

**SCHOOLS AND BROADBAND SPEEDS:
AN ANALYSIS OF GAPS IN ACCESS TO HIGH-SPEED INTERNET
FOR AFRICAN AMERICAN, LATINO, LOW-INCOME, AND RURAL STUDENTS**

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October 2014

Prepared for the Alliance for Excellent Education and the LEAD Commission

Summary and Key Data Points

- 34.2 percent of K–12 students attend public schools where the internet speed is 100 Mbps or more.
- 12.1 percent of K–12 students attend public schools where the internet speed is between 50 Mbps and 100 Mbps.
- 33.5 percent of students attend public schools where the internet speed is between 10 Mbps and 50 Mbps.
- 20.3 percent of all students attend public schools where the internet speed is 10 Mbps or less.

These figures include all K–12 students in American public schools for which the National Broadband Map reports advertised internet speeds. The subject of this report is the state of access for low-income, African American, Latino, and rural students. How do they compare with the rest of America? Are, for instance, too many poor students attending schools where the internet speed is relatively slow (10 Mbps or less)? Are poor or minority students less likely to be in schools where the speed is fast (100 Mbps or more)?

In what follows, analysis of students and their schools' *advertised* internet speeds shows that there are significant gaps for low-income, African American, Latino, and rural students. Students in each of these categories are more likely to be in schools with slow internet speeds and less likely to attend schools with the fastest speeds. The analysis compares low-income students to their more affluent counterparts, African Americans and Latinos to white students, and rural to non-rural students.

For low-income students:¹

- If the share of low-income students in schools with internet speeds of 100 Mbps or more matched the share of more affluent students with access to speeds of 100 Mbps or more, approximately **580,000 more low-income students would have access to the internet in school at speeds of 100 Mbps or more.**²
- At the other end of the spectrum, low-income students are disproportionately found in schools with speeds of 10 Mbps or less. Nearly one-quarter (23.3 percent) of all low-income students only have access to slow internet in their schools producing a **gap of approximately 2,180,000 students.** That is, if the share of low-income students in schools with internet speeds of 10 Mbps or less equaled the share of more affluent students with those speeds, the number of poor students with speeds of 10 Mbps or less would fall by more than 2 million.
- **This places the overall access gap at more than 2.75 million for poor students.** Compared to more affluent students, 12.3 percent of all low-income students either lack access to the highest speed tier or are overrepresented in the lowest speed tier.³

¹ The report defines “low-income student” as a student eligible for the free and reduced-price lunch program under the Richard B. Russell National School Lunch Act.

² The report defines relatively affluent students as those students in schools with less than 25 percent of students qualifying for the free and reduced-price lunch program under the Richard B. Russell National School Lunch Act.

³ Speed tiers are defined on page 6.

For Latino students:

- If the percentage of Latino students in schools with network speeds of 100 Mbps or more were to equal the percentage for white students attending such schools, approximately **770,000 more Latino students** would be in a school with network speeds 100 Mbps or more.
- Latino students are also more likely than whites to be in schools with internet speeds of 10 Mbps or less, by a 25.7 percent to 17.3 percent gap, or 8.4 percentage points. If that gap were erased, approximately **980,000 fewer Latino students would be served by internet speeds of 10 Mbps or less in their schools.**
- **This places the overall access gap at 1.75 million for Latino students.** Compared to whites, approximately 15 percent of all Latino students either lack access to the highest speed tier or are overrepresented in the lowest speed tier.

For African American students:

- If the percentage of African American students in schools with network speeds of 100 Mbps or more were to equal the percentage for white students attending such schools, approximately **645,000 more African American students** would be in a school with speeds of 100 Mbps or more.
- As with low-income and Latino students, African American students are overrepresented in schools with access speeds of 10 Mbps or less as more than one-fifth (22.8 percent) of African American students attend such schools. **This gap comes to approximately 430,000 students.** That is, 430,000 fewer African American students would be in schools with slow internet service if the rate at which African American students attended schools with slow internet service were equal to the rate for white students.
- **This places the overall access gap at nearly 1.1 million for African American students.** This comes to 13.8 percent of all African American students who, compared to whites, either lack access to the highest speed tier or are overrepresented in the lowest speed tier.

Where there are heavily Latino or heavily African American schools, the differences are striking. For schools with more than 30 percent or more of Latino or African American students:

- 28.7 percent of all students in heavily Latino schools have access to internet speeds of 100 Mbps or more.
- 26.8 percent of all students in heavily African American schools have access to internet speeds of 100 Mbps or more.
- This gap contrasts with 39 percent of all students in schools that are heavily white having internet speeds of 100 Mbps or greater.

Schools with larger proportions of minority students show even wider gaps. In schools where 75 percent or more of students are either Latino or African American, there is less access to fast speeds and more access to slow speeds. In these schools:

- 22.8 percent of all students in these schools have access to network speeds of 100 Mbps or more—a gap of 16.2 percentage points compared with the 39.0 percent figure for students in heavily white schools (those with at least 75 percent white students).

- More of these students also experience slower internet speeds. Some 28.0 percent of students in heavily minority schools have access speeds of 10 Mbps or less; this contrasts with the 17.2 percent of all students with speeds of 10 Mbps or less in heavily white schools.

Similar gaps are evident when focusing on schools with a high share of poor students, that is, students eligible for free and reduced-price lunch. In schools where 75 percent or more of students are eligible for free or reduced-price lunch:

- 29.3 percent of all students in these schools have access to network speeds of 100 Mbps or more—a gap of 6.0 percentage points relative to the 35.3 percent figure for all students in relatively affluent schools (that is, schools where 25 percent or fewer of students are eligible for free or reduced-price lunch).
- More of these students also experience slower internet speeds. Some 29.4 percent of all students in schools with many low-income students are in schools where internet speeds are 10 Mbps or less. This is more than twice the rate for students in schools with 25 percent or fewer students eligible for the free and reduced-price lunch program; just 13.6 percent of all students in those schools have access at 10 Mbps or less, a 15.8 percentage point gap.

Using the same approach that was employed in analyzing low-income, Latino, and African American students, a comparison of rural students to non-rural students found a significant access gap:

- If the share of students in rural schools with internet speeds of 100 Mbps or more matched the share of non-rural students with access to speeds of 100 Mbps or more, approximately **760,000 more rural students would have access to the internet at the threshold of 100 Mbps or more.**
- Rural students are found disproportionately in schools with speeds of 10 Mbps or less. **The gap here is approximately 325,000 students.** If the share of rural students with network access speeds of 10 Mbps or less were equal to the share of non-rural students with this speed, the number of rural students with slow network speeds would fall by 325,000.
- **This places the overall access gap at approximately 1.1 million for rural students.** This means that 9 percent of all rural students either lack access to the highest speed tier or are overrepresented in the lowest speed tier.

Another way to assess rural American schools is to note that gaps are wide when comparing large suburbs to remote rural areas.

- 33.3 percent of students in large suburban schools have access to internet speeds of 100 Mbps or more.
- 17.9 percent of students in remote rural schools have access to internet speeds of 100 Mbps or more.
- Just 15.3 percent of students in large suburban schools are served by network speeds of 10 Mbps or less, while more than twice as many students in remote rural schools, or 35.5 percent, have access speeds of 10 Mbps or less.

I. Introduction

The internet is playing a growing role in education in American schools. Online applications are routinely folded into lesson plans, and carrying out assignments and school projects invariably means that students must log on to the internet, either at school or at home. Since 1996, the federal government has aided schools in obtaining internet access through the E-Rate program. The result has been widespread connectivity: nearly all American schools now have internet service.

As the internet's role in education deepens, two factors loom large in policy debates. One is *speed*. Increasing demand for in-school access and evolving educational applications place a premium on having enough capacity to serve students' bandwidth needs. The other factor is *equity*. With education more dependent on internet access than ever before, ensuring that there are not systematic gaps in access to adequate speed grows in importance.

This report explores access to the internet at schools by examining available network speeds to schools, with specific focus on access for low-income, African American, and Latino students. It also looks at access in rural schools and among students in rural schools.

II. Data and Definitions

To undertake this inquiry, the report relies on two data sources: the Common Core of Data compiled by the National Center for Educational Statistics (NCES), U.S. Department of Education (for the 2011-2012 school year, the most recent year for which data is available), and the National Broadband Map (NBM), which is compiled by the National Telecommunications and Information Administration and the Federal Communications Commission. NBM data is from mid-2013 and is based of end-of-2012 data collection. NCES data provides information on the number of students in K–12 schools, the number of students in a school, the number of students who are Latino and African American, and the number of students eligible for free or reduced-price lunch. Students eligible for free lunch live in households with incomes at or below 130 percent of the federal poverty level (for the school year used in this analysis). Students eligible for reduced-price lunch live in households with incomes above 130 percent of the poverty level but below 185 percent of the federal poverty level. These thresholds, for the purposes of analysis for this report, serve as proxies for low-income or poor students.

The NBM data on K–12 schools includes an identifier of the individual school and, among other data fields, the *advertised speed* that the school reports for its broadband service. The speed categories the NBM gather are as follows:

1. Greater than 200 Kbps and less than 768 Kbps
2. Greater than 768 Kbps and less than 1.5 Mbps
3. Greater than 1.5 Mbps and less than 3 Mbps
4. Greater than 3 Mbps and less than 6 Mbps
5. Greater than 6 Mbps and less than 10 Mbps
6. Greater than 10 Mbps and less than 25 Mbps
7. Greater than 25 Mbps and less than 50 Mbps
8. Greater than 50 Mbps and less than 100 Mbps
9. Greater than 100 Mbps and less than 1 Gbps
10. Greater than 1 Gbps

For purposes of this analysis, those categories collapse into four tiers, though results reported will also focus solely on the share of schools with network speeds greater than 1 Mbps:

- 10 Mbps or less (the first five tiers listed directly above)
- Between 10 and 50 Mbps (tiers six and seven listed above)
- Between 50 and 100 Mbps (tier eight listed above)
- 100 Mbps or more (tiers nine and ten listed above)

Much of the analysis that follows concentrates on speeds at either end of the ranges specified in the four tiers above. Students in schools with internet speeds of 10 Mbps or less are characterized as those at a disadvantage in contrast to others due to the relatively slow speeds they experience at school. Students in schools whose internet speeds are 100 Mbps or more are at an advantage relative to others, in that they enjoy fast online speeds at school.

In merging the two data sets, it would be ideal if all data fields in each data file were filled out completely. However, the NBM has more than 70,000 public and private schools in its system, not all of which have complete records on all fields. Additionally, due to the relative novelty of the NBM (it has been in existence since 2010) and challenges in data collection, not all schools may report to the NBM. The NCES has nearly 99,000 public schools in its database, not all of which have entered data for fields of interest (e.g., students eligible for the free and reduced-price lunch program). The upshot is that merging the two data sets results in a set of public schools for analysis that is smaller than the total number of public schools in the United States.

For the latest year for which data is available (2011), there are 98,817 public K–12 schools in the country, serving 49,256,120 students. For this report, the merged data set contains 32,544 K–12 public schools, serving 17,416,092 students. Those 32,544 schools contained fields usable for analysis, that is, information on number of students, location of school, students eligible for free or reduced-price lunch, *and* the advertised network speed for its internet service. This means that the data reported here rests on a non-random sample of schools that contain 35.4 percent of K–12 public school students and 33.2 percent of K–12 public schools.

The following table shows the breakout of students and schools served for the database used for the report’s analysis. These figures are for schools that reported internet speed data to the NBM.

Table 1

| | Percent of Students | Percent of Schools |
|-------------------------|---------------------|--------------------|
| 10 Mbps or less | 20.3% | 24.4% |
| Between 10 and 50 Mbps | 33.5% | 32.7% |
| Between 50 and 100 Mbps | 12.1% | 10.8% |
| 100 Mbps or more | 34.2% | 32.1% |

The median network speed that schools reported was in the 25 Mbps and 50 Mbps range. This means that the bottom two rows in the table represent schools and students with access to internet speeds above what is typically available in American public schools.

III. Findings

Table 1 shows the share of students who go to schools with fast internet speeds, that is, speeds of 100 Mbps or more. That figure is 34.2 percent. Another 12.1 percent of students attend schools with “above the median” speeds of between 50 Mbps and 100 Mbps. Note also that the table shows the share of students whose school has the slowest speeds—the 20.3 percent of students whose school has internet speeds of 10 Mbps or less.

a. Impacts by Race and Ethnicity

The combined NCES and NBM database permits analysis of the advertised speed tiers by characteristics of interest, such as students’ race and income status (with free or reduced-price lunch eligibility serving as a proxy for income).

For purposes of examining gaps among populations of interest, the analysis will compare against white students, the cohort most likely to have access to fast speeds and least likely to have access to slow speeds. In other words, the analysis will compare the 28.8 percent of African Americans and 30.4 percent of Latinos with access to 100 Mbps or more to the 37 percent figure for whites (see Table 2 below). For speeds of 10 Mbps or less, the points of comparison will be the 17.3 percent of white students in schools served by that speed versus 22.8 percent for African Americans and 25.7 percent for Latinos.

Table 2 shows results for African Americans and Latinos. The findings show that, when looking at the fastest speed threshold of 100 Mbps or more, African Americans and, to a somewhat lesser extent, Latinos are less likely to be in schools with speeds of 100 Mbps or more than white students. At the same time, Latinos (especially) and African Americans are more likely than whites to be in schools that have internet speeds of 10 Mbps or less.

Table 2

| | White Students | Latino Students | African American Students | All Students |
|-------------------------|----------------|-----------------|---------------------------|--------------|
| 10 Mbps or less | 17.3% | 25.7% | 22.8% | 20.3% |
| Between 10 and 50 Mbps | 33.9% | 31.2% | 37.0% | 33.5% |
| Between 50 and 100 Mbps | 11.7% | 12.7% | 11.5% | 12.1% |
| 100 Mbps or more | 37.0% | 30.4% | 28.8% | 34.2% |

To understand how these differences for African Americans and Latinos translate into the number of students impacted, the percentage differences that the merged NCES and NBM databases reveal are scaled to the total number of K–12 students reported by NCES. For instance, NCES’s latest data shows that there are approximately 11.7 million K–12 Latino students. A 6.6 percentage point gap, relative to white students, in access to 100 Mbps or more network speeds means 770,000 more Latino students would have access to speeds of 100 Mbps or more if Latinos’ likelihood of having access to speeds of 100 Mbps or more equaled that of white students. Latino students are also more likely than whites to be in schools where the internet speeds are relatively slow, at 10 Mbps or less.

Using this approach to characterize gaps for African Americans and Latinos shows the following.

First, for Latinos:

- If the percentage of Latino students in schools with network speeds of 100 Mbps or more were to equal the percentage for white students attending such schools, approximately **770,000 more Latino students** would be in a school with network speeds 100 Mbps or more.
- Latino students are also more likely than whites to be in schools with internet speeds of 10 Mbps or less, by a 25.7 percent to 17.3 percent gap. If that gap were erased, approximately **980,000 fewer Latino students would be served by speeds of 10 Mbps or less in their schools**.
- ***This places the overall access gap at 1.75 million for Latino students.***
- The access gap comes to approximately 15 percent of all Latino students who either lack access to the highest speed tier or are overrepresented in the lowest speed tier.

For African Americans:

- If the percentage of African American students in schools with network speeds of 100 Mbps or more were to equal the percentage for white students attending such schools, approximately **645,000 more African American students** would be in a school with speeds of 100 Mbps or more.
- As with low-income and Latino students, African American students are overrepresented in schools with access speeds of 10 Mbps or less as more than one-fifth (22.8 percent) of African American students attend such school. ***This gap comes to approximately 430,000 students.*** That is, 430,000 fewer African American students would be in schools with slow internet service if the rate at which African American students attended schools with slow internet service were equal to the rate for white students.
- ***This places the overall access gap at approximately 1.1 million for African American students.***
- This means that 13.8 percent of all African American students either lack access to the highest speed tier or are overrepresented in the lowest speed tier.

Another way to look at differences between African American, Latino, and white students is to examine schools with high concentrations of students in those groups. That means looking at schools with high percentages of students in each group and determining advertised network speeds in those schools. The analysis below uses heavily white schools as the basis for

comparison. This part of the analysis focuses on schools (and then the students that attend them) that fit the following conditions:

- Heavily African American schools have a student body whose population is 30% or more African American. The heavily African American schools account for 5,884 schools, or 17.9 percent of the schools considered in the analysis.
- Heavily Latino schools have a student body whose population is 30 percent or more Latino. The heavily Latino schools account for 6,603 schools, or 20.1 percent of schools considered in the analysis.
- Heavily minority schools have student bodies where 75 percent or more of the student body is either Hispanic or African American. This comes to 5,824 schools or 17.7% of all schools in this report’s analysis fit this criterion.⁴
- Heavily white schools, given their larger share in the general population, have a higher break point of 75 percent or more. The total number of heavily white schools (i.e., where 75 percent or more students are white) comes to 13,450 schools, or 41.0% of schools in the analysis.

Each of the three break points resulted in about 60 percent of students in each race or ethnic category being included in the analysis. Schools defined as having heavily minority student bodies contain about 42% of all Latino students and 49% of all African American students.

As Table 3 shows, the differences are clear when looking at students in these schools with access to the fastest speeds (100 Mbps or more) and slowest speeds (10 Mbps or less). In the table below, the percentages reported refer to the share of all students in schools with particular characteristics defined above.

Table 3

| | Share of students with access to 100 Mbps or more internet speeds | Share of students with access to 10 Mbps or less internet speeds |
|--|---|--|
| Heavily white schools | 39.0% | 17.2% |
| Heavily African American schools | 26.8% | 24.5% |
| Heavily Latino schools | 28.7% | 28.3% |
| Heavily minority schools (high % of African Americans and Latinos) | 22.8% | 28.0% |

⁴ The sets of schools in each of the three racial categories (heavily Latino, heavily African American, at least 75% African American or Latino) are not mutually exclusive, meaning there may be some schools in each of the three groupings common to each other.

At least when it comes to internet speeds, it is much better to be a student in a heavily white school than one in a school with a large share of minority students – by a margin that approaches 2:1 (39.0 percent versus 22.8 percent). Note also that, even with the gaps identified in aggregate figures for all students in Table 2, a Latino or African American student is generally more likely to be found in a school with fast internet (100 Mbps or more) than to be found in a school with slow internet (10 Mbps or less). But the story is different for schools with lots of students of color. Where at least 75 percent of a school’s student body is either Latino or African American, it is more likely that a student there will have access to slow internet speeds than a fast one. For schools with a high proportion of Latinos, the likelihood is about the same; students in heavily African American schools are only slightly more likely to have access to fast Internet speeds than slow ones.

b. Low-Income Students

A similar exercise is possible for understanding impacts for low-income students. As noted, eligibility for the free and reduced-priced lunch program is a proxy for low-income students in the following analysis. In Table 4, the most relevant rows are the top one (10 Mbps or less) and the bottom one (100 Mbps or more). Here the comparison is between speeds available to students eligible for free and reduced-price lunch (FRPL) with speeds available in schools that have a more affluent student base, defined as students in schools that have 25 percent or fewer students eligible for free and reduced-price lunch.

Table 4

| | Total FRPL Students | Students in Schools with 25 Percent or fewer FRPL Students |
|-------------------------|---------------------|--|
| 10 Mbps or less | 23.3% | 13.6 % |
| Between 10 and 50 Mbps | 33.1% | 36.1% |
| Between 50 and 100 Mbps | 10.9% | 15.0% |
| 100 Mbps or more | 32.7% | 35.3% |

The number of students affected by these gaps is sizable. Defining low-income students as those eligible for free or reduced-price lunch shows that:

- If the share of students eligible for free or reduced-price lunch in schools with internet speeds of 100 Mbps or more matched the share of more affluent students with access to speeds of 100 Mbps or more, approximately **580,000 more low-income students would have access to the internet at speeds of 100 Mbps or more.**
- Focusing on the lowest speed tier, low-income students are found disproportionately in schools with speeds of 10 Mbps or less. **The gap here is roughly 2,180,000 students.** That is, if the share of low-income students in schools with internet speeds of 10 Mbps or less equaled the share of more affluent students with this speed, the number of low-income students with network speeds of 10 Mbps or less would fall by just over 2 million.
- **This places the overall access gap at more than 2.75 million for poor students.**
- This means that 12.3 percent of all low-income students, compared to more affluent students, either lack access to the highest speed tier or are overrepresented in the lowest speed tier.

As is the case in schools with high shares of African Americans or Latinos, schools that have a large percentage of students eligible for free or reduced-price lunch are less likely to have fast internet speeds and more likely to have slow ones. The contrast is particularly striking when comparing to schools that have relatively few low-income students.

Where 75 percent or more of students in a school are eligible for free or reduced-price lunch:

- 29.3 percent of all students in these schools have access to network speeds of 100 Mbps or more—a gap of 6.0 percentage points relative to the 35.3 percent figure for all students in relatively affluent schools (that is, schools where 25 percent or fewer of students are eligible for free or reduced-price lunch).
- More of these students also experience slower internet speeds. Some 29.4 percent are of all students in schools with many low-income students where internet speeds are 10 Mbps or less. This is more than twice the rate for students in schools with 25 percent or fewer students eligible for the free and reduced-price lunch program; just 13.6 percent of all students in those schools have access at 10 Mbps or less, a 15.8 percentage point gap.

c. School Location

The speed of a school's internet connection varies depending on where it is located. Deploying high-speed networks to densely populated urban areas is easier and cheaper than to rural or remote areas. The NCES places schools into one of ten categories that correspond to cities, suburbs, towns, and rural areas. This offers an opportunity to investigate speeds available to schools and students, with particular attention on rural areas.

The following set of tables (Tables 5 through 7) contains results for the number of students in the schools in question.

Table 5: Students, Networks Speeds, and Location: City Schools

| | Large City | Midsize City | Small City |
|-------------------------|------------|--------------|------------|
| 10 Mbps or less | 34.5% | 4.0% | 12.5% |
| Between 10 and 50 Mbps | 28.7% | 26.6% | 24.4% |
| Between 50 and 100 Mbps | 8.8% | 19.3% | 11.3% |
| 100 Mbps or more | 28.0% | 41.2% | 51.8% |

Table 6: Students, Networks Speeds, and Location: Suburbs and Towns

| | Large Suburb | Small Suburb | Fringe Town | Distant Town | Remote Town |
|-------------------------|---------------------|--------------|-------------|--------------|-------------|
| 10 Mbps or less | 15.3% | 16.3% | 13.8% | 17.1% | 25.5% |
| Between 10 and 50 Mbps | 36.8% | 26.9% | 33.7% | 35.5% | 28.6% |
| Between 50 and 100 Mbps | 14.6% | 13.6% | 12.1% | 12.2% | 6.7% |
| 100 Mbps or more | 33.3% | 43.2% | 40.3% | 35.2% | 39.1% |

Table 7: Students, Networks Speeds, and Location: Rural Areas

| | Fringe Rural | Distant Rural | Remote Rural |
|-------------------------|--------------|---------------|---------------------|
| 10 Mbps or less | 17.4% | 27.2% | 35.5% |
| Between 10 and 50 Mbps | 39.4% | 36.5% | 39% |
| Between 50 and 100 Mbps | 11.2% | 9.2% | 7.6% |
| 100 Mbps or more | 32.0% | 27.1% | 17.9% |

To focus the discussion, it is worth comparing remote rural areas with large suburbs, denoted in red in Table 7 and Table 6, respectively. Large suburbs contain nearly one-third (29 percent) of all students; nearly half (47.9 percent) of these students have access to school network speeds of 50 Mbps or greater, and one-third have access to speeds 100 Mbps or greater. Remote rural areas

are just half as likely, compared with large suburban schools, to have speeds over the 50 Mbps or 100 Mbps thresholds.⁵

As with the other cohorts examined, it is possible to determine how many rural students face access gaps—either not enough in “100 Mbps or more” schools or too many in “10 Mbps or less” schools. Here the comparison is between rural and non-rural students. Aggregating the three rural categories in Table 7 and the city and suburban categories in Tables 5 and 6 summarizes speeds by whether a school is in a rural or non-rural area.

Table 8: Students, Networks Speeds, and Location: Rural versus Non-rural

| | Rural | Non-rural |
|-------------------------|-------|-----------|
| 10 Mbps or less | 21.8% | 19.1% |
| Between 10 and 50 Mbps | 38.5% | 32.3% |
| Between 50 and 100 Mbps | 10.3% | 12.9% |
| 100 Mbps or more | 29.4% | 35.7% |

The gaps for rural relative to non-rural students are significant when looking at access to low-end and high-end speeds. As with the other groups, rural students are disproportionately in schools with network speeds of 10 Mbps or less. They are also underrepresented (against the non-rural benchmark) in schools with speeds of 100 Mbps or more.

- If the share of students in rural schools with internet speeds of 100 Mbps or more matched the share of non-rural students with speeds of 100 Mbps or more, approximately **760,000 more rural students would have access to the internet at speeds of 100 Mbps or more.**
- At the other end of the spectrum, rural students are disproportionately found in schools with speeds of 10 Mbps or less. **The gap here is approximately 325,000 students.** If the share of rural students with network speeds of 10 Mbps or less were equal to the share of non-rural students with these speeds, the number of rural students with network speeds of 10 Mbps or less would fall by 325,000.
- **This places the overall access gap at approximately 1.1 million for rural students.** That is, 9 percent of all rural students either lack access to the highest speed tier or are overrepresented in the lowest speed tier.

⁵ The analysis shows that 2 percent of all K–12 students live in remote rural areas.