

# Progress in Connecting K-12 Students

## MONTANA



"Providing our students with access to high-quality digital learning helps set students up for success in our increasingly digital world. As a predominantly rural state, we need to work even harder to make sure that our students have the high-speed Internet that they need to flourish. Our investments in school broadband this year is the result of collaboration between state government, the service provider and school communities, and will bring us even closer to closing the connectivity gap in our state's schools."

Governor Bullock

# 96,588

total students in 287 school systems meet the minimum recommended bandwidth goal.

Since 2015, an additional 33,107 students in 49 school systems upgraded to the minimum recommended bandwidth.



### STATE INITIATIVE HIGHLIGHTS

State leaders established a \$2 million matching fund through the Montana Broadband Program and created a \$5,000 grant to help schools leverage E-rate funding.

In 2017, Montana leveraged \$6.9 million of federal E-rate funds.

## Closing the K-12 Connectivity Gap

# 45,007

students in 17 school systems still need to be connected to the minimum recommended bandwidth goal.

5 service providers can upgrade 41,852 students

State leaders can engage with the service provider community and school district leaders to provide access to digital learning for most Montana K-12 students by the start of the 2018 school year.



### FIBER INFRASTRUCTURE

381 schools have fiber infrastructure

**124 schools** still need fiber with 98% in rural and small town communities



### WI-FI FUNDS

\$24.3 million was made available for Wi-Fi upgrades in all districts

**\$9.7 million** in Wi-Fi funds still available for 301 school systems



### BROADBAND COSTS

189 systems meet benchmark prices for broadband services

**46 school systems** do not meet national benchmark prices for broadband services

# About the Metrics

## TOTAL STUDENTS AND SCHOOL SYSTEMS CONNECTED

This metric is based on an extrapolation of the percent of students or school systems in the sample that are meeting the minimum connectivity goal to the entire population of students or school systems in the state. Student populations are based on 2014-15 National Center for Education Statistics (NCES) data and updated based on input from school systems.

## ADDITIONAL STUDENTS AND SCHOOL SYSTEMS CONNECTED

This metric shows the increase in students or school systems since 2015 that are meeting the Federal Communications Commission (FCC) minimum connectivity goal of 100 kbps per student. Using the reported increase of students or school systems from 2016, we added the number of students or school systems who are newly meeting minimum connectivity goals in 2017.

This is an extrapolation of the percentage of students or school systems in the sample that are meeting goals to the entire population of students or districts in the state. Students or districts meeting the goal is calculated by taking the difference in the number of students or school systems meeting minimum connectivity from 2017 and 2016.

Student populations are based on 2014-15 NCES data and updated using input from school systems.

## STUDENTS AND SCHOOL SYSTEMS THAT NEED TO BE CONNECTED

This metric shows the total number of students or school systems that are not meeting the FCC minimum connectivity goal. We take the total number of students or school systems in the state and subtract the total students and school systems connected.

## FIBER INFRASTRUCTURE

This metric reports on the availability of scalable infrastructure based on the FCC-recommended goal that every school's broadband scale to 10 Gbps (which currently requires fiber). For schools where the connection type was unknown, we applied assumptions based on extensive research.

## WI-FI FUNDS

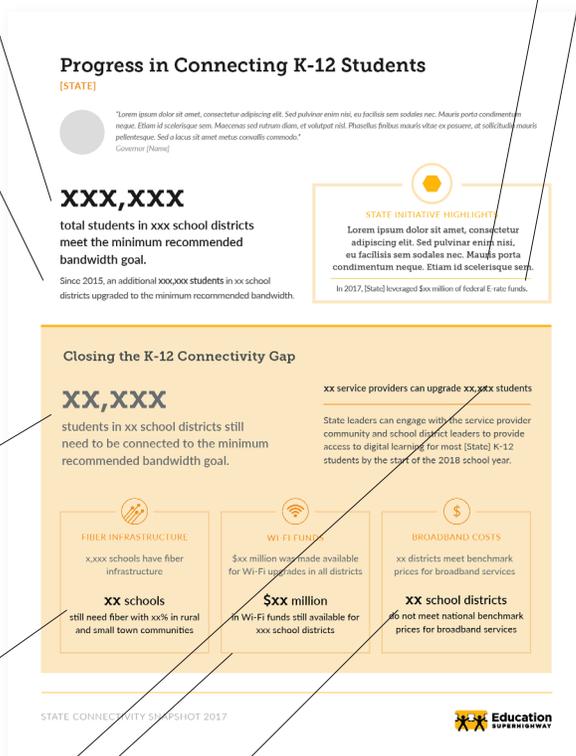
This metric profiles the extent to which school systems have taken advantage of their Category 2 budgets. The FCC provided every school district with a \$153.47 per student (adjusted yearly for inflation) total "Category 2" budget from 2015-2019 to upgrade internal connections in schools. We calculated the total Category 2 budget remaining for 2018-19 after subtracting funds requested in 2015 - 2017. We applied school district E-rate discount rates when available; otherwise, we applied the aggregate state E-rate discount rate.

## E-RATE FUNDS LEVERAGED

This metric is based on original funding commitment requests in 2017 from applicants within a state - does not include requests for voice or libraries, however. An original funding commitment request occurs after any changes are made to the application, and is equal to the cost of the service multiplied by the applicant's discount rate.

## STATE MATCHING FUNDS (IF APPLICABLE)

This is the amount of funding made available to school systems by the state to leverage additional federal E-rate dollars for special fiber construction in 2017.



## SERVICE PROVIDERS CONNECTING STUDENTS

Up to the top 5 primary service providers by state were ranked by the total number of students they serve that still are not meeting the minimum connectivity goal of 100 kbps per student. A service provider is considered primary if they provide at least 50% of a district's total bandwidth.

## BROADBAND COSTS

This metric compares the amount of bandwidth school systems currently receive to the amount they could receive if those same funds were used to buy Internet access at 2015 national benchmark prices.

Internet Access Circuit Size	Price Benchmark (\$/Mbps)
10 Gbps	\$0.75
1 Gbps	\$3.00
500 Mbps	\$5.50
200 Mbps	\$9.00
100 Mbps	\$12.00
50 Mbps	\$14.00