REPORT ON SCHOOL CONNECTIVITY
2022
Equipping school leaders with the insight they need to enable immersive digital learning opportunities in every classroom, every day

connectk12.org
**Connect K-12** is a free online resource that provides internet speed and pricing intelligence to state and local K-12 education leaders in order to drive progress toward the Federal Communications Commission’s (FCC) bandwidth goal of 1 megabit per student. We aggregate and analyze open E-rate data to provide actionable insights that aid school leaders in identifying service options that can inform their budgets. We do this because we believe in the power of data to guide informed decision making, and this leads to possibility of digital learning to engage students, inspire creativity, and ultimately improve learning outcomes.

The FCC E-rate program, also known as the Schools and Libraries Program, is a federal program that provides discounts for telecommunications, internet access, and internal connections to eligible schools and libraries. For more than two decades, E-Rate has provided essential support to these community anchor institutions in obtaining high-speed, modern connectivity.

This report and the resources available at ConnectK12.org are provided for the public benefit at no cost through a partnership between Connected Nation and Funds For Learning.

---

*DURING THE LAST DECADE WE HAVE MADE AMAZING PROGRESS CONNECTING STUDENTS ACROSS THE COUNTRY. BUT I THINK WE CAN DO MORE TO EXPAND DIGITAL LEARNING, ADDRESS DIGITAL EQUITY, AND MAKE SURE NO CHILD IS LEFT OFFLINE... GREAT PROGRAMS DO NOT THRIVE WITHOUT CONTINUOUS ATTENTION AND CARE."

— The Hon. Jessica Rosenworcel
FCC Chairwoman

*Source*
INTRODUCTION

Digital learning for every student in every classroom, every day.

Another year of achievements.

For the first time ever, more than two-thirds of school districts across the country (67%) are meeting the FCC’s bandwidth goal of 1 Mbps per student.

This is a significant milestone for our nation’s school districts as they strive to ensure that digital teaching and learning is made possible for all students, regardless of location. Only two years ago, that number was less than half of districts — at just 47%.

Beyond that success, another milestone was achieved in 2022: the median cost per megabit for districts meeting the goal dipped below $1 for the first time — marking a significant decrease from $4.90 per megabit in 2017 and $11.73 per megabit in 2015.

Connect K-12 exists to equip state policymakers and school district leaders with actionable data and insights regarding internet speeds and pricing so that they can make informed purchasing decisions and negotiate better deals for services. This is critical to ensuring all students and teachers have access to the digital learning resources they need.
There is still work to be done.

While there is much to celebrate this year, a third of districts are still not meeting the 1 Mbps per student goal — and those districts serve more than 47% of the K-12 students in America. This means that 23.5 million students attend schools that lack adequate bandwidth to support digital learning in every classroom, every day.

In the coming E-rate funding year, more than 4,300 districts nationwide have internet service contracts that will expire—representing a significant opportunity for those districts to negotiate more affordable, faster service, and meet (or exceed) the FCC’s bandwidth goal.

Achieving the goal is increasingly important with every new school year, as digital teaching and learning play a more substantial role in classrooms everywhere. The COVID-19 pandemic, along with the device funding programs created to enable at-home learning, have resulted in an influx of computing devices returning to classrooms throughout all 50 states. With many schools now meeting or exceeding a 1:1 student-to-device ratio, bandwidth demand on school district networks is higher than ever, with no end in sight.

Furthermore, in 2022, average math and reading scores at fourth grade declined in all regions of the country. Teachers and school administrators have enough responsibilities in addressing these learning gaps and it is essential that they have the robust and reliable networks they need to utilize the devices and resources available to aid in that mission.

It is therefore critical for policymakers and school district leaders to continue pressing forward with upgrades to their internet connections and Wi-Fi networks so that bandwidth is never a bottleneck to learning. While marked progress has been made, we must not lose momentum — particularly for the 46% of America’s students who still lack adequate bandwidth for digital learning to occur in every classroom, every day.

With gratitude,

Emily Jordan
Vice President Education Initiatives

*Source 1, Source 2*
Continued upgrades nationwide

67% of districts – more than two-thirds! – are now meeting the FCC’s 1 Mbps goal. That’s an 8% increase over 2021.

The number of districts that upgraded to 1 Mbps per student increased by 27.6%, compared to 2021. Similarly, the number of students impacted in districts that upgraded to 1 Mbps per student increased by 23.9%.

21.31 million students now have adequate bandwidth in their classrooms every day, an increase of more than 3 million students since 2021.
SUMMARY OF FINDINGS

Year to year progress.

Over the past few years, many states have made significant jumps in bandwidth at the district level. Arkansas, Hawaii and North Dakota have achieved 1 Mbps for 100% of students. Twenty-seven states now have above the national percentage of school districts meeting the FCC recommended bandwidth of 1 Mbps per student. The states to the right made the most significant progress toward providing 1 Mbps/student in their districts.

States that made the most progress

- **South Carolina**: 42%
- **Georgia**: 29%
- **Wyoming**: 23%
- **Illinois**: 17%
- **Louisiana**: 16%

These percentages reflect the growth in the number of districts meeting the FCC’s 1 Mbps goal since 2020.
Students are still being left behind

While 67% of all districts are meeting the goal, those districts represent only 53% of all students. This means that there are still 23.5 million students in 4,232 districts who do not have school internet access at speeds necessary to fully support today’s digital learning opportunities in the classroom.

Connect K-12 is here to help. Since our work began in 2020, we have seen a continued decrease in the percentage of school districts that lack adequate bandwidth. This free, online resource contains information school and state leaders can use to compare pricing and leverage better rates for their districts as they strive to meet the 1 Mbps goal.

Upgrades are more affordable than ever

School districts meeting or exceeding the FCC’s 1 Mbps per student goal are paying less (on a per megabit basis) than districts not meeting the goal. For the first time, the national median cost per megabit for districts meeting or exceeding the goal is under $1.

Districts not meeting the goal are paying a much higher median price per megabit, at $1.75.

Nationally, for all districts, the median cost per megabit is $1.19. That’s a 12% reduction in the median cost since 2021, and represents just a quarter of the costs that districts were paying only five years ago in 2017.
Nationally, the price of bandwidth for school districts is vastly diverse. While many states pay a median cost per megabit below the national median ($1.19), about half of the country is still paying above that. On the high end, districts in Alaska pay a median $161.21 per megabit while in Utah, districts pay as low as $0.36 per megabit. This variance displays a major inequity in access to network affordability.

Yet cost varies widely across states and counties within states

Median cost per Mbps by state
In 2022, after the passage of the American Rescue Plan Act and the Infrastructure Investment and Jobs Act at the federal level, the National Telecommunications and Information Administration (NTIA), the U.S. Treasury, and state broadband offices are in the process of directing more than $58 billion toward middle and last-mile broadband infrastructure. This unprecedented investment marks an enormous step toward closing the Digital Divide everywhere.

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 service competition and fiber transport infrastructure can affect pricing for school districts, and by extension, business, government, and residential users. Counties where school districts are paying significantly more than the national median cost per megabit are likely to have very limited fiber transport infrastructure and little last-mile competition. These are the areas where new federal broadband infrastructure dollars should be targeted.

The map above highlights the significant progress that has been made in just the last five years, when the median cost per megabit was $4.80. However, inequality still exists even within states. In Michigan, for example, school connectivity is aggressively priced in the Detroit/Ann Arbor area, but some school districts in the state’s Upper Peninsula are paying some of the highest prices in the country. There are still many rural communities that suffer from limited competition and fiber infrastructure investment, and while the new federal programs present a major opportunity to challenge the status quo, local and state leadership is essential to realizing progress.
Continued commitment to connectivity

Even as new state leaders take office, 42 state governors remain committed to helping their schools reach the FCC’s 1 Mbps per student goal. Their support is crucial to ensuring that schools have robust and reliable networks that meet the needs of their students and teachers.

Gov. Tony Evers  
Wisconsin

I know what’s best for our kids is what’s best for our state, and that’s why we will continue working toward our goal of 1 Mbps per student at every school.”

Gov. Spencer Cox  
Utah

My administration remains committed to supporting the work to ensure that schools in every Utah county are equipped with high-speed, scalable connections that enable digital teaching and learning opportunities in every classroom, every day.”
CALL TO ACTION

More than one third of all school districts nationally (4,304) have contracts with internet service providers that will expire in 2023. Of those, 1,455 districts have the opportunity to upgrade to 1 Mbps — potentially without any net increase cost. Connect K-12 provides granular district-level bandwidth and pricing transparency across entire regions — transparency that empowers leaders to identify better solutions and negotiate better deals for services. The moment is right now, our students cannot afford any more barriers.

Since shortly after the modernization of the E-Rate program, the number of districts meeting the 1 Mbps per student goal has increased to 8,679 in 2022 from 1,072 in 2015 — a 709.6% improvement. In 2021, we saw a spike in districts that were upgrading to meet the 1 Mbps goal, and 2022 marks another year of continued progress. But there is still much more work to be done to ensure that all students and teachers have the connectivity they need to utilize the many immersive and robust digital learning resources that are now available.

Since the beginning of the COVID-19 pandemic, 81% of school leaders, including teachers, principals, and other district leaders, stated the number of devices provided to of all students do not have access to at least 1 Mbps of bandwidth.
students has increased.\(^3\) Digital learning has become not only a necessity, but a true cornerstone of teaching and learning in every state. School district leaders and state lawmakers must prioritize the need to upgrade bandwidth in all schools so that connectivity is never a bottleneck to learning.

With more than $58 billion in federal funding for broadband infrastructure on the horizon, state leaders — and in particular, state broadband offices — should prioritize school districts and other community anchor institutions as they plan infrastructure projects. Specifically, NTIA’s Broadband Equity, Access and Deployment (BEAD) and Enabling Middle Mile Broadband Infrastructure (EMMBI) programs, when leveraged alongside the stewardship of available E-rate resources, have the potential to dramatically improve the telecom landscape in entire regions within states that are still suffering from aging infrastructure, lack of competition, and high prices.

School district leaders also have a responsibility to stay apprised of new broadband investments in their communities and ensure that new service provider entrants are made aware of procurements related to school connectivity. Increased competition almost always results in better services at lower prices.

Continued meaningful progress toward better connectivity for every student is only possible when state and school district leaders step up to the challenge. ConnectK12.org has been fully updated with the most recent data on school connectivity adnd we urge school leaders everywhere to use it to take informed action.

We owe it to the remaining 23.5 million students who still lack the access they need to make 2023 a hallmark year in closing the remaining school connectivity gap. They are depending on all of us. Let’s not stop now.
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.

The figures and analysis in this report are based on 2022 application data from the FCC’s School and Libraries Program (E-rate). It includes data from 12,911 public school districts that serve 44.9 million students across all 50 states. $1.68 billion in funding from the E-rate program was requested on behalf of these 12,911 school districts in 2022. 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.

CN is a nonprofit that, for 21 years, has been 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. CN 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. FFL manages the technology platform and ensures data in Connect K-12 is accurate and updated annually.

In October 2022, FFL launched E-rate Manager for Applicants, a free resource available to all E-rate stakeholders. Updated daily with the latest funding request data, E-rate Manager empowers E-rate coordinators and other decision-makers to easily view their organizations’ complete funding history, monitor the status of current year applications and forms, and stay on top of important program deadlines. Applicants can register for instant access here.

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.