

ACP Enrollment Visualization Methodology and FAQ's

1. Why was this map created?

Designed in collaboration with Heartland Forward, Rural LISC produced this map to help Digital Navigators and other digital inclusion support organizations gain insight into the reach of new federal resources for broadband access. The Affordable Connectivity Program (ACP), and its predecessor, the Emergency Broadband Benefit (EBB), are subsidy programs intended to help all Americans have affordable access to the technologies that drive the modern digital economy.

Rural LISC Digital Navigator program partners are starred on the map.

2. What does the map measure and what are the data sources for the map?

The map visualizes the number of households enrolled in ACP divided by the *estimated* number of households eligible for ACP, expressed as a percentage, by ZIP code, across the U.S. and Puerto Rico. Households qualify for ACP through a range of eligibility criteria. ¹ LISC estimates the total ACP-eligible households in a ZIP code based on the number of households that live at 200% of the 2022 federal poverty level calculated from the ACS B19001 table.

The Universal Service Administrative Company (USAC) administers ACP and defines a household as a group of people who live together and share money even if they are not related to each other. Only one monthly service discount and one connected device discount is allowed per household.

LISC's eligible and participating population estimates are divided into five categories and depicted by a blue color gradient. ZIP codes with 0-24% of eligible, participating households are shown in light blue, ZIP codes with 25-49% of eligible enrolled households are shown in periwinkle blue, 50-74% of eligible enrolled households are shown in royal blue, and 75-101% of eligible enrolled households are shown in navy. ZIP codes with no eligible households are shown in gray.

Enrollment data are sourced from Zip-5 level data from the Universal Service Administration Corporation's ACP claims tracker. ²

$$ACP \text{ Participation Percent by ZIP} = \frac{\text{Total enrollments in a ZIP code}}{\text{Total households eligible in a ZIP code}} * 100$$

¹ Routes to qualify for ACP (see [USAC site](#) for more details):

- Household income (200% FPL)
- Current participation in a Lifeline benefit
- Participation in federal assistance programs including SNAP, Medicaid, WIC, Supplemental Security Income (SSI), Federal Public Housing Assistance (FPHA), Veterans Pension and Survivors Benefit, Free and Reduced-Price School Lunch Program or School Breakfast Program, or received a Federal Pell Grant in the current award year.
- Qualifying Tribal assistance programs also include Bureau of Indian Affairs General Assistance, Head Start, Tribal TANF, and Food Distribution Program on Indian Reservations

² LISC will periodically update the map; data are current as of 08/01/2022.

3. How was ACP eligibility calculated for the map?

LISC estimates ACP-eligible households from the U.S. Census Bureau’s B19001 table (2019 American Community Survey 5-year estimate) using a formula where x = the average household size in a ZIP code, \$27,180 = 200% FPL for a 1-person household, and \$9,440 multiplied by $(x-1)$ = the rate at which the total number of individuals living at 200% FPL changes within a ZIP code for each person added to a household:

$$\text{Total Eligible Households by ZIP Code} = \$27,180 + \$9,440(x - 1)$$

This formula allows us to estimate the total households living at 200% of the federal poverty level in each ZIP code based on the ZIP code’s average household size.³

4. Why do some areas show 101% enrollment?

Several factors contribute to why a ZIP code has higher enrollment than eligible population. Census response rate varies by geography, where urban response rates tend to be higher, for example, than rural Census response rates.⁴ Additionally, some aid programs may have more inclusive eligibility requirements for certain programs. Therefore, there are instances across ZIP codes where enrollment count exceeds the eligibility estimate; for simplicity, these ZIP codes are denoted as having 101% enrollment.

5. What do the gray areas designate?

Areas with no eligible households or enrollments are colored gray on the map.

6. How was the national ACP enrollment of 33% calculated?

The national enrollment percentage was calculated by dividing the total national ACP enrollment, as reported by USAC on 8/1/2022, by total national ACP eligibility, which LISC has estimated to be approximately 45 million households, using US Census Bureau data (more method details are answered in question 3).

7. How was average enrollment by ZIP code for the nation calculated? At 22%, why is it different from national enrollment?

The ZIP code level average was calculated by summing the percent enrolled in ACP of all ZIP codes and dividing by the number of ZIP codes in the US, giving an average of 21.8% (as of 11/01/2022).

The median enrollment is 18.2% across ZIP codes. This indicates there are “hot spots” with high levels of ACP enrollment, pulling the national average up, yet most regions of the country are experiencing low levels of enrollment, closer to the median 18%. See Figure 1 to the right for a distribution of ACP enrollment from May 2022 enrollment data (similar enrollment data trend as November 2022).

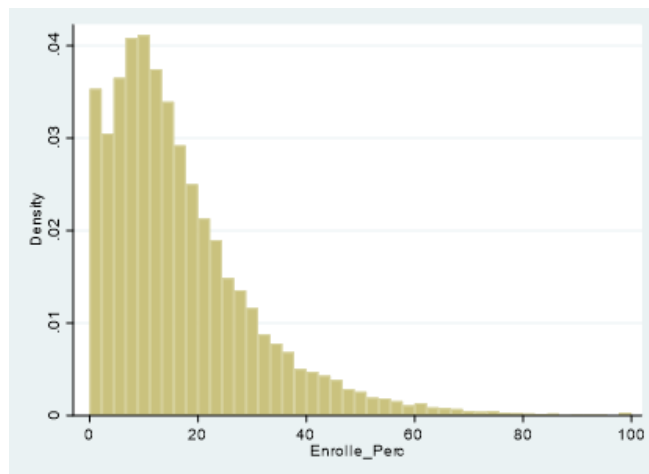


Figure 1: Distribution of percent eligible enrolled in ACP

³ Example: In ZIP code 94110, a household is 2.58 people, on average. Using the formula, we estimate that 200% FPL for a family of 2.58 is: $y = 27,180 + 9440(2.58-1)$, where $y = \$42,095$. LISC counts all the households from the B19001 table with incomes in the \$40k - \$44.99k bracket and below. This is the denominator for eligible households in ZIP code 94110.

⁴ Response Rates: <https://www.census.gov/acs/www/methodology/sample-size-and-data-quality/response-rates/>

8. What is the data source for the broadband availability layer?

BroadbandNow reports sources of terrestrial broadband availability (including fixed wireless or wireline service) based on the FCC's Form 477 dataset.

The true state of connectivity in America is unknown. LISC chose to present both the broadband availability data reported by internet service providers to the FCC (Terrestrial Broadband Layer (ZIP code) and the DDI (explained below) to support map users in portraying an accurate picture of opportunity in their area.

9. Is the map weighted by population?

The map is not weighted by population, but it is standardized. Since we report the enrollment as a percent of eligibility as opposed to raw counts of households enrolled by ZIP code, this method standardizes the enrollment by eligible population.

10. What does the Digital Divide Index (DDI) layer show, and how was it calculated?

LISC includes the DDI index in order to help map users better visualize broadband availability and uptake. DDI data is presented by Census tract in the LISC ACP enrollment map. Users can toggle between map layers to view ACP participation and the DDI index value together as a means to identify where digital inclusion supports might have the greatest impact.

The DDI was developed by Dr. Roberto Gallardo and colleagues at the Purdue Center for Regional Development. The **Digital Divide Index** or **DDI** is a weighted estimate of internet adoption across the U.S. population based on physical access to the internet (internet availability based on Speedtest® by Ookla® Global Fixed and Mobile Network Performance Maps) and socioeconomic characteristics that may limit motivation, skills, and usage.⁵

Questions? Email map authors:

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⁵ DDI measures ranges in value from 0 to 100, where 100 indicates the highest digital divide. It is composed of two scores, also ranging from 0 to 100: the infrastructure/adoption (INFA) score and the socioeconomic (SE) score. The index begins at 10 (colored off-white), and increases by increments of five until reaching a DDI score of 40+ (dark red). The gradient follows the DDI score proportionately; the darker the red, the higher the DDI score.