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# Building Digital Inclusion

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**Broadband and Missouri's Public Libraries**

**October 2012**

***MoBroadbandNow***  
**Truman State Office Building**  
**Room 270-A**  
**Jefferson City, MO 65101**

The second in a series of *MoBroadbandNow* reports addressing the broadband challenges in Missouri.

# Building Digital Inclusion

## Broadband and Missouri's Public Libraries

Public libraries are playing a critical role in communities across Missouri. In addition to offering traditional reference, circulation and general material services, libraries are increasing their e-collections and providing electronic reference services, by email or online chat. Public libraries also have public-use Internet terminals, making them an important access point to a range of information and services for many community members (nationally, 62 percent of libraries report being the only free access point to computers and Internet in their communities – in rural communities, this number jumps to 70 percent)<sup>i</sup>. In addition to providing a place where people can get online and connect with friends and family, access services, look for health information, or search for a job, public libraries also are offering computing support services.

Fifty-seven percent of Missourians are registered to borrow materials at their local public libraries. In 2010, Missouri's public libraries had 29.1 million visits – or six visits per capita – and 54.1 million library materials were circulated statewide (or 10.6 items per capita). As with libraries nationwide, use of computer terminals is becoming more common on visits to Missouri's public libraries. The 4,487 public-use Internet terminals available at Missouri's public libraries in 2010 had 6.9 million visits (a 32.6 percent increase over the 5.2 million visits in 2009), or an average of 1,500 visits per terminal.<sup>Aii</sup>

Missouri's public libraries offer, on average, more public-use terminals than libraries nationally (22.4 per library compared to 16.4) and Missouri libraries are more likely to report that sufficient computers are always available to library patrons. Missouri libraries also are more likely to provide computer-use support to patrons, including IT training, e-government services, and assistance accessing job search databases, and applying for jobs online.<sup>iii</sup>

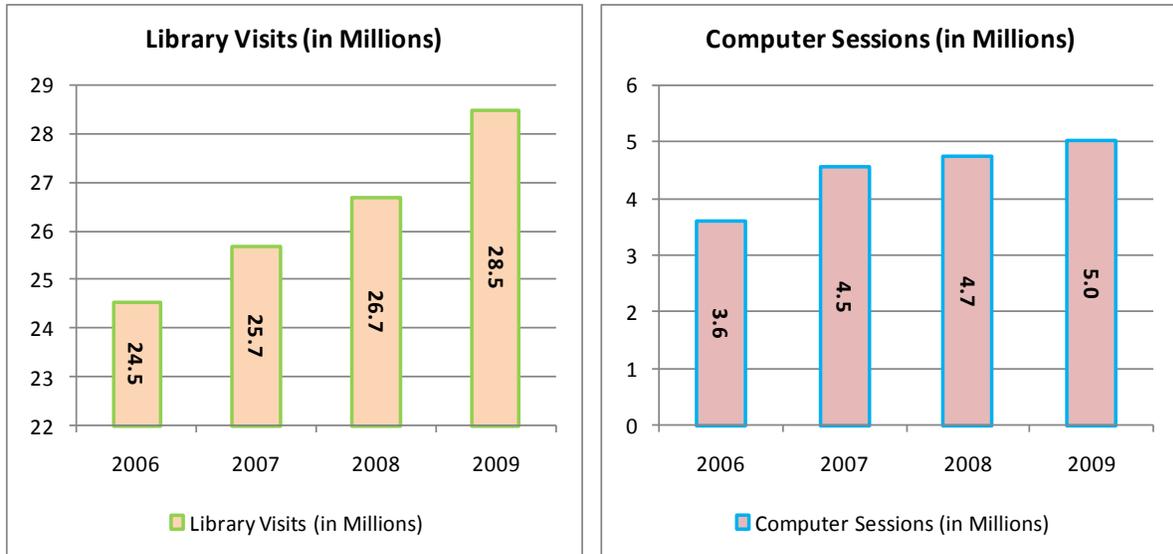
Public-use Internet terminals in Missouri have lower average connection speeds than throughout the nation. The majority (66.3 percent) of Missouri's public libraries offer connection speeds of 1.6-10 Mbps (compared to 38.5 percent nationally), while slightly more than 15 percent of Missouri libraries offer connections speeds of greater than 10 Mbps, compared to slightly more than 38 percent nationally (see Table A1 on page 17).

Missouri's public libraries are facing challenges similar to libraries nationally, including shrinking budgets, reduced staffing, and shortened hours, which can make maintaining existing terminals, replacing aging computers, or upgrading connection speeds a challenge. It also can pose challenges for community access.

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<sup>A</sup> In 2009, there were 5.2 million uses of 4,441 public-use Internet terminals.

This report will examine characteristics of public computer users in Missouri’s public libraries, as well as the growing role that libraries are playing in Missouri communities as central access points for computer and Internet access – both for residents with in-home Internet and those without other options for access. Our focus will be on understanding the differences between those Internet users who use the public library for access, and those who do not, with a particular focus on those users for whom the library is the only point of access. The goal of examining and presenting this data is to help us better understand the importance of broadband connections in libraries and how public libraries can build digital inclusion in Missouri’s communities.



**Figure 1: Library visits and computer sessions in Missouri public libraries (2006- 2009)**

Source: Missouri Public Library Survey Statistics, January 2010 / Compiled by: Library Development Division, Missouri State Library

### **About *MoBroadbandNow***

*MoBroadbandNow* was established by Gov. Jeremiah W. (Jay) Nixon in 2009 as a public-private partnership initiative to expand and enhance broadband accessibility and adoption in Missouri. He regards broadband accessibility and adoption as fundamental to Missouri’s future and global competitiveness, in much the same way as the railroad and the interstate highway system were to their historic periods. Gov. Nixon has set an ambitious goal to increase the number of Missourians with broadband accessibility from the initial level of 79 percent in 2009 to at least 95 percent by the end of 2014.

In 2011, *MoBroadbandNow* conducted a residential assessment of broadband use in Missouri. Survey questionnaires were sent to 76,400 randomly sampled households, and 9,825 surveys were returned, for a response rate of 13 percent. Data from this survey inform the findings in this report.

## **Digital Inclusion in Missouri**

Digital inclusion refers to the ability for all Missourians to access the Internet and information technologies – something in which Missouri’s public libraries can play a key role. National studies have indicated that digital inclusion or what often is called the “digital divide,” is a series of inequalities that exist along the urban-rural continuum, socio-economic status, education and age, among other factors, and that widen as new technologies are introduced. As the divide widens, those without access to technologies face larger disadvantages.<sup>iv</sup> In Missouri, this gap is particularly defined between rural and non-rural residents.

The June 2012 *MoBroadbandNow* report “Dissecting Missouri’s Digital Divide,” which analyzed data from the same residential survey of broadband use, found that there is a broadband adoption gap of 19 percentage points between Missourians living in rural areas and those living in non-rural areas (63 percent of rural residents have adopted broadband, compared to 82 percent of non-rural residents). While rural residents are less likely to have broadband access, they are more likely to use the Internet to look for information about a job, take a class, visit a government website, and look for information about a buying a product.<sup>v</sup>

## **Where do Missourians Access the Internet?**

Whether Missourians have Internet in their homes, they often choose to access the Internet outside of the home. While 91 percent of Missouri households report owning computers and 88 percent report Internet access in the home, 67 percent of Missouri households report accessing the Internet at other locations, including work and school. Of those households that use the Internet outside of the home, 10 percent do not have Internet at home, while 90 percent do. Rural households, which are more likely to have a computer in the home than non-rural residents, but significantly less likely to have broadband access, are slightly more likely to access the Internet outside of the home than are non-rural residents (see Table 1.)

Missourians accessing the Internet outside of the home have a number of access points, including work and school, relatives’ homes, retail locations, on mobile devices, and of course, at public libraries (see Table 2). Following work (82 percent) and at the home of a relative (56 percent), libraries were the third most common physical access point for Internet use outside of the home, with 37 percent of respondents indicating that they use the Internet at their public library. Libraries also are the only community access point on this list.

The vast majority of households (97 percent) that report accessing the Internet at a public library own a computer, and 90 percent of these households have residential Internet; however, only 75 percent of those Internet connections are broadband or high-speed connections (see Table 3).

**Table 1: Computer, Internet ownership and place of Internet access outside of home**

Detail	All respondents	Rural	Non-rural
Have computer	91%	93%	91%
Have Internet	88%	88%	89%
Have Internet that is broadband	71%	63%	82%
Use Internet outside of home (but may use residential Internet as well)	67%	67.4%	66.6%

Source: *MoBroadbandNow* residential survey, 2011.

**Table 2: Places of non-residential Internet access**

Place of Internet use	All respondents	Rural	Non-rural
Work	82%	82%	84%
Relative's Home	56%	57%	55%
School	36%	36%	36%
Library	37%	37%	37%
Retail	33%	30%	36%
Everywhere (mobile devices)	52%	50%	56%

Source: *MoBroadbandNow* residential survey, 2011.

**Table 3: Home computer and library Internet users in Missouri**

Detail	Total	Rural	Urban
Have computer at home	97%	97%	97%
Have Internet at home	90%	88%	93%
Have broadband at home	75%	66%	87%

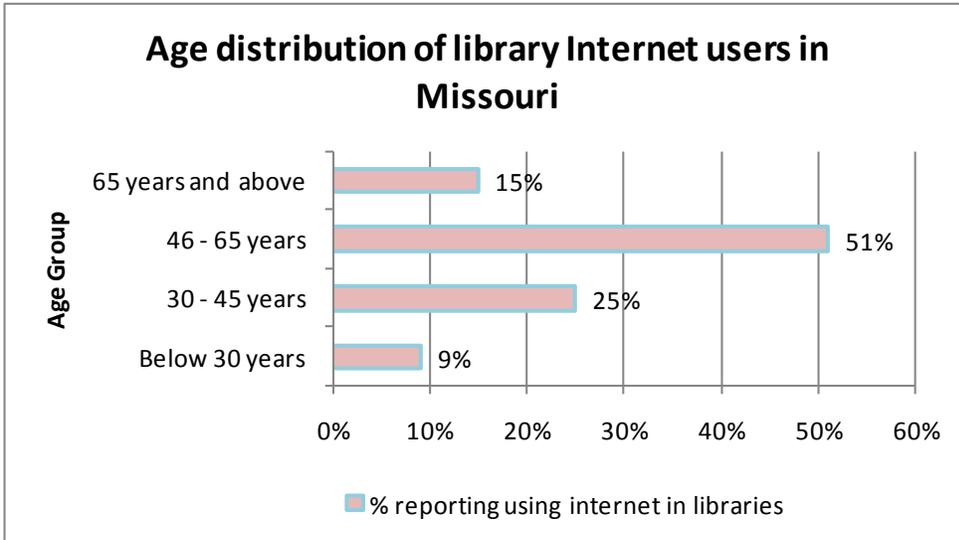
Source: *MoBroadbandNow* Residential Survey, 2011

## Who Uses Public-Use Terminals in Missouri's Libraries?

A large cross-section of Missouri's population is accessing the Internet at their local public library, including those who own computers and have Internet access in their homes.

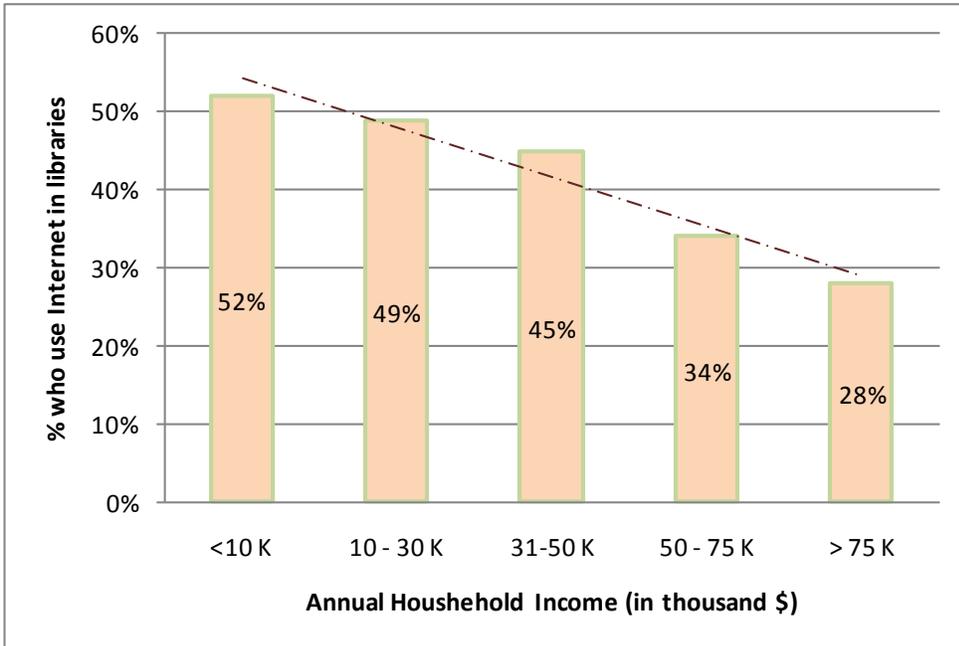
- **Income:** The median income of library Internet users in Missouri is \$50,000 per year and 52 percent have an income higher than the median. While only 28 percent of Missourians with an annual income greater than \$75,000 per year access the Internet at the library, 52 percent of the respondents with incomes less than \$10,000 per year use libraries for Internet access (Figure 3).
- **Age:** The median age of library Internet users is 51 (mean: 50 years), with the majority (51 percent) of users falling between the ages of 46-65 (see figure 2).
- **Employment:** Over two-thirds (70 percent) of library Internet users are employed full-time, part time, or are self-employed.
- **Education:** Over three-quarters (76 percent) of library Internet users have at least some college education (see Table 4).

- Rurality:** Rural residents are more likely to use the library for Internet access, though the difference drops when respondents self-identify as rural (see Table 4 for more details).



**Figure 2: Age distribution of library Internet users in Missouri**

Source: *MoBroadbandNow* residential survey, 2011.



**Figure 3: Annual household income and use of libraries for Internet access in Missouri.**

Source: *MoBroadbandNow* Residential Survey, 2011.

**Table 4: Selected characteristics of library Internet users in Missouri**

<b>Variables</b>	<b>Respondents who use library Internet*(n=1581)</b>
Median Age (Yrs.)	51 (51% are in age group 46-65 years)
Median Income (\$)	\$50,000 (52% have income greater than \$50,000)
Median years in current home (Yrs)	16
Computer at home	93%
Home Internet	81%
Full time, part time or self-employed	70%
At least some college education	76%
Place of residence	55% (rural) and 45% (non-rural)
County type	40% (metro) and 60% (non-metro)

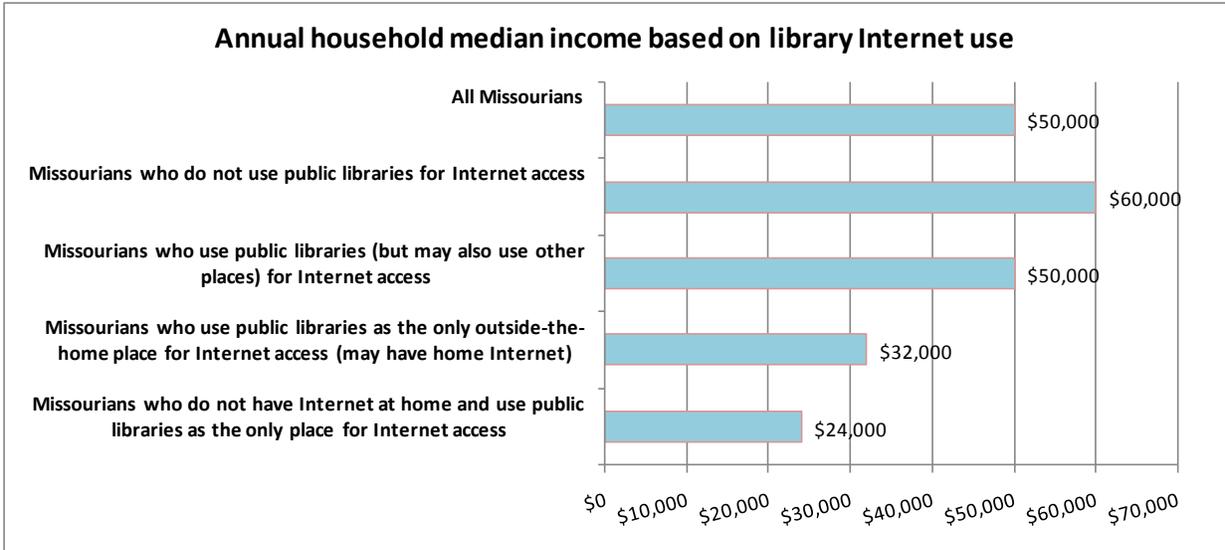
Source: *MoBroadbandNow* Residential Survey, 2011.

\*May also use home Internet and other places other than home for Internet access

### **What Distinguishes Public Library Internet Users from Non-Users?**

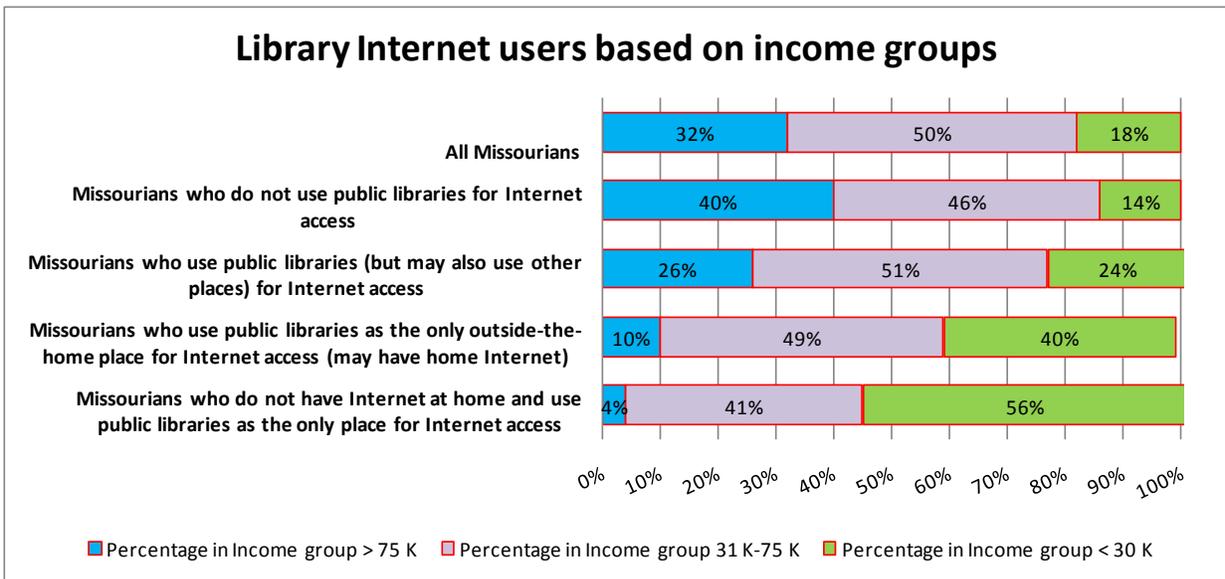
Missourians, who access the Internet at the library only, as opposed to at the public library and other locations, or only other locations, have a higher median age and a lower median income. They are more likely to be retired, and less likely to be employed full time. They are more likely to be non-white and live in non-metro counties, and they are less likely to own a home. They are also less likely to own a computer (see Table 5).

Income is a particularly strong predictor of libraries as a sole Internet access point. The median income of all survey respondents was \$50,000 per year. For those using the Internet exclusively at libraries, it was \$24,000 per year, while for respondents accessing the Internet only at locations other than the public library; it was \$60,000 per year. Fifty-six percent of the respondents who only access the Internet at the library have an annual household income of less than \$10,000 per year, compared to 14 percent of those who do not use public library Internet access at all (see Figure 4). The data clearly show that income level decreases as the reliance on library Internet access increases.



**Figure 4: Annual median household income based on library Internet use**

Source: *MoBroadbandNow* Residential Survey, 2011.



**Figure 5: Percentage of Missourians in different income groups based on library Internet use**

Source: *MoBroadbandNow* Residential Survey, 2011.

**Table 5: Characteristics of library Internet users and non-users<sup>B</sup>**

<b>Variables related to households</b>	<b>All respondents (n=9203) (Group A)</b>	<b>Respondents who use only libraries as the only place for Internet access (n=63) (Group B)</b>	<b>Respondents who do not use library Internet at all (n=2714) (Group C)</b>
Median Age (Yrs.)	55	57	50
Median annual household income (\$)	50,000	24,000	60,000
Household annual income: More than 50K	59%	17%	68%
Household annual income: Less than 30K	18%	56%	14%
Computer at home	91%	57%	95%
Home Internet	88%	0%	90%
Access Internet at work	82%	0%	75%
Race: Non-White	4%	16%	4%
Have children	36%	19%	46%
Rural residents	55%	38%	56%
County: Non-metro	56%	64%	63%
Homeowner	89%	67%	89%
Full-time employed	52%	15%	68%
Retired	30%	39%	15%
Education: High school or lower	35%	34%	31%
Education: Some College (13 to 16 yrs. education)	47%	55%	50%
Education: Higher than college level education (more than 16 yrs. of education)	18%	10%	19%

Source: *MoBroadbandNow* residential survey, 2011.

<sup>B</sup> Groups A, B and C are defined as follows for comparison:

**Group A:** Includes all respondents of *MoBroadbandNow* residential broadband survey (n=9203) representing summary statistics of Missourians.

**Group B:** Includes all respondents of *MoBroadbandNow* residential broadband survey (n= 63) who use library Internet as the only source of Internet access (no residential Internet and do not use any other out-of-home places other than libraries for Internet access).

**Group C:** Includes all respondents of *MoBroadbandNow* residential broadband survey (n=2714) who do not use library Internet (but may use residential Internet or other out-of-home places like work, school, relatives homes etc., for Internet access).

There are a number of other noteworthy differences in the data between Missourians who access the Internet only at public libraries and those who do not use public libraries for Internet access:

- **Computer Ownership:** Computer Ownership is lower – by nearly 40 percentage points – among Missourians who only access the Internet at public libraries (57 percent) compared to those who do not use the library for Internet access (95 percent).
- **Other Internet Access Points:** Nearly 75 percent of Missourians who do not use public library Internet access have Internet access at work and 92 percent report having residential Internet (75 percent broadband), indicating opportunities to access the Internet at locations other than public libraries.
- **Email Addresses:** Those Missourians who exclusively access the Internet at the library are far less likely to have an e-mail address than those who do not use libraries for Internet access (59 percent compared to 96 percent). Even when library Internet users do have an e-mail address, they tend to access their e-mail less frequently (11 percent access e-mail at least once a day compared to 76 percent of those who do not use the library for Internet access).

**Table 6: Computer, Internet and e-mail related comparison of library users and non-users<sup>c</sup>**

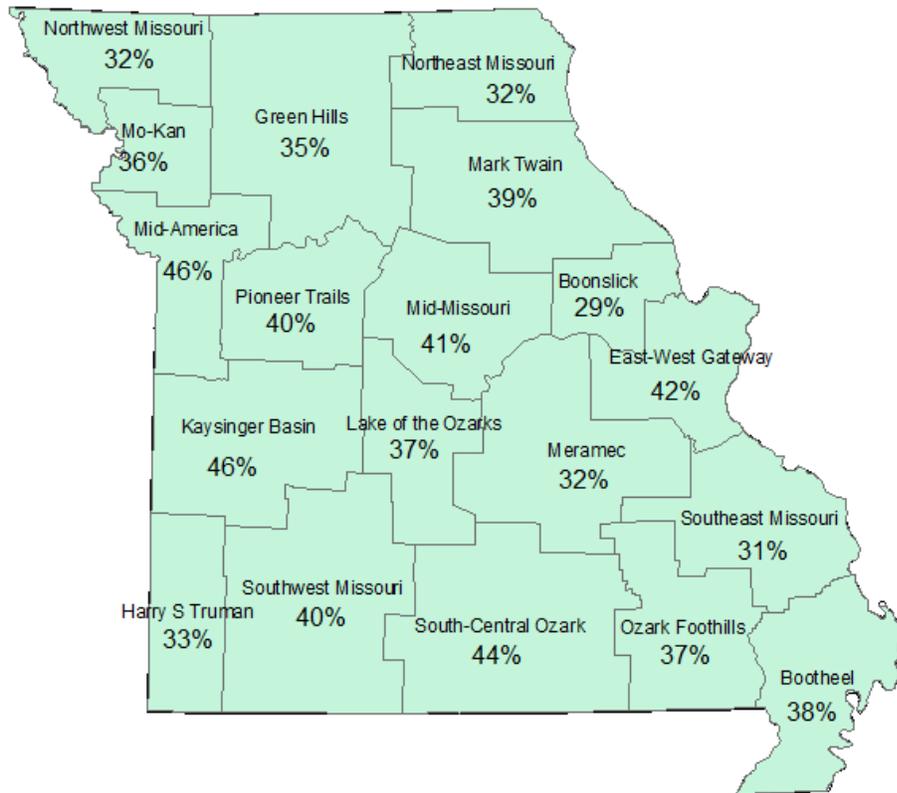
Variables	Respondents who use only libraries as the only place for Internet access (n=63) (Group B)	Respondents who do not use library Internet at all (n=2714) (Group C)
Computer ownership	57%	95%
Reasons for not owning a computer (choose all that apply)	Cost: 74% Worry computer safety (viruses, etc.): 48% Privacy/ security concern: 41%	Don't need: 50% Don't want: 49% Cost: 43%
No residential Internet	100% no Internet	8%
Have broadband Internet	0%	76%
Reasons for no residential Internet? (one could choose more than one reason)	Cost: 63% No personal computer: 33% Privacy: 30%	Cost: 61% No personal computer: 31% No high speed Internet: 30%
Have e-mail account	59%	96%
<u>Frequency of e-mail access</u>		
Daily (at least once)	11%	76%
More than once in a week	18%	17%
Less than once a week	71%	7%
Important broadband characteristics:	Cost: 71%, Speed: 57%, Type of service: 38% Provider: 32%	Cost: 88% Speed: 80% Type of service: 60% Provider: 44%

Source: *MoBroadbandNow* Residential Survey, 2011.

<sup>c</sup>Definition of groups same as in table 5.

## What does Library Internet Use Look Like Across the State?

Internet use at public libraries varies across Missouri's 19 regions. While across the state, 37 percent of residents report accessing the Internet at a public library, in seven regions, 35 percent or fewer of residents use libraries for Internet access, while in another seven regions, 40 percent or more of residents access the Internet at a public library. There is a difference of 17 percentage points between the Boonslick Region, where only 29 percent of residents report using libraries for Internet access, and the Mid-America and Kaysinger Basin regions, where 46 percent of residents access the Internet at public libraries (see Figure 6).



**Figure 6: Use of library Internet access across Regional Planning Commissions in Missouri**

Source: *MoBroadbandNow* Residential Survey, 2011.

Recent data from the Missouri State Library also shows significant variation in public-use computer availability – the ratio of computers to households – across the state. On average, there are 1.88 public-use Internet terminals per 1,000 households in Missouri. This ranges from a low of 0.89 per 1,000 households in the Boonslick Region to a high of 3.88 per 1,000 households in the Kaysinger Basin Region (see Table A2 on page 18).

Despite what the Boonslick and Kaysinger Basin numbers above would seem to indicate, the data does not show that an increase in the number of public-use Internet terminals at public libraries increases the number of households accessing the Internet at the library (see Table 7). However, many of the Regional Planning Commissions report long waiting times for existing computers, so an increase in the number of Internet computers may benefit library patrons.

**Table 7: Correlation of number of internet connected computers with percent residents using libraries for Internet access and percentage of households with Internet access in their home at the Regional Planning Commission level**

	Percentage of residents using public libraries for Internet in the region	Percentage of households with Internet access in their home in the region
Number of public-use computers with Internet access (per 1,000 households) in different planning regions in Missouri	0.35 (p-value: 0.14)	-0.43* (p-value: 0.06)

Source: *MoBroadbandNow* Residential Survey, 2011.

### Broadband in Missouri’s Libraries

A library sector survey conducted by *MoBroadbandNow*<sup>D</sup> indicated several common themes across the state – both in terms of opportunities and challenges. The majority of Missouri libraries report that their current processes and procedures encourage the use of broadband technology and that broadband access at libraries provides opportunities for services that extend beyond their traditional roles related printed materials. Library directors report that broadband enables them to better bundle library services, which makes service delivery

Public internet access is a crucial component of the service we provide to our community. Statistics show that usage has increased every year and that now computer use only trails Adult Fiction, Juvenile Easy (Picture) Books and DVDs in circulation statistics. Over 11,000 uses annually from 9 computers! The importance of adequate Internet speed and access cannot be understated. We have patrons who run their business using our computers, adults completing their education and patrons who are tracking and managing investments – that in addition to social networking (for business and pleasure), students doing homework, listening to music and playing games. If libraries are to remain relevant, adequate internet access has to be made available.

The Livingston County Library has invested in e-books and e-readers to keep up with patrons’ changing demands and offer classes on the use of this technology. We also offer monthly computer classes and have begun offering a “book a librarian” service which allows our patrons to schedule appointments with our staff to help them with basic technology questions. We are small to mid-size library, with 12 staff members, circulation of about 145,000 a year and 16 public computers. Of those 7 are card catalog, 15 minutes email station and 9 are 1 hour use units in our computer room. One thing that can be said for sure on any given day: our computers are constantly in use and a crucial part of our service model.

– Library Director, Livingston County

<sup>D</sup> For detail finding of the *MoBroadbandNow* sector surveys on libraries refer to the strategic plans and need assessment documents for different RPCs available at: <http://mobroadbandnow.com/regional-planning/rtpts/>

more efficient, effective, and attractive. The *MoBroadbandNow* sector survey further indicated that broadband access enables libraries to provide a range of services. Among them is the ability to provide digital literacy trainings, help patrons file taxes, assist with job searches and job applications, and to provide access to online testing and e-government services.

In addition to these opportunities, libraries also indicated challenges related to broadband and the supporting infrastructure. While libraries appreciate the support provided by the Missouri Research and Education Network (MOREnet), there is concern that changes to MOREnet policy, particularly any cuts to funding and capacity building programs, will be detrimental.

Additionally, the Public Library Funding and Technology Access Study (2011) indicates that only 43 percent of Missouri libraries have sufficient computers to meet demand and only 15 percent of Missouri libraries have a broadband speed higher than 10 Mbps (see Table A1, page 17). This data supports the *MoBroadbandNow* sector surveys, which show Missouri's public libraries reporting challenges in meeting the growing demand for computing services, because they have too few computers, insufficient space, or both.

## Summary and Conclusion

Missouri falls below the national average in residential Internet access (as well as broadband access). Twelve percent of Missouri residents do not have Internet service in their homes and 29 percent do not have a broadband connection, and there is a considerable rural-urban divide in adoption.<sup>2</sup> Over two-thirds of Missouri residents and 59 percent of Missourians without residential Internet access the Internet outside of home, at locations including work, school, homes of friends and relatives, on mobile devices and at public libraries.

Public libraries are a key Internet access point for many Missourians, as they provide free and universal access. Perhaps unsurprisingly, 37 percent of Missouri residents and 54 percent of Missouri residents lacking residential Internet access use public libraries for Internet access. Libraries may serve

The Daviess County Library has a total of 33 computers and a wireless connection with an average of 20-25 people using these services daily. These are people without computers or internet access at home. At one time we were the only location in town to offer Internet access, but now have a couple of businesses offering wireless access. We work hard to keep our computers current and the majority are Window 7 machines with T3 high speed connection.

The Daviess County Library has a computer lab of 11 computers. The lab was updated in 2011, replacing all the computers with Windows 7. This lab is available for computer classes, which we host regularly free of charge to the public. The lab is also used by different groups for training sessions and group projects. The local fire department used the lab and projector for on-line training. The master gardeners' class used the lab for a six week training course. The postal service has had training sessions in the lab. And it is often used by small groups of two or three needing Internet access to do collaborative work. All of these experiences depended on reliable, fast Internet access. And the Daviess County Library was able to provide this service.

Without Internet service we would not be able to give our patrons access from home or work to our card catalog with the option to reserve, renew and find titles owned by the library. We would not be able to offer access to a great collection of downloadable audio and e-books. We would not be able to offer on-line reading fun for children through TumbleBooks. And we would not be able to keep our patrons informed of current activities in the library through social media.

– Library Director, Daviess County

either as their only point of Internet access, or an addition to Internet use in the home, at work, on mobile devices and in other locations.

Several key findings regarding the use of Internet at public libraries in Missouri include:

- Thirty-seven percent of Missouri households report accessing the Internet at the public library. This includes households that own computers and have Internet access in the home, indicating that public-use computer terminals remain an important resource for Missourians, even those who have other access points.
- Rural and non-rural residents access the Internet at public libraries at similar rates.
- Reliance on the library for Internet access increases with a decrease in household income.
- Missouri residents who exclusively access the Internet at the library also are more likely to be retired or unemployed, older than the median age, non-white, live in non-metro counties and rent.

Missouri has a rural-urban divide in computer and Internet adoption and one of the central factors hindering greater digital inclusion is digital illiteracy (for more information see “Dissecting Missouri’s Digital Divide”). Missouri’s public libraries have served as the first line of defense for persons who do not have computer or Internet at home, work or school, and libraries are taking steps to build digital inclusion. IT related training courses are offered at 91.5 percent of Missouri’s libraries. Library staff provide assistance accessing and using e-government websites and services at 93.2 percent of Missouri libraries, and at 96.8 percent of Missouri libraries, access is provided to jobs databases and other job opportunity resources (82.8 percent of libraries will help patrons complete an online job application) (see Table A1, page 17).

This data illustrates that Missouri’s public libraries are playing an important and evolving role in their communities. They have become central access points to free and accessible public Internet for many Missouri residents – both those who have other access options and those for whom public libraries are their sole Internet access point. Public libraries provide a venue for learning new IT skills and increasing digital literacy, as well as helping patrons access and apply for job opportunities.

While public libraries are seeing their roles expand, they are facing a number of challenges. Demand for public-use Internet terminals is increasing, and many libraries do not have enough computers or adequate connection speeds. In addition, many libraries are facing reduced budgets, which results in reduced staffing and shorter hours.

Given the increasing demand for computing (Internet) in Missouri’s public libraries, current shortages and potential increases in demand must be considered by policy makers.

## **Case Study: Carrollton Public Library, Carroll County**

The Carrollton Public Library, located in Carroll County is open seven days a week, for a 53 total hours. The library has 18 public-use Internet-terminals, up from six in 2009, and wireless access. On an average day, 40 to 45 residents come in and use the computers, for sessions of up to two hours – though these can be extended for people searching and applying for jobs or taking online exams.

As with 62 percent of libraries in U.S. communities, the Carrollton Public Library provides the only access point to free public-use computers and Internet in the community.

The Carrollton Public Library has two 1.5Mbps lines, which are currently sufficient to meet its demand. In 2011, the library added the second T1 line and increased connection speeds to meet increasing demand. The library also uses time management software, which enables them to track statistics on length of sessions and peak demand times.

Library staff assists with computer use and the library offers trainings throughout the year. The “Book-a-Librarian” service allows library patrons to work with staff members in a one-on-one capacity in one-hour increments. The library also offers a four week computing basics class four times per year and partners with the local University of Missouri Extension Office to offer trainings on software programs, including Excel and QuickBooks.

In March 2012, the library began offering e-books through the Missouri Libraries 2 Go consortium. As part of its e-book program, the library offers an e-reader “petting zoo” (funded through the Missouri State Library Grant Fund) where residents can come try out e-readers, with assistance from library staff before deciding which e-reader to purchase.

## **Case Study: Mid-Continent Public Library, Greater Kansas City Area**

The Mid-Continent Public Library (MCPL) serves the suburban Kansas City area, with 29 branches in Jackson, Clay, and Platte Counties. The library has urban, suburban, ex-urban, and rural branches, all of which pose different challenges when it comes to offering public-use computing terminals.

MCPL has computing centers at all of its branches, as well as public WiFi access. Computer usage is governed by an acceptable use policy and a conduct policy, and the average session time across the branches is 45 minutes. MCPL offers a range of trainings, from very basic courses on how to use a computer, to more advanced courses on digital photography editing. The library also offers online instructor-led courses and video tutorials, and a homework assistance program through a program called ed2go. One-on-one assistance with librarians is also available.

MCPL has made frequent upgrades to broadband connections at their branches, but finds that they need more capacity to meet increasing demand for public-use Internet terminals within a year to 18 months of making these upgrades.

Seeing the Internet as key to the evolving role of libraries and how they provide reference information to patrons, MCPL also offers e-reference services, available by email or online chat and has created the myMCPL app. Through the app, library patrons can find information on branches, access the catalogue and access MCPL's online resources.

MCPL has also been investing in its e-collections – e-books and audiobooks. The library has 300,000 in circulation, circulated 9.3 million items in the last fiscal year, and saw an increase of 160 percent in downloadable activity between September 2011 and September 2012. The library hosts a digital “petting zoo” for patrons to test different e-readers. MCPL also currently has a pilot program at one of its libraries that allows e-readers to be checked out.

MCPL's director sees the Internet playing an increasingly important role in the services that libraries provide and public libraries as central to their communities in bridging the gap and building digital inclusion for people who do not have Internet access – whether that community be urban, suburban or rural.

## **Case Study: Daniel Boone Regional Library, Boone and Callaway Counties**

Daniel Boone Regional Library (DBRL), which serves Boone and Callaway counties with branches in Columbia, Ashland and Fulton, offers public-use Internet terminals and wireless access at each of its three branches. DBRL has 48 public-use computers in Columbia, four in Ashland (to be doubled when it moves to a new location in late 2012) and 10 in Fulton. These public-use computers see significant use – Columbia’s 48 terminals have an average of 16,000 visits a month. The library also offers printing, scanning and faxing services for a nominal charge.

DBRL’s broadband service is provided by MOREnet, and the library makes bandwidth upgrades as necessary to meet growing demand, particularly for wireless service. The Columbia branch has a connection speed of 50Mbps and the Fulton branch has a connection speed of 6Mbps. The Ashland branch is served by a T1 line with a connection speed of 1.5Mbps, which will be upgraded when the branch moves to its new facility.

DBRL provides both formal classes and drop-in classes to help patrons with their computing needs. Formal classes require registration and use staff expertise on topics such as Internet basics, blogging and Photoshop elements, among others. Drop-in classes are self-guided tutorials that are offered on training center computers, as well as resume assistance opportunities.

Library staff on the Public Services Desk are also available as a resource to patrons to help with their computing needs, from using the Internet and setting up an email address, to troubleshooting a Word document. DBRL staff also work to help library patrons effectively use the database resources available through MOREnet, and the [www.dbrl.org](http://www.dbrl.org) online branch resource, which are available 24 hours a day, seven days a week.

## Appendix:

Table A1: Library computer and Internet service in Missouri public libraries compared with US

Computer/Internet Service Data	Missouri Statistics	U.S. Statistics
<b>Expenditures (system data)</b>		
Total operating expenditures per capita*	\$39.01	\$36.84
<b>Connectivity (library outlet/branch data)</b>		
Library offer only free access to computers/Internet in their communities	56.6%	62.1%
Average number of computers	24.4	16.4
Always sufficient computers available	43.2%	34.6%
Use of public Internet workstations increased since last year	61%	60.2%
<b>Maximum Internet connection speed</b>		
Upto 1.5 Mbps	14.3%	23.4%
1.6-10Mbps	66.3%	38.5%
Greater than 10Mbps	15.4%	38.1%
Always adequate connection speed	67.6%	58.3%
Wireless availability	77.9%	90.5%
<b>Internet services (library outlet/branch data)</b>		
Licensed databases	39.1%	98.7%
Homework resources	56.5%	81.8%
Digital/virtual reference	70.7%	69.7%
e-books	51.8%	76.3%
Audio content	73.0%	82.9%
Library social networking	45.4%	61.8%
Library offers IT training to patrons	91.5%	82.7%
E-government: Staff provide assistance to patrons to understand how to access and use e-government Web sites	93.2%	91.8%
Jobs services: Library provides access to jobs databases and other job opportunity resources	96.8%	92.2%
Jobs services: Library helps patrons complete online job applications	82.8%	76%

Source: [Public Library Funding & Technology Access Study, 2011](#).

**Table A2: Comparison residential Internet adoption and library Internet access at regional level in Missouri**

Regional Planning Commission	Residential Internet adoption in the RPC**	Internet computers in public library*	Internet computers in public library per 1000 households*	Percentage of households using libraries for Internet access**
Kaysinger Basin	84%	184	3.88 (1)	46% (1)
Mid-America	93%	983	2.21	46% (1)
South Central Ozark	84%	183	3.55	44% (3)
East-West Gateway	93%	1107	1.38 (19)	42%
Mid- Missouri	92%	207	1.64 (17)	41%
Pioneer Trails	91%	138	2.39	40%
Southwest Missouri	93%	356	1.48 (18)	40%
Mark Twain	85%	176	3.28 (3)	39%
Bootheel	80%	166	2.73	38%
Ozark Foothills	81%	66	1.92	37%
Lake of the Ozarks	84%	95	1.84	37%
Mo-Kan	89%	92	1.74	36%
Green Hills	87%	137	3.47 (2)	35%
Harry S Truman	86%	139	1.72	33%
Northwest Missouri	88%	53	3.16	32%
Northeast Missouri	87%	46	2.08	32%
Meramec	88%	137	1.84	32% (17)
Southeast Missouri	89%	178	2.16	31% (18)
Boonslick	88%	32	0.89	29% (19)
<b>Missouri Average</b>	<b>88%</b>	<b>4475</b>	<b>1.88</b>	<b>37%</b>

\*Analysis based on data from Missouri Census Data Center, Missouri State Library, 2012. \*\**MoBroadbandNow* residential survey, 2011.

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The goal is for

**95 %** BROADBAND  
AVAILABILITY

in Missouri by the end of 2014.

**2** STRATEGIC INDUSTRY  
SECTOR PROJECTS

in agriculture and healthcare.

Over

**110** INTERNET  
SERVICE PROVIDERS

are participating in broadband initiative.

**18** REGIONAL TECHNOLOGY  
STRATEGIC PLANS

developed to address underserved  
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