

**REMARKS OF
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AUSTIN, TEXAS
FEBRUARY 4, 2015**

Good afternoon. Thank you to the Texas Computer Education Association for having me here today. It's a treat to be in Austin. I mean that sincerely—but I will also add that it is cold and icy back in Washington. Beyond the weather, another reason I can safely say we are not in Washington is that unlike Austin our nation's capital does not run under the banner of keeping the city weird. Well—at least not on purpose.

Back in Washington big things are happening at the intersection of technology and education. That's exciting. But no surprise to anyone in this room. After all, for more than 35 years you have been focused on the power of technology to remake our classrooms and our world. So today I want to follow your lead. I want to first talk about progress we have made updating E-Rate—the nation's largest education technology program. Then I want to talk about what I call the Homework Gap. I think the Homework Gap is the cruelest part of the digital divide—but I believe working together we can bridge this divide, close this gap, and give more students a fair shot at 21st century success.

I. Updating E-Rate

Let me jump right in with E-Rate. The E-Rate program was launched following passage of the Telecommunications Act of 1996. Remember 1996? That was when I called the Internet the “Information Superhighway.” Maybe you did, too. In 1996, E-Rate was the bipartisan brainchild of Senator Jay Rockefeller, Senator Olympia Snowe, and then-Congressman, now Senator Ed Markey. It is run by the agency where I work—the Federal Communications Commission.

From the start, the idea behind E-Rate was simple: Let's get all of our schools and libraries connected to modern communications and the Internet. In the rear view mirror, that seems easy—and spot on. But remember in 1996, a device meant a Nintendo 64. Not many Americans had regular access to the Internet—and those who did spent no more than 30 minutes online a month. Moreover, at the time teaching tools meant a blackboard and a bulky textbook. If you wanted to share, you needed a mimeograph machine with its blotchy, smelly, purple ink or a noisy new Xerox copier. Research in school was confined to the card catalog, where the universe of available knowledge was itemized on uninspired stacks of off-white index cards.

So in retrospect, E-Rate was visionary—and as the benefits of connectivity became clear schools in every state signed up. In fact, thanks to E-Rate, more than 95 percent of classrooms in this country are now connected to the Internet. That sounds good. It might even sound like the job is done. But nothing could be further from the truth. Because the challenge today is not connection—it's capacity. So many of our schools subscribe to broadband at speeds not much higher than what is available in the typical household. But on average they have 200 times as

many users! Cue that circle that spins and spins and spins . . . and the video program that halts too many times to watch.

But the good news is that we are doing something about it. That's because last year the FCC rebooted the E-Rate program. We issued a set of decisions that took this program out of 1996 and updated it for the digital age. Call it E-Rate 2.0.

E-Rate 2.0 refocused the program on broadband capacity. We set goals—of 100 megabits to schools in the near term and 1 Gigabit to schools in the long term. That means we are on course to have high-capacity broadband and Wi-Fi in all schools over the next five years.

E-Rate 2.0 streamlined the application process. Thank goodness—because a digital age program should not be weighed down by a mountain of analog-era paperwork.

E-Rate 2.0 updated the program budget. For nearly two decades, the E-Rate budget was capped. That meant E-Rate failed to keep pace with inflation, cutting its purchasing power for schools by billions. Think about that. At a time when digital skills are an essential part of preparing students for the modern economy, one of our most effective programs was frozen in the age of dial-up. But no more! We raised the cap—and ensured that going forward it will always be inflation adjusted.

Our reboot was not a moment too soon. Because other nations are now leading the way when it comes to bringing broadband to schools. South Korea has wired all of its schools with high-capacity broadband. So has Estonia, where there is a nationwide effort to teach students as young as seven years old how to write code. Uruguay has connected nearly all of its primary and secondary schools. China, India, and Thailand are working on ways to bring one-to-one connected device learning to students through large scale purchasing at low cost. In so many ways these countries are different than the United States. But they have students, like ours, who will be competing in a global economy—and there is no reason to let other nations outspend us, outeducate us, and outachieve us.

So for those who care about the intersection of education and technology—E-Rate 2.0 is a big deal. But what can follow in its wake is even better. Imagine a world with all of our classrooms connected at really high-speeds. That will mean new nationwide markets for educational content, devices, and innovative teaching tools. It means moving beyond textbooks and the slow process of districts selecting them every seven to ten years. After all, with text and video on tablets updates on everything from science to social studies can occur with much greater frequency. It means more topics can be customized to reflect local needs. It means that it is possible for student assessment that occurs so naturally that it could limit the need to take time out for standardized testing.

Back in the here and now, our E-Rate reboot represents real progress in Washington. And I don't have to tell you, progress is hard. It takes a fight. So thank you for your work on the front lines of this battle. Thank you for raising your voices, clamoring for results, and showing that when we work together it is within our power to get things done.

II. Bridging the Homework Gap

As terrific as our progress on E-Rate is, we have more work to do. Because going forward we need to recognize that expanding opportunity goes beyond the school doors. We can't forget that in world where students rely on online resources and digital content in the classroom, they also need access to broadband when they go home.

Today, roughly seven in ten teachers assign homework that requires access to broadband. But FCC data suggest that as many as one in three households do not subscribe to broadband services at any speed—due to lack of affordability and lack of interest.

Think about those numbers. Where they overlap is what I call the Homework Gap. If you are a student in a household without broadband, just getting homework done is hard. Applying for a scholarship is challenging. While low-income families are adopting smartphones with Internet access at high rates, let me submit to you that a phone is just not how you want to research and type a paper, apply for jobs, or further your education.

A recent study by the Pew Research Center found that more than half of teachers in low-income communities said that their students' lack of access to online resources at home presented a major challenge to integrating technology into their teaching. So not only are students who lack access at home struggling to keep up, their lack of access is holding our education system back. It means too many young people will go through school without developing the skills that give them a fair chance in the digital age.

That's a problem because the data show very clearly that one-half of all jobs now require some level of digital skills. By the end of the decade, that number will be 77 percent. School-aged kids without broadband access at home are not only unable to complete their homework, they enter the job market with a serious handicap. That loss is more than individual. That's a loss to our collective human capital and shared economic future that we need to address.

If statistics don't make this clear, stories will.

So imagine Citronelle, Alabama. It will take you less than an hour to get there if you drive up Route 45 from Mobile. It's a city of 4,000 people. After school, students head to McDonalds. They head to a fast food restaurant because it is one of the only places in town with Wi-Fi. So students who do not have broadband at home hunker down in the booths to do their homework. They research and write their papers with fizzy drinks and a side of fries.

Up near Saginaw Bay in Pinconning, Michigan, one fast food franchisee says he can tell when exams are coming up in the local school district. That's because students without online access at home file into his restaurant with laptops in tow. Those who cannot afford food or drink simply sit with their devices in the parking lot. Often their parents drive them there, doing what they can on limited incomes to help their children complete basic school assignments.

Then head to Cutler Bay, Florida, just south of Miami. Parents of young students who lack broadband at home shuffle into the library, where they queue up for computers to get their

children time online to do their schoolwork. The lines are long, the wait times tough. But the need is real—because there are Miami-Dade County high schools that have digital history textbooks and elementary schools that use a math program that requires online access.

These students in Alabama, Michigan, and Florida are the lucky ones. They might not have broadband at home but with grit, ingenuity, and the help of their parents they have found ways to cobble together the connectivity they need to get their schoolwork done. But it's hard. Homework today no longer requires just a clean surface, a little bit of quiet, and a pencil. The new digital teaching tools our schools are embracing are exciting, but if we are honest we have to acknowledge they create new challenges, too.

Last month, the Southern Education Foundation published some startling statistics. They found that for the first time in our nation's history, more than half of the students in public school are from low-income households. Across the board, these households are much less likely to subscribe to broadband. From where I sit, that's a clarion call. The Homework Gap is going to get worse unless we take steps to bridge this new digital divide.

So what can we do? There is no one single silver bullet or quick fix. It is going to take a lot of cooperative effort and bunch of creative ideas. Here are three of mine.

First, we have a program at the FCC called Lifeline. It's a program that got its start back in 1985. That was when most communications involved a cord and President Ronald Regan was in the White House. Today, the Lifeline program supports telephone access in 14 million low-income households across the country. But just like E-Rate, it needs a reboot for the broadband era. Instead of having the program only support voice service, we should allow participants to choose between applying the same support to either voice service or broadband service. This simple change would both update the program and help bring more broadband to low-income households with school-aged children.

Second, we need more Wi-Fi. Wi-Fi is an essential onramp to Internet connectivity. More than half of us online have relied on public Wi-Fi. But for many low-income households it is their only means of getting online. So having more Wi-Fi in more places will mean more opportunities for students to get their schoolwork done.

To make this happen, there are a lot of things we can do. For starters, E-Rate 2.0 can help—because it expressly supports more Wi-Fi connections in our libraries. But we can go further. That's because the FCC has broader duties with respect to spectrum policy—and we can work to free more of our airwaves up for unlicensed spectrum use. This is especially important in the 600 MHz band, where under the law we have the ability to allow Wi-Fi use in guard bands. I also hope we can continue to look for more Wi-Fi possibilities in the 5 GHz band. This is wonkish—but really important. It can help close the Homework Gap and also help grow our economy. After all, studies show that more than \$140 billion in economic activity each year is generated by unlicensed spectrum, or Wi-Fi.

Third, we need to keep tabs on innovative broadband access programs all across the country. We have broadband adoption programs that were started through the American

Recovery and Reinvestment Act. We need to study them—and learn. We also need to take note when new ideas emerge that could have broader application. For instance, in New York, the public library has a pilot program that lends out wireless hotspots. To date, they have been loaned out 1700 times. Think about what taking that hotspot home can mean for a student who needs online access to complete schoolwork—it’s the difference between keeping up in class and falling behind. There are now efforts underway in Maine and Kansas to copy this initiative. I know I am speaking to educators, but this is one instance when copying is okay—and should be encouraged.

So those are my ideas for closing the Homework Gap. I hope I can hear yours. Because the Homework Gap is the cruelest part of the digital divide. But I know it’s within our power to bridge it. How do I know that? It was not that long ago that there were naysayers about efforts to update E-Rate. It couldn’t be done. There was no way to find more funds, build a better program, and move E-rate from the dial-up era to the broadband age.

But you did it. In the process, you made it possible for more students to get online and use modern technology at school. You made it possible for more students to develop the skills they need for a fair shot at success in the digital age. You put us on course to diversify the science, technology, engineering, and math pipeline—and that’s something sorely needed. And you made it possible for us to turn more students from consumers of digital services into creators.

So going forward, I hope you will come up with creative ideas to expand broadband access. After all, broadband is more than a technology—it’s a platform for opportunity. But don’t just take it from me, take it from a Texan. As Julián Castro, the Secretary of Housing and Urban Development and former Mayor of San Antonio has said: “It’s clear that without broadband, folks are less likely to graduate high school, [and] less likely to get high-paying 21st century jobs.” Amen. He’s spot on. So let’s do something about it.

Thank you.