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**Biden Broadband Plan:
"Future Proofing" Is Likely "Fool's Proofing"**

by

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This paper, the fifth in an ongoing series highlighting flaws in the Biden Broadband Plan, points out how (1) President Biden's failure to specify precise minimum technical parameters for funding eligibility, and reliance instead upon the vague and meaningless concept of "future proof" broadband, renders impossible meaningful consideration of his proposal, and (2) the widely held assumption that "future proof" is code for "fiber" threatens the proven, pro-competitive principle of technological neutrality. The earlier papers in this series are included in the Further Readings section found at the end of this Perspectives.

I. Introduction and Summary

As we have discussed in previous *Perspectives*, President Biden initially proposed spending a massive amount of tax dollars – \$100 billion – "so that we finally reach 100 percent high-speed broadband coverage," although that figure subsequently was reduced to [\\$65 billion](#). And he said he wants to prioritize building "future proof" broadband infrastructure. Notably, the concept of "future proofing" broadband networks received considerable attention at a June 22 hearing before the Senate Subcommittee on Communications, Media, and Broadband. To date, however,

neither the Biden Administration nor others advocating "future proofing" have been willing to specify exactly what it means.

Perhaps this is not surprising, as it would be foolhardy to try to predict the speed, latency, and other technical specifications that consumers will demand in the future. This is particularly so in light of rapidly evolving technological developments and marketplace changes, including new services and applications. Given the impossibility of the Biden Broadband Plan's stated intention to "future proof" broadband networks, the very concept of "future proofing" should be abandoned, at least to the extent that it is intended to be used in a way that dictates broadband policy choices. In other words, it should not be used to reject the competition-maximizing principle of technological neutrality or to justify discriminatory treatment of the various technologies used to deliver high-speed Internet access service to consumers.

Where the Biden Broadband Plan ultimately draws the line in terms of minimum speeds – downstream and, in particular, upstream – for funding eligibility could determine, without a sound justification, winners and losers among distribution technologies. It also could doom achievement of President Biden's stated objective: universal broadband access. Troublingly, indications are that the "future proof" lingo, in practice, is nothing more than code for "fiber." And while fiber certainly is one viable transmission medium, it is by no means the only technology able to deliver the connectivity that consumers demand today and, most likely, well into the future.

In the real-world consumer-driven broadband marketplace, privately funded providers of high-speed Internet access increasingly utilize a variety of transmission media to deliver service: fiber, hybrid fiber-coax (HFC) cable networks, digital subscriber line (DSL) technology, mobile and fixed 5G wireless, satellite, fixed licensed and unlicensed wireless, and more. Different technologies offer unique combinations of advantages and disadvantages: some, like fiber and HFC, may be better suited to areas with a high population density, while others, such as 5G, satellite, and fixed wireless, may make more economic sense in rural settings. At the same time, there is significant overlap between their "sweet spots." As a consequence, broadband competition is both intramodal – say, among multiple mobile broadband providers – and intermodal – for example, among a cable operator, a fiber-based provider, and a wireless ISP.

It is precisely that multimodal facilities-based competition, between and across technologies more than capable of satisfying consumer demand, that has propelled the incredible growth of the American broadband marketplace. The FCC reported that, as of year-end 2019, [96 percent](#) of consumers had access to some form of fixed broadband service at speeds of at least 25 megabits per second (Mbps) downstream and 3 Mbps upstream, while [74 percent](#) had at least two options, up from 68 percent the year prior. By various accounts, those benchmark figures are higher now.

Should the Biden Broadband Plan make available massive subsidies solely to one modality – fiber – under the meaningless guise of "future proofing," it will discourage continued private investment in otherwise viable alternatives and undermine the competition given birth by a longstanding adherence to the principle of technological neutrality. Such a drastic and harmful change of course in policy should not take place – and certainly not without robust and fully informed debate.

II. There Is and Can Be No Meaningful Definition of "Future Proof"

The existing legislative and regulatory landscape recognizes the vital role that broadband competition, including intermodal competition, performs. As we detailed in "[Biden Broadband Plan: Claims That Broadband Is 'Too Expensive' Are Unfounded](#)," steadily growing competition expands access, encourages innovation, boosts quality, and drives down prices. That is why Congress, as part of the 1996 Telecommunications Act, [declared](#) that "[i]t is the policy of the United States to promote the continued development of the Internet [and] to preserve the vibrant and competitive free market that presently exists . . . , unfettered by Federal or State regulation."

It also is why the FCC embraces the principle of technological neutrality when determining annually what constitutes "advanced telecommunications capability" and evaluating whether it is being deployed to all Americans in a reasonable and timely manner. The relevant consideration is whether consumers are able to subscribe to a service that delivers the speeds they demand. Currently, the Commission [considers](#) 25 Mbps downstream and 3 Mbps upstream to be the appropriate metric. Because the specific technological method employed to transmit that amount of bits is irrelevant, multiple platforms are able to compete on the merits in a marketplace free of regulatory distortion.

The Biden Broadband Plan's reliance upon the undefined term "future proof" threatens to upend this proven approach. To narrowly equate "future proof" to "fiber" would be to ignore the fact that numerous technologies are able to satisfy present and future consumer demand. For proof thereof, simply follow the money:

- Verizon in March [announced](#) a \$10 billion upgrade plan that will enable it to offer 5G fixed wireless broadband to 50 million households by year-end 2025.
- AT&T, having spent \$23.4 billion on C-band licenses, [intends](#) to increase its network investment and offer 5G fixed wireless broadband to most Americans by 2023.
- On April 7, 2021, T-Mobile [made](#) its 5G Home Internet broadband product available to over 30 million households.
- Cable operators [spent](#) over \$170 billion on broadband infrastructure between 2011 and 2020 – and \$17 billion in 2020 alone.
- SpaceX is [investing](#) more than \$10 billion to build out its Starlink satellite-based broadband service.
- Amazon is [spending](#) a similar amount on its Project Kuiper satellite-based broadband offering.

As far as financial markets are concerned, all of these transmission media, absent regulatory interference, are viable investments. According to the Biden Broadband Plan, however, it would appear that only fiber is able to deliver so-called "future proof" performance and, therefore, worthy of government subsidization.

Bills introduced this session by Democratic lawmakers, such as the [Leading Infrastructure for Tomorrow's America \(LIFT America\) Act](#) and the [Accessible, Affordable Internet for All Act](#), provide a strong basis for the concern that the design is to tailor technical requirements to limit

funding eligibility to fiber-based projects. [Tom Wheeler](#), Chairman of the FCC during the Obama Administration, acknowledged in congressional testimony regarding the former that "[t]o prioritize symmetrical 1 gigabit capacity, as the bill does, is to prioritize a 'fiber first' policy." And Paul de Sa, a member of President Biden's FCC transition team and former FCC staffer who authored an oft-cited [2017 FCC Office of Strategic Planning and Policy Analysis report](#) claiming that the price tag to deploy fiber to locations at that time unserved would be \$80 billion, has been even more unabashed in his views, [asking](#) "[w]hy would one not pick the fiber every time? Why do you have to be 'technology neutral' when there are clear differences between the performance and the incremental upgrade costs of the technologies?"

More recently, the sponsors of the just-introduced, and highly problematic, [Broadband Reform and Investment to Drive Growth in the Economy \(BRIDGE\) Act](#), Senators Michael F. Bennet (D-CO), Rob Portman (R-OH), and Angus King (I-ME), similarly employ the term "future proof" in the [Press Release](#) announcing their legislation, which would "rais[e] the minimum speeds for new broadband networks to at least 100/100 Mbps, with flexibility for areas where this is technologically or financially impracticable." (The Free State Foundation intends to provide an in-depth critique of the BRIDGE Act in a future *Perspectives*.)

Nevertheless, to our knowledge, no member of the Biden Administration to date has been willing to go on the record with a specific definition of "future proof." However, *Politico* in April [reported](#) that:

A Biden administration official said they're thinking beyond a few years. "We should focus on building out infrastructure that will still be useful decades from now. That's what 'future proof' means," the official said, speaking anonymously to talk freely. Asked whether that means fiber-optic cable specifically, the person said that "fiber certainly qualifies as future proof." The official declined to say whether any other technologies fit the bill.

This refusal to provide specificity on the record is both inexcusable and too clever by half. In a [May 2021 blog post](#), Mark Radabaugh, Chairman of the Board of the Wireless Internet Service Provider Association (WISPA), argued that unreasonably high and symmetric speed requirements are "yet another arbitrary factor which removes solutions in the marketplace, clearing the way for prioritized support to broadband networks owned, operated by, or affiliated with local governments, non-profits, and co-operatives who have little experience in running them."

It well could be the case that the Biden Broadband Plan's focus on fiber is driven by the desire to promote what we will refer to, for the sake of simplicity, as "municipal broadband." In contrast to its reliance on the vague term "future proof," the [White House Fact Sheet](#) is far more explicit about its intention to favor such networks, emphasizing – in the very next sentence, no less – that the Biden Broadband Plan "prioritizes support for broadband networks owned, operated by, or affiliated with local governments, non-profits, and co-operatives – providers with less pressure to turn profits and with a commitment to serving entire communities."

However, there are a number of problems with this preference for municipal broadband. First of all, as the authors of this piece, Free State Foundation President Randolph May and Seth Cooper, Director of Policy Studies and a Senior Fellow, articulated in "[Biden Broadband Plan Favoring Government-Owned Networks Lacks a Constitutional Foundation](#)," "[a]ltering federal policy to prioritize local government entry or expansion in broadband Internet markets would be contrary to the idea that government's primary role is to promote private property ownership and private market enterprise." In addition, "[t]he Biden Administration's implied prescription of federal preemption of those state laws [that restrict local government entry into the broadband business] clashes with fundamental principles of constitutional federalism."

Second, municipalities simply are not very good at operating broadband networks. In a May 20, 2021, [Issue Brief](#), USTelecom explained why:

Simply put, local governments are focused on governing, and possibly building and maintaining static infrastructure such as roads, sewers and bridges – not running technically complex dynamic broadband networks. And forgetting this has often left their residents with a hefty bill. Government broadband deployments at all scales frequently have struggled to remain solvent, even with financial subsidies, let alone keep up with the pace of technology to do frequent network upgrades and ensure cybersecurity protections.

Third, and relatedly, when municipal broadband projects inevitably prove to be unviable, cities have the ability and incentive to prop up those initiatives in ways that harm consumers. Theodore Bolema, a member of the Free State Foundation's Board of Academic Advisors and Executive Director of the Institute for the Study of Economic Growth at Wichita State University, explained in "[Hiding the Subsidy: The Financial Transparency Problem With Municipal Broadband Systems](#)" how a municipality, unsuccessful in its efforts to compete with privately funded broadband providers, "has a strong incentive to raise electricity rates rather than broadband prices, because broadband customers can switch to a private provider while electricity customers have nowhere else to go."

Whatever the reason for the Biden Administration's refusal to provide a precise definition of what it means by "future proofing," the inescapable truth is that the very idea that networks built today will withstand forever the test of time is foolhardy. Consumer online behavior continues to evolve rapidly as compelling new applications constantly emerge. How that will impact subscriber demand with respect to speed, latency, and other technical capabilities is impossible to predict with any reasonable degree of certainty.

III. Fiber-Exclusive Subsidies Are Not Justified and Would Harm Competition

It may be that the stated preference for "future proofing" broadband infrastructure is simply yet another, in this instance indirect and insidious, effort to prioritize municipal broadband experiments over privately funded projects. If so, President Biden owes the American public far greater transparency with respect to his intentions. Because the inescapable truth is this: adopting minimum technical specifications – 100/100 Mbps, even symmetrical gigabit speeds – in a manner that is untethered to actual consumer demand, but dictated instead by a desire to

advantage municipal broadband, will eviscerate the concept of technological neutrality – and, by direct extension, undermine broadband competition. Such a dramatic, self-defeating reprioritization of policy objectives demands an informed debate regarding the futility of "future proofing" as a legitimate, achievable policy focus.

The FCC annually revisits its definition of "broadband" in light of evidence of changes in usage patterns and other factors. Reliance upon such a "[science and truth](#)" approach – which identifies current consumer demand, anticipates how usage might evolve in the future, and even considers how additional capacity might foster new, higher-bandwidth applications – is essential to the development of sound policy.

Consumer bandwidth consumption continues to grow, but the asymmetric nature of online activity remains relatively unchanged, even as remote learning, employment, and medicine gain popularity: downstream traffic currently outpaces upstream traffic by as much as [16 times](#), due in large part to the explosive growth of streaming video. Therefore, after considering substantial public input, the Commission only a few months ago [concluded that](#) 25 Mbps downstream and 3 Mbps upstream continue to be the appropriate metric for "advanced telecommunications capability." As such, calls for a symmetric-service requirement do not appear to be based upon actual or predicted future use, as much as pulled out of thin air. They can, however, be explained as a way to leverage the unique technical characteristics of fiber to deny funding to privately funded, non-fiber providers and justify the use of taxpayer dollars to subsidize the overbuilding of existing infrastructure.

Should the Biden Broadband Plan effectively redefine non-fiber modalities as no longer "broadband," existing providers with the demonstrated ability to operate efficiently and effectively would be denied funding. Only "[gold-plated](#)" networks built to deliver more capacity than consumers demand, and at prices higher than they will pay, would be eligible for the subsidies necessary to expand service to areas at present unserved.

In addition, broadband providers that rely exclusively on private investment would be disincentivized economically to attempt to compete with subsidized providers in once-unserved areas. It therefore is unlikely effective competition ever would develop, and consumers would be denied the efficiencies that competitive pressures generate. Consumers also would find themselves at the mercy of unchecked service providers the Biden Broadband Plan assumes would have "less pressure to turn profits."

Moreover, in many of those locations, "broadband," by any reasonable measure, is available already. Subsidizing network infrastructure construction wherever "future proof" broadband is not offered would lead to the wasteful use of taxpayer dollars to overbuild existing deployments. As a consequence, areas in fact unserved may remain so, even with \$65 billion, or even \$100 billion, in taxpayers dollars on the line.

IV. Conclusion

For the reasons set forth above, we contend that any attempt to "future proof" networks for all time is a fool's errand – and therefore not a useful objective for purposes of guiding broadband

policy choices. In any event, at the very least, it is imperative to understand exactly what the Biden Broadband Plan means, in terms of downstream and, especially, upstream speeds, by "future proof" broadband. Those who care about telecommunications policy at present are left to wonder and speculate. Given the stakes, and money, involved in the current policy debate, that simply is unacceptable. The FCC is the expert administrative agency [tasked by Congress](#) to determine annually whether "advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion." On the basis of public input, the Commission only a few months ago [responded](#) in the affirmative. When it did, it determined that 25/3 Mbps fixed service at present satisfies the definition of "broadband."

Multiple facilities-based platforms using different technologies are able to deliver speeds that meet and, in many cases, far exceed that threshold, particularly with respect to downstream traffic, which continues to outpace upstream traffic by a substantial margin. Should the Biden Broadband Plan attempt to redefine the minimum speeds for "broadband" to be both unrealistically high and symmetrical, perhaps in a veiled attempt to prioritize municipal broadband projects, all non-fiber network technologies suddenly and without cause effectively would no longer be deemed "broadband." For investors, competitors, and, most importantly of all, consumers, the negative consequences, intended or otherwise, would be dramatic.

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Further Readings

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