How libraries can support their communities’ digital needs more effectively
As communities across North America continue to deal with the effects of the global pandemic, libraries are filling a critical need by connecting residents with essential digital tools and resources—and this role will endure long after COVID-19 is over.

The pandemic has exposed significant gaps in access to computers and high-speed internet service among low-income families in particular. Libraries are bridging these gaps by extending their WiFi service and loaning portable hotspots to families who need them. In addition, libraries are expanding their digital collections and building out new services such as online tutoring and job-seeking assistance to serve patrons’ needs more effectively.

A 2020 *Library Journal* (*LJ*) survey of public libraries across the United States, developed in coordination with Spectrum Enterprise, reveals how libraries have played a vital role in bringing digital resources to stakeholders during the pandemic. Fulfilling this role requires a dependable IT infrastructure with high-speed internet access and a secure, scalable network. Libraries are using a variety of funding sources to bolster their IT infrastructure, and the survey reveals challenges and opportunities in doing so.

This white paper explores the survey results in more detail. It also suggests key opportunities for libraries to take an even more active role in supporting stakeholders’ connectivity needs, such as by leveraging federal funding resources more effectively.

**LIBRARIES PLAY A CRITICAL ROLE IN OFFERING BROADBAND SERVICE**

Connecting patrons with digital resources is a fundamental aspect of public library services. Respondents in the *LJ* survey estimated that 38 percent of households in the communities they serve do not have broadband service at home.

Respondents were asked to rate the importance of providing broadband access to their communities on a six-point scale, 86 percent rated this as highly important (a 5 or 6). The overall average was 5.5, which was consistent across all demographics.

Nearly all respondents (99 percent) said they make both WiFi and public access computers available to their communities. Demand for public access computers is “very high” for 29 percent of responding libraries and “relatively high” for another 40 percent. Demand is highest in urban libraries, where 54 percent report “very high” demand for computers.

Demand for WiFi is even greater, with 83 percent of libraries reporting “relatively high” to “very high” demand.

Survey respondents described many examples of how access to their library’s internet service has made a difference in their community,
from allowing students to take part in remote or hybrid instruction to helping adults find a new job. A California librarian noted that library computers have been used by people who’ve lost their homes or have been displaced by wildfires to file insurance claims.

More than a third of U.S. libraries (37 percent) have boosted their internet connectivity offerings during the pandemic. Another 24 percent were considering this. However, there’s a big disparity between the percentage of large libraries (52 percent) and small libraries (27 percent) that have boosted their connectivity, which suggests that large libraries are in a better position to do so.

Thirty-nine percent of responding libraries are lending out mobile WiFi hotspots to help patrons get online from home. Twenty-two percent are lending laptops, and 15 percent are lending tablets. Some libraries have made their WiFi service public, meaning users no longer had to have a library card and log in to use the system. And one in five libraries has partnered with the local school system to bolster students’ web access for remote learning.

THE STATE OF BROADBAND ACCESS IN U.S. LIBRARIES

To bridge access gaps in their communities, it’s essential for libraries themselves to have secure, reliable broadband connections.

About 44 percent of survey respondents described their libraries’ WiFi service as “fast.” Most, 50 percent, said it was “adequate.” Only 6 percent described it as “slow.” (Among large libraries serving at least 100,000 people, this figure was only 3 percent.)

When respondents were asked, “Can you rely on the internet connectivity available in your library to adequately support more bandwidth-intensive usage, such as video streaming,” 87 percent said “usually,” while another 10 percent said “sometimes.” Only 3 percent said “not usually” or “never.” Small town/rural libraries and those serving smaller populations are the least likely to be confident they have enough bandwidth.

CAN YOU RELY ON YOUR INTERNET CONNECTIVITY?

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>&lt;25K patrons</th>
<th>25K-100K patrons</th>
<th>&gt;100K patrons</th>
<th>Rural</th>
<th>Suburban</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, definitely</td>
<td>37%</td>
<td>28%</td>
<td>45%</td>
<td>48%</td>
<td>27%</td>
<td>45%</td>
<td>41%</td>
</tr>
<tr>
<td>Yes, usually</td>
<td>50%</td>
<td>54%</td>
<td>45%</td>
<td>43%</td>
<td>59%</td>
<td>39%</td>
<td>55%</td>
</tr>
<tr>
<td>Sometimes</td>
<td>10%</td>
<td>12%</td>
<td>10%</td>
<td>7%</td>
<td>8%</td>
<td>15%</td>
<td>2%</td>
</tr>
<tr>
<td>Not usually/ Never</td>
<td>3%</td>
<td>6%</td>
<td>0%</td>
<td>2%</td>
<td>6%</td>
<td>1%</td>
<td>2%</td>
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Librarians are fairly confident that their networks are secure (4.8 on a six-point scale); only 9 percent rate their network security as a “3” or below.
COST REMAINS A BARRIER

About one in five survey respondents (18 percent) said the cost of internet access is a major concern. Not surprisingly, concern is highest in lower-income areas – and libraries in small towns and rural areas often struggle to have enough bandwidth to meet their needs.

“The costs for bandwidth keep growing, and our budget is not growing at the same rate,” said Jodi Ohlson, library manager of Caviglia Arivaca Library in Pima County, Arizona, expressing a common concern among respondents.

Libraries use a variety of funding sources to pay for internet access, including their local technology budget, state or local government funding, grants and contributions:

SOURCES OF FUNDING FOR LIBRARY INTERNET ACCESS

<table>
<thead>
<tr>
<th>Source of Funding</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>IT Budget</td>
<td>55%</td>
</tr>
<tr>
<td>State/Local Gov.</td>
<td>49%</td>
</tr>
<tr>
<td>E-Rate</td>
<td>38%</td>
</tr>
<tr>
<td>Grants</td>
<td>9%</td>
</tr>
<tr>
<td>Contributions</td>
<td>8%</td>
</tr>
<tr>
<td>Other</td>
<td>7%</td>
</tr>
</tbody>
</table>

Interestingly, only 38 percent of libraries said they leverage federal E-rate funding to help pay for internet access. E-rate provides billions of dollars in connectivity funding each year to U.S. schools and libraries, and libraries that take advantage said the program covers 56 percent of the total cost of their broadband service, on average.

However, the program is quite complex, with a rigorous application process that could discourage many libraries from seeking funding. According to the survey, 7 percent of libraries overall – and 11 percent of small institutions – have experienced obstacles in applying for E-rate.

“The E-rate process is so exacting and difficult to navigate, and the rules are constantly changing,” said Mary Stein, assistant library director for the East Baton Rouge Parish Library in Louisiana. “If we had to add it all up, we spend more than 90 hours of library staff time in applying each year – plus about 40 hours of paid time for consultants.”
FEDERAL FUNDING OPPORTUNITIES

Aside from E-rate, here are some other ways that libraries might be able to leverage federal funding to improve their broadband infrastructure and bring digital resources to more patrons.

American Rescue Plan Act

The American Rescue Plan Act (ARPA), the $1.9 trillion pandemic relief legislation passed by Congress in March 2021, contains a significant amount of money for libraries to help their communities—and libraries can use some of this money to improve their network infrastructure.

The legislation includes $200 million for the Institute of Museum and Library Services (IMLS), the largest single investment in the agency’s 25-year history. It also includes billions of dollars in funding for other library-eligible programs, including a nearly $7.2 billion fund specifically designed to help libraries bridge the digital divide through broadband connections that patrons can use within their own homes.

Of the $200 million for IMLS, $178 million was earmarked for state library administrative agencies on a population-based formula, with a $2 million state minimum. State agencies have been distributing the funding to local libraries according to their own priorities, with the goal of maintaining and enhancing library services.

Emergency Connectivity Fund

Besides IMLS funding, ARPA included $7.17 billion for an Emergency Connectivity Fund (ECF), which reimburses schools and libraries for the cost of WiFi hotspots, network cards, laptops, tablets and other connectivity solutions for patrons to use in their homes or other locations off library premises.

Until now, E-rate had never covered off-campus internet access. However, that changed with the creation of the ECF. Overseen by the Federal Communications Commission and administered by the Universal Service Administrative Company (the entity that administers the E-rate program), the ECF program reimburses libraries for the cost of mobile learning devices (up to $400 in value) and mobile hotspots (up to $250 in value) loaned to patrons to support remote learning. Fixed broadband connections within library facilities are not eligible for support through the program. Schools and libraries requested $5.1 billion in the first wave of ECF funding in August 2021. A second application window to distribute the remaining $2.1 billion was scheduled to open on Sept. 28, 2021 and close on Oct. 13, 2021.

Recognizing that a one-time funding opportunity like the ECF wouldn’t meet all home connectivity needs, Congress introduced legislation to extend the ECF. The Securing Universal Communications Connectivity to Ensure Students Succeed (SUCCESS) Act would extend the ECF by five years and provide $8 billion a year, totaling $40 billion over five years, to help schools and libraries support home connectivity for students and library patrons.
“As we move to build back better from the global pandemic, rejuvenating public libraries must be part of our nation’s recovery.”
– ALA President Julius C. Jefferson, Jr.

Build America’s Libraries Act

Another piece of proposed legislation, the Build America’s Libraries Act (S. 127), would provide $5 billion in funding to address the critical infrastructure needs of America’s libraries, including broadband infrastructure.

“As we move to build back better from the devastating impacts of a global pandemic …, rejuvenating public libraries in our most distressed communities must be part of our nation’s recovery,” said ALA President Julius C. Jefferson, Jr., in a statement. “The Build America’s Libraries Act would provide libraries [with] … modern infrastructure to continue addressing the learning deficits and employment challenges so many Americans are facing.”

Investing in library infrastructure projects to improve internet connectivity is one of the eligible uses of funding in the bill. The average public library building in the United States is more than 40 years old, ALA says, and many buildings need upgrades to support more broadband capacity. The funding would be distributed to state library agencies through the IMLS, and state agencies would award grants on a competitive basis to libraries.

KEY OPPORTUNITIES MOVING FORWARD

As librarians consider how to meet stakeholders’ digital needs more effectively, the survey revealed some key opportunities moving forward. These include:

1 **Explore additional ways to make WiFi readily available.**

Libraries are already using creative means to bring connectivity to patrons who don’t have home internet access. However, the survey indicates that only a small percentage of libraries are taking advantage of certain strategies, leaving the door open for libraries to do even more.

Asked where they make WiFi available, for instance, 92 percent of respondents said “On the library grounds, as in a parking lot, playground, etc.” Another 18 percent have WiFi hotspots set up around the community, and 12 percent transmit WiFi via library outreach vehicles or bookmobiles roving around their service area. This suggests an opportunity for more libraries to adopt these latter ideas to extend access to as many stakeholders as possible.

2 **Take full advantage of E-rate funding to build out broadband networks.**

Although there are certainly challenges to applying for E-rate, public libraries might be missing out on a chance for significant funding if they don’t try. Yes, the process is complex – but the rewards can be considerable.
E-rate provides discounts of between 20 percent and 90 percent of the cost of internet service, depending on the degree of poverty in a library's community (as measured by the percentage of students eligible for the National School Lunch Program in the public school district in which the main branch or main administrative office of the library is located) – and up to 85 percent off the cost of internal connections such as the wiring, routers, switches, wireless access points and other network equipment needed to provide access.

Libraries can find help to guide them through the application process on the program website usac.org/e-rate and from their state library association.

3 Choose a reliable and experienced service provider.

Choosing the right internet service provider is critical. The company you choose should have a secure, reliable broadband network, as well as extensive experience in serving the unique needs of public libraries in your area. Your provider should be not just a technology vendor, but a full partner who is wholly invested in your library's success and has experience with the E-rate program.

CONCLUSION

Public libraries are using innovative ways to keep their communities connected to the wealth of opportunities that exist online. Having secure, reliable broadband is essential to these efforts, and while librarians are largely satisfied with their connectivity, some troubling gaps remain. The survey reveals key opportunities for libraries to take additional steps to bring broadband to stakeholders and to leverage federal funding to build out networks further.
ABOUT THE SURVEY

Library Journal’s internet connectivity survey was created to learn whether U.S. public libraries have web access and affordability issues, and how COVID-19 has changed their approach to providing WiFi access to patrons. The survey was developed in coordination with Spectrum Enterprise. A survey invitation was emailed to a list of approximately 11,000 U.S. public libraries, with an emphasis on directors and IT specialists, in August 2020. The survey closed in September with 238 responses.

Forty-seven percent of survey responses come from small libraries (serving populations under 25,000), 26 percent come from medium-sized libraries (serving 25,000 to 99,999 people), and 27 percent come from large libraries (serving 100,000 or more). Library directors and assistant directors account for 37 percent of the sample, followed by 8 percent each from technology managers/specialists, branch managers, and public services managers. Tabulation and analysis of the survey results was conducted by Library Journal.

ABOUT SPECTRUM ENTERPRISE

Spectrum Enterprise, a part of Charter Communications, Inc., is a national provider of scalable, fiber technology solutions serving many of America’s largest businesses and communications service providers. The broad Spectrum Enterprise portfolio includes networking and managed services solutions: Internet access, Ethernet access and networks, Voice and TV solutions. The Spectrum Enterprise team of experts works closely with clients to achieve greater business success by providing solutions designed to meet their evolving needs. For more information, visit enterprise.spectrum.com.

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