

The Federal Communications Commission's Section 706 Problem

George S. Ford, PhD*

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Section 706 of the Telecommunications Act of 1996 has played a recurring supplemental role in the Federal Communication Commission's ("FCC") efforts to reclassify Broadband Internet Access Services as a Title II common carrier telecommunications service under the auspices of Net Neutrality.¹ Section 706 instructs the Commission to encourage the "reasonable and timely" deployment of broadband services to all Americans. Whether Section 706 is an independent grant of authority (and, if so, what are the bounds of that authority) or is merely hortatory has been subject to great debate over the years.²

In December 2023, the FCC issued a *Notice of Proposed Rulemaking* that seeks, once again, to apply legacy Title II common carrier regulation to broadband services.³ And, once again, the Commission plans to rely on Section 706 "as part of our authority for open Internet rules," and requested comment on the legitimacy of doing so.⁴ Taking the FCC's view that Section 706 is an independent grant of authority at face value, in this PERSPECTIVE I describe a problem with the Commission's proposed reliance on Section 706 to support the regulation of broadband services under Title II.

As detailed below, Section 706 is singular in its intent: that is, Congress is not concerned about promoting infrastructure in general; rather, Congress wants the Commission to remove barriers to entry to promote broadband deployment to unserved areas.⁵

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For this reason, no other purpose justifies the use of Section 706. In its 2023 *NPRM*, the Commission makes no claim that Title II regulation removes barriers to infrastructure investment in unserved areas, and it would be nearly impossible to craft a plausible argument that it would. In fact, the Commission's justification for Title II regulation is to reduce the broadband providers' degrees of freedom in maximizing profit, so the regulations at best are neutral and are more likely a barrier to network deployment in unserved areas. Indeed, a counterfactual analysis of the Commission's broadband data shows that the application of Title II regulation during 2015 through 2017 did not improve the rate of broadband deployment to unserved areas, and in fact may have slowed progress. Title II regulation, therefore, did not serve the sole aim of Section 706, and there is no reason to believe a second effort would do any better.

Equally as important, it is time to have an honest conversation about whether the goals of Section 706—a law enacted in 1996—are finally satisfied

given current market conditions. At present, federal and state governments are spending billions of subsidy dollars to finally close the availability gap, forcing questions about the need for regulatory intervention to do the same. Also, modern satellite-based services will soon make quality broadband services readily available to nearly every nook and cranny of the nation. While these networks are relatively new, both the number of and capabilities of these networks is rapidly advancing. If “all Americans” may obtain quality broadband services, then there is no economic basis for the Commission to invoke Section 706.

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Section 706 of the Telecommunications Act

Section 706 of the Telecommunications Act is not an unconditional grant of authority to regulate broadband services.⁶ Let’s start by looking at Section 706(a):

The Commission and each State commission with regulatory jurisdiction over telecommunications services *shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans* (including, in particular, elementary and secondary schools and classrooms) by utilizing, in a manner consistent with the public interest, convenience, and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other

regulating methods that *remove barriers to infrastructure investment.*⁷

While Section 706(a) permits the Commission to employ a variety of regulatory measures to “encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans,” the purpose of such interventions is singular: the regulations must “remove barriers to infrastructure investment.” That is, any regulatory action must increase the deployment of broadband services to unserved areas by making such deployment financially more attractive. Nothing in Section 706(a) suggests these regulatory actions are justified by openness, national security, public safety, or any other motivation for the rules and regulations proposed in the FCC’s 2023 NPRM.⁸ Section 706 is exclusively a deployment provision.

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The Commission does not claim that Title II regulation removes barriers to broadband deployment in unserved areas. In fact, since the Internet is as “open” today as is envisioned by the Commission’s 2023 NPRM, no plausible argument that Title II encouraged deployment is available to the Commission. Unserved areas are unprofitable to serve, and the intent of Title II regulation is not to increase the profitability of doing so. The intent of Title II regulation is to reduce the degrees of freedom with which

providers seek profits (*e.g.*, termination fees or paid prioritization), and thus must have a non-positive effect on profits.

Section 706(b) reiterates the point. According to Section 706(b), each year the Commission shall launch an inquiry to determine “the availability of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms).”⁹ If the Commission determines that “advanced telecommunications capability is [not] being deployed to all Americans in a reasonable and timely fashion,” then the Commission,

shall take immediate action to accelerate deployment of such capability by *removing barriers to infrastructure investment* and by promoting competition in the telecommunications market.¹⁰

Again, the use of any regulatory measure must remove barriers to infrastructure investment to unserved areas (which, generally, promotes competition, though may not secure it).

Which brings us to Section 706(c), a provision of the statute that is often overlooked. Section 706(c) directs the Commission to “compile a list of geographical areas that are *not served* by any provider of advanced telecommunications capability.”¹¹ Geographical areas that are “not served” appear to be the target, so Section 706 requires that any regulation justified by the section must remove barriers to infrastructure deployment in unserved areas.

Based on the plain language of Section 706, any possible regulatory action justified by Section 706 must therefore target directly the removal of entry barriers in unserved areas so that the deployment of advanced telecommunications services is economically feasible. Doing so requires regulations that increase the spread between the expected revenues and the expected costs of serving unserved areas.¹² Yet, the no blocking and no paid prioritization rules have a non-positive effect on revenues and, if anything,

increases the costs of providing services and deploying a network.

FCC Commissioners make no claim that the Title II regulation will remove barriers to infrastructure deployment in unserved areas. Chairwoman Rosenworcel, for instance, states that Title II authority is motivated by public safety, national security, cybersecurity and privacy.¹³ And Commissioner Anna Gomez said that “the proposed net neutrality rules will ensure access to the internet remains open so that all viewpoints.”¹⁴ These concerns, legitimate or otherwise, do not justify action under Section 706.

Moreover, the 2023 NPRM fails to provide a list of ongoing problems requiring a remedy, and none of the commissioners that said they would vote “yes” for Title II regulation before the proceeding even began (including all three Democratic commissioners) is able to point to a problem requiring intervention. Title II regulation is entirely prophylactic, and prophylactic regulation that does nothing now cannot remove barriers to deployment that exist now. There is no plausible argument that Title II regulation satisfies the intent of Section 706.¹⁵

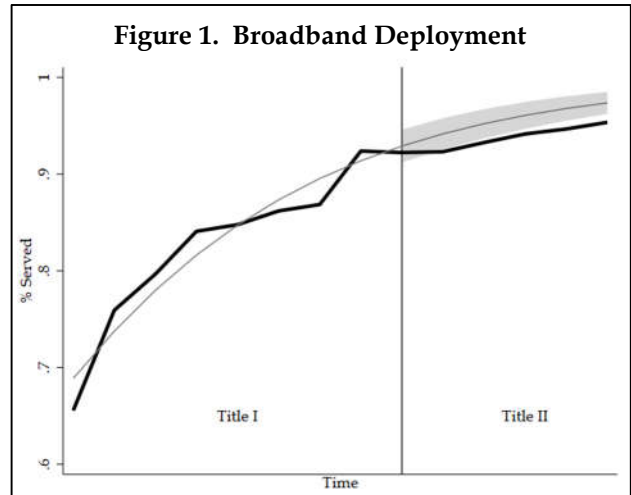
Did Title II Accelerate Deployment?

Considering the requirements of Section 706, a sensible empirical question is whether Title II regulation “accelerated” the deployment of broadband services to unserved areas? An answer is available by looking at broadband deployment using the FCC’s Form 477 data for the periods June-2011 through December-2017.¹⁶ The mean availability rates for 25/3 Mbps service—the Commission’s definition of “broadband”—is calculated for the nation as a household-weighted average of the census block data.¹⁷ There are two periods of interest: (1) the period before formal Title II regulation applied to broadband services (June-2011 through December-2014); and (2) the period of Title II regulation (June-2015 through December-2017).

Satisfying the requirements of Section 706 requires that the rate of infrastructure deployment increases in response to the regulatory intervention(s), which must remove barriers to entry. To evaluate whether Title II regulation satisfied the intent of Section 706, it is essential to compare deployment absent Title II to deployment under Title II regulation. As with all attempts to measure the effect of a “treatment,” a counterfactual is required. Here, a counterfactual for deployment during the Title II period (as if Title I applied) is constructed by extrapolating the deployment trend from the pre-Title II period into the Title II period using a Gompertz diffusion curve,

$$B_t = ae^{-\beta e^{-\gamma t}} \quad (1)$$

where B_t is broadband deployment at time t , a is the asymptote (or 1, for “all Americans”), and β and γ are estimated parameters. The Gompertz curve is an S-shaped (sigmoid) diffusion curve commonly used to measure the diffusion of technology (among other things) over time, where the growth in non-linear function is allowed to first increase and then decelerate as it approaches a plateau (or asymptote).¹⁸ This deceleration in growth is necessary to ensure that the predictions of the model do not exceed the maximum value of B_t (which is 1.0). The counterfactual measures a “but for” expansion of broadband deployment to unserved areas had Title I regulation continued, and this counterfactual trend can be compared to the actual trend in deployment to see if the rate of deployment to unserved areas increased during Title II, as Section 706 requires.



Equation (1) is estimated by non-linear regression with data prior to June-2014 with estimated β and γ coefficients of 0.457 and 0.203. The pseudo- R^2 is 0.942, so the model’s fit is exceptional. Figure 1 illustrates the actual trend in deployment and the counterfactual, including a 90% confidence interval. Plainly, the availability of broadband services in the Title II period is below the counterfactual, and for most periods is outside the confidence interval. Title II regulation did not “accelerate” the rate of deployment to unserved areas, as any action taken under Section 706 requires. If anything, Title II slowed deployment to unserved areas, though any non-positive acceleration in deployment is sufficient to foreclose Section 706 as a source of authority.

From Figure 1, we see that the availability rate is rising during the Title II period, but this upward trend does not imply that Title II increased deployment—deployment was rising before Title II applied to broadband services and this trend would be expected to continue. Only by reference to the counterfactual can a determination be made regarding how deployment changed between holding steady with Title I regulation or switching to Title II regulation. If deployment would have increased by 5% under Title I regulation but only 2% with Title II regulation, then the effect of the regulation was to reduce the rate of deployment, despite the

fact deployment increased by 2% (it should have increased by 5%).

Even advocates of Title II regulation argue that the regulations had no effect on “industry-wide movements” in deployment expenditures, and the Commission acknowledges that Title II regulations generally “pose a threat to network investment.”¹⁹ No one claims, to my knowledge, that Title II regulation will remove (or did remove) barriers to infrastructure deployment in unserved areas, as is required by Section 706.

Accordingly, Title II regulation failed to satisfy the objective of Section 706. The Commission’s inclusion of Section 214 in the 2023 NPRM (a “mother-may-I-invest” provision that is an explicit impediment to deployment) is likely to make matters worse in a new round of Title II regulation.²⁰ The 2023 NPRM’s citation to Section 706 as a source of authority to impose utility-style regulation is therefore dubious.

Broadband Subsidies

Broadband providers presumably serve any area where the expected financial returns are sufficient, so unserved areas are unprofitable to serve. Deployment to unprofitable areas requires a subsidy to reduce the effective cost of deployment, or else regulations that somehow remove barriers to entry (*i.e.*, increasing the profitability of deploying to unserved areas).

Regulation rarely makes deployment more profitable, so subsidies have become the focus of policymakers. The Commission and other federal and state agencies have subsidized broadband for years, though with greater intensity in recent times. At present, the National Telecommunications and Information Administration (“NTIA”) is disbursing the \$42.5 billion in subsidies assigned to the task by the *Infrastructure Investment and Job Act of 2021*. Smartly spent, these funds should close the broadband availability gap. If not, then there are hundreds of billions of dollars available in other programs to complete the deployment of

broadband networks to unserved areas, if wisely allocated.

Subsidy dollars for high-cost programs (among others) are limited to, for the most part, unserved (or underserved) areas, serving the task envisioned by Section 706. In providing billions in subsidy dollars to close the availability gap, Congress and state legislatures acknowledge that there is no other policy, at least among those available and tried, that can successfully and materially increase deployment in unserved areas. Why spend billions on infrastructure deployment if regulation is up to the task? As the *Infrastructure Investment and Jobs Act* allocated sufficient subsidy dollars to close the gap, Section 706 now has no practical relevance; regulation cannot do more than sufficient subsidy funding to complete the task. Again, using Section 706 as a claimed source of authority for the 2023 NPRM’s proposed regulatory solution to the broadband availability gap is untenable.

Satellite Broadband

Older satellite technologies for broadband services offered slow services at high prices. Modern, low-earth orbit satellite constellations are entirely different, offering high-quality broadband services at reasonable prices (about \$120/month) considering the high costs of serving the unserved areas where these services are most desirable. In 2023, Ookla’s speed test data, which are typically below actual speeds since they rely on Wi-Fi networks, show that SpaceX’s Starlink service can deliver a 100/10 Mbps broadband service.²¹ While the service is in its infancy, it is today widely and successfully used to provide broadband services in areas where service is unavailable. While Starlink is presently operational, there are comparable networks in various stages of deployment including Oneweb and Amazon’s Project Kuiper, the latter of which plans to offer service in 2024.²²

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Given the quality and relatively low-cost of these new satellite services, ignoring their availability in an assessment of broadband deployment is unjustified.²³ All Americans will soon have access to quality broadband services, rendering the regulatory options available under Section 706 extraneous. There is nothing left to accomplish.

While perhaps the prices for satellite services are above the market prices for more traditional services, and the speeds may not fully comport with the arbitrary and strategic thresholds set by the Commission, the services provided are of high quality and capable of meeting the needs of nearly all households. Surely, these satellite services are a more reasonable option than the extremely large subsidies required to serve some areas, subsidies that sometimes exceed any sensible measure of the benefits of broadband availability. Section 706 demands *reasonable* deployment, not merely deployment. At a minimum, the availability of such services weakens the case for any regulatory action under Section 706, including especially onerous regulatory interventions without any plausible case for removing barriers to deployment.

Conclusion

Section 706, which the 2023 NPRM cites as a proposed source of supplemental authority for

the Title II regulation of broadband services, directs the Commission (and state commissions) to use regulatory measures that remove barriers to broadband deployment in unserved areas so that all Americans have access to advanced telecommunications services. The Commission's application of Title II regulation between 2015 and 2017, however, did not remove barriers to deployment and, if anything, slowed the increase in broadband network deployment. Using Section 706 as a supplementary source of authority for Title II regulation is unjustified given that the regulations failed to remove barriers to infrastructure deployment in unserved areas of the nation, and the Commission makes no claim—and no plausible claim is available—that they would.

The Commission's application of Title II regulation between 2015 and 2017 ... did not remove barriers to deployment and, if anything, slowed the increase in broadband network deployment. Title II regulation has proven an ineffective tool at removing barriers to deployment in unserved areas, and thus the NPRM's Title II regulations cannot legitimately rely on Section 706 as a source of authority.

Recognizing the limitations of regulation to improve the economics of deployment, Congress and several states have allocated billions in subsidies to expand broadband deployment in unserved areas. As such, there is nothing for regulation hooked to Section 706 to accomplish. Moreover, by reasonable standards, all Americans will soon have access to quality broadband services through modern satellite networks. The number and capabilities of such networks continue to grow. In any case, the

billions available in subsidy dollars to support the deployment of terrestrial networks to unserved areas fills the gap. Given billions in subsidy dollars and new technologies now being deployed, Congress's goal in enacting Section 706 is satisfied, as the aim of the statutory provision is being met by non-regulatory means. There is

nothing left for interventions based on Section 706 to do; using Section 706 as a supplemental source of authority for Title II regulation is unjustified.

NOTES:

* **Dr. George S. Ford is the Chief Economist of the Phoenix Center for Advanced Legal and Economic Public Policy Studies. The views expressed in this PERSPECTIVE do not represent the views of the Phoenix Center or its staff. Dr. Ford may be contacted at ford@phoenix-center.org.**

¹ 47 U.S.C. § 1302 For a discussion of several problems with the Commission’s Title II approach, see G.S. Ford and L.J. Spiwak, *Tariffing Internet Termination: Pricing Implications of Classifying Broadband as a Title II Telecommunications Service*, 67 FEDERAL COMMUNICATIONS LAW JOURNAL 1 (2015).

² See, e.g., G.S. Ford and L.J. Spiwak, *Justifying the Ends: Section 706 and the Regulation of Broadband*, 16 JOURNAL OF INTERNET LAW 1 (January 2013) (available at: <https://www.phoenix-center.org/papers/JournalofInternetLawSection706.pdf>); *What Are the Bounds of the FCC’s Authority over Broadband Service Providers? – A Review of the Recent Case Law*, 18 JOURNAL OF INTERNET LAW 1 (2015) (available at: <https://www.phoenix-center.org/papers/JournalofInternetLawBoundsofFCCAuthority.pdf>); L.J. Spiwak, *US Telecom and its Aftermath*, 71 FEDERAL COMMUNICATIONS LAW JOURNAL 39 (2019) (<http://www.fclj.org/wp-content/uploads/2018/12/71.1-%E2%80%93Lawrence-J.-Spiwak.pdf>).

³ *Safeguarding and Securing the Open Internet*, FCC 23-83, NOTICE OF PROPOSED RULEMAKING, __ FCC Rcd. __ (rel. October 20, 2023) at ¶ 195 (hereinafter “2023 NPRM”) (available at: <https://docs.fcc.gov/public/attachments/FCC-23-83A1.pdf>).

⁴ *Id.* at ¶ 195.

⁵ It has already been established that the reimposition of Title II suppressed investment below expectations. See G.S. Ford, *Investment in the Virtuous Circle: Theory and Empirics*, PHOENIX CENTER POLICY PAPER NO. 62 (December 2023) (available at: <https://phoenix-center.org/pcpp/PCPP62Final.pdf>); G.S. Ford, *Regulation and Investment in the U.S. Telecommunications Industry*, APPLIED ECONOMICS (23 July 2018); G.S. Ford, *Net Neutrality and Investment in the US: A Review of Evidence from the 2018 Restoring Internet Freedom Order*, 17 REVIEW OF NETWORK ECONOMICS 175-205 (2018). See also W. Briglauer, C. Cambini, K. Gugler, and V. Stocker, *Net Neutrality and High-Speed Broadband Networks: Evidence from OECD Countries*, 55 EUROPEAN JOURNAL OF LAW AND ECONOMICS 533-571 (2023).

⁶ *Cf.*, T.R. Beard, G.S. Ford, L.J. Spiwak, and Michael Stern, *The Law and Economics of Municipal Broadband*, 73 FEDERAL COMMUNICATIONS LAW JOURNAL 1 (2020).

⁷ Section 706(a) (emphasis supplied).

⁸ FACT SHEET: *FCC Chairwoman Rosenworcel Proposes to Restore Net Neutrality Rules*, Federal Communications Commission, Office of the Chairwoman (September 26, 2023) (available at: <https://docs.fcc.gov/public/attachments/DOC-397235A1.pdf>).

⁹ Section 706(b).

¹⁰ *Id.* (emphasis supplied).

¹¹ Section 706(c) (emphasis supplied).

¹² Hearing on Oversight of the Federal Communications Commission, House Energy & Commerce Committee (November 30, 2023) (“When the FCC imposed Title II regulations the last time around, we had dozens and dozens of small wireless ISPs come to us and say, among other things, their cost of capital goes up; the expenses they have to have on lawyers and consultants go up; they pull back on internet builds as a result; they don’t introduce new Internet services as a result (Commissioner Carr).”)

¹³ E. Fruits, *All Aboard! The Title II Express is Leaving the Station*, TRUTH ON THE MARKET (October 23, 2023) (available at: <https://truthonthemarket.com/2023/10/23/all-aboard-the-title-ii-express-is-leaving-the-station/>).

¹⁴ *Id.*

¹⁵ G.S. Ford, *Investment in the Virtuous Circle: Theory and Empirics*, *supra* n. 5.

¹⁶ Data available at: <https://www.fcc.gov/general/broadband-deployment-data-fcc-form-477>; *Restoring Internet Freedom*, DECLARATORY RULING, REPORT AND ORDER, AND ORDER, 33 FCC Rcd. 311 (2018), *aff’d by, in part, vac’d by, in part, rem’d by Mozilla Corp. v. FCC*, 940 F.3d 1 (D.C. Cir. 2019).

¹⁷ Using higher speed services risks conflating the availability question with network upgrades in already served areas.

NOTES CONTINUED:

¹⁸ See, e.g., E.M. Rogers, *DIFFUSION OF INNOVATIONS* (2003). Gompertz Curve counterfactuals have been used recently to study the Covid-19 outbreak. See, e.g., M. Valencia, et al., *Assessment of Early Mitigation Measures Against COVID-19 in Puerto-Rico: March 14 - May 15 2020*, 15 PLOS ONE 1-9 (2020); A. Harvey and P. Kattuman, *Time Series Models Based on Growth Curves with Applications to Forecasting Coronavirus*, HARVARD DATA SCIENCE REVIEW, SPECIAL ISSUE 1: COVID-19: UNPRECEDENTED CHALLENGES AND CHANCES (2020).

¹⁹ Comments of Free Press, WC Docket No. 23-320 (December 14, 2023) at p. 94; *FACT SHEET: FCC Chairwoman Rosenworcel Proposes to Restore Net Neutrality Rules*, Federal Communications Commission, Office of the Chairwoman (September 26, 2023) (available at: <https://docs.fcc.gov/public/attachments/DOC-397235A1.pdf>). Section 214 of the Communications Act states: “No carrier shall undertake the construction of a new line or of an extension of any line, or shall acquire or operate any line, or extension thereof, or shall engage in transmission over or by means of such additional or extended line, unless and until there shall first have been obtained from the Commission a certificate that the present or future public convenience and necessity require or will require the construction, or operation, or construction and operation, of such additional or extended line.”

²⁰ G.S. Ford, *Investment in the Virtuous Circle: Theory and Empirics*, *supra* n. 5.

²¹ A. Blum, *New Speedtest Data Shows Starlink Users Love Their Provider*, Ookla (May 8, 2023) (available at: <https://www.ookla.com/articles/starlink-hughesnet-viasat-performance-q1-2023>).

²² See, e.g., <https://oneweb.net>; <https://www.aboutamazon.com/news/innovation-at-amazon/what-is-amazon-project-kuiper>.

²³ See Testimony of Phoenix Center Chief Economist Dr. George S. Ford before the House of Representatives Committee on Energy and Commerce - Subcommittee on Oversight and Investigations, Hearing on “Closing the Digital Divide: Overseeing Federal Funds for Broadband Deployment” (May 10, 2023) (available at: <https://phoenix-center.org/Ford-Testimony-ClosingDigitalDivide-20230510.pdf>).