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Future Guidance Can Fix NTIA's Flawed "Fiber-First" Approach

by

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I. Introduction and Summary

As a keynote speaker at #FSFConf14, the Free State Foundation's Fourteenth Annual Policy Conference, the National Telecommunications and Information Administration's (NTIA) Russell Hanser gave an important speech. We are very grateful for his participation. During his remarks, a video of which is available [here](#), Mr. Hanser, NTIA's Director of Communications Policy Initiatives, discussed a number of topics, including the impending release ("in just over one week") of Notices of Funding Opportunity (NOFO) for the \$65 billion in broadband funding programs established by the [Infrastructure Investment and Jobs Act](#) (IIJA).

As Mr. Hanser promised, three NOFOs were released on Friday, May 13, 2022. Of particular interest are the "rules of the road" for the \$42.45 billion [Broadband Equity, Access, and Deployment \(BEAD\) Program](#). (For the reaction of my colleague Seth Cooper, Free State Foundation Director of Policy Studies and a Senior Fellow, please click [here](#).) Specifically, the misguided decision by NTIA to prioritize end-to-end fiber networks – to quote the specific language in the NOFO, "projects designed to provide fiber connectivity directly to the end user" – over those utilizing other viable distribution technologies: cable broadband, 5G, fixed wireless, satellite, and so on.

In some cases, the deployment of end-to-end fiber networks, which is a relatively capital-intensive and time-consuming proposition, does make economic sense. Indeed, [reports](#) of telecommunications providers betting [substantial sums](#) on [fiber builds](#) appear with increasing frequency in the trade press. But in other cases – particularly involving low-population-density areas and those saddled with extreme geographic challenges – the cost/value proposition tilts away from fiber and toward other more cost-effective technological distribution platforms.

In the competitive broadband marketplace, financial considerations drive providers to the most efficient technological solutions. Where government subsidies are involved, however, there is a substantial risk that they will be wasted on "gold-plated" solutions that do not give sufficient weight to the price tag and/or likely return on investment. And, importantly, when taxpayer dollars are not allocated to the most cost-effective options, then consumer welfare suffers because there are simply less dollars available to be used.

Fortunately, Mr. Hanser made three points during his speech that serve as a basis for optimism here. One, that "we are working hard to harness competitive market forces." Two, that "we look forward to hearing from you." And three, that "we expect that the NOFO will say a lot of things ..., but it will only be the tip of the iceberg on some issues."

Accordingly, the purpose of this *Perspectives from FSF Scholars* is to urge NTIA to make clear, via statutorily required "technical assistance" (that is, guidance and clarification), that its stated preference for end-to-end fiber networks is by no means absolute, but rather an indication that fiber deployment will be considered among many factors – including overall cost, time to build, expected rate of return, and the relative efficiency of alternative solutions.

II. The Blind Prioritization of Fiber Would Lead to Consumer Harm and Waste

Early on, President Biden [announced](#) an unqualified intention to favor "future proof" networks, and surrogates, such as former FCC Chairman Tom Wheeler, [clarified](#) that that meant symmetrical gigabit service – that is, speeds that, at present, only fiber can deliver. But as FSF President Randolph May and I explained in [comments submitted to NTIA](#), "the IJA includes provisions that constrain with specificity how this money is to be used."

Rather than embrace a "fiber-first" strategy, the bipartisan IJA incorporates far more realistic and reasonable thresholds: locations with access to Internet service at speeds less than 25 megabits per second (Mbps) downstream and 3 Mbps upstream (25/3 Mbps) are defined as "unserved," while locations where available speeds are greater than 25/3 Mbps but less than 100/20 Mbps are deemed "underserved." These thresholds strongly suggest a congressional intention to leverage robust competition between providers utilizing the full complement of viable distribution technologies – fiber, cable broadband, 5G, fixed wireless, satellite, and so on – to ensure that federal dollars are put to their most efficient use.

Unfortunately, the BEAD Program NOFO ignores this critical aspect of the statute, focusing instead exclusively on other provisions to justify its fiber bias:

NTIA has determined that "Priority Broadband Projects" are those that use end-to-end fiber-optic architecture. Only end-to-end fiber will "*ensure that the network built by the project can easily scale speeds over time to ... meet the evolving connectivity needs of households and businesses*" and "*support the deployment of 5G, successor wireless technologies, and other advanced services.*" (Emphasis added.)

Going even further, it excludes several distribution platforms by name, without regard to their technical ability to deliver sufficient speeds and latency: "locations served exclusively by satellite, services using entirely unlicensed spectrum, or a technology not specified by the Commission for purposes of the Broadband DATA Maps, do not meet the criteria for Reliable Broadband Service and so will be considered 'unserved.'"

To be sure, there are many instances in the competitive marketplace where the underlying economics justify the decision to deploy fiber. As Mr. Cooper and Andrew Maglaughlin, FSF Legal Fellow, wrote in a [January 2022 Perspectives from FSF Scholars](#) surveying the status of the broadband Internet services market:

[A]nalysts' reports indicate that access to fiber broadband expanded significantly in 2020. According to RVA LLC Market Research & Consulting, more than 54 million U.S. homes were passed with fiber in 2020, an increase of 10% over the prior year. New Street Research forecasted that fiber-to-the-home (FTTH) deployments by the eight largest broadband providers would ramp up in 2021. And according to research published in early January of this year, fiber broadband now passes 60.5 million homes in the U.S., a figure comprising 43% of all U.S. homes. RVA found that fiber broadband availability to U.S. homes increased by 12% in 2021. (Citations omitted.)

But at the same time, the costs associated with deploying end-to-end fiber, a highly capital-intensive and time-consuming endeavor, in all cases cannot be justified. For example, where population density is extremely low and/or geographic features render construction prohibitively expensive, fiber may be the suboptimal (that is, wrong) choice. Other distribution technologies – in particular, wireless- and/or satellite-based alternatives – may prove to be the more efficient and expedient solution. As I pointed out in an April 2021 post to the *FSF Blog* critiquing President Biden's desire to prioritize so-called "future proof" networks, such an approach:

[W]ould increase inappropriately the costs of connecting unserved areas, incentivize providers able to meet that definition to replace existing facilities with 'gold-plated' infrastructure rather than focus on expanding the reach of their networks, and render many viable distribution technologies ineligible to receive government subsidies simply due to their inability to deliver upstream speeds far exceeding the needs of consumers both today and in the foreseeable future. The resulting wasteful overinvestment and suppression of competition would drive prices up, not down.

III. Future "Technical Assistance" Can Place This Fiber Bias in the Proper Context

Fortunately, however, it does not appear that all hope is lost. In a nod to the setting for his remarks, Mr. Hanser emphasized that a primary goal of the BEAD Program is to try to replicate competitive market forces in those areas where they currently do not exist:

[B]ecause this is the Free State Foundation's annual conference, I also want to emphasize that ... we are working hard to harness competitive market forces. We believe in those forces.... [W]e can harness market forces here by requiring the would-be providers to compete for the funding in the first instance.... When selecting who is going to serve a given location or set of locations, states and territories are going to have to consider the kinds of things that are important to consumers and the public interest. The kinds of things that market competition produces when it exists and when it is functioning well. So even if providers won't have on-the-ground competitors, we want them to compete on these dimensions to the extent we can during the selection process and we believe that's an important piece of our strategy in closing the digital divide.

In the many areas where the broadband marketplace is defined by robust competition, rival providers factor into their deployment decisions the respective costs and benefits of the distribution technologies available. Sometimes those calculations justify end-to-end fiber builds, other times they point toward an alternative approach. Consistent with Mr. Hanser's above comments, the BEAD Program can be revised to require similar assessments.

Moreover, in response to a question from an audience member regarding the possible need for post-NOFO modifications to the BEAD Program, Mr. Hanser emphasized that "we look forward to hearing from you." He also noted the following:

We are going to be issuing a huge amount of FAQs, summaries, webinars, one-on-one discussions with different kinds of stakeholder groups ... we expect that the NOFO will say a lot of things ..., but it will only be the tip of the iceberg on some issues, because there will be so much detail people will want, and we are ready to provide that

As NTIA provides this additional guidance, defined by the IJA as "technical assistance," it can and should make clear that the Bead Program NOFO's stated preference for end-to-end fiber networks is not absolute, but rather only one factor to be considered, along with overall cost, time to build, potential return on investment, and, critically, the relative economic merits of rival proposals that would utilize distribution technologies that may be better suited to a given unserved area.

IV. Conclusion

As Mr. May and I explained in a [June 2021 Perspectives](#), "[s]hould the [Biden Administration] 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." Taken at face value, the Bead Program NOFO appears to be heading down this dead-end road, thereby unnecessarily constraining consumer welfare, wasting taxpayer dollars, and potentially failing to achieve the policy goal of universal connectivity. Fortunately, however, there is still time for NTIA to heed calls, including this one, to issue market-reflective "technical assistance" clarifying that its stated preference for end-to-end fiber networks is only one factor to be considered – not the blind disregard of economic considerations, and the availability of more efficient solutions, that at first blush it appears to be.

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Further Readings

Seth L. Cooper, "[MEDIA ADVISORY: NTIA Releases Notice of Funding Opportunity for the BEAD Program](#)," *FSF Blog* (May 13, 2022).

Seth L. Cooper, "[Fixed Wireless Access Is Boosting Rural Broadband and Consumer Choice](#)," *Perspectives from FSF Scholars*, Vol. 17, No. 21 (April 25, 2022).

Andrew Long, "[Overlapping Broadband Appropriations Demand Agency Coordination: New FCC Maps Can Track Grants, Avert Waste](#)," *Perspectives from FSF Scholars*, Vol. 17, No. 12 (March 2, 2022).

[Comments of the Free State Foundation](#), *In the Matter of Infrastructure Investment and Jobs Act Implementation*, NTIA Docket No. 220105-0002 (February 3, 2022).

Seth L. Cooper and Andrew K. Magloughlin, "[The Broadband Internet Services Market in January 2022: 5G, Cable, Fixed Wireless, Wi-Fi 6, and Fiber Are Benefitting Consumers](#)," *Perspectives from FSF Scholars*, Vol. 17, No. 5 (January 21, 2022).

Andrew Long, "[Treasury Department Resurrects the Scary Biden Broadband Plan](#)," *Perspectives from FSF Scholars*, Vol. 16, No. 56 (October 20, 2021).

Randolph J. May and Andrew Long, "[Biden Broadband Plan: 'Future Proofing' Is Likely 'Fool's Proofing'](#)," *Perspectives from FSF Scholars*, Vol. 16, No. 32 (June 24, 2021).

Andrew Long, "['Future Proofing' Subsidized Broadband Would Inflate Consumer Prices](#)," *FSF Blog* (April 13, 2021).