

**Remarks of FCC Chairman Tom Wheeler  
As Prepared for Delivery  
Second Ed Tech Summit: Empowering Educators to Enhance Student Learning in the Digital Era  
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Thank you, Jim Coulter, for that introduction. You and your fellow LEAD Commissioners have been a driving force to make certain that American students have 21<sup>st</sup> century learning tools.

And thank you to the teachers and administrators here today. To you falls the challenging task of managing the intersection of technology and pedagogy.

This is an exciting and important time for education technology.

The rapid evolution of digital education curriculum, the growth of 1-to-1 learning initiatives, and the wealth of educational tools available online all create wonderful opportunities for students and educators. Technology also has transformed our libraries, creating unique spaces for public engagement with the digital world, from the smallest rural one-room libraries to our grandest, busiest urban libraries.

Over the last year I have made it a point to visit schools and libraries to observe how they are, or are not, using new technology. From urban areas, to Tribal lands, to the remotest of the remote areas in Alaska, I have witnessed the transformative power of digital education technology. For those communities with schools and libraries connected to high-capacity broadband, the opportunities are boundless. But for those who remain tethered to connectivity of the 20<sup>th</sup> century, the future is not nearly as bright.

Internet connectivity has made possible remarkable developments in educational technology. As the adoption of digital learning tools increases in schools and libraries so does the need for high-speed broadband to and within those institutions.

That's why we at the FCC have taken on the challenge of modernizing the E-rate program. This past July, the Commission approved the first major modification of E-rate in the program's history. E-rate has helped to ensure that almost every school and library in America has basic Internet connectivity. But in the 18 years since E-rate was established, technology has changed, the needs of students and teachers have changed, and, now, finally, E-rate has changed.

This overhaul accomplished three overarching goals:

First, for the first time, the Commission set specific, ambitious goals for the broadband capacity delivered to schools and libraries. As Commissioner Rosenworcel succinctly explained, the discussion has moved from one of "connectivity" to one of "capacity."

Second, we set a clear and certain course away from support for 20<sup>th</sup> century technologies, and we set an equally clear target of \$1 billion per year for Wi-Fi based internal networks. Recognizing that we cannot afford to dither in making these technologies available to every student, every teacher, and every librarian, we acted with dispatch. As a result, we will begin to see results in the next funding year, with expanded support for Wi-Fi to tens of millions of students and thousands of libraries.

Third, we took initial steps to improve the cost-effectiveness of E-rate spending through greater pricing transparency and enabling bulk purchasing to drive down costs.

We set ambitious goals, restructured our available resources to focus on those goals, and began to improve operations to use those resources as efficiently as possible. It was a sound, business-like approach.

But for all our progress, our work to transition E-rate away from 20<sup>th</sup> century technologies to enable the support of 21<sup>st</sup> connectivity is not over. We have updated the program to close the Wi-Fi gap. Next, we must close the Rural Fiber Gap.

So, today, I would like to visit about the next steps in the evolution of the E-rate program. In particular I want to talk about two related issues that remain squarely before the Commission as we consider next steps in the E-rate modernization process: 1) closing the Rural Fiber Gap for schools and libraries, and 2) tackling the affordability challenge.

Although the most recent step in E-rate modernization necessarily placed an emphasis on Wi-Fi and broadband *within* schools and libraries, we know that we must still address the challenge of improving the broadband infrastructure *to* the building for many schools and libraries, particularly in rural America.

The fact is many rural schools and libraries lack the infrastructure needed to deliver high-speed broadband.

The FCC estimates that 40% of schools in rural areas lack access to fiber networks. And of those that could access fiber, only about a third do so, principally because of high costs. **The net result is shocking: 75% of rural public schools today are unable to achieve the high-speed connectivity goals we have set.**

Yes, urban connectivity also needs to improve – but the path to accomplishing that is made easier because urban schools and libraries have easier access to fiber than do their rural counterparts.

Our E-rate Order adopted Internet access targets of 100 megabits per second per 1,000 students in the short term and 1 gigabit per second per 1,000 students in the long term. I am not suggesting that the FCC should require the purchase of fiber – some of the smallest schools, those that have relatively few students, may not need that much bandwidth to meet our per-student throughput targets – but in most cases those levels of connectivity can only be achieved, or can most cost-effectively be achieved, via fiber connections.

To illustrate the point, consider what we heard from a school superintendent in Cashion, OK where their new iPads and computers desperately need access to fiber; but whose only option for connectivity is three T1 lines. At an E-rate workshop earlier this year we heard from a representative of a consortium of Florida schools who has been actively trying to get access to fiber but simply has not been able to get providers to bid on their requests. Unfortunately, these are common experiences.

So we must tackle the Rural Fiber Gap if we are to achieve our connectivity targets for all schools and libraries. I have visited with dozens of rural telecom providers and know of their commitment to provide fiber to their communities. Given these initiatives – many of them supported by the FCC's Universal

Service Program – we must take a close look at all our programs to see what changes can be made to better incentivize buildout to rural schools and libraries.

Attacking the Rural Fiber Gap using the E-rate program can be accomplished within the confines of the current E-rate structure by considering rules to provide better incentives for buildout in areas with high upfront costs. Our rules already cover the costs of special construction charges to pay for new infrastructure, but there may be ways to adjust those rules that make it more likely that school districts and libraries will receive bids to build in areas where they currently have no high-speed options.

We also know that the success of school connectivity is not just a federal endeavor. Where states have stepped up by making state funding available and ensuring smart purchasing, schools tend to have better connections with capacity sufficient to meet the goals. Our rules should incentivize this type of action at the state level.

But closing the rural school and library connectivity gap need not be limited to the E-rate program. In 2011, the FCC created the Connect America Fund to support high-speed broadband deployment in unserved areas; the success of that program should also be judged by how it solves the Rural Fiber Gap for rural schools and libraries.

Making changes to the current rules to rethink how the program supports connecting rural schools and libraries in unserved areas is going to be necessary. But it is also a matter of having sufficient funding and ensuring that schools can afford the ongoing costs of accessing high-capacity broadband networks.

In our July decision we launched a Further Notice to determine the future funding needs of the E-rate program, among other topics. Since July we have also made public a summary of the substantial amount of data that has been filed in the record on current school and library connectivity. The record in response to the Further Notice closes tomorrow. Based on this information, and continued analysis by Commission staff and E-rate stakeholders, it is my hope that the Commission will be able to move expeditiously on the policy issues suggested by the data.

It has become more than apparent, based on this data, that the heart and soul of any further modernization must be closing the Rural Fiber Gap. The E-rate program needs to emphasize an equality of opportunity for both urban and rural schools and libraries. Urban institutions should not feel threatened by a Rural Fiber Gap initiative. Indeed, the reason for exploring whether more funding is necessary is precisely to answer the question of how to meet the urban and rural needs equally and simultaneously.

Closing the Rural Fiber Gap, and ensuring that we have sufficient funding available to meet all of our ongoing E-rate funding needs also means we must tackle the affordability gap.

When we talk about getting the most bang for our E-rate buck, obviously the prices schools pay for connectivity are going to have a significant impact on how far our E-rate investments can go.

People often forget that RATE in E-RATE refers to the price – or Rate – schools and libraries pay for Internet connectivity.

Congress directed the FCC to require that schools and libraries participating in the E-rate program pay the best rates available. In fact, the statute says that schools and libraries should get access to services “at

rates **less** than the amounts charged for similar services to other parties.” This means ensuring that schools and libraries are getting access to high-speed connectivity at the best possible **E-RATE**.

That’s why the FCC’s rules direct providers to charge the “lowest corresponding price” for all E-rate eligible services. We define this as the lowest price available to similarly situated, non-residential customers.

However, the data shows that E-rate applicants pay widely varying prices for connections fast enough to meet our goals. For example, take the difference between Mississippi and Louisiana. On one side of the state line it is \$750 per month for a 1 Gigabit per second connection. On the other side of the state line it is over \$5,000 for the same service. While visiting South Dakota, I learned of a small rural school whose provider wanted \$6,000 per month for a high-speed connection. That carrier, however, had a resale agreement with a competitive provider for the exact same circuit for just \$2,500 per month. So with one phone call the school was able to reduce its costs by 66%. But under our rules it shouldn’t have had to make that call in the first place.

And, let’s not forget that once there is fiber connectivity, there is still the cost of Internet access. Some statewide networks pay as little as \$1 per megabit per second per month for commodity Internet access while others pay over \$15 for the same service. The gaps can be even larger at the district level, even from the same provider. In one state, for example, I understand that a district is able to purchase Internet access for \$3 per megabit per second, but in two directly adjacent districts, those districts pay \$36 and \$40 per megabit – from the same provider for the same service! Sadly, this is not an anomaly.

Why does this happen? And how do we fix it?

Marginal costs, of course, vary around the country for entirely legitimate reasons, and so should pricing.

For example, the lack of fiber or other high-capacity infrastructure can limit a provider’s ability to offer high-speed service at low prices.

Or initial deployment and ongoing middle mile costs can be very high for providers that serve schools in rural areas.

However, the data we have collected suggests that in many cases broadband service providers can do a lot better for our nation’s schools and libraries.

I’ve always said that we should ask of the E-rate program the same basic question that every teacher asks: “Is this the best you can do?” That includes asking that same question of the broadband providers that receive E-rate funds to connect our schools and libraries. We all have a statutory responsibility to assure that the E-RATE is the lowest possible rate.

Applicants as well as USAC have a big role to play in achieving this statutory mandate. Our data and conversations with E-rate applicants have helped identify ways to drive down costs.

One way of accomplishing this is through pricing transparency. District and state staff have told us that they often don’t know what the schools in districts or states right next door are paying. When they find out they’re often surprised to learn that the differences are substantial. The E-rate Modernization Order directed USAC to make applicant pricing data publicly available beginning next year.

Pooling purchasing power can also drive down costs. Schools and libraries are in a better position to lower rates if they form consortia or negotiate low price master contracts. Our E-rate Modernization Order took several steps to encourage consortium purchasing, speed review of consortium applications, and facilitate preferred master contracts.

The FCC has a fiduciary responsibility both to recipients of E-rate support and to the millions of telecom consumers that contribute to the Universal Service Fund to get the most out of every E-rate dollar.

One final point. I am quite certain that it will take more than the efforts of the FCC alone to close the Rural Fiber Gap. We will need support and continued leadership from state and local governments who recognize the critical importance of connecting our students. In this regard, I am pleased to note the bipartisan leadership of state and local officials, as well as Members of Congress from both parties who have provided support for E-rate modernization. Doing what is best for our students is not a political issue. Whether it is a student in an unserved rural area that is being left behind or an urban student who lacks options simply because the school can't afford to connect, we must tackle these issues together

Equality of opportunity for both rural and urban schools and libraries while simultaneously addressing the Rural Fiber Gap is a big challenge. I am confident that we at the FCC, the education leaders in this room and others like you, and telecom service providers nationwide are capable of stepping up to that challenge to open up new worlds of learning opportunities for our children.

Thank you.