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Raising the Minimum Fixed Broadband Speed Benchmark: Background and Selected Issues

The Coronavirus Disease 2019 (COVID-19) pandemic demonstrated the impact that broadband (i.e., high-speed internet access)—or a lack thereof—has on daily life. Broadband service is provided over many types of technologies, including cable, telephone wire, fiber, satellite, and mobile and fixed wireless. The Federal Communications Commission (FCC) has set a minimum fixed broadband speed that serves as the benchmark for its determination whether broadband "is being deployed to all Americans in a reasonable and timely fashion." It is directed to make this determination by Section 706(b) of the Telecommunications Act of 1996 (P.L. 104-104) (Section 706 hereinafter). If its determination is negative, the FCC is directed to take action to accelerate deployment through the establishment of new broadband programs or to use regulatory tools to remove barriers to infrastructure investment and competition.

Currently, the FCC's minimum fixed broadband speed benchmark is 25 megabits per second (Mbps) for downloading and 3 Mbps for uploading data, commonly referred to as "25/3 Mbps." There are many online applications for which 25/3 Mbps is adequate—browsing, email, and video streaming to a single device. However, some stakeholders are calling for a higher benchmark, citing a variety of uses that require increased speeds. For example, faster speeds would allow multiple users in a household to simultaneously participate in high-definition video conferencing for work or school, browse, stream videos, and play online games. Additionally, faster speeds may allow users to keep up with future bandwidth demands associated with a shift of many household functions online, such as phone and television service, thermostats, video doorbells and security cameras, and connected appliances.

According to the FCC, 14.5 million Americans currently lack broadband at the 25/3 Mbps benchmark. Congress might consider how to best ensure the provision of adequate broadband service to areas and users that currently lack it and encourage the development and provision of faster broadband service across new and existing networks. An additional consideration is what benchmark speed would allow the multiple uses identified above, but is not so high as to make build-out costs prohibitive.

The Federal Communications Commission and Section 706

Section 706 requires the FCC, an independent government agency overseen by Congress, to determine annually whether broadband is being deployed to all Americans on a reasonable and timely basis. It does so by collecting data on whether broadband service that meets the speed benchmark is available to users in a geographic area. As part of this assessment, the FCC also considers whether the minimum benchmark speed is appropriate. In 2015, the FCC, citing changing broadband use patterns with multiple devices requiring broadband service within a household, raised its benchmark from 4/1 Mbps to 25/3 Mbps. In 2021, the FCC concluded that broadband service is being deployed in a reasonable and timely fashion, and that the 25/3 Mbps benchmark continued to be appropriate.

Policy Considerations Associated with Raising the Minimum Fixed Broadband Speed Benchmark

FCC 706 Determination

Raising the minimum speed benchmark may make it more likely that the FCC would find that broadband deployment is not occurring in a reasonable and timely fashion and increase the number of households it considers unserved. This may precipitate the need for the FCC to take further action in the form of new broadband programs or initiatives to speed deployment, or regulatory action—such as streamlining infrastructure deployment rules.

The FCC may also consider the adequacy of broadband adoption—if broadband is physically deployed to a particular area but is not affordable—under Section 706. Additionally, the affordability of devices such as smartphones, laptops, and tablets may leave some users unable to take advantage of broadband even if it is available, which the FCC may decide to address through subsidy programs.

Consistent Federal Agency Speed Thresholds

Federal agencies administering broadband programs use minimum speed benchmarks to identify areas of the country where broadband providers may be eligible to receive subsidies to provide service that meets or exceeds the benchmark. There are inconsistencies across agencies. For example, the FCC broadband benchmark is 25/3 Mbps, while the U.S. Department of Agriculture uses 10/1 Mbps. Whether or not the FCC increases its minimum speed benchmark, Congress might consider specifying the FCC benchmark as the standard for all federal agencies administering broadband programs.

A potential consequence of raising the speed benchmark is that federal funds intended to provide service to areas currently without any broadband service may be redirected to areas that currently meet the existing 25/3 Mbps benchmark for upgrades to existing networks. In many cases, network upgrades are less costly than deploying new networks in sparsely populated and remote areas, or areas with difficult terrain. Congress may want to consider

prioritizing funding for areas without 25/3 Mbps broadband before upgrading existing 25/3 Mbps networks.

Investment in Fiber Networks

Fiber currently offers the highest broadband upload and download speeds. Depending on what speed threshold a new FCC benchmark may be raised to, additional fiber construction across the United States may be necessary due to the speed limitations of competing technologies. See **Figure 1**.

In many cases, deploying fiber requires subsurface digging to bury conduit and physically connecting each household. It may also require providers to acquire rights-of-way, which can be an expensive and lengthy process. Department of Transportation statistics indicate that the average cost of laying fiber is $27,000 per mile. Many rural areas are remote, have low numbers of geographically dispersed potential users relative to more densely populated urban and suburban areas, and may have terrain, such as mountain ranges or ground that is frozen for long periods of time, that makes the areas both difficult and costly to serve with fiber.

If the new benchmark speed can only be met by fiber, Congress may consider increasing federal broadband program funding to subsidize fiber coverage for high-cost areas. Congress may also consider subsidizing other broadband technologies, such as satellite broadband, that may expand broadband availability in unserved areas.

Figure 1. Fixed Broadband Upload and Download Speed Ranges by Broadband Technology

Broadband Technology	Download Speed Range	Upload Speed Range
Cable	10-500 Mbps	5-50 Mbps
Digital Subscriber Line	5-35 Mbps	1-10 Mbps
Fiber	250-1,000 Mbps	250-1,000 Mbps
Fixed Wireless	10-25 Mbps	1 Mbps
Satellite (Geostationary)	25 Mbps	3 Mbps
Satellite (Low-earth orbit)	100 Mbps	20 Mbps

Source: Tyler Cooper, *DSL vs Cable vs Fiber: Comparing Internet Options*, BroadbandNow, May 3, 2021, at https://broadbandnow.com/guides/dsl-vs-cable-vs-fiber;

HughesNet, *How Fast Is HughesNet Gen5?*, at https://www.hughesnet.com/get-started;

AT&T, *Fixed Wireless Internet*, at https://www.att.com/internet/fixed-wireless/;

R. Edward Price, *Petition of Starlink Services, LLC For Designation as an Eligible Telecommunications Carrier*, Space Exploration Technologies Corporation, February 3, 2021, p. 4, at https://ecfsapi.fcc.gov/file/102031626831l/Starlink%20Services%20LLC%20Application%20for%20ETC%20Designation.pdf.

Notes: Mbps means megabits per second. Speeds of fixed broadband service may vary from provider to provider.

Symmetrical Speeds

The COVID-19 pandemic has led some policymakers to call for symmetrical broadband speeds, with equal download and upload capacity. Pandemic-related remote work, schooling, and telemedicine has increased household demand for online video conferencing, which requires upload capacity. According to NCTA—the Internet and Television Association—download usage has grown 26.6% overall and upload usage has grown 49.0% overall since March 1, 2020.

In a March 4, 2021, bipartisan letter to the Secretary of Agriculture, Secretary of Commerce, FCC Acting Chairwoman, and Director of the National Economic Council, Senator Michael Bennet, Senator Angus King, Senator Rob Portman, and Senator Joe Manchin asked for an update to the definition of high-speed broadband to 100 Mbps both upload and download:

> Our goal for new deployment should be symmetrical speeds of 100 megabits per second (Mbps), allowing for limited variation when dictated by geography, topography, or unreasonable cost.

The letter urged that limited federal dollars be spent on broadband networks capable of providing sufficient download and upload speeds and quality, for modern and emerging uses.

Residential broadband traffic has historically been asymmetric, and symmetrical speeds may not be feasible for all broadband technologies. For example, some stakeholders, such as AT&T, have opposed raising the definition to 100/100 Mbps for this reason. In a March 26, 2021, blog post, AT&T stated:

> Some flexibility must be preserved, particularly for the next generation of fixed wireless technologies likely to be deployed in the recently auctioned C-Band that will easily deliver performance at 100 Mbps down. But wireless networks are not built to deliver symmetrical speeds, so any mandate around symmetrical performance could undermine delivery of these efficient and robust technology solutions in hard to serve areas of the country.

Congress may want to consider policy options that encourage a higher benchmark that closely reflects consumer usage, while taking into account anticipated deployment costs and feasibility.

For More Information

CRS Report R46613, *The Digital Divide: What Is It, Where Is It, and Federal Assistance Programs*, by Colby Leigh Rachfal.

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