

**REMARKS OF
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DIGITAL EQUITY SUMMIT 2019: BRIDGING THE LEARNING @ HOME GAP
RICHMOND, VIRGINIA
JULY 8, 2019**

Good morning. It's a treat to be here and kick off this summit. That's because you are talking about something near and dear to my heart as both a policymaker and parent—and that's digital equity in education.

I believe the future belongs to the connected. No matter who you are or where you live—or where you go to school—you need access to modern communications to have a fair shot at 21st century success. That is what inspires my work at the Federal Communications Commission. It is also what has led me to join you today.

Speaking before a group of educators, I feel compelled to lay out clearly just what I intend to discuss this morning. So here's the lesson plan, if you will. I want to talk about connectivity for students—both at home and in school. So I will start with a discussion of the Homework Gap—what I believe is the cruelest part of our new digital divide. Then I want to talk about the power of the E-Rate program, which brings broadband to classrooms in every state, including right here in Virginia.

Homework Gap

When I was growing up, it took three things to get my homework done: a paper, a pencil, and my brother leaving me alone. Out of those three, the last was, of course, the hardest.

But gone are the days. That's because nightly schoolwork now requires internet access. Seven in ten teachers assign homework that requires access to broadband. But data from the FCC—where I work—show that as many as one in three households do not subscribe to broadband service. Where those numbers overlap is what I call the Homework Gap.

The Homework Gap is real. According to the Senate Joint Economic Committee, there are 12 million kids all across the country who lack the internet access they now need for nightly schoolwork. According to the Associated Press, nearly one in five students nationwide falls into the Homework Gap.

That's a problem. For students in households without broadband, just getting homework done is hard. Applying for a scholarship is challenging. And while low-income families are adopting smartphones with internet access at a high rate, let me submit to you that a small phone with a limited data plan is just not how you want to research and type a paper, apply for jobs, or further your education.

This problem affects students in rural areas, urban areas, and everything in between. It affects students right here in Virginia. In fact, according to Project Tomorrow, one in ten high

schoolers in the Old Dominion said that they have been unable to do homework because they lack access to the internet outside of school. That's chilling.

The consequences of this are broader than the hardship of those students. This affects teachers, too. The Pew Research Center has found that more than half of teachers in low-income communities say that their students' lack of access to online resources at home presents a major challenge to integrating technology into their teaching. I understand that the Virginia Department of Education found the same in its own survey of school technology leaders in the state. So not only are students who lack access at home struggling to keep up, the lack of access is holding our educational system back. It means that too many young people will go through school without developing the skills they need for the digital age.

This has consequences. Over 80 percent of jobs that require a high-school degree and pay a living wage require digital skills. So 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. And that loss is more than individual. It's a loss to our collective human capital and shared economic future that we need to address.

I just ran through a lot of numbers. While these figures are meaningful, I now want to talk a bit about what the Homework Gap looks like on the ground.

So head north with me to New England and Hartford, Connecticut. It's my hometown. And like Richmond, it's a state capitol. In Hartford, Raegan Byrd is a high school senior. She is an aspiring journalist who wants to travel the world. She is off to a great start. In fact, she spent last summer in Washington, DC when she was one of less than two dozen students nationwide accepted to the NewsHour Student Reporting Lab Academy, an all-expenses paid summer journalism immersion program.

She's a doer. She's the kind of kid you can bet will go far. But she's also a student struggling with the Homework Gap. As she recently told a reporter from the Associated Press, her homework assignments come with a nightly challenge. She assesses every piece of every assignment and tries to determine just how much she can get done using only a smartphone. It's the only internet access she has at home. So out of necessity, she's become expert at navigating the small screen and switching between websites for research and messages from family and friends. And she has developed a special skill—she can use just her thumbs to tap out entire papers for school. But when problems arise, she resorts to writing them out by hand. It doesn't always work, but as she put it, then “at least I have something, instead of nothing, to explain the situation” to the teacher.

This is what the world looks like for students who fall into the Homework Gap. And it's not just Raegan who is affected by it in Hartford. Because in the area surrounding her school in the city's north end, less than half of households have broadband at home.

In some ways, though, kids like Raegan are lucky. She lives in an urban community with wireless service. For Abigail Hartness, however, the challenges in her community are different. She lives in rural Mississippi, on the outskirts of Starkville.

In too many rural areas in this country—and in Virginia—broadband is not available. Abigail’s parents have struggled to get internet service at home. With traditional wired and wireless options off the table, they have signed up for satellite. So they now pay a hefty \$170 a month for a satellite dish that provides online access for the family. But it provides a fixed amount of high-speed data each month and then service slows to a crawl. As Abigail told a reporter from the Associated Press, at this speed there are real limitations on her schoolwork. The service can freeze and it’s not good for uploading data. So, as she puts it, she spends a lot of time at coffee shops where she can get online and do her schoolwork or she gets a ride to the McDonald’s parking lot where the signal is free.

But the student story that stays with me most is one I saw up close and in person. I went to Hatch, New Mexico. It’s a town that is famous for the chiles that are grown in its dusty soil. I had the privilege of visiting Hatch with Senator Tom Udall. And while we were there, we spoke with Jonah Madrid. He plays for the high-school football team. But being an athlete in a rural community is not easy. The teams you play are far away. When the school day ends, he piles on a bus packed with his teammates and travels as much as an hour and a half just to play a game. Then after the game is over and equipment is packed up, the team gets back on the bus and travels home to Hatch. After making it home, Jonah would sit in the school parking lot, lingering in the pitch-black dark, a computer in his lap, doing his homework late at night in the only place he has wi-fi access.

It shouldn’t be this hard. Kids shouldn’t have to cobble together connectivity just to do their nightly schoolwork. This is the United States. We are one of the wealthiest countries in the world. We are a nation that finds problems and fixes them. So it’s time to bring that can-do spirit to address the Homework Gap.

I’ll start. Here are my ideas.

First, we need to do something simple. We need to gather data locally and raise awareness. After all, we will never manage problems we do not measure. The good news is that some cities, school districts, and non-profit organizations are already getting this important work underway.

Let’s go back to Hartford for a moment. The city’s leaders recently came together to assess the Homework Gap and develop solutions. In North Carolina, the state’s Department of Information Technology Broadband Infrastructure Office joined forces with the Friday Institute at North Carolina State University to do something similar—to size and report on the problem in the Tar Heel state. In San Jose, the city has published a digital inclusion strategy, which makes a nod to the Homework Gap and the need to address it. I think every city and town can look at these efforts and use them to build their own local assessments to understand what is behind their Homework Gap.

Second, we need to take note of the innovative things that are happening across the country to help address this problem—and then no shame, copy them.

So let's head back to Hatch. The student I met would spend hours on a yellow school bus traveling back and forth to his football games. But what if we turned that ride time into connected time for schoolwork? This is happening. Schools across the country are installing wi-fi routers on their buses. It makes a meaningful difference, especially for kids in rural communities where there is too little broadband deployment and a lot of time spent on the bus traveling to and from school. Plus, there is something different about those school buses with routers—they're quiet. Kids are downloading homework, reviewing material assigned by teachers, and developing ideas for papers and reports. I know because I've been on some of these buses, including the very first ones to hit the road, which were in a farming community in Coachella Valley, California.

Here's what's even neater: Senator Udall developed bipartisan legislation in the Senate to help get more of these buses—call them wi-fi on wheels—on the road. Congressman Lujan has introduced similar legislation in the House of Representatives. So stay tuned. I think this idea is gathering speed.

Another idea: At the beginning of the school year, I visited with the faculty and students at Lee High School in Fairfax County, Virginia. As you may know, this is an affluent part of the Washington metropolitan area. But still, even in this well-heeled community, about ten percent of the students across the district fall into the Homework Gap. To solve the Homework Gap here, administrators got creative. They loaned out wireless hotspots and computers to students who needed them for homework. I got to witness this process at Lee High School in person. Students help organize it and they ran a tight ship. But what I remember most was sitting down with a high schooler who described how little time she had between classes and her after school job and how this puck-sized hotspot had made all the difference. The day-to-day anxiety of figuring out when and how to get online for school assignments was gone. For the first time she could focus her energy on just getting her homework done.

Libraries across the country are getting in on the act, too. Libraries from Maine to Missouri are loaning out wireless hotspots to students. Of course, libraries have always played a role opening their doors to all for information and access. But now technology allows them to take that effort a step further and help them at home. That loan is so important. It can mean the difference between a student being able to keep up in class or fall behind.

Cities and towns are also doing something distinctly low-tech to increase high-tech access for students. They're making maps.

In fact, Virginia's own Fairfax County is doing what communities as diverse as Kent, Washington; Clute, Texas; and Perri, California are doing. They're developing maps for school students that show very clearly where they can get free wi-fi and do their homework in town. In some places, the maps are totally predictable. They show that the library and city hall, for instance, are open for schoolwork. But some are not. You see, the act of making these maps can make everyone from small shops to hotel lobbies and insurance offices want to pitch in and offer help. In Winterset, Iowa and Athens, Georgia, they went one step further and offered local businesses a decal to put in the window to indicate that they are a safe space for kids to do their

homework. Just imagine those decals multiplying around town and the signal it sends to students.

Finally, the FCC needs to help. The FCC needs to develop better data about where broadband is and is not so communities across the country can build on it to address the Homework Gap. The FCC also needs to help clear more of our skies for wi-fi by making airwaves available for unlicensed use. Wi-fi, after all, democratizes internet access and can make a big difference for kids seeking to do their homework. And when it comes to licensed use of our airwaves, it is important to remember that spectrum auctions raise billions and billions of dollars. I think it's time to use some of these proceeds to create a Homework Gap fund. This fund, in turn, could support local programs to help make sure that every student has the connectivity they need to do their nightly schoolwork. It could support more wi-fi on wheels. It could support more hotspots for loan in school libraries. We can do this. We can make sure no child is left offline.

In other words, in Washington and in communities across the country we need to get creative. I've offered my ideas to bridge the Homework Gap and I'm sure you have some good ones, too. I'm an optimist and believe we can bridge this gap and fix this problem—but I'm also impatient. So I hope we can work together to get it done.

E-Rate

Now I want to shift from talking about connectivity at home to talking about connectivity at school. I want to talk about the E-Rate program. It's the nation's largest education technology program—and it is run by the FCC.

To talk about this program, I want to start at the very beginning. So roll back more than two decades. The E-Rate program got going in 1996, thanks to a law known as the Telecommunications Act. Remember 1996? That was when I called the internet the "information superhighway." Maybe you did, too. I had an AOL account and was proud of it. It was a long time ago.

But in 1996, Congress had a vision. Congress decided that we should get all of our schools and libraries connected to the internet. In the rear-view mirror that seems easy—and spot-on. But remember back when E-Rate got its start, few Americans had access to this thing called the internet. If they did, they went online no more than 30 minutes a month. Moreover, at the time teaching tools meant a blackboard and a bulky textbook. If you wanted a platform to share, you needed a noisy new Xerox copier. And research in school meant the card catalog, where the universe of available knowledge was itemized on uninspired stacks of off-white index cards.

Fast forward and education looks different—really different. Today's schools feature connected classrooms, one-to-one devices, and instant feedback loops facilitated by technology. None of this would be possible without the connectivity funded by E-Rate.

E-Rate provides schools and libraries in every state funds to help support access to broadband. This support is available on a sliding scale, with more available to schools and libraries in low-income communities.

A few years ago, the FCC updated E-Rate from front-to-back. For schools, this meant three important changes. First, the FCC refocused the program from broadband connections to broadband capacity. We set goals—of 100 megabits to schools in the near term and 1 Gigabit to schools in the long term. Second, the FCC put a new premium on wi-fi, recognizing its importance for new classroom teaching tools. Third, the FCC updated the program budget, which had been frozen in the era of dial-up. In other words, we rebooted the E-Rate program for the digital age. Call it E-Rate 2.0.

This reform produced real results. Thanks to E-Rate 2.0, more than 40 million more students have been connected to high-speed internet at school. That means 98 percent of school districts have reached the FCC's short-term capacity goal. Plus, the funding has been available to more schools in more places than ever before. In fact, since the FCC embarked on these reforms, there has been a 525 percent increase in the schools receiving what are known as category two funding commitments for wi-fi. This is a big deal, especially for schools in rural areas, where we have seen incredible increases in wi-fi in classrooms. Plus, the FCC's E-Rate changes have driven costs down. In fact, one survey suggests that 70 percent of applicants are seeing lower prices.

Of course, numbers do not tell the whole story. So let me illustrate a bit. I've had the privilege of seeing these E-Rate reforms firsthand. In suburban North Carolina, I saw math classes rolling mechanical spheres at different angles in order to calculate speed and velocity. In rural New Hampshire, I joined Senator Maggie Hassan to see high school students using digital programs to compose melodies for string instruments. The teacher described how music instruction had changed because instead of relying on a few slim folders of sheet music purchased at the start of the year he now had infinite libraries of compositions, multiplying what his students could play and learn. E-Rate makes these things possible. E-Rate works.

But—and you knew one was coming—the job is not done. Great programs do not thrive without continual care and attention. Today, only 28 percent of school districts meet the FCC's long-term capacity target of 1 Gigabit per thousand students. So we have work to do. We also have work to do to make sure that the changes the agency made a few years ago continue on their current course.

To this end, in the coming days the FCC will release a rulemaking seeking public feedback on the last five-years of E-Rate reforms that helped expand the availability of category two funding for wi-fi. This is important, because the agency will be asking questions about how to continue and improve its approach to budget wi-fi funding for schools and libraries. To give schools and libraries the certainty they need, the FCC needs to move with speed and conclude this effort before the start of the next funding year. I know the changes we made to category two funding have been vital for schools across the country. I hope you take a look at this rulemaking and let us know what you think.

Finally, for all the good that E-Rate does, I need to tell you that there are some challenges on the horizon. Over my dissent earlier this year, the FCC kicked off a rulemaking to limit the effectiveness of E-Rate and other universal service programs at the FCC.

To understand what this threat is about, you need to know that the FCC has four universal service programs. In addition to E-Rate, it has a program to help with rural telemedicine, a program to help with low-income households, and a program to help communications companies serve rural areas. While these programs have individual spending constraints, my colleagues proposed a global funding cap across all four programs. They also suggested that the E-Rate and rural telemedicine programs could share a single funding cap and slug it out for resources.

I do not support this approach. We have serious broadband problems in this country. And the FCC has a statutory duty to expand the reach of communications to everyone—no matter who they are or where they live. So I do not see the merit in a policy that could cut off broadband in rural areas, limit high-speed internet access in classrooms, shorten the reach of telehealth, and foreclose digital age opportunity for those who need it most. Worse, it proposes a universal service hunger games by unleashing a fight for support between connecting kids in schools and hooking up hospitals for telemedicine.

This makes no sense. But you don't have to take my word for it—the House of Representatives just passed a measure telling the FCC that this is a bad idea. Still, the FCC is pressing on and collecting public input on this proposal right now. So make your voice heard.

In fact, speak up on all of it. Make noise. Make a ruckus. Because fixing the Homework Gap is worth fighting for, because supporting E-Rate is worth fighting for, because addressing digital equity is not just a challenge for educators, it's a challenge for all us. I think if we rise to that challenge, we can create a more just future with greater opportunity for all. Thank you for caring about these issues. Thank you for having me here today.