

# Progress on K-12 connectivity

Alabama | **COMMITTED**

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## MORE STUDENTS CONNECTED IN 2016

now have the minimum connectivity they need

# 202,914

## STUDENTS NEED MORE BANDWIDTH

to meet the minimum connectivity goal



### CONNECTIVITY

**91%** of school districts representing **530,741 students** meet the minimum connectivity goal of 100 kbps per student.

This is **up from 86%** in 2015.



### UPGRADES

**56 school districts** upgraded their Internet access in 2016 leading to **215,386 students** getting more bandwidth.



### FIBER

**99%** of schools in Alabama have the fiber connections needed to keep up with growing bandwidth demand from students and teachers.



### WI-FI

**64%** of school districts report sufficient Wi-Fi in all their classrooms.

**\$40M of E-rate funding remains** to support Wi-Fi network upgrades in Alabama.



### AFFORDABILITY

**10%** of school districts are maximizing the bandwidth they are getting for their budgets.\*

This is **down from 20%** in 2015.

Source: USAC Form 471 2016/2017 E-rate applications, n=126 of 135 school districts, n=1,487 of 1,580 schools, n=692,106 of 733,655 students

\*The budget refers to the total cost of all Internet access services and does not always represent what the school district actually pays. E-rate typically provides a 20-90% reimbursement and some states also subsidize the cost of broadband for school districts.

Gov. Ivey is committed to school upgrades in Alabama



“ Broadband internet is to the modern day what the interstate system was to the 1950s. Ensuring students at all levels have access to high-speed internet is not just an education issue, but an economic development one as well. In order to succeed in the 21st century, Alabama’s children must have access to 21st century tools.

### Opportunities for further action

- Upgrade school district networks  
**202,914 students** do not have the minimum connectivity to use technology in the classroom.
- Make broadband more affordable  
**90% of school districts** could get more bandwidth for their budgets.\*
- Establish a state matching fund  
**5 of your 1,580 schools** do not have fiber connections.

# About the Metrics

## K-12 Broadband State of the States Report

The State of the States report is based on data from the publicly-available K-12 school district E-rate filings collected by the Federal Communications Commission and administered by the Universal Service Administrative Company. EducationSuperHighway verified and analyzed completed 2016 E-rate applications and conducted extensive nationwide outreach to verify school districts' network infrastructure. The data represents K-12 public schools only and does not include private schools, independent charter schools, or libraries.



### CONNECTIVITY

This metric shows the percent of school districts meeting the FCC minimum connectivity goal of 100 kbps per student. The number of students with the minimum connectivity is an extrapolation of the percent of students in the sample that are meeting goals to the entire population of students in the state. Student populations are based on 2013-14 NCES data.



### UPGRADES

This metric shows the number of students in school districts that upgraded their Internet access bandwidth from 2015 to 2016. Only districts with verified data in both 2015 and 2016 are included in the upgrade metric. As a result, this metric may slightly underestimate the total number of school districts and students that upgraded. We define "upgrades" as an increase in bandwidth from 2015 to 2016 of at least 11% or at least 50 Mbps.



### FIBER

This metric reports on the availability of scalable infrastructure. The FCC goal is for every school to have a broadband connection capable of scaling to 10 Gbps and today only fiber optic connections are capable of meeting that goal. For schools where the connection type was unknown, we applied assumptions based on extensive research. Some states may see decreases in their fiber metric from 2015 due to a reclassification of cable and fixed wireless connections from scalable to unscalable.



### WI-FI

The FCC provided every school district with a \$150 per student total "Category 2" budget from 2015-2019 to upgrade Wi-Fi and other internal connections in classrooms. Our metrics profile the state of Wi-Fi connectivity in schools as reported by E-rate applicants and the extent to which districts have taken advantage of their Category 2 budgets.

- **Wi-Fi sufficiency:** The percentage of sufficient school districts is determined by dividing the total number of school districts that reported "Completely" or "Mostly" sufficient (as opposed to "Sometimes" or "Never") by the total number of districts that reported on the sufficiency of their Wi-Fi.
- **E-rate funds available:** We calculated the total Category 2 budget remaining for 2017-19 after subtracting funds requested in 2015 and 2016. We applied school district discount rates when available, otherwise we applied the aggregate state discount rate of school districts requesting Category 2 services.



### AFFORDABILITY

Affordability of broadband is a roadblock that prevents school districts from meeting the FCC minimum connectivity goal, therefore we calculated the percent of school districts that could be getting more Internet access bandwidth for the amount they are currently spending.

- **Maximizing the bandwidth:** We compared the amount of bandwidth districts currently receive to the amount they could purchase if they used their current Internet access budget to buy circuits at 2015 benchmark prices (benchmarks were selected because at least 30% of school districts nationally are currently purchasing circuits at those prices). A school district's Internet access budget is the total cost of all Internet access services, including ISP costs and the cost of transport between the school district and the ISP. Shared costs for backbone circuits and ISP-only services were distributed based on the number of students enrolled in the school district. Note: This metric was re-calculated for 2015 using this methodology, and therefore is different from what was reported in the 2015 State of the States.

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