Testimony of
Linda H. Lord,
Maine State Librarian
Before the U.S. Senate Committee on Commerce, Science, and Transportation
"E-Rate 2.0: Connecting Every Child to the Transformative Power of Technology"
July 17, 2013

Good afternoon. Thank you Chairman Rockefeller, Ranking Member Thune, and members of the Committee for inviting me here today to testify about how the E-rate program has enabled libraries to connect our communities and how we might further strengthen the program to better support digital learning.

My name is Linda Lord, and I am the Maine State Librarian. Before joining the state library 14 years ago, I spent 16 years as a school librarian at the Mount View Junior/Senior High School in Thorndike, Maine. Today I am honored to speak on behalf of Maine's libraries, part of the more than 16,000 public libraries in the U.S., about the role of the E-rate program in helping libraries ensure that no one is excluded from digital opportunity.

This hearing is focused on the role of E-rate in maximizing access and use of technology to benefit every child in America. I am proud of the role that both our libraries and schools play in giving our young people the opportunity to develop the critical thinking and technological skills they need to succeed in today's economy and prepare them for tomorrow's economy too.

I would be remiss if I did not pause here to acknowledge the bipartisan support for the E-rate program by Chairman Rockefeller and Maine's original E-rate champion, former Senator Olympia Snowe, that lead to the establishment of the E-rate program. The citizens of Maine are deeply indebted to the foresight and commitment of these two leaders as well as to others who have supported the program over the years.

It has been my pleasure to work with students and their parents in rural Maine (Thorndike, population 890) and now, as State Librarian, to serve the 1.3 million residents across our state. Our libraries serve everyone, from the remote areas in western Maine, to Downeast Washington County (which is a county the size of Delaware and Rhode Island combined but with a population of just 32,000), to Portland, our most populous city of 66,000.

Though Maine is the least densely populated state east of the Mississippi, our library system reaches citizens in the most far-flung parts of the state. In the summer months, our libraries allow visitors to stay longer, relying on the internet at the local library so they do not have to completely "unplug" from work. Speaking as someone very familiar with the phone-as-an-appendage for all teenagers, we know that while parents are responding to work emails, their kids are staying in touch with friends and often using the library Wi-Fi to read the latest thread on Tumblr. I actually heard a story that a teen was on the library porch reading a Stephen King book on her iPhone using the library's Wi-Fi connection instead of reading the print book from the library. How people use our libraries and our internet-enabled services continues to change every year.

I've been involved with the E-rate program since the beginning, and I have witnessed the tremendous positive impact it has had throughout Maine and indeed nationwide. As State Librarian, I am also a member of the Chief Officers of State Library Agencies (COSLA) and regularly hear from my colleagues about the role E-rate has in their own states. In Nebraska, for instance, a resident of the Dundee neighborhood has been coming into the Sorensen Branch of the Omaha Public Library with her laptop to Skype into job interviews. I'm thrilled to report she ultimately received a job offer from Boeing. Web and videoconferencing are amazing—and bandwidth-intensive—tools for closing distances across our vast nation.

I have also served as Chair of the American Library Association's E-rate Task Force for the last four years and thus have a deep appreciation for the intricacies of the program, the issues that most concern library applicants, and how the program has only become more vital to libraries in a more complex technology landscape. I will be sharing share some E-rate successes with you today.

I'm old enough to remember the days of dial-up when you had to listen to that annoying modem sound and hope that you could get a connection. Clearly, we are in a different place today. So are our libraries. In 1996, only 28 percent of public libraries provided public Internet access, compared with over 99 percent who report this is the case today.

The E-rate program has transformed libraries and the technology resources we offer our communities since 1998. According to a 2013 Pew Internet Project report the availability of computers and internet access now rivals book lending and reference expertise as vital library services. Seventy-seven percent of Americans say free access to computers and the internet is a "very important" service of libraries, compared with 80 percent who say borrowing books and access to reference librarians are "very important" services.[1]

The most recent downturn in the economy has further established the critical importance of the E-rate program. The downturn hit Maine hard, as it did so many communities across the country. We see the lingering effects in our libraries. In 2012, 60 percent of public libraries reported an increase in use of their public access computers from the previous year (on top of the 69.8 percent increase reported in 2010-2011 and the 75.7 percent reported in 2009-2010). Librarians consider the provision of public internet services to job seekers the most important

---

[1] http://libraries.pewinternet.org/2013/01/22/library-services/

service to their communities, followed by access to government services and providing educational resources for K12 students. Ninety-two percent of all libraries report they provide access to jobs databases and other job opportunity resources.[2]

Many of our residents struggle with inadequate resources to meet basic necessities and depend on the library to stay connected. Families come to the library so that their kids can work on homework assignments, some bringing their own laptops to use the library's Wi-Fi. More people use our computers and internet access to look for and apply for jobs or to recertify for a new position. In Maine the public library is the only place people can go for free internet access in 77 percent of our communities. Nationwide, 62 percent of libraries report this is the case. When so much of what we do today is dependent on having a high quality internet connection, the library has become a lifeline. Our libraries could not provide this basic service without E-rate.

As we all hoped in 1996, the E-rate program has transformed libraries for the digital age. It remains a critical federal telecommunications funding source that goes directly to libraries, and it has done a tremendous job in connecting them. Today we can boast that nearly all libraries provide public internet access and about 91 percent provide access to Wi-Fi, an increasingly important service in our communities. Though our libraries are connected at some level, the issue today is the quality or speed of that connection, which is often inadequate.

We must strengthen and add to the capacity of the E-rate program to ensure libraries and schools are equipped to engage students and learners in the 21st century. I would like to share with you some examples that illustrate the internet-enabled services supported by the E-rate

---

[2] http://www.ala.org/research/plftas/2011_2012

program that libraries provide their communities. I will also talk about what we see on the horizon.

The nature of how information is delivered and shared is changing. Education increasingly relies on networked and online experiences. Whether it's checking for an assignment through a course management system, watching a biology video on YouTube, or practicing French pronunciation via a librarian-selected tutoring website, K12 students at the library are eating up the available bandwidth. This problem is exacerbated as job training programs, continuing education instruction, and government officials (e.g., local, state, and federal elected officials) increasingly rely on streaming media and Web-delivered videos to reach individuals across the country and they often promote the library as the place to receive this information. A single patron watching a high-definition video will consume nearly all of a traditional T-1 (1.5 Mbps) connection, leaving other patrons using the library's other computers or personal laptops with intermittent or no access. Inadequate bandwidth also limits a library's ability to effectively provide new internet services, such as interactive online homework help or videoconferencing, let alone the full spate of emerging technology-enabled services, some of which we have not yet imagined but for which we need to be prepared.

As you know, the internet is a vastly different place than it was in 1996 with the proliferation of social media and production tools pushing the envelope of what we expect to be able to do online—Facebook, Flickr, and Gmail began in 2004, YouTube in 2005, Twitter in 2006, Google Docs in 2007, and now Instagram and Pinterest, which to tell you the truth, I am not even sure how to use, though our young people are adept at all of them.

In 1998, the first year of the E-rate program, I could not have envisioned a new program we now offer through Maine libraries. We use videoconferencing technology to connect rural Mainers with volunteer attorneys in our "Lawyers in Libraries" program. We offer clinics in real-time on various legal topics like filing taxes, renter's rights and responsibilities, and debt counseling to any public library patron. Our program also allows low-income residents to set up private consultations using the same video conferencing technology.

Even our small libraries can provide connections to information and experiences outside their local communities. The director of the Cherryfield (Maine) Public Library, which serves a population of about 1,200, told me about a partnership with the Smithsonian's Interactive Video Conference Program here in Washington. The library hosted 28 elementary students to view in real-time an exhibit at the Smithsonian. These students would otherwise not be able to experience the resources available through these virtual field trips. This library also has had a video conferencing program with the IRS for small businesses.

I couldn't be more impressed with what our libraries are doing, and know similar things are happening in other states. As a matter of fact, the Jessamine Public Library in Nicholasville, Kentucky recently partnered with one of its local elementary schools to offer a virtual field trip for students and their families to the Texas State Aquarium located in Corpus Christi. The aquarium has video cameras located around the facilities that allow the audience to experience their exhibits live. Guided by a docent at the aquarium, students visited the various habitats and saw the birds, sea turtles, river otters, fish, sharks and dolphins that make up some of the attractions. Enabled by strong and reliable internet connection, these children could take part in a unique educational experience.

These stories should be commonplace in the coming years and, in fact, can be if libraries have access to affordable high-capacity broadband connections. I know it is the backbone of E-rate support that lets the library provide these dynamic services, but the message here is that there is a group of kids that were connected outside of their small community to a learning opportunity that would not have been possible even five years ago. Librarians think this is just the beginning.

But there aren't nearly enough of these stories and there could be many more with adequate bandwidth. In a 2010 FCC report on the E-rate program, 78 percent of applicants reported their connectivity was inadequate. There is clearly more work to be done, and the ConnectED initiative provides a perfect and timely opportunity to ensure that libraries and schools are prepared to meet the 21st century needs of their patrons and students. As we consider changes necessary to build a robust and sustainable E-rate program for everyone, we must also be mindful of some of the unique challenges our small and rural libraries have in securing adequate bandwidth and securing the E-rate funding they require. Though progress has been made, there are still areas where libraries just can't get the bandwidth they need because it isn't there or the costs are too high to reach where it is. And, when it comes to the E-rate application process we must consider processes that encourage smaller libraries to apply. We must not let bandwidth be the limiting factor in the services libraries can provide our communities.

I would like to talk a little about Maine's most precious resource and one we are pinning our hopes for the future on—our young people. Among all the challenges they face upon leaving high school, whether it's to enter the workforce or go on to higher education, we must make sure that they are equipped with the skills necessary to be successful, to be engaged citizens, and to contribute to the well-being of their communities as well as our global economy. In reality this

means that they must have access to high-quality and technology-rich educational experiences at the snap of the fingers—or really with the tap on a device.

Maine was a forerunner in the one-to-one computing trend with then-Governor Angus King working hard to provide all our middle-school students with laptop computers. Since then we have seen the program blossom not only in Maine, but also in other states. As most anyone visiting their public library in the afternoon knows, many of these students head to the library after school to connect via the library Wi-Fi, to work on homework assignments and research resources, and to get assistance from librarians. Public libraries support learners at all ages and stages. We are the wrap-around support network that supports K12 students after the school bell rings and after the school doors close for the summer. Through data from the Pew Internet and American Life Project we know that 70 percent of parents report that their child visited the public library in the past 12 months.[3] Of these, 77 percent of children ages 12-17 went to the library to do school work; this is true of a majority of all children. Together libraries and schools ensure that learners have access to technology-enabled and personalized educational opportunities during the school day—and beyond—via libraries. Through this partnership, our students have the broad support they need, and always have learning opportunities in front of them.

In addition to supporting traditional K12 education, libraries are a key ingredient to the success of our non-traditional students, such as home-schooled students that now number more than 1.5 million. In the Santa Maria (Calif.) Public Library, for example, there are two classrooms in the library, run by local high school teachers, which are dedicated to the Santa Maria Joint Union High School District home school program.

---

[3] http://libraries.pewinternet.org/2013/05/01/parents-children-libraries-and-reading/

Students—particularly those in rural areas who may not have access to AP or specialized STEM classes—taking distance education courses to augment the local curriculum, regularly turn to the library for internet access to take these classes. In many cases, libraries also serve as proctoring centers. We have numerous examples, such as in Florida, where K12 education is becoming a hybrid model that includes online learning. We anticipate seeing more of these students in our libraries. Many students also prepare and take practice tests—including for the GED or SAT—in our libraries, and we expect to see increased use as the GED test is revamped and more states switch to computerized GED testing, which will be only online beginning in 2014.

Libraries also support adult learners and continuing education for those who may not have received the education they needed early in life or need to retool for new job prospects. At one of the branches of the Chattahoochee Valley Libraries system in Georgia, for example, a patron taking online classes needed to take an online, proctored test. This also involved a device to monitor him and take a fingerprint. The library staff set up the necessary device and installed the software he needed in one of the offices so that he would have privacy. The library reported he passed his test and is so pleased that he hasn't yet stopped telling anyone who will listen, "how much [the] library cares about our education." Libraries are essential for making sure everyone has the skills they need to be part of the 21st century workforce.

We cannot contemplate fulfilling the needs of these students (or adult learners) unless our libraries have access to affordable, reliable, high-speed broadband connectivity. From my colleagues across the country I hear stories from their local libraries about needing more bandwidth. In Wisconsin one regional library system relied on the E-rate program to add an additional 100 Mbps of bandwidth when the network reached capacity for its 49 member

libraries. In Indiana, a library director said she used to think a T1 line was sufficient, but quickly found that it was nowhere near enough. The library doubled, then tripled its broadband capacity, then jumped to 15 Mbps as staff reported that patrons quickly used capacity as it was added. By revamping the E-rate program we have an opportunity to address this shortfall and lay the groundwork to address future bandwidth needs.

Now let's look a little into the future. Just as libraries in 2013 are not the library we remember in 1998, we are beginning to see other emerging trends. Libraries are providing innovative services that are technology-rich and build on developing skills learned in the formal classroom setting. One form this is taking is the creation of digital media learning labs and makerspaces. For example, The Labs at the Carnegie Library of Pittsburgh offer young people an opportunity to produce rich, multi-media products using the latest technology tools while connecting these learning experiences directly back to school and careers. There is a specific emphasis on STEM education, and the Lab devotes significant resources to developing interest and ability in STEM areas. Digital learning labs are not confined to large urban libraries, however. The Allen County Public Library in Fort Wayne, Indiana, provides a maker space to encourage innovation and entrepreneurship. In collaboration with the John D. and Catherine T. MacArthur Foundation, the Institute of Museum and Library Services is funding the creation of up to 30 learning labs.

Libraries are also beginning to leave their physical spaces and find opportunities to bring their services out into the community. In Philadelphia, the Free Library brings its services into the community, literally. The Hot Spot Techmobile brings internet access, computers, and digital literacy training to where the city's most vulnerable citizens are.

These and services like them are sprouting up in libraries across the country and are part of the wave of the future in library service. Libraries feel the urgency that schools, colleges, and businesses feel. We must have students prepared for the competitive global economy as they are the key to the future success of our country. The momentum is now, and we must seize the opportunity to ensure the E-rate program continues to support libraries and schools so that we can do our job by the current and future generations of young people.

As with people, there are "early adopter" libraries beginning to leverage gigabit networks, as well as libraries that are farther down the technology curve. We must take lessons from both of these groups. And, we must find solutions that help libraries bridge this gap by ensuring libraries have access to affordable, high-capacity broadband no matter if they are in a rural remote or urban location or somewhere in between.

As we embark on E-rate 2.0 to keep pace with the technology platforms our students access today, as well as plan for tomorrow's needs, we must lay the groundwork carefully and with purposeful goals. E-rate has meant a world of difference to libraries, but it was designed in a vastly different technology landscape. We know now that the connectivity needed to support our K12 students and our broader communities is far greater than we might have imagined 17 years ago. We also know the need is far greater than the current program can support.

The original mission of the E-rate program—to provide libraries and schools with advanced services—is still valid and necessary. But the technological landscape continues to push the boundaries of libraries' internet capacities, and as Cisco's internet traffic measurement studies demonstrate, there is no end in sight to the demand for high-capacity internet access. Many libraries are going to need fiber optic cable connections that can provide a "future-proof"

platform for increasing capacity simply by changing the electronics at either end of the fiber. Investment in fiber will pay dividends for decades into the future and will ensure that libraries do not have to keep playing catch-up with the emergence of every new application.

Due in no small part to the leadership of Senators Rockefeller and Snowe, the E-rate program from its inception focused on providing high-capacity transmission services to libraries and schools. The purpose of the E-rate program is to ensure that libraries and schools have the underlying telecommunications and broadband capacity to carry the next generation of Internet-dependent services. This focus on transmission provides a foundation for future growth and the development of new and innovative services. Without question the job is not over. As technologies continue to change, the E-rate program must adapt as well. The current level of telecommunications services demands an E-rate 2.0. Revisiting the E-rate program with the goal of bringing the highest capacity broadband possible into communities across the country was initiated through the National Broadband Plan in 2010 with the recommendation that communities have access to 4 gigabit service so that anchor institutions, like libraries, can provide advanced and innovative services to all who need them.

The fundamental question before us today is how do we most effectively harness the opportunities enabled by technology for the benefit of our young people and, through them, our society? While our vision for the future may differ in some fashion, and the path forward may have variations, I think we can concur that it will be technology rich and heavily dependent on a robust broadband infrastructure. We already see a trend towards more diffuse networking capabilities in large swaths of the population which means more demand for technology-based services.

This is an exciting opportunity for libraries as we contemplate new avenues to serve our communities. It's a critical juncture for our nation. For libraries, what we can achieve for K12 students and our communities depends to a great degree in the continued success of the E-rate program which in turn depends up on how we shape E-rate 2.0.

In closing, libraries are vital community technology hubs, and we simply cannot allow inadequate bandwidth to be the factor that limits what our students and our nation can achieve. We are at a turning point with ever changing technology and the need for a 21st century workforce where we can continue to watch demand overwhelm the E-rate program or we can step boldly forward with a proactive vision for meeting the educational and other learning needs of our communities for the next 15 years and beyond.

But like the true Mainer I am, I believe in not losing sight of what works while at the same time allowing for the space to for necessary changes. As we re-envision the E-rate program for the future, we should be mindful of bringing along the successful elements and build on that firm foundation. Libraries are committed to making sure our communities have access to technology and broadband and the skills to turn these tools into opportunity for years to come.

Thank you for this opportunity to share the library experience at this formative time in the E-rate program. I look forward to responding to your questions.