

Montana

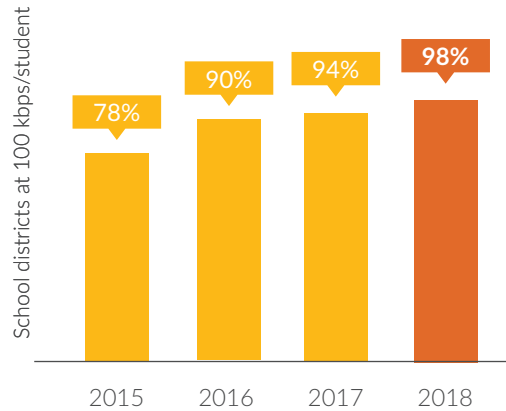
To experience the benefits of digital learning, students need access to sufficient bandwidth, scalable broadband infrastructure, and robust Wi-Fi.

BANDWIDTH

Since 2015, an additional **63,919** students can access the Internet at speeds of 100 kbps/student.

But there is still work to be done.

19,602 students [still need more bandwidth for digital learning](#)

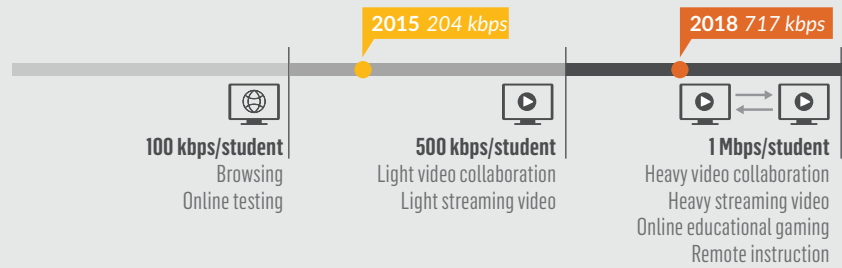


Montana Initiative

The Broadband for Montana Schools Program encumbered state matching funds for 8 districts and funded E-rate consultants to help first-time applicants, allowing 15 districts to utilize E-rate for the first time.

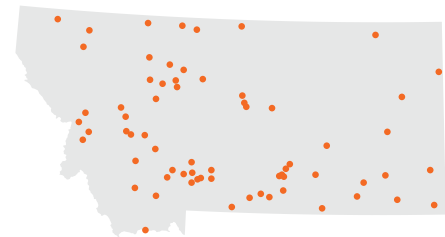
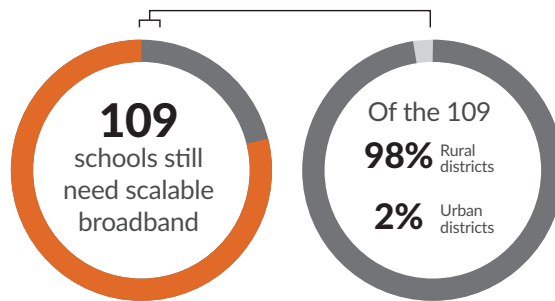
In three years, median bandwidth speeds have increased by **3.5x** across Montana - from 204 kbps to 717 kbps.

How faster bandwidth makes a difference:



FIBER

407 schools have fiber¹ infrastructure

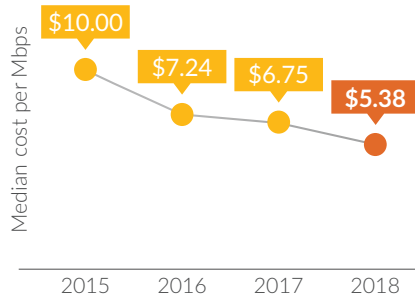


[School districts in need of fiber](#)

AFFORDABILITY & WI-FI

Since 2015, the cost of broadband in Montana has decreased by 46%.

This compares to a 72% decrease nationally.



Schools in Montana have utilized

\$8 M

in federal Wi-Fi funding, but \$9.2 M remains unused.

\$4.2 M

must be accessed by 156 school districts [this year](#) or it will be forfeited.

About the Metrics

TOTAL STUDENTS AND SCHOOL DISTRICTS MEETING GOAL OF 100 KBPS/STUDENT

This metric is based on an extrapolation of the percent of students or school districts in the sample that are meeting the minimum connectivity goal to the entire population of students or school districts in the state. Student populations are based on overlaying 2015-16 National Center for Education Statistics (NCES) data with 2018 Universal Services Administrative Company (USAC) data and input from school districts.

ADDITIONAL STUDENTS AND SCHOOL DISTRICTS CONNECTED

This metric shows the increase in students since 2015 that meet the Federal Communications Commission (FCC) minimum connectivity goal of 100 kbps per student.

To account for the entire population of the state, we extrapolate the percentage of students in the sample that are meeting goals to the entire population of students or districts in the state.

Student populations are based on overlaying 2015-16 NCES data with 2018 USAC data and updated based on input from school districts.

STUDENTS THAT NEED TO BE CONNECTED

This metric shows the total number of students that do not meet the FCC minimum connectivity goal. We take the total number of students in the state and subtract the extrapolated total students who are already connected.

BANDWIDTH DIFFERENCE AND MEDIAN SPEEDS

Median bandwidth is calculated at a student level across the state. Each student's bandwidth is based on their district's bandwidth. The multiple factor is generated by dividing the median bandwidth per student in 2018 by the median bandwidth per student in 2015.

FIBER INFRASTRUCTURE

This metric reports on the availability of scalable infrastructure based on the FCC-recommended goal that every school's broadband infrastructure be scalable to 10 Gbps (which currently requires fiber). There are some cases in which a 10 Gbps connection is not required because of school population. In these cases, we made an assumption that these schools already have sufficient infrastructure. For schools where the connection type was unknown, we applied a set of rules to determine the connection type based upon extensive research.

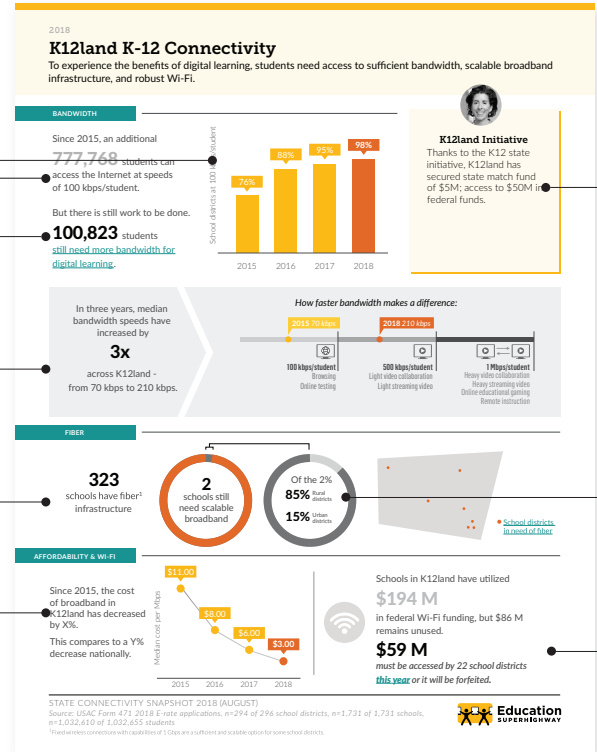
The number of schools with fiber infrastructure is determined by taking the percentage of schools that have a fiber connection type within the sample and extrapolating it to the total number of schools in the state.

COST PER MBPS

This metric reflects the median cost per Mbps within the state within the sample data.

STATE MATCHING FUNDS (IF APPLICABLE)

This is the amount of funding the state has made available to school districts so they can leverage additional federal E-rate dollars for special fiber construction through 2018.



LOCALE DEFINITIONS

Locales are based upon NCES classifications. 'Rural' implies 'Rural and Small Town', and 'Urban' implies 'Suburban and Urban'.

LOCALE CLASSIFICATIONS	
DESCRIPTION	LOCALE CODE FROM NCES
Urban	11 - City-Large, 12 - City-Midsize, 13 - City-Small
Suburban	21 - Suburb-Large, 22 - Suburb-Midsize, 23 - Suburb-Small
Small Town	31 - Town-Fringe, 32 - Town-Distant, 33 - Town-Remote
Rural	41 - Rural-Fringe, 42 - Rural-Distant, 43 - Rural-Remote

WI-FI FUNDS

"Wi-Fi funds" is used to refer to funding available via E-rate Category 2 budgets for schools to upgrade their internal connections. For Funding Years 2015 - 2019, the FCC provided every school with a Category 2 budget of \$156.23 per student (adjusted yearly for inflation) or a minimum of \$9,582.23 per school. For each year, we multiply \$156.23 by the number of students in each school and apply the school district E-rate discount rates when available; otherwise, we apply the average state E-rate discount rate. (Schools must pay for the non-discount portion of their Category 2 budget.) We aggregate the school amounts within a state to determine the year's annual Category 2 budget. When applicable, adjustments related to hurricane relief are reflected and applied to reported figures.

We calculated the total Category 2 funding utilized by adding the Category 2 E-rate funds received by districts for Funding Years 2015 - 2018. The total Category 2 budget remaining for Funding Year 2019 was calculated by subtracting funds requested in Funding Years 2015 - 2018 from the full five-year budget.

A critical amount of funds will be forfeited after this year if they are left unused. A district that has not used any funds to date will forfeit 100% of its Category 2 funds if the funds are left unused in Funding Year 2019. A district that first accessed their Category 2 budget in Funding Year 2015 will forfeit any funds not used in Funding Year 2019. There are a variety of reasons why districts may not have used their funding. Our calculation for funds that would be forfeited is the sum of the remaining funds in districts that fall into two groups: 1) districts that have 100% of their funds remaining and 2) districts that started accessing funds in Funding Year 2015 and have 50% or more of their funds remaining.