

Broadband Availability & Adoption

Executive Summary

Broadband availability does not guarantee that individuals will subscribe to, or adopt, broadband internet services. The highest rates of broadband adoption are found in areas with high levels of income and education. Racial differences also contribute to these inequalities, with Black and Hispanic adults reporting lower rates of home broadband ownership than White adults.

Highlights

- The Federal Communications Commission (FCC) estimated broadband availability across the U.S. in 2019 to be 95.6% while broadband adoption was estimated to be 69.4%.
- A study of 2011 broadband adoption data attributed 38% of the difference in broadband adoption between rural and urban areas to differences in broadband infrastructure availability.
- Respondents to a Pew research survey stated that, despite having access to broadband, cost was a large reason for not having household broadband.

Limitations

- It is not clear how well studies of broadband adoption data from several years ago translate to the 2022 broadband market.

Research Background

Broadband Availability vs. Adoption

Broadband availability refers to the presence of a broadband network in a given area. Broadband availability does not guarantee that individuals in that area will subscribe to it (Figure 1). The subscription to broadband services by individuals is called broadband adoption. The most recent (2021) Federal Communications Commission (FCC) [Broadband Deployment Report](#) provides broadband availability and adoption rates in the U.S. in 2019.¹ While broadband availability for fixed terrestrial internet

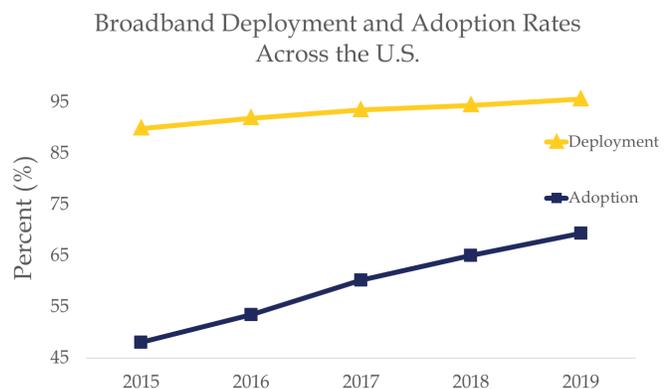


Figure 1. Broadband deployment and adoption across the U.S. over time. Made with data from the Federal Communication Commission's Fourteenth Broadband Deployment Report.¹

(e.g., fiber, cable, DSL) at 25/3 Mbps speeds nationwide was 95.6%, broadband adoption was 69.4%. Both of these figures are likely overestimates because the FCC measures this data at the census block and census tract level, and a census block or tract is considered to have access to broadband if only a single location in that area has adopted or has access to service. For more information on broadband availability mapping see our [Science Note](#).

Impact of Broadband Availability on Adoption

One study investigated the effects of broadband availability and other factors on broadband adoption.² They found that differences in infrastructure between rural and urban areas accounted for approximately 38% of the broadband adoption gap in 2011. Other factors such as income and education were found to account for 52% of the gap. There are not more recent research studies investigating this relationship and the broadband market has changed a lot in the past decade, so it is unclear how well this study translates to the 2022 broadband market.

Broadband Adoption Demographics

Broadband adoption data varies substantially by geographic location and demographics. When data from the FCC Broadband Deployment Report is categorized based on demographic data, there are large differences in broadband adoption based on income and urban/rural settings.¹ Broadband adoption in the highest quartile for median household income is 61.3% while adoption in the lowest quartile is 28.3%. Similarly, adoption in the quartile representing the most urban/suburban population rate is 62.3% while adoption in the quartile representing the highest rural population rate is 31.5%.

Pew Research Center has recorded several survey responses related to broadband adoption (Figure 2). They found that 57% of adults who make less than \$30k a year report having broadband at home, while 92% of adults who make over \$100k a year report the same.³ Less formal education and higher age was also associated with lower rates of home broadband adoption. Racial disparities exist as well, with Hispanic and Black adults responding that they have home broadband at lower rates than White adults.

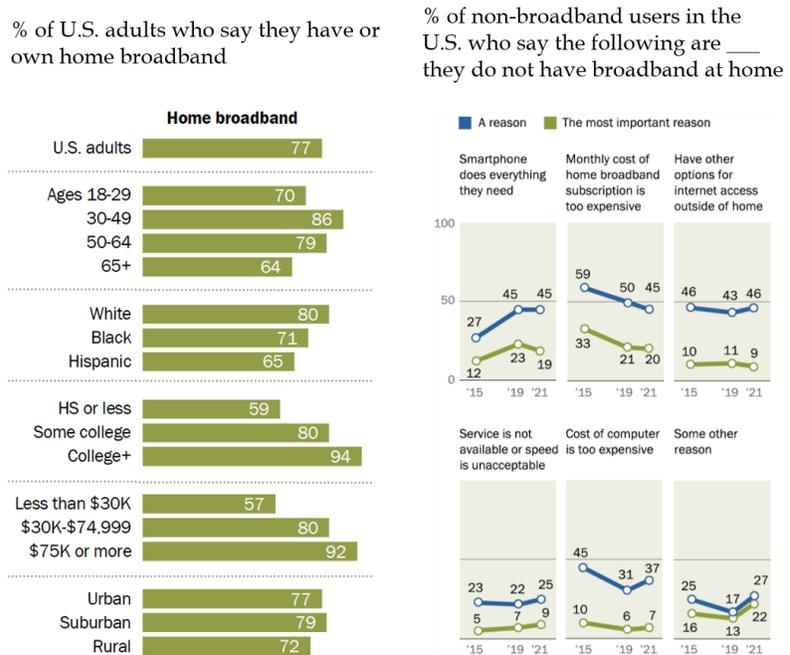


Figure 2. Pew Research Center surveys measuring (left) home broadband ownership among different demographics and (right) reasons non-broadband users don't have home broadband.³

Reasons for Not Having Home Broadband Internet

Respondents to Pew polls cited several explanations for not having home broadband internet (Figure 2).² One of the reasons that respondents cited as the most important for not having home broadband was cost. Average broadband cost in 2020 was \$52.37 according to USTelecom, a trade association that represents telecom related interests.⁴ Another reason that was cited as most important was having no need for broadband because all internet needs were covered by smartphones. Twenty-five percent of non-broadband users reported service unavailability or low speeds as a reason for not having home broadband in 2021, while 9% stated it was the main reason. Roughly seven in ten non-broadband users said that they were not interested in having broadband at home. The largest groups of adults who don't use the internet include the elderly, those with a high school diploma or less, and those making less than \$30k a year.

References

1. Federal Communications Commission. (2021). (rep.). *Fourteenth Broadband Deployment Report*. Retrieved March 8, 2022, from <https://www.fcc.gov/reports-research/reports/broadband-progress-reports/fourteenth-broadband-deployment-report>.
2. Whitacre, B., Stover, S., & Gallardo, R. (2015). How much does broadband infrastructure matter? decomposing the Metro-non-metro adoption gap with the help of the National Broadband Map. *Government Information Quarterly*, 32(3), 261-269. <https://doi.org/10.1016/j.giq.2015.03.002>
3. Perrin, A. (2021, June 3). *Mobile Technology and Home Broadband 2021*. Pew Research Center. Retrieved March 8, 2022, from <https://www.pewresearch.org/internet/2021/06/03/mobile-technology-and-home-broadband-2021/>
4. Menko, A., Telcodata, & Business Planning Inc. (2020). (rep.). *2020 Broadband Pricing Index*. USTelecom: The Broadband Association. Retrieved March 8, 2022, from <https://www.ustelecom.org/research/2020-broadband-pricing-index-report/>.
5. Perrin, A., & Atske, S. (2021, April 2). *7% of Americans don't use the internet. Who are they?* Pew Research Center. Retrieved March 8, 2022, from <https://www.pewresearch.org/fact-tank/2021/04/02/7-of-americans-dont-use-the-internet-who-are-they/>