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Small Business Access to Broadband Internet

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Highlights

- Over the past decade, small businesses' access to high-speed internet has improved dramatically. In 2014, only 48.1 percent of small business establishments had broadband internet speeds through a terrestrial provider. This number increased to 83.9 percent in 2024.

- Competition in the market for broadband has also increased. In 2024, the average small business has more than double the terrestrial options than a decade prior (1.6 versus 0.7), as well as access to broadband internet via satellite. Due to increased competition, prices for internet access have declined in real terms.

- Small businesses are disproportionately located in rural areas of the country. As a result, they are behind their larger counterparts in terms of broadband access.

- New technologies for providing broadband, including low earth orbit satellites and fixed wireless offer the potential to close the digital divide for small businesses in rural areas, as well as offer increased competition for those in urban and suburban ones.

- Broadband access is an important component to modern businesses. Counties with higher access to broadband see faster rates of small business formation.

Introduction

Internet connectivity has become increasingly important in the 21st century, with global internet traffic increasing nearly one thousandfold between 2002 and 2022.[1] This massive increase in demand has been brought about by the shifting importance of the internet from luxury to necessity. This is especially true for businesses activities such as teleconferencing and cloud storage, options that were previously impossible are now commonplace and integral to many businesses' operations. New technologies such as generative AI are also likely to further increase businesses' needs and capacity.

Without a fast and reliable connection to the internet, often referred to as broadband internet, small businesses will have difficulty surviving in the modern marketplace. While each small businesses demand for internet speeds will differ, broadband internet is defined as fixed internet speeds of at least 100 megabits (Mb) download speed and 20 Mb upload speed, though speeds faster and slower will be discussed as well.[2]

Small business access to broadband has proliferated across the United States in the last decade (Figure 1). Less than half of small business (1 to 499 employees) establishments had access to broadband internet speeds through a terrestrial provider in 2014.[3] Ten years later, 83.9 percent have access at broadband speeds. The growth in availability has been even faster for higher speed tiers. As of 2024, 74.8 percent of small business establishments had internet access speeds of 250 Mb download and 25 Mb upload, and 51.2 percent had access to speeds of 1000 Mb downland and 100 Mb upload.

Access has improved, even for slower speeds of 25 Mb download and 3 Mb upload, with 92 percent of small business establishments having access to terrestrial internet speeds at least that fast in 2024. Access to these speeds was 16.1 percentage points lower just a decade earlier, suggesting that more than one million small business establishments are connected than before.[4]

[1] World Bank. 2021. *Crossing Borders*. World Development Report 2021: Data for Better Lives. Accessed December 2025. https://wdr2021.worldbank.org/stories/crossing-borders/.

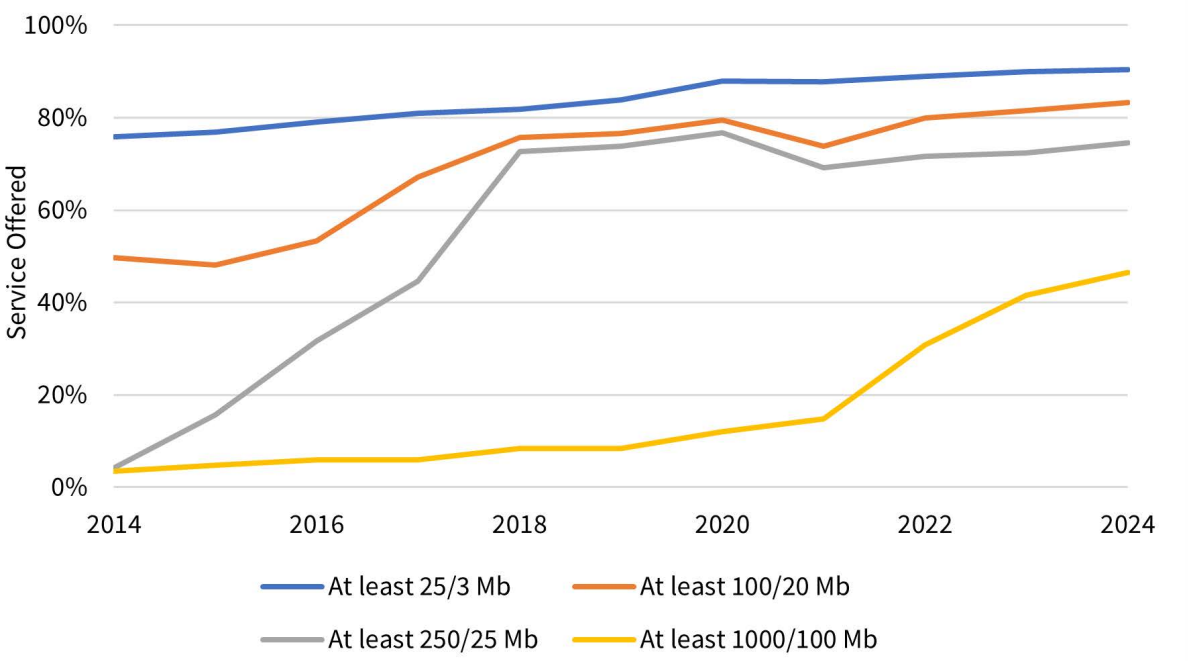
[2] This is the Federal Communications Commission (FCC) definition of fixed broadband as of 2024, when they raised the level from 25 Mb download and 3 Mb upload. The FCC definition is used to determine where federal funds for internet services are deployed. FCC Increases Broadband Speed Benchmark.

[3] National numbers are estimated by aggregating county-level business coverage, assuming that the probability of coverage is the same for all business establishments in a county. If true coverage favors large business establishments the estimates provided in this spotlight will be overestimates.

However, the trends over time will not be as this assumption has been consistently applied through time. Satellite internet coverage is excluded from calculations in this brief due to complications in estimating its coverage, but it is discussed qualitatively.

[4] In 2022 there were 6,835,333 small business establishments according to SUSB, which when multiplied by 16.1 percent yields 1,099,423 establishments.

Figure 1. Small Businesses with Broadband



Numbers exclude satellite internet service. Speeds are available rather than purchased speeds. National numbers are estimated by aggregating county-level business coverage, assuming that the probability of coverage is the same for all business establishments in a county. Redefinition of census blocks in 2021, and the shift from reporting at the census block level to the structure level in 2022 may cause discrepancies in those years.

The rapid improvement in broadband coverage is an area where the federal government has played a critical role in supporting the market. First, the Federal Communications Commission (FCC) modernized the allocation of the wireless spectrum to improve economic efficiency, with much of that work occurring in the last 10 years. When the spectrum was originally divided, the only use for it was for radio broadcasting. New use cases arose over time, including television, satellite communication, wireless phones, and finally mobile internet, which has required periodic reorganizations to meet the changing circumstances.[5] An example from the past decade was the 2017 two-sided broadcast incentive auction where spectrum originally allocated to television broadcasting was converted into spectrum for wireless internet.[6] Because of this modernization, new methods of broadband delivery are now feasible, such as fixed wireless and satellite service, which have increased the level of competition in the marketplace.

Second, subsidies have been put in place to help broadband reach underserved communities more quickly. The most recent example of this work is the Broadband Equity, Access and Deployment (BEAD)

[5] Smith, Ernie. 2017. *A Short History of Wireless Spectrum, the Most Complicated Puzzle You've Ever Seen*. Vice, June 12, 2017. https://www.vice.com/en/article/a-short-history-of-wireless-spectrum-the-most-complicated-puzzle-youve-ever-seen/.

[6] Federal Communications Commission. 2017. *Incentive Auctions*. Accessed December 2025. https://www.fcc.gov/about-fcc/fcc-initiatives/incentive-auctions.

program which is currently transferring money to states to support further broadband deployment.[7] While the existence of programs like BEAD is good for increasing broadband access, there are often implementation difficulties. In the case of BEAD, funding decisions are based around gaps in coverage, but initial coverage maps are based on data provided by telecommunications companies who have an incentive to overstate their coverage to keep out competitors.[8] Competitors can challenge coverage, but doing so systematically for a large area is difficult.

Additionally, the National Telecommunications and Information Administration (NTIA) created a technology preference in BEAD funding for fiber projects under the Biden administration. While fiber is likely the best choice for most locations, as it can deliver the highest speeds, it is also the most expensive to bring to remote locations and so may not always be the best choice for connecting a small business.

Besides the positive support that the federal government has provided, it is important to note that it has not imposed the heavy regulation associated with making internet access a utility under Title II of the Communications Act, though it has attempted to do so in 2015 and in 2024.[9] Such regulation would increase reporting requirements for internet providers and impact broadband providers' pricing decisions by subjecting them to potential rate regulation. Both these restrictions could have limited private broadband investment which makes up most investment in this area.

A Gap Has Formed Between Small and Large Business Access to Broadband

While small businesses have seen great growth in their access to broadband, it has been slower than the growth for large businesses. Unintuitively, large business (500+ employees) establishments had worse access to broadband internet and were only better served with speeds of 25 Mb download and 3 Mb upload in 2014. However, the gap closed and reversed over the last decade, and now large businesses have better access to high-speed internet than small business (Figure 2). The largest swing accrued with speeds greater than 100 Mb download and 20 MB upload. In 2014, small business access was 2.3 percentage points higher than large businesses but in 2024 it was 0.5 percentage points lower.

The 2024 gap is primarily driven by the higher percentage of small businesses in rural counties as compared to urban or suburban ones.[10] As density decreases the marginal cost for a provider to build out their network to reach a new customer increases, and as such they may choose not to invest in rural areas or to prioritize urban areas over rural ones. Figure 3 documents this pattern, showing that counties with low population densities have low broadband availability as well as a high percentage of small businesses.

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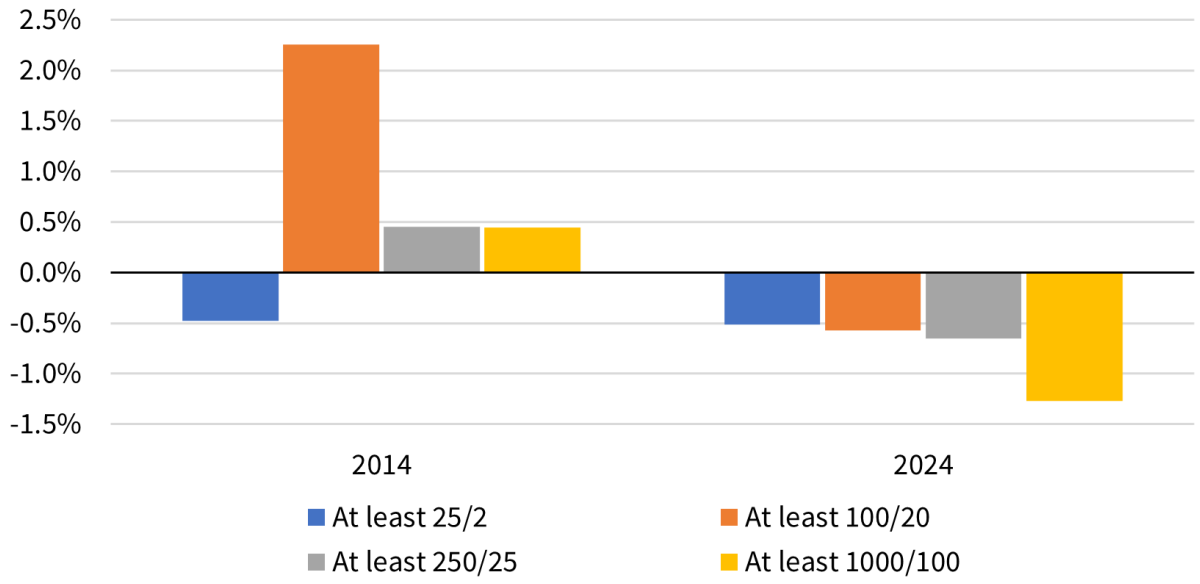
[7] National Telecommunications and Information Administration. 2024. "Broadband Equity, Access, and Deployment (BEAD) Program." *High-Speed Internet Programs*. U.S. Department of Commerce. Accessed December 2025. https://www.ntia.gov/funding-programs/high-speed-internet-programs/broadband-equity-access-and-deployment-bead-program.

[8] Telecommunications companies do not report locations which they are currently serving but rather could serve within 10 business days if requested. (Data Specifications for Biannual Submission of Subscription, Availability, and Supporting Data - Federal Communications Commission)

[9] The first attempt was in April 2015 (Federal Register :: Protecting and Promoting the Open Internet), but was reversed in February 2018 (Federal Register :: Restoring Internet Freedom). The second attempt was in May 2024 (Federal Register :: Safeguarding and Securing the Open Internet; Restoring Internet Freedom), but was blocked by the 6th U.S. Circuit Court of Appeals in January 2025 (25a0002p-06.pdf).

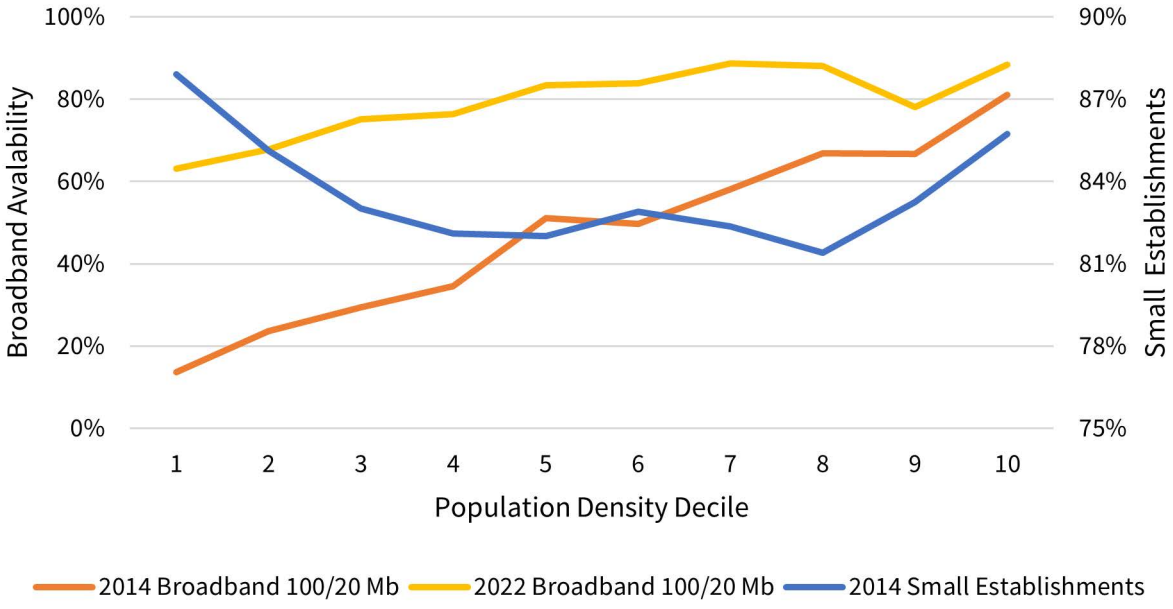
[10] Wilmoth, Daniel. 2019. *Accessing the Internet in Rural America*. Issue Brief 15. Office of Advocacy, U.S. Small Business Administration. November 2019. https://advocacy.sba.gov/wp-content/uploads/2019/11/Rural-Internet-Accesss.pdf.

Figure 2. Broadband Gap (Small to Large)



Numbers exclude satellite internet service. Speeds are available rather than purchased speeds. National numbers are estimated by aggregating county-level business coverage, assuming that the probability of coverage is the same for all business establishments in a county.

Figure 3. Broadband Availability vs. Population Density



Numbers exclude satellite internet service. Speeds are available rather than purchased speeds. National numbers are estimated by aggregating county-level business coverage, assuming that coverage is the same for all business establishments in a county. Approximately ten percent of the U.S. population is in each decile, so more counties are in the lower deciles than the higher ones.

While the slow buildout to rural areas explains the gap in 2024, it does not explain the lead small businesses had a decade prior in 2014. In fact, it would imply that the large business broadband advantage should have been more pronounced in 2014 than in 2024, because rural areas have seen the largest increases in terrestrial broadband availability throughout the past decade. For counties in the lowest decile of population density, access to terrestrial broadband speeds of 100 Mb download and 20 Mb upload increased by 49.4 percentage points, while for the highest decile access increased just 8.6 percentage points.

It may be the case that access to broadband is a driver of small businesses' formation, explaining the early lead for small businesses. There is a positive association between higher access to broadband and entry of small business establishments,[11] while no such association exists for large business establishments. Previous research also finds a strong relationship between broadband access and new firm formation.[12]

New Technologies for Providing Broadband

For most businesses and households, the way they receive internet access is through a physical connection. The technology of this physical connection has changed over time, beginning with copper phone telephone wires, then through the same wire as cable television, and now cable wires are being overtaken by fiber optic cables. Each type has brought higher speeds and reduced latency, but it can be expensive and time consuming to connect each building with such a physical connection, especially when they are separated by large distances. However, there are alternatives which can provide internet connectivity without a physical connection.

The first alternative is fixed wireless, which uses the same infrastructure as mobile phones to provide internet to homes or businesses. Modern 5G wireless internet can deliver broadband internet speeds that previous versions of the technology could not.

The second option uses satellites to send internet to homes. Consumer satellite internet has existed since 2003. Until recently, it was limited to speeds below broadband levels because it relied on satellites in geostationary orbit, 22,000 miles from the Earth's surface.

[11] This relationship was observed by running the following linear regression on establishment net entry rates for the year between 2015 and 2021: $\text{netentry}\%^{\text{small}}_{c,s,t} = \beta \cdot \text{speed}\%^{100\text{ Mb}}_{c,s,t-1} + \alpha_t + \gamma_s + \epsilon_{c,s,t}$ where $\text{speed}\%^{100\text{ Mb}}_{c,s,t-1}$ is the percentage of business establishments with access to broadband speeds of 100 Mb download and 20 Mb upload in the year prior, α_t is a year fixed effect, γ_s is a state fixed effect, and $\epsilon_{c,s,t}$ is a random error term clustered at the county level. The results indicate that for every 10 percentage point increase in the availability of broadband the entry rate of small business establishments rises by 0.1 percentage points and the difference is statistically significant at the 1 percent level. As the average net entry rate is 1.05 percent this is also an economically significant increase. A similar regression using large business establishments finds that their net entry rate declines by 0.05 percentage points for the same 10 percentage point increase in the availability of broadband, with the results also being statically significant at the 1 percent level.

[12] Columbia Telecommunications Corporation. 2010. *The Impact of Broadband Speed and Price on Small Business*. Prepared for the Office of Advocacy, U.S. Small Business Administration, under contract number SBAHQ-09-C-0050. November 2010. https://www.ctcnet.us/wp-content/uploads/2014/01/SmallBusinessBroadband1.pdf.

Audretsch, David B., Diana Heger, and Tobias Veith. 2015. "Infrastructure and Entrepreneurship." *Small Business Economics* 44 (2): 219–230. https://doi.org/10.1007/s11187-014-9600-6.

Deller, Steven, Brian Whitacre, and Tessa Conroy. 2022. "Rural Broadband Speeds and Business Startup Rates." *American Journal of Agricultural Economics* 104 (3): 999–1025. https://doi.org/10.1111/ajae.12259.

Hasbi, Maude. 2020. "Impact of Very High-Speed Broadband on Company Creation and Entrepreneurship: Empirical Evidence." *Telecommunications Policy* 44 (3): 101873. https://doi.org/10.1016/j.telpol.2019.101873.

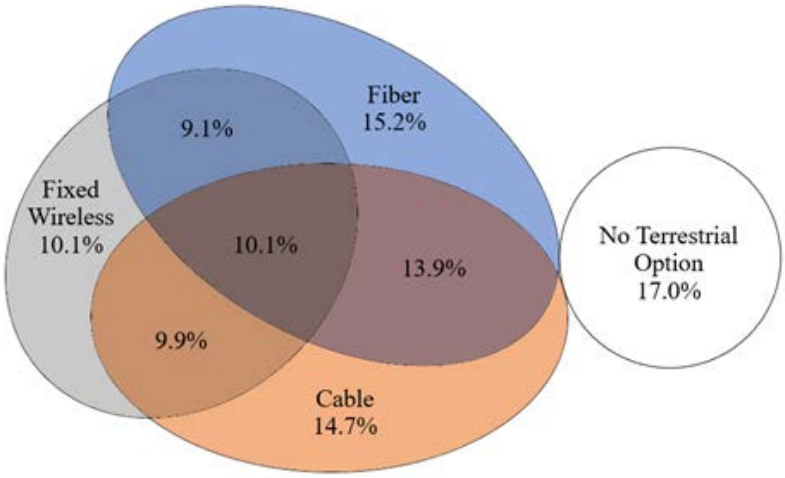
Even with these low speeds, satellite internet was valuable to a subset of the population with no other options. Today, Starlink offers satellite internet from low-earth orbit instead, which can provide broadband speeds,[13] and more companies have plans to compete in this market soon.[14]

Both fixed wireless and satellite internet are not without their drawbacks. Foremost is susceptibility to congestion slowing service to a greater extent than a physical connection. However, this drawback is not limiting wherever potential customers are far away from each other in rural areas. In these areas of the country, the expense of installing fiber optic cable may be a greater problem in guaranteeing universal broadband coverage. Next, some locations are unable to be served for practical reasons. For example, a retailer on the first floor of a mixed-use high rise may not have anywhere to install a receiver for satellite internet. Finally, neither can provide speeds greater than 1,000 Mb download or upload, which while not required for all businesses are necessary for those with data intensive requirements. While some businesses will always need a physical connection, alternative technology options are critical to ensure universal coverage in areas where a physical connection is impractical and improve competition in areas also served by physical connections.

Technologies Providing Small Business Broadband

As mentioned, small businesses can get broadband internet from a variety of technologies. These technologies can be split into two categories: (1) terrestrial technologies like fiber optic cable, cable internet, and fixed wireless internet, and (2) satellites. While theoretically almost all locations could receive satellite internet, they may be limited by crowding out or the inability to install a receiver, and it is often difficult to assess which can truly receive broadband in this way. As such, this paper limits the discussion of that technology to descriptive rather than statistical.

Figure 4. Broadband Technology Serving Small Businesses



Numbers exclude satellite internet service. Only providers offering speeds of at least 100 Mb download and 20 Mb uploads are included. Location level data is aggregated to the number of providers-county level and weighted according to the number of small businesses in the county. National numbers are estimated by aggregating county-level business coverage, assuming that the probability of coverage is the same for all business establishments in a county.

[13] Hasan, Saqib Shah. 2021. *SpaceX Opens Starlink Satellite Internet Pre-Orders to the Public*. Engadget, February 9, 2021. https://www.engadget.com/spacex-starlink-internet-preorders-121427490.html.

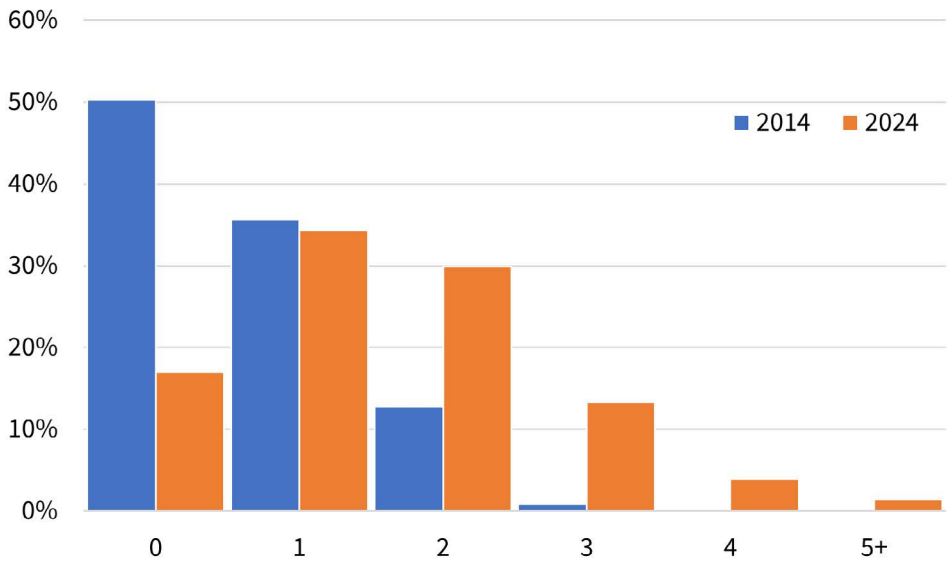
[14] Amazon Project Kuiper and OneWeb

Figure 4 shows the terrestrial technologies that can provide small business establishments with broadband internet in 2024. Some establishments are served by just a single technology (40.0 percent), others by two (33.0 percent), and just over 10 percent are served by all three. The technology reaching the most establishments is cable internet (48.6 percent), followed by fiber optic cable (48.3 percent), and last was fixed wireless (39.2 percent). Each technology is essential to providing a subset of small business access to broadband with each technology providing at least 10 percent of small businesses with their only terrestrial link. Still, there remains a substantial chunk (17.0 percent) of the market unserved by the three terrestrial options. Some small businesses can only receive broadband internet via satellite.

Competition in the Broadband Market

Next, let's consider the number of providers that compete to provide internet services for small businesses. While it takes just one provider for a small business to have access to broadband, a monopoly provider can charge higher prices. Small businesses have a wide range in the number of terrestrial broadband providers which they might pick from, with the average small business having 1.6 choices offering at least speeds of 100 Mb download and 20 Mb upload, but many have just one or no providers (Figure 5).

Figure 5. Number of Internet Providers 100/20 Mb



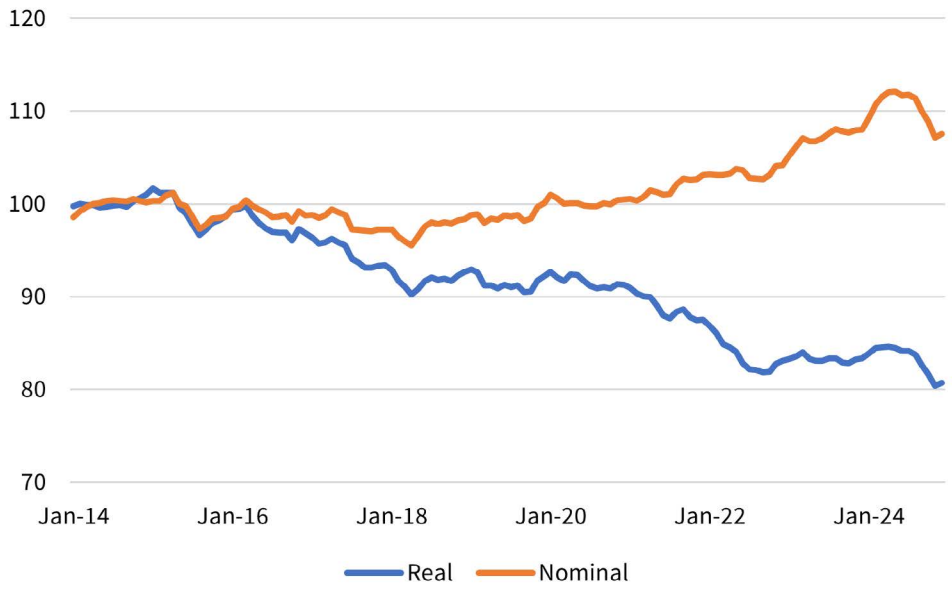
Numbers exclude satellite internet service. Only providers offering speeds of at least 100 Mb download and 20 Mb uploads are included. Location level data is aggregated to the number of providers-county level and weighted according to the number of small businesses in the county. National numbers are estimated by aggregating county-level business coverage, assuming that coverage is the same for all business establishments in a county.

In 2024, 34.3 percent of small business establishments (2.3 million) have just one option for terrestrial internet of this speed, while 48.7 percent (3.3 million) have two or more options. The percentage of small businesses with multiple options for broadband internet has grown tremendously. In 2014, the average number of providers was just 0.7, and only 14.0 percent of small businesses had two or more internet options. Although excluded from Figure 5, satellite internet provides yet another current option for small businesses that was not available in 2014.

Cost of Business Internet

With both demand and competition increasing in the broadband market, economic theory does not offer a prediction about the direction in which prices should move for internet access. Rising demand should push up prices while increased competition should push prices down. In actuality, internet pricing has remained flat in nominal terms for the last decade (Figure 6), rising just 7.6 percent over 10 years.[15] This contrasts with the overall Consumer Price Index which increased substantially. Relative to other prices, real internet prices have fallen by 19.3 percent.

Figure 6. Wired Internet Price (2014 = 100)



Consumer Price Index, Bureau of Labor Statistics. Prices are not seasonally adjusted. Both indexes have been set so that the average price level in 2014 is 100. Reported Data runs from January 2014 till December 2024.

Conclusion

While rising broadband access is a source of optimism for small business, with increasing speeds and coverage and steady pricing, there are still coverage gaps that need to be filled. This requires more investment to expand internet infrastructure into underserved areas mostly in rural counties. The National Telecommunications and Information Administration is already providing states and territories with billions of dollars to reach broadband into areas that are unserved and underserved.[16] As states put those dollars to work it is crucial that connecting businesses is put on equal footing to connecting households. Additionally, funding should be flexible enough to support the implementation of the most appropriate internet provider technology in each situation.

[15] Consumer Price Index, Bureau of Labor Statistics (BLS). The BLS adjusts its prices for increases in quality, so the price levels reported may not align with the size of small business internet bills if they are now purchasing plans with faster speeds or lower latency than they were previously.

[16] National Telecommunications and Information Administration. *Broadband Equity, Access, and Deployment (BEAD) Program.* U.S. Department of Commerce. Accessed December 2025. https://www.ntia.gov/funding-programs/high-speed-internet-programs/broadband-equity-access-and-deployment-bead-program.

Data Notes

This issue brief combines data from the Federal Communications Commission (FCC) on fixed broadband and firm numbers by size from the U.S. Census Bureau. From 2014 to 2021 the FCC collected broadband data with Form 477 where providers reported the fastest broadband speed, they offered in each Census Block. This provider-census block data was aggregated by the author first to the census block level to find the fastest available speed in each block, then to the census block group, weighting each nonwater census block equally, and finally to the county level, weighting each census block group according to its population in the American Community Survey 5-year sample, to calculate the percentage of all businesses in each county with access to the various broadband speeds in this brief.

In 2022, the FCC transitioned to a new collection method to measure broadband in the National Broadband Map. This new method measures broadband availability at the structure level and is believed by the FCC to offer a better reflection of actual availability. The National Broadband Map data directly reports the percentage of businesses in each county with the various broadband speeds in this brief at the county level. For both types of broadband data, satellite broadband coverage is excluded from the calculation. For all years the December data is used.

The FCC data is then combined with data from the Statistics of U.S. Businesses county-level data, from which the number of small business (1 to 499 employees) establishments in each county can gathered. Assuming that all businesses in a county have the same probability of broadband coverage it is then possible to estimate the national level of small business broadband access by weighting each counties level of broadband access by the number of small business establishments in the county. For broadband data after 2022, the most recently available data from SUSB is used for weighting.

Lastly, county level population and area data from the U.S. Census Bureau was used to calculate county population density for Figure 3.