2 percent, down from 42.8 percent) (see Figure 50).

Thus, public libraries continue to report that they are unable to meet patron demands for services due to inadequate technology infrastructure, costs associated with operating and maintaining that infrastructure, and bandwidth quality/availability issues – but not for lack of trying to maintain and enhance their services.

These constraints, particularly regarding bandwidth, occur in the context of the Broadband Technology Opportunity Program and Broadband Initiative Program grants/loans as administered by the Department of Commerce’s National Telecommunications Information Administration (NTIA) and Department of Agriculture’s Rural Utilities Service, respectively. What is unclear is how and how many libraries will benefit from these grants and loans, totaling \$7.2 billion, as distributed in 2010. Initial grants indicate the success that some libraries and state library agencies have had either individually or as part of larger grant applications. At the same time, however, the survey shows that the current economic situation faced by libraries is having a negative impact on the ability of libraries to maintain or enhance their public access services. It is in this mixed and paradoxical context that public libraries continue to provide their public access services.



## Methodology

The 2009-2010 survey resides within a larger public library study regarding public access technology use and funding. In this context, the survey employed a multi-approached sampling strategy to meet the following objectives:

- Provide outlet (branch)-level national data regarding public library Internet connectivity and use;
- Provide outlet (branch)-level state data (including the District of Columbia) regarding public library Internet connectivity and use; and
- Provide system (administrative)-level data (including the District of Columbia) regarding E-rate use and library operating and technology funding and expenditures.

The survey had the additional objectives of obtaining data to conduct analysis using the variables of metropolitan status<sup>2</sup> (urban, suburban or rural). The survey also included assessment questions for selected public libraries who were recipients of the Bill & Melinda Gates Foundation's Opportunity Online hardware grants.

The survey team received a list of Opportunity Online hardware grant recipient libraries that included 2,601 libraries in 32 states. The Bill & Melinda Gates Foundation selected the libraries for its grant program according to its own criteria, and participating libraries were required to complete the survey as part of the grant program. So as not to skew the survey data or create any response biases, the survey team created a master state and national sampling frame that incorporated the grant libraries. From that sampling frame, the survey team drew a stratified "proportionate to size sample" that created an overall balanced sample within the 32 grant states, but also ensured a proportionate national sample. This sampling approach ensured high quality and data that could be generalized within the states analyzed, nationally, and across and within the metropolitan status and poverty strata.

As a sample frame, the study team used the 2007 public library dataset available from the U.S. Institute of Museum and Library Services (IMLS), which was the most recent public release file available in June 2009. Bookmobile and Books by Mail service outlets were removed from the file, leaving 16,571 library outlets. From these totals, the researchers used SPSS Complex Samples software to draw the sample for the study. The sample needed to provide the study team with the ability to analyze survey data at the state and national levels along the poverty and metropolitan status strata discussed above. The study team drew a sample with replacement of 6,009 outlets. This sample was in addition to the 2,601 libraries in the Opportunity Online hardware grant program.

The study team developed the survey questions through an iterative and collaborative effort involving the researchers, representatives of the funding agencies and members of the Public Access Technology & Funding Study Advisory Committee. The study team pre-tested the initial surveys with the project's advisory committee, public librarians and the state data coordinators of

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<sup>2</sup> Metropolitan status was determined using the official designations employed by the Census Bureau, the Office of Management and Budget, and other government agencies. These designations are used in the study because they are the official definition employed by the Institute of Museum and Library Services (IMLS), which allows for the mapping of public library outlets in the study.

the state library agencies and revised the survey based on their comments and suggestions (see Appendix A for the final survey).

The survey asked respondents to answer questions about specific library outlets and about the library system to which each respondent outlet belonged. Respondents answered the survey between September 2009 and November 2009. After a number of follow-up reminders and other strategies, the survey received a total of 5,015 responses for a response rate of 83.4 percent. Another 2,376 Opportunity Online hardware grant library responses were added for a total of 7,391 responses for analysis purposes. Figure 1 shows that the responses are representative of the population. Together, the high survey response rate and representativeness of responses demonstrate the high quality of the survey data and the ability to generalize to the public library population.

The survey employed a parallel sampling approach regarding library systems and their administrative entities. About 15 percent of public libraries have multiple service outlets (or branches). The survey received 3,928 system/administrative responses out of a sample of 5,000 for a response rate of 78.6 percent. The high response rate, combined with a representative response, indicate that the data are valid and reliable.

### **Outlet (Branch) Versus System**

The survey deployed a two-stage approach that included questions regarding sampled outlets (branches) and questions regarding an entire library system (administrative questions focusing on E-rate applications and operating and technology budgets). For roughly 85 percent of public libraries, there is no distinction between outlet and system, as these are single facility systems (e.g., one outlet, one system). The remaining roughly 15 percent of public libraries, however, do have multiple outlets. There was a need to separate outlet- and system-level questions, as some of the survey questions were point-of-service delivery questions (e.g., number of workstations, bandwidth and training), whereas others were administrative in nature (e.g., E-rate applications, operating budgets and technology budgets).

Questions 1 through 20 of the survey explored outlet-level issues (e.g., Internet connectivity, speed of connection, workstations, employment and e-government services, etc.). Questions 21 through 27 posed questions regarding the entire library system (e.g., E-rate applications, funding for information technology, operating expenses and income, etc.). Upon replying to questions 1 through 20 for all sampled outlets, respondents were taken to the system-level questions. Given that the actual respondent for the system data might be different than for the outlet data, respondents were permitted to leave and re-enter the Web-based survey for completion. Upon completing the system/administrative questions, Opportunity Online hardware grant recipients were asked an additional 12 questions regarding the grant program. The analysis of system- and outlet-level data required different approaches, considerations and weighting schemes for national and state analysis.

### **Data Analysis**

The survey uses weighted analysis to generate national and state data estimates. As such, the analysis uses the responses from the 7,391 library outlets from which a completed survey was received to estimate to all public library outlets (minus bookmobiles and books by mail) in the

aggregate as well as by metropolitan status designations. The same process is used for analyzing and estimating state level data. The key difference is that the weighting process is limited to the metropolitan status and aggregate library designations for the state. The data reported have a margin of error of plus or minus 2.5 percent.

**Figure 1: Public Library Outlets and Survey Responses by Metropolitan Status**

	Responding Facilities as a Proportion of Survey Respondents	Facilities as a Proportion of National Population
<b>Metropolitan Status</b>		
Urban	15.4% (1,140 of 7,391)	17.3% (2,866 of 16,571)
Suburban	32.2% (2,378 of 7,391)	34.6% (5,737 of 16,571)
Rural	52.4% (3,873 of 7,391)	48.1% (7,968 of 16,571)
Overall	<b>100.0%</b> (7,391 of 7,391)	<b>100.0%</b> (16,571 of 16,571)
Overall Response Rate = 83.4%*		
*This response rate is calculated based on sampled library responses to the survey. Additional surveys from libraries that are Bill & Melinda Gates Foundation Opportunity Online hardware grant recipients were also used in the data analysis; these libraries participated in the survey as a grant requirement.		