



REPORT ON SCHOOL CONNECTIVITY

FUNDING YEAR 2021

Pairing actionable intelligence with motivated
leadership to enable digital learning in
every classroom, every day



connectk12.org



Connect K-12 is a free online resource that makes internet speed and pricing intelligence available to state and local K-12 education leaders to drive informed action. We aggregate and analyze open E-rate data to provide actionable insights that aid school leaders in identifying alternative service options and negotiating better pricing from service providers. We do this because we believe in the power of digital learning to engage students, inspire creativity, and ultimately improve learning outcomes.

connectk12.org

**WE HAVE WORK TO DO
TO ENSURE THAT ALL
STUDENTS HAVE THE
INTERNET ACCESS THEY
NEED FOR A FAIR SHOT AT
21ST CENTURY SUCCESS,
NO MATTER WHO THEY ARE
OR WHERE THEY LIVE.”ⁱ**

- The Hon. Jessica Rosenworcel
FCC Chairwoman

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i. <https://www.fcc.gov/document/acting-chairwoman-rosenworcel-remarks-fcc-staff>

LETTER FROM EMILY JORDAN, VICE PRESIDENT, CONNECT K-12

59% of school districts nationwide now **meet or exceed the FCC's 1 Mbps per student goal**

Tremendous progress has been made in the past year.

More than 7,600 of the nation's 12,911 school districts are now meeting or exceeding the Federal Communication Commission's (FCC) goal of delivering school internet access at speeds of at least 1 megabit per second (Mbps) per student. That's a 25% increase from the number of districts that were meeting the goal in 2020.

Further, the median bandwidth per student across all K-12 school districts nationally has increased to a level above 1 Mbps for the first time — to 1.25 Mbps per student. That is a mark of extraordinary progress. It means that many K-12 students are now connected in the classroom at speeds that enable incredible, immersive digital learning experiences such as virtual or augmented reality — technologies that make the whole educational experience more fun and engaging.



But there is still much work to be done.

The COVID-19 pandemic has highlighted the need for more robust connectivity everywhere — both at home and in the classroom. The integration of new online tools, digital content, and learning platforms has become nearly ubiquitous across all grade levels. Technology readiness (in both physical and virtual classroom settings) has therefore become an important predictor for how effectively students can learn. The 2021-22 school year marks the third consecutive year in which digital teaching and learning — including remote learning — has reshaped the face of public education.

In 2020, unprecedented federal investments in laptops, Chromebooks, and tablets were critical to closing the readiness gap, enabling remote learning during school shutdowns. Many districts that had long sought to deploy mobile learning devices on a 1:1 basis were finally able to do so. But now, many of those devices are returning to schools for in-classroom use — driving the need for significant increases in internet bandwidth to support the increased traffic load. It is more important than ever that state and school district leaders consider how to secure upgrades to their networks. Connect K-12 exists to make those upgrades possible.

Unfortunately, more than 27.6 million students attend schools that still lack adequate bandwidth to support digital learning in every classroom, every day.

Connect K-12 equips school district and state leaders with the market intelligence necessary to identify alternative service provider options, identify low- or no-cost upgrade opportunities, and negotiate better deals for service. The data transparency that Connect K-12 provides enables better decision-making and helps state officials and school leaders maximize the impact of the federal E-rate program — making that support stretch further.

After more than a year of unprecedented challenges to public education, we must do all we can to not only restore learning that has been lost, but enable new opportunities for children everywhere. By working together, we'll achieve these goals and deliver on the promise of digital learning in **every classroom, every day.**

With gratitude,



Emily Jordan

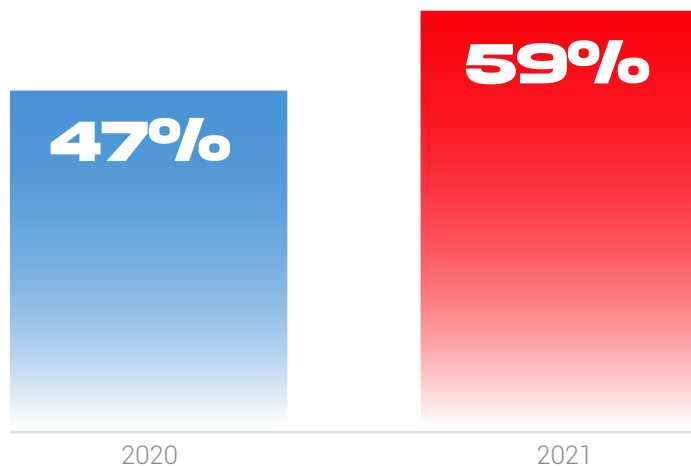
*Vice President, Connect K-12
Connected Nation*



KEY FINDINGS

stronger school connectivity nationwide

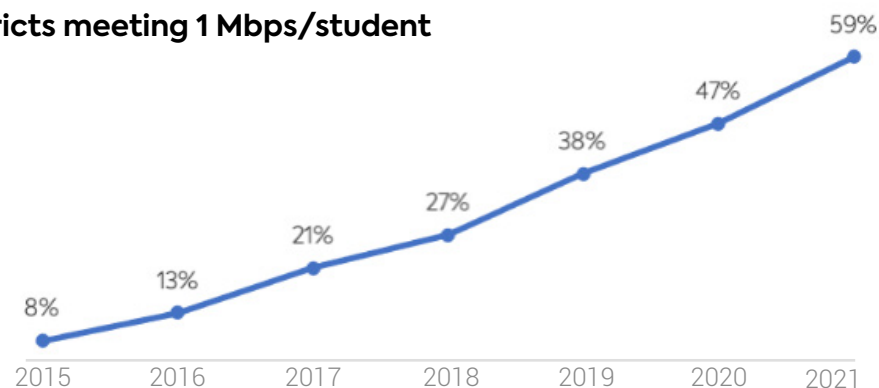
State and school district leaders across the country have pursued internet access upgrades. Since 2020, the number of school districts meeting or exceeding the FCC's 1 Mbps per student bandwidth goal **increased by 12 percentage points** to 59% of all districts — which equates to a 25% increase in just one year. That means that 7,675 of America's 12,911 districts have upgraded their connections to meet or exceed the goal.



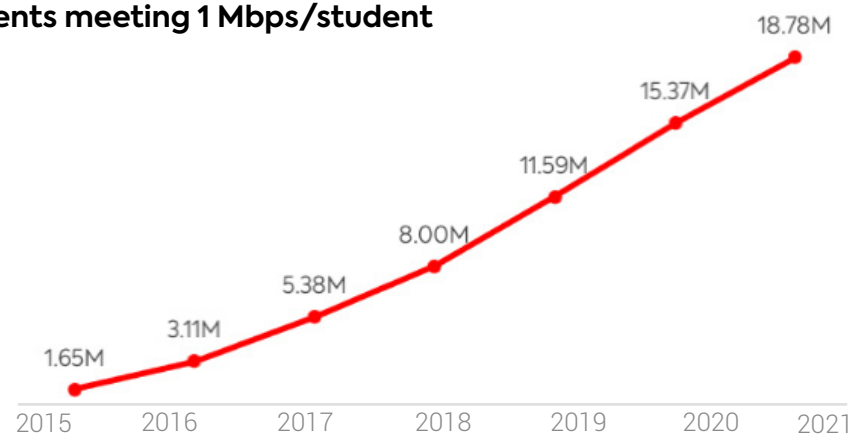
closer to the goal, **but not there yet**

- An additional 3.41 million students from 1,544 districts were able to access the internet at speeds of at least 1 Mbps
- Districts in 44 states upgraded in 2021

Districts meeting 1 Mbps/student



Students meeting 1 Mbps/student



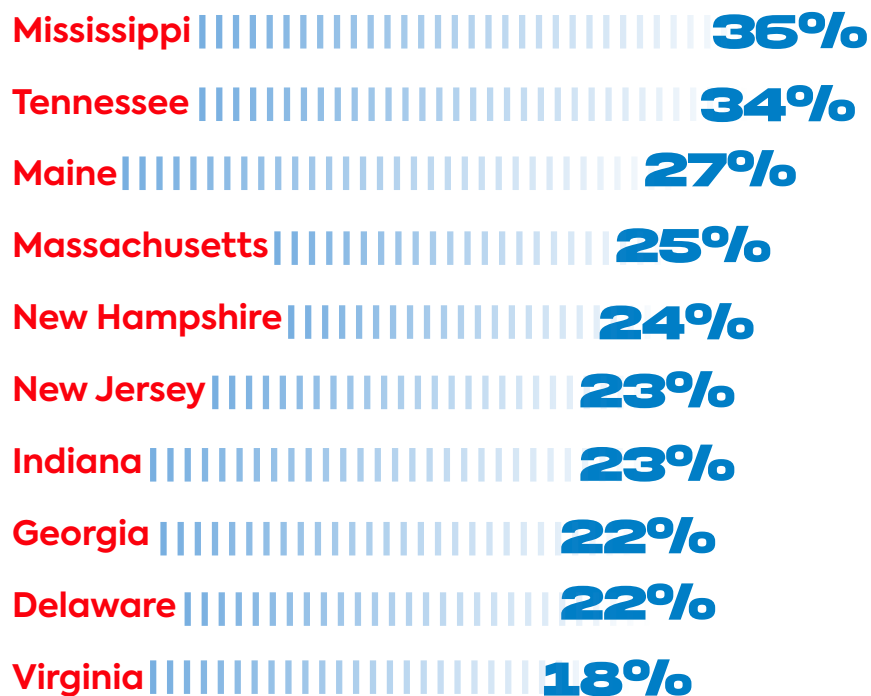
Since 2020, the number of school districts meeting or exceeding the FCC's 1 Mbps per student bandwidth goal increased by

25%



states that were most improved

Ten states made significant progress toward achieving the 1 Mbps per student goal during the past year. Mississippi and Tennessee led the pack, with the number of districts meeting the goal increasing by 36% and 34%, respectively. Overall, there was impressive national improvement, with upgrades made in 1,544 school districts from 44 of 50 states.



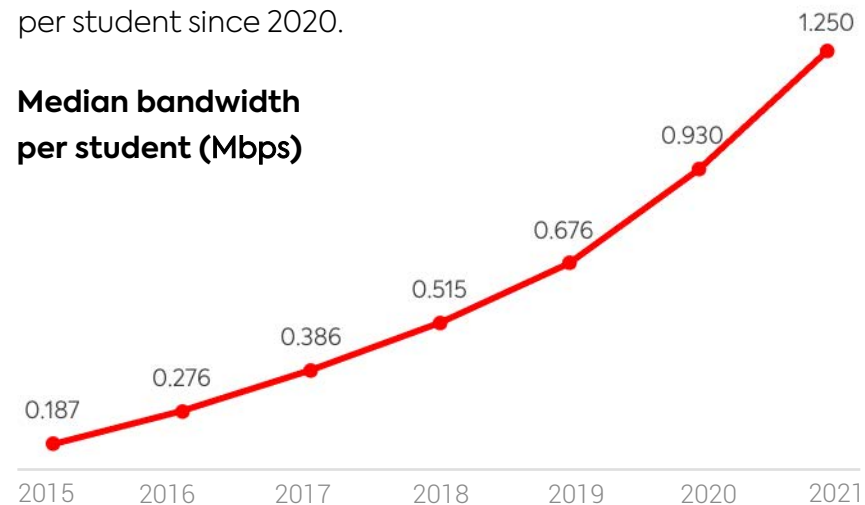
**These percentages reflect the growth in the number of districts meeting the FCC's 1 Mbps goal since 2020.*



median bandwidth now exceeds 1 Mbps/student

The median bandwidth per student nationally has increased to a level above 1 Mbps for the first time — to 1.25 Mbps per student. That represents an increase of 320 Kbps per student since 2020.

Median bandwidth per student (Mbps)



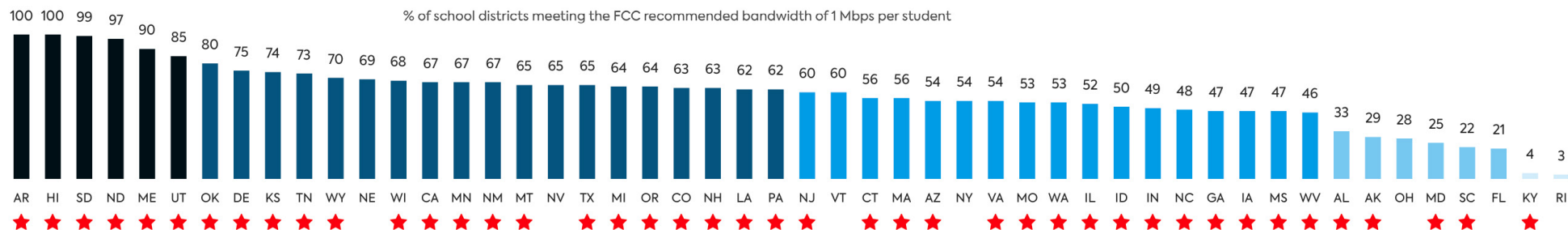
commitments from governors

Forty-three governors have committed to achieving the FCC's 1 Mbps per student bandwidth goal in their respective states. Their continued action and advocacy, with support from state

legislatures, broadband offices, and state education agencies, will ensure digital learning is possible for every student in America — on school campuses as well as at home.

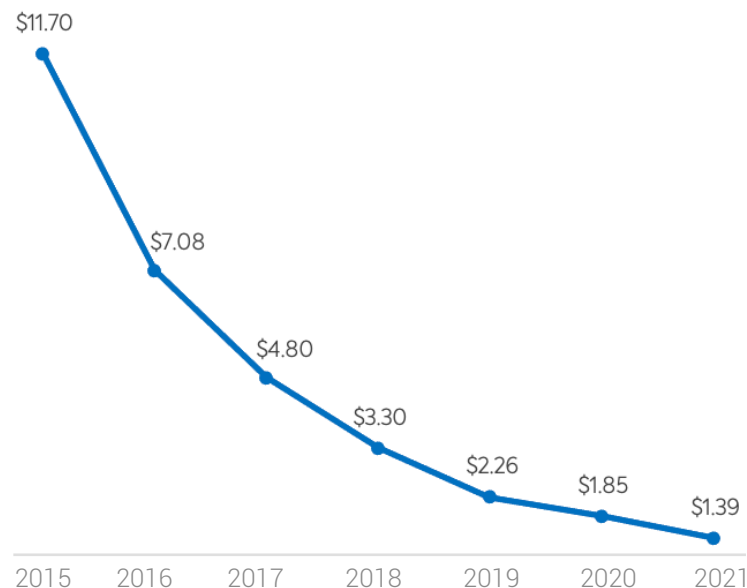
Nationwide, 43 states have committed ★ to reach the 1 Mbps per student goal

% of school districts meeting the FCC recommended bandwidth of 1 Mbps per student

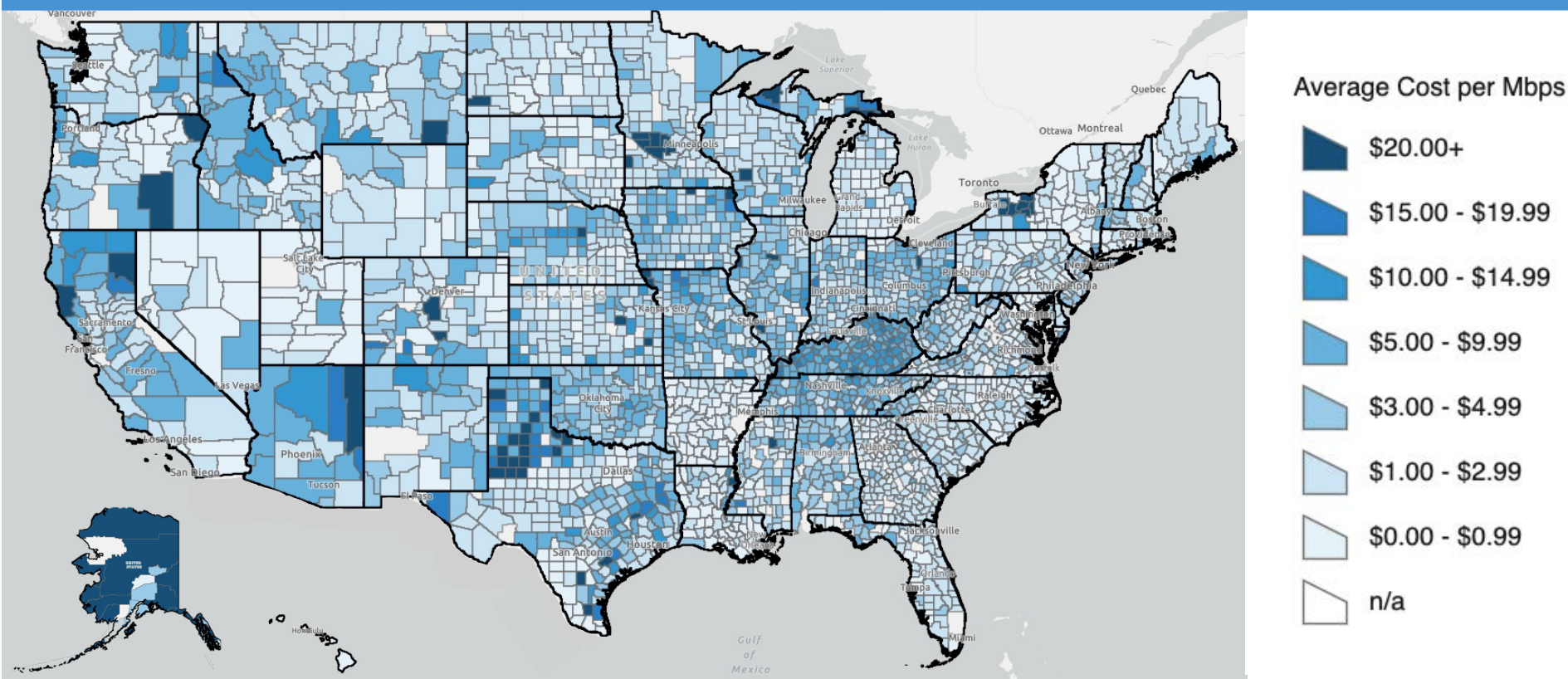


cost of connectivity

The median cost per megabit for school internet access has continued to decrease, dropping \$0.46 per megabit in 2021 to a median cost of \$1.39 — a 24.9% decrease since 2020. Since 2015, the median cost per megabit paid by school districts nationally has decreased by an astounding **88.1%**.



median cost per megabit by county for district internet access



Unfortunately, 1,703 school districts across the United States are still paying more than \$5 per megabit. Those districts can utilize Connect K-12's pricing transparency data to negotiate better pricing — often enabling them to meet the 1 Mbps per student goal without increasing their costs for improved service.

The map above depicts the median cost per megabit paid by all school districts at the county (or county-equivalent) level across all 3,143 U.S. counties. While states such as Arkansas and Nevada have achieved significantly lower pricing in recent years, 746 school districts nationwide still pay more than \$10 per megabit for internet access. The issue is most conspicuous in rural areas where competition and fiber infrastructure are limited. By comparison,

the average cost of wholesale internet access (IP transit) in major U.S. metro markets is now less than \$0.09 per megabit.¹¹

Even in states such as Texas, where school districts in the Dallas and Houston metro areas are paying less than \$0.50 per megabit, problematic areas remain elsewhere — including the areas surrounding Lubbock and Amarillo in the Texas panhandle. Connect K-12's bandwidth and pricing data yields actionable intelligence not only for local school district leaders, but also for policymakers at the state level to better understand how a lack of competition and fiber transport infrastructure can affect pricing for school districts, and by extension, business, government, and residential users.

CALL TO ACTION

In the current E-rate funding year, 31% of districts have expiring service contracts. These 4,009 districts can use Connect K-12 to identify the best options to upgrade, **at low or even no cost**

Just eight years ago, only 30% of America's K-12 public school districts were meeting the FCC's initial 100 Kbps per student internet access goal.ⁱⁱⁱ Today, 59% of districts have met the FCC's much more advanced, long-term 1 Mbps per student goal. Such a significant accomplishment would not have been possible without the leadership of governors and other legislators at the state level. The E-rate program is a vital resource, but its maximization depends on state and local leadership.

In order to allow the promise of digital learning to advance and have a meaningful impact in every classroom, every day, we once again need the leadership of governors and other state policymakers. We have a long way to go as a country to ensure that the remaining 41% of school districts have the bandwidth they need — at reasonable prices — to serve the 27.6 million students who still lack adequate access. State and local leaders now have Connect K-12 as a resource, providing district-level bandwidth and pricing transparency that can be leveraged to negotiate better deals for services.

Beyond E-rate, an unprecedented level of federal funding is now available to states to improve broadband services. With the passage of the American Rescue Plan Act in March and the Infrastructure Investment and Jobs Act in November, Congress has dedicated more than \$53.5 billion available to states in middle- and last-mile broadband infrastructure funding through the U.S. Treasury and NTIA (with even more available directly to grantees under other programs to be administered by NTIA and the U.S. Department of Agriculture Rural Utilities Services). These programs, when leveraged

A background image showing a group of students in a classroom. In the foreground, a young Black boy is seen in profile, wearing a blue shirt and bright green earbuds, looking intently at a laptop screen. His hands are on the keyboard. Behind him, another student in a red and white striped shirt is also looking at a screen. The background is slightly blurred, emphasizing the students in the foreground.

12.1 MILLION STUDENTS IN 1,798 DISTRICTS

with expiring contracts in 2021 can be upgraded at no cost to the 1 Mbps standard simply by transitioning to a better broadband deal already in their area

alongside the stewardship of available E-rate resources, have the potential to dramatically improve the telecom landscape in entire regions within states that have long suffered from aging infrastructure, lack of competition, and high prices.

Given the massive opportunities before us, state and local leaders must step up and once again provide the leadership necessary to make meaningful progress, particularly for the 31% of school districts that have contracts expiring before the coming E-rate cycle. Moving the needle is possible with coordination and planning at all levels of government — and across the various funding programs now available. ConnectK12.org has been fully updated and can assist state and local leaders in identifying the best options for broadband upgrades in schools. We must not lose momentum now.



ABOUT THE REPORT & DATA

about the report

The Report on School Connectivity tracks national progress toward the long-term K-12 student bandwidth goals established by the FCC in its 2014 E-rate Modernization Orders — namely, access of at least 1 Mbps per student (or 1 Gbps per 1,000 students). The report, published annually, highlights national and state trends related to school district internet bandwidth and pricing, with the goal of inspiring action at the state and local levels to drive upgrades that enable robust, engaging digital learning opportunities in every classroom, every day.

about the data

The figures and analysis in this report are based on 2021 application data from the FCC's School and Libraries Program ("E-rate"). It includes data from 12,911 public school districts that serve 46.4 million students across all 50 states.

\$2.3 billion in funding from the E-rate program was requested on behalf of these 12,911 school districts in 2021. All E-rate applications are subject to review before funds are distributed, which ensures that school districts have accurately reflected their requested services. As a result, this data represents the best national source of current information on school district connectivity; specifically, what broadband services schools are buying, and how much they are paying for these services.

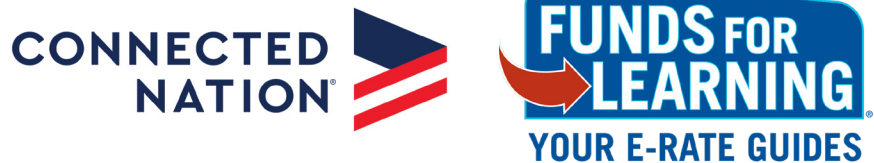
about CN & FFL

Connected Nation (CN) and Funds For Learning (FFL) partnered to lead and administer Connect K-12 in 2020.

Connected Nation which is celebrating 20 years of service in 2021, is a nonprofit dedicated to improving lives by providing innovative solutions that expand access, adoption, and usage of high-speed internet and its related technology to all people. Connected Nation works with state leaders to identify and support school districts that need to upgrade their connectivity to meet the FCC's 1 Mbps per student bandwidth goal by 2024.

Funds For Learning® is a professional firm specializing in the federal E-rate funding program. Funds For Learning manages the technology platform and ensures data in Connect K-12 is accurate and updated annually.

Connect K-12 was originally spearheaded by EducationSuperHighway, a national nonprofit with the mission to close the Digital Divide for the 18 million households that have access to the Internet but can't afford to connect. It focuses on America's most unconnected communities, where more than 25% of people don't have internet access.





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 **CONNECT K-12**

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FUNDS FOR
LEARNING
YOUR E-RATE GUIDES