Legislative "Best Practices" to Expand and Accelerate Broadband Coverage

by

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I. Introduction and Summary

Internet service providers (ISPs), operating within a light-touch regulatory environment, have spent nearly $2 trillion to date on broadband network infrastructure. As a result, they can and do offer high-speed connectivity to the vast majority of homes. That U.S. broadband service is robust and, in contrast to the experience in other developed countries in Europe and elsewhere, has been able convincingly to meet recent spikes in demand driven by the COVID-19 pandemic. However, there remain areas where prohibitively high construction costs have delayed the commercial availability of broadband. As the ability to connect becomes ever more important, lawmakers rightfully consider steps to accelerate buildout and close remaining digital divides.

The heightened commitment to achieving more nearly ubiquitous broadband service, prompted by current circumstances, raises practical questions as to the specific measures that federal legislation ought to include. In this Perspectives, I suggest a number of "best practices," informed by facts on the ground and provisions in place or under consideration. These best practices not only would maximize the efficient allocation of scarce and limited public resources, but also would preserve the vibrant competitive marketplace in which ISPs have served, and
should continue to serve, as the primary engine of network expansion. I then apply them to several bills currently under consideration.

These "best practices" include: (1) modernizing how Congress appropriates subsidies to support deployment, especially in high-cost rural areas; (2) funding next-generation broadband coverage maps; (3) deferring to the FCC with regard to the definition of "broadband"; (4) using reverse auctions to distribute subsidies from the Rural Digital Opportunity Fund (RDOF), the 5G Fund for Rural America (5G Fund), and similar initiatives; and (5) removing barriers to entry, such as the Eligible Telecommunications Carrier (ETC) designation requirement to participate in the RDOF and other initiatives that rely upon the Universal Service Fund (USF).

First, policymakers should take a fresh look at how funds intended to achieve universal broadband deployment are resourced. The RDOF and the 5G Fund, two FCC initiatives announced prior to the onset of the novel coronavirus, tap the USF for $20.4 billion and $9 billion, respectively. But the USF, dependent as it is upon the steadily declining purchase of telecommunications services, simply cannot support further efforts to promote broadband network construction. Financial support for broadband deployment instead should come from new congressional appropriations that are targeted carefully to achieve deployment objectives specifically in unserved areas.

Congress also should appropriate promptly funds to pay for the modernized coverage maps that are essential to limiting government intervention to areas that are truly unserved. The FCC, through the establishment of the new Digital Opportunity Data Collection process, has laid the groundwork for the next generation of broadband maps. Congress largely embraced that approach through the passage of the Broadband Deployment Accuracy and Technological Availability (DATA) Act earlier this year. It did not, however, provide the money necessary to produce those maps. Any new broadband-related legislation should address that need.

Also, achievement of the goal at hand – universal broadband deployment – requires the disciplined refusal to burden such efforts with policy-driven distractions. Congress therefore should defer to the FCC regarding what minimum speeds are appropriate for an area to be deemed "served." Similarly, it should resist partisan urges to (1) provide financial support for the overbuilding of existing facilities that satisfy the definition of "broadband," and (2) saddle publicly funded networks with "open access," "net neutrality," or similar obligations.

In addition, government subsidies for the construction of network infrastructure should distribute funds using reverse auctions. The Commission has embraced such an approach for the RDOF and proposed the same for the 5G Fund. Reverse auctions leverage transparency and competitive forces to identify the provider willing and able to build facilities at the lowest cost, thereby maximizing the efficient allocation of public resources.

The effectiveness of reverse auctions, in turn, hinges upon the involvement of a wide array of potential providers, especially those ISPs with a proven track record of success. As I argued in a recent Perspectives, the statutory requirement to obtain an ETC designation from a state Public Utility Commission (PUC) discourages the participation of those not otherwise subject to state-level regulatory oversight. Broadband legislation that makes dollars available outside the USF
framework avoids this deterrent. New legislation also can eliminate the ETC requirement for broadband-focused USF programs. But this does not mean that the state Public Utility Commissions may not continue to play a complementary and positive role in cooperating with the FCC in various ways to further broadband deployment.

Finally, Congress can address intensified calls to close digital divides through targeted revisions to the RDOF. Incentives to accelerate build-out and the express removal of the ETC requirement for auction participants, topics currently under consideration, provide two such examples.

Several pieces of legislation introduced recently implicate these "best practices." Some bills align well, others stray problematically from the primary objective: to promote efficiently the expansion of broadband networks to areas currently unserved. As Congress debates the path forward, American consumers would be well served by close adherence to the "best practices" discussed below.

II. Private Investment Should Remain the Primary Driver of Broadband Deployment, but Government Has a Role to Play in High-Cost Areas

Broadband access is a prerequisite for participation in modern American society. The ongoing pandemic has both emphasized and underlined that fact. The challenge for policymakers, then, is to determine how to make available to everyone adequate Internet access in an efficient and cost-effective manner.

Private investment, unleashed by light-touch regulation, has been, and should continue to be, the primary catalyst for the deployment of broadband infrastructure. According to USTelecom, broadband providers have spent over $1.7 trillion over the past 25 years.1 The FCC reported in April of this year that network infrastructure expenditures totaled $80 billion just in 2018.2 The result is near-universal coverage: as of 2018, 94.4 percent of Americans had access to fixed broadband service, a 0.9 percent increase from the previous year.3 Current regulatory and marketplace conditions thus facilitate the timely expansion of broadband facilities to the vast majority of locations.

Critically, especially in light of current circumstances, ISPs operating in the existing competitive landscape have the appropriate incentives to ensure that those networks are built to withstand unexpected spikes in demand.4 As the Information Technology & Innovation Foundation's Doug Brake recently observed, "[s]ince the onset of COVID-19, home broadband traffic is up by roughly 20 to 40 percent. Thankfully, U.S. broadband networks accommodated this higher

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3 Id. at 18.
4 See NCTA – The Internet & Television Association, "COVID-19: How Cable's Internet Networks Are Performing," available at https://www.ncta.com/COVIDdashboard ("Networks are engineered to provide superior performance throughout the day, so measuring demand during times of peak usage is useful in making sure that consumers experience robust connections when traffic is heavy as well as when traffic is light.").
The ability of U.S. networks to handle increased traffic stands in stark contrast to the experience in other developed countries, including those in Europe, where precautionary measures (such as limits on the resolution of streaming video) were necessary.

Nevertheless, construction costs are significantly greater in certain rural and other low-population-density areas. Higher expenditures extend the timeline over which expenses are recouped, which can render private investment difficult to justify. Government has a role to play, albeit one that is circumscribed, in accelerating broadband network expansion into such areas. The key, however, is to avoid overly broad intervention, which could threaten the continued success of the more efficient, marketplace-driven expansion of access.

III. Funds for Universal Broadband Infrastructure Deployment Should Be Congressionally Appropriated

Achieving more ubiquitous broadband coverage today is a top policy priority that warrants targeted congressional appropriations. One reason for that is the fact that the goal of the USF, as originally envisioned, was not to pay for the construction of facilities used to provide broadband information services. Rather, it was established by the Telecommunications Act of 1996 to make explicit the subsidization of voice telephone service in high-cost areas. As broadband's importance grew in the 2000s, however, the availability of the USF vehicle proved too attractive for the Commission to ignore. Accordingly, both the RDOF ($20.4 billion) and the 5G Fund ($9 billion) rely upon USF dollars.

But the use of telecommunications services continues to decline, and as a consequence the USF "tax" that subscribers pay continues to rise. As Ed Gillespie, AT&T's Senior Executive Vice President of External & Legislative Affairs, recently noted, "the mechanism for funding these universal service programs inches ever closer to implosion, as Americans are paying a 26.6 percent fee on their telephone bills for these programs, that's about double what Americans paid

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6 See, e.g., Hadas Gold, "Netflix and YouTube are slowing down in Europe to keep the internet from breaking," CNN Business (March 20, 2020), available at [https://www.cnn.com/2020/03/19/tech/netflix-internet-overload-eu/index.html](https://www.cnn.com/2020/03/19/tech/netflix-internet-overload-eu/index.html) ("Netflix and YouTube will reduce streaming quality in Europe for at least the next month to prevent the internet collapsing under the strain of unprecedented usage due to the coronavirus pandemic…. The changes follow appeals from EU officials for streaming services and individual users to ditch high definition video to prevent the internet from breaking.").

just 10 years ago.” Efforts to close any remaining digital divides therefore should involve carefully targeted congressional appropriations that do not burden further the USF.

The Moving Forward Act, a highly ambitious $1.5 trillion infrastructure bill passed by the House of Representatives on July 1, 2020, would make a total of $80 billion available for broadband infrastructure: $60 billion of that would go to the FCC, the remaining $20 billion to the states. As noted below, I have a number of concerns with this piece of legislation. To its credit, however, it does make explicit that that $80 billion “is separate from any universal service program established pursuant to section 254.”

Similarly, the Developing Economic Prosperity and Linking Our Youth (DEPLOY) Broadband Act, just introduced by Senator Cory Gardner, would appropriate $6.5 billion, directly to the FCC, in order to “immediately fund broadband deployment in unserved and rural areas.”

IV. Government Subsidies Should Be Targeted Carefully to Achieve Deployment Objectives

The prudent use of public funds to make broadband access available in areas characterized by prohibitively high construction costs requires accurate and current information as to where, precisely, that assistance is needed. In other words, maps that provide data more granular than simply whether a single household within a census block receives, or could receive, service. The FCC and Congress already have taken preliminary steps to improve the quality of broadband coverage maps. Moving forward, however, legislation must make available the money needed to make those plans a reality.

Relatedly, legislation should focus solely on those areas where service satisfying the FCC’s definition of "broadband" – that is, 25 Mbps downstream and 3 Mbps upstream (25/3) – is not available. Congress should defer to the Commission on this issue, not create its own definitions that would lead, perhaps by design, to the use of public funds to overbuild existing, privately financed facilities.

Accurate Broadband Coverage Maps. Efficient government funding efforts require data as to where broadband is and is not available. Specifically, accurate and up-to-date coverage maps.

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10 See Moving Forward Act at § 723(b), (g).
11 Moving Forward Act at § 723(a)(1).
13 See FCC, "Glossary of Terms Used in FCC Form 477 (for filings through June 30, 2019),” available at https://us-fcc.app.box.com/v/Form477GlossaryThruJune19 ("For purposes of this form, fixed broadband connections are available in a census block if the provider does, or could, within a service interval that is typical for that type of connection – that is, without an extraordinary commitment of resources – provision two-way data transmission to and from the Internet with advertised speeds exceeding 200 kbps in at least one direction to end-user premises in the census block.")
Unfortunately, there is widespread agreement that currently available maps, based upon FCC Form 477 data, do not provide the desired levels of detail and accuracy. FCC Chairman Ajit Pai, in 2017, therefore initiated a process to improve and modernize the way in which maps are created. In August 2019, the agency adopted a Report and Order and Second Further Notice of Proposed Rulemaking establishing the Digital Opportunity Data Collection (DODC). At this month's Open Meeting, the Commission followed up with a Second Report and Order and Third Further Notice of Proposed Rulemaking that, among other things, implements key provisions of the Broadband Deployment Accuracy and Technological Availability (DATA) Act.

The DODC sets forth a three-pronged approach: "Internet service providers, who have the most intimate knowledge of where their networks reach, provide granular and detailed coverage data; that coverage data is compared against a fabric of locations that are, or could be, serviced by a broadband connection; and consumers, plus state, local, and Tribal government entities, provide feedback on the accuracy of the broadband coverage data directly to the Commission." In the words of the agency, this will produce "a nationwide broadband map that will have unprecedented detail.

That effort, however, requires funding. As Chairman Pai made clear in his separate statement accompanying the Commission's recent action, "Congress must give us the resources we need to implement the Broadband DATA Act. Or to put it another way, we need money before maps, dollars before data."

Several pieces of legislation recently introduced would make such funding available. One example is the Rural Broadband Acceleration Act, which would provide implementing dollars


20 Id.


22 A bill to direct the Federal Communications Commission to take certain actions to accelerate the Rural Digital Opportunity Fund Phase I auction, and for other purposes, S. 4201, available at
– $25 million in 2020, $9 million in 2021 through 2027 – and, notably, require the Commission to create updated maps by October 1, 2020 (that is, prior to the commencement of the RDOF Phase I auction).23

Targeting "Unserved" Areas. With respect to the definition of "broadband" and what it means for an area to be considered "unserved," the FCC revisited the issue of minimum downstream/upstream speeds only a few months ago:

We find that the current speed benchmark of 25/3 Mbps remains an appropriate measure by which to assess whether a fixed service is providing advanced telecommunications capability. We conclude that fixed services with speeds of 25/3 Mbps continue to meet the statutory definition of advanced telecommunications capability; that is, such services "enable[] users to originate and receive high-quality voice, data, graphics, and video telecommunications."24

While minimum broadband speeds tend to increase over time, the throughput required for a service to be deemed "broadband" should be a function of real-world requirements – not aspirational policy mandates.25 In other words, a location ought not to be deemed "unserved," or otherwise found to be entitled to public money, unless – consistent with the FCC's findings – 25/3 Mbps service, or some other standard subsequently adopted by the Commission, is not available.

The Moving Forward Act, however, disregards the Commission's definition of "broadband" in two ways. One, it would impose its own, synchronous definition: 25/25 Mbps.26 Two, it would allow funds distributed by the FCC to be used to finance network construction in what it characterizes as "areas with low-tier service." This unprecedented concept is defined as "an area

23 See Statement of Chairman Ajit Pai, Establishing the Digital Opportunity Data Collection, WC Docket No. 19-195; Modernizing the FCC Form 477 Data Program, WC Docket No. 11-10, FCC 20-94 (released July 17, 2020), available at https://docs.fcc.gov/public/attachments/FCC-20-94A5.pdf ("The Commission's existing broadband coverage maps have allowed us to identify the least-served parts of the country, such as the more than 5.3 million rural homes and businesses that could receive a broadband connection as a result of the upcoming Rural Digital Opportunity Phase I auction."). But see Statement of Commissioner Jessica Rosenworcel. Approving in Part, Dissenting in Part ("But there is one thing we surely get wrong. We are going to gather all of this precise data about where broadband is and is not, but we are not going to use any of it this fall when we distribute $16 billion in funding for improved broadband service across the country.").

24 2020 Broadband Deployment Report at 6 (citing 47 U.S.C. § 1302(d)(1)).


26 Moving Forward Act at § 723(h)(19) (defining "unserved area" as "an area where at least 90 percent of the population has no access to broadband service or does not have access to broadband service offered" at 25/25 Mbps and "with latency that is sufficiently low to allow real-time, interactive applications").
where at least 90 percent of the population has access to broadband service offered" with speeds greater than 25/25 Mbps but less than 100/100 Mbps and "with latency that is sufficiently low to allow multiple, simultaneous, real-time, interactive applications." As a practical matter, this would lead to government-subsidized overbuilding not just of existing, commercial broadband facilities that provide downstream speeds that equal or exceed the FCC's definition, but also those that provide upstream speeds far in excess of the 3 Mbps minimum established by the agency – that is, up to 100 Mbps.

V. Funds Should Be Distributed Using Reverse Auctions

Reverse auctions efficiently distribute government financial support. Under such a mechanism, the provider bidding the lowest amount "wins" the subsidy to build facilities in a designated area. Reverse auctions thus appropriately allocate scarce resources to the lowest-cost proposal. The Rural Digital Opportunity Fund will utilize a reverse auction approach. The Notice of Proposed Rulemaking and Order adopted in April for the 5G Fund relies upon a reverse auction, as well. Likewise, the Moving Forward Act requires that the $60 billion it appropriates to the FCC be distributed through "national systems of competitive bidding." 29

VI. Barriers to Widespread Participation by Proven Providers Should Be Eliminated

As discussed above, reverse auctions leverage competitive forces to drive costs down: the bidder offering to build for the lowest amount receives the subsidy, thereby minimizing per-project expenditures and, potentially, stretching limited dollars to cover additional areas. Reverse auctions' efficient use of finite resources is optimized, in turn, by the involvement of as many bidders as possible. By contrast, conditions that discourage capable broadband providers from participating, such as the ETC requirement and "open access" and similar obligations, should be avoided.

The ETC Requirement. As I explained in a recent Perspectives, the statutory mandate that ISPs receiving USF dollars obtain ETC designations from state PUCs, and thus subject themselves to intrastate regulatory oversight, falls squarely into this category. By disincentivizing broadband ISPs with proven track records from participating in programs such as RDOF, the ETC

27 Moving Forward Act at § 723(h)(4). In addition, money distributed to the states could be used to overbuild "areas with mid-tier service" – that is, with service available delivering speeds over 100/100 Mbps but less than a gigabit in both directions – if there are no remaining areas without at least "low-tier" service. See id. at § 723(b)(2)(D)(ii)(III).
29 Moving Forward Act at § 723(b)(1).
31 See, e.g., NCTA – The Internet & Television Association, "A Common Sense Fix to Speed Broadband Deployment to Unserved Communities" (June 15, 2020), available at https://www.ncta.com/whats-new/a-common-sense-fix-speed-broadband-deployment-unserved-communities ("It continues to deter many of the nation's largest and most capable providers of broadband from participating.").
requirement unnecessarily introduces inefficiencies into the process. As a result, limited resources may be wasted, and less network construction may occur.

And for no independent good reason. High-speed Internet access service is an interstate information service over which the FCC conducts oversight. (The same is true of the VoIP telephony services ISPs often provide over broadband infrastructure.) That agency is more than able to adopt procedures relating to financial, technical, and operational fitness as well as to address waste, fraud, and abuse. The PUCs may play a complementary and positive role in assisting the Commission in various ways, but should not be determining who is eligible to participate in the broadband funding programs that it runs.

To summarize: (1) whatever unique role PUCs may perform with respect to the regulation of intrastate telecommunications services does not extend to interstate information services, and (2) the FCC appropriately can oversee the distribution of funds to support interstate services at the federal level, with whatever assistance from the states as the Commission may seek. As a consequence, the disincentivizing harms of the ETC requirement far outweigh any nonduplicative benefits that may result from its retention.

Fortunately, a number of proposed bills would eliminate the ETC requirement.

The Rural Broadband Acceleration Act, for one, would require the FCC to "modify the framework for the [RDOF] Phase I auction adopted in the covered report and order" by, among other things, eliminating the ETC designation requirement.

Another piece of legislation, which I discussed in the Perspectives referenced above, was introduced on June 11, 2020, by Representative G. K. Butterfield. The Expanding Opportunities for Broadband Deployment Act would amend Section 254(e) so that “[a] provider of broadband service, and any affiliate thereof, that has not been designated as an eligible telecommunications carrier … shall be eligible to receive specific Federal universal service support for the provision

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32 See, e.g., Press Release, "Statement of NCTA – The Internet and Television Association Regarding Introduction of the Rural Broadband Acceleration Act" (July 2, 2020), available at https://www.ncta.com/media/media-room/intro-rural-bband-acceleration-act (The Rural Broadband Acceleration Act "eliminates the outdated state ETC requirement which uniquely discourages qualified broadband providers from participating in federal universal service programs to deploy broadband networks. With cable broadband providers currently offering one gigabit service to 80% of American homes, our industry has the advanced technology and experience to ensure more Americans can benefit from the digital economy."); Charter Communications Policy Blog, "Accelerating Access: More Broadband For More Americans" (July 14, 2020), available at https://policy.charter.com/blog/accelerating-access-broadband-americans/ (noting that "we intend to apply to participate in the FCC’s Rural Digital Opportunity Fund auction" but emphasizing that "[t]he impact of our efforts to build in unserved areas will depend on many factors that can increase costs and delay broadband infrastructure build out, including the applicability of eligible telecommunications carrier requirements, which can result in reduced participation in subsidy programs").

33 Rural Broadband Acceleration Act at § 1(b)(7) ("Notwithstanding any other provision of law, the Commission shall not require any short-form or long-form applicant to be designated as an [ETC] in order to receive Phase I support or Phase II support."). Relevant to the discussion above, it also would require long-form applicants to demonstrate project readiness and financial stability. See id. at §§ (b)(4)(A), (B).
of broadband service, if such provider or affiliate meets the applicable Commission legal, financial, and technical requirements for receiving such support.”34

Even the Moving Forward Act expressly "does not require funding recipients to be designated as eligible telecommunications carriers under section 214(e).”35

Open-Access Requirements. Another potential gating factor included in the Moving Forward Act is a preference for bidders that would operate open-access networks – that is, those willing to make network elements available to third-party providers of broadband Internet access.36 To be sure, the issue of open access to broadband facilities has been the subject of considerable debate over the past several decades. What is relevant for present purposes, however, is the fact that such policy preferences distract from the goal of universal broadband deployment and likely suppress broader auction participation. Legislation intended to close remaining digital divides instead should remain focused on achieving that goal in the most efficient and unadorned manner possible.

VII. Targeted Modifications of the RDOF Rules Could Accelerate Deployment and Improve Efficiency

The rules and procedures adopted by the FCC governing the operation of the RDOF Phase I reverse auction later this year surely will advance the goal of expanding broadband deployment. Nevertheless, Congress could take steps to make broadband service available more quickly and eliminate statutory sources of inefficiency. The RDOF initiative would benefit from the establishment of financial incentives to encourage accelerated build-out and the express removal of the ETC requirement, two topics of proposed legislation.

The Accelerating Broadband Connectivity Act of 2020, introduced on June 22, 2020, would provide financial incentives, proportional to the amount of RDOF support received, to winning bidders that begin construction within 180 days, initiate service within one year, and complete buildout within three years.37

Should the aforementioned Rural Broadband Acceleration Act become law, it would force the FCC to make certain changes to the way it carries out the RDOF Phase I auction. First, as discussed in the previous section, the agency would have to remove the ETC requirement. Second, it would be required to distribute support on an expedited basis (that is, "not later than the earlier of October 15, 2020, or 14 days before the start of the Phase I auction") in areas where

35 Moving Forward Act at § 723(a)(2).
36 See Moving Forward Act at § 723(c)(5)(H).
there is only one qualified applicant willing to provide gigabit service on an accelerated timeline.\textsuperscript{38}

\textbf{VIII. Conclusion}

The ongoing pandemic appropriately attaches heightened urgency to the goal of ubiquitous broadband coverage. Much of life today occurs over high-speed Internet connections, and all Americans should be provided the opportunity to participate. But as Congress considers actions to close remaining digital divides, it must not lose sight of the critical role that privately financed networks play in the expansion of access. Any legislation therefore should limit government appropriations to those high-cost areas where competitive forces alone will not deliver connectivity in a timely manner.

In addition, funded, accurate coverage maps and carefully targeted eligibility requirements can ensure that scarce public resources go only to those areas that truly are unserved.

Other "best practices," predicated upon the guiding principles of efficiency and cost-effectiveness, include the encouragement of broad participation by proven, capable providers; the use of distribution mechanisms that make the most of every dollar (that is, reverse auctions); and the provision of incentives that accelerate buildout.

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\textsuperscript{38} Such applicants must commit to begin construction within 180 days and make gigabit service available in at least one awarded census block within a year. \textit{See Rural Broadband Acceleration Act} at § 1(b)(3), (4).