Who benefits from America's enormously complex broadband infrastructure plans?

By Roger Cochetti 09/06/2022

Even the most dedicated analyst can be forgiven for not understanding the scope of government efforts to promote U.S. broadband (sometimes called "high speed") internet. Although [President Biden frequently reiterates his commitment](#) to every American being connected to high speed internet, even *basic definitions of high speed internet* vary considerably, much less such key concepts as who is/is not, already connected or which technologies are/are not sufficient for broadband internet? This is important because the Federal government has already [spent around $44 billion to enable universal broadband and is projected to spend over $100 billion](#) more (to say nothing of separate State, industry, local and charitable spending.)

Some of this funding has resulted from closings during the pandemic, when schools, colleges, libraries, clinics, theaters and offices were closed and videoconferencing/streaming replaced nearly everything; however, some of the push for universal broadband goes back decades to the [Telecommunications Act of 1996, which for the first time expanded the Universal Service Fund to include the "Information Superhighway."](#)

While assessments vary considerably, the [GAO reported in May](#) that 133 separate programs managed by 15 Federal agencies provide funding to support broadband connectivity, not including independent State programs. These programs provide funds for everything from a basic home broadband connection to subsidies for tribal/rural libraries. Four agencies, with distinct mandates, support the bulk of these programs: The FCC and the Departments of Commerce/NTIA, Agriculture/RUS and Treasury/CCPF, with lesser roles played by HHS, DOT, HUD and others.

Estimates and definitions of how many Americans currently have broadband also vary considerably, but the Pew Research Center asserts that in 2021 around [77 percent of Americans](#) already used broadband in their homes. According to [this same report, another 15 percent](#) of Americans say they don't have broadband at home, but use a smartphone instead. While smartphone-based internet is not the same thing as a fiber optic cable to one's home, in some applications they are interchangeable. This will increase as urban smartphone users migrate to new, high-speed 5G cellular services at home and drop wired broadband.

The areas least served by broadband are rural — and especially tribal — for the primary reason that it's expensive to run cables or build cellphone towers when homes, work, hospitals and schools are located far apart or mountains separate them. Historically, these areas have had limited wired (or smartphone-based) broadband, although geostationary (GEO) satellite-based broadband internet connections have technically been available in rural areas for decades. Since GEOs require users to have large, outdoor dish-antennas pointed toward the southern horizon and the satellites' high altitudes result in a quarter-second signal delay, GEOs have been used mainly for point-to-point telecommunications, broadcast-type television or ships/aircraft at sea, not rural broadband.

ADVERTISING

A new generation of low Earth orbiting (LEO) satellites designed mainly for broadband has emerged over the past decade. LEOs rely on an enormous number of small satellites constantly passing overhead at lower altitudes. LEO users deploy smaller, flat antennas pointed upwards and experience comparatively modest signal delays. But the larger the number of LEO broadband users on the ground, the larger the number of small satellites needed to accommodate all those transmissions, so many operators plan constellations of many thousands of satellites, potentially creating international conflicts and congestion in the skies.

The [Congressional Research Service identifies four principal U.S. LEO](#) broadband service providers, of which Space X's [Starlink reportedly already has 500,000](#) broadband users [linked to 2,200 small LEOs](#). While the Trump FCC approved a grant of $885 million to Starlink for mostly rural U.S. broadband, the [Commission under the Biden administration reversed that grant](#), explaining that "Starlink's technology has real promise … But the question before us was whether to publicly subsidize its still developing technology for consumer broadband."

As if jurisdiction, goals, required features, necessary funding levels and appropriate technologies were not complex enough, for many in the broadband policy debates, the core issue is *not the universal availability of broadband*, but its *affordability or its availability and affordability for targeted populations* in greatest need. Targeted subsidies and outreach are important tools for these goals, although, paradoxically, [Pew estimates that 7 percent of Americans who have broadband don't use it.](#)

The U.S. broadband effort is massive and complex. Much of this confusing intricacy is unavoidable given the Federal structure, size and complexity of the United States and the fact that, today, almost everything in education, health care, farming, transportation, defense, employment, shopping, entertainment, civic affairs, the arts, regulation, banking and much more may involve broadband.

Adding to this multi-layered complexity of goals, jurisdictions, technologies, terrains and commercial competition are rapidly changing technologies, independent State programs and, of course, politics. The potential for duplication, abuse and waste is sizeable. Setting clear priorities and goals and determining whether America is spending the right amount of the public's money for the right broadband investments and subsidies is as important for those in need of broadband service as it is for taxpayers.

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In 2020, the Congress enacted the Broadband Interagency Coordination Act requiring Commerce/NTIA, Agriculture/RUS and the FCC to [better coordinate](#) their separate broadband funding activities, and in June of 2021 these three agencies entered into an agreement to do so. In 2022, [they entered into a further coordination agreement with Treasury](#) (which provides broadband grants under Coronavirus Relief and State and Local Recovery programs.) And various, larger multiagency groups have been created to further interagency coordination. These are important steps to give some direction to a $100 billion sprawling, multiagency, Federal-

State effort; but results will be measured when agencies cut back on something they would prefer to do in order to avoid duplication or waste.

In the end, the greatest beneficiaries of our $100+ billion universal broadband commitment are not just the eventual recipients of broadband service but the providers of internet-based services, including internet platforms, merchants, banks, streaming services, messaging services and many more. Entirely new markets will be opened for those who use the "Information Superhighway" for their business; their direct contributions to expanding universal affordable broadband remains less clear.

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