

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Establishing the Digital Opportunity Data Collection)	WC Docket No. 19-195
)	
Modernizing the FCC Form 477 Data Program)	WC Docket No. 11-10
)	

COMMENTS OF FREE PRESS

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EXECUTIVE SUMMARY

The Commission's recent adoption of the Digital Opportunity Data Collection ("DODC") is the latest improvement to its broadband data collection program that began nearly two decades ago. These most recent changes should help ensure more appropriate targeting of Universal Service Fund ("USF") High Cost subsidies, particularly for mobile networks.

But while so much of the recent discussion of Commission data is centered on producing accurate rural maps to better direct Connect America Fund ("CAF") and Mobility Fund spending, the reality is that Form 477 serves many more purposes than just identifying where to spend USF monies. Though it is often forgotten or willfully ignored, one of the main purposes of the Commission's broadband data collection program is to generate information that will enable meaningful analysis of competition in a market where users often have very few choices.

The history of the Commission's Form 477 policy decisions, and of Section 706 (the original legislative impetus for the Commission's adoption of Form 477), makes it very clear that USF-targeting is a relatively new purpose for this data. To be sure, efficient distribution of scarce USF monies is an important component of a broader policy framework that seeks to ensure broadband is "available" to all, and the Commission's recent changes will reduce the potential for mistargeted spending. However, though the data amassed in the DODC will measure "deployment," the Commission itself has recognized that broadband "availability" – which the agency is required by law to monitor and promote – is a broader concept.

A decade ago, Congress ordered the Commission to formulate a National Broadband Plan.¹ This Plan, delivered in 2010, was a detailed, high-quality impartial analysis of the U.S.

¹ See generally Federal Communications Commission, Connecting America: The National Broadband Plan (2010) (the "National Broadband Plan" or "Plan").

broadband market. It made numerous recommendations for the Commission to collect, disseminate and analyze granular and detailed data on broadband deployment, adoption, price, speed, quality, affordability, and competition. The Commission took some initial steps to implement them, but unfortunately left some of the more important components unfinished.

The DODC is an important evolution of the Commission's broadband data collection program. But there's much more work to implement the recommendations of the National Broadband Plan, in order for the Commission and the public to have the data needed to ensure our national broadband goals are met. In these comments, we suggest steps the Commission must take to finish the job it started in 2010. We emphasize how Form 477 deployment and subscription data serves multiple policy purposes, and highlight how maintaining and expanding this data collection effort is necessary for the Commission to fulfill all of its statutory duties. In particular, we emphasize the need for the Commission to fully utilize this data to conduct meaningful broadband market competition analysis. We note that the Commission's 2013 directive to the Wireline Competition Bureau, to implement the Plan's recommendation to allow third parties to review disaggregated Form 477 subscribership data, is unfinished. We also discuss how the Commission should treat satellite, fixed wireless, and CLEC deployment data in order to produce an accurate picture of broadband availability and competition. Finally, we discuss how the process for ISPs to submit DODC data is very similar to how they currently assemble and submit Form 477 data. Because of this similarity and the very high value of a Census Block-level deployment database to the Commission's public policy analysis, we strongly recommend that the agency maintain its current system of Form 477 deployment data dissemination.

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I. The Commission is Making Important Changes to Form 477 Deployment Data that Will Increase Accuracy when Awarding Universal Service High Cost Support, But Must Make Further Changes to the Data Collection and Analysis Processes.

A. Form 477's Purpose Goes Well Beyond Accurate Targeting of Subsidies.

Free Press has a lengthy history of representing our members in many Commission proceedings, including many regarding the collection and dissemination of accurate and granular broadband deployment and adoption data. Our advocacy in this area spans nearly fourteen years.² We have made extensive use of Form 477's underlying broadband deployment data. Continued public access to high-quality data on broadband deployment, availability, quality, and adoption is critical to our organization's mission: advocating for everyone's rights to connect and communicate, and for a more diverse and competitive media ecosystem.

As an agency that too often seems to exist to serve the needs of the corporations it regulates, it is understandable that so many of the Commission's broadband data reforms emphasize the need for better information in order to ensure that the Universal Service Administrative Company is mailing subsidy checks to the right carriers. But the Commission actually exists to promote the public interest; and Form 477 exists to aid in that mission, in a number of ways that go well beyond USF disbursements.

The Commission first proposed what became Form 477 in 1999,³ more than a decade before broadband networks were explicitly supported by the High Cost Fund. The original purpose of this data reporting requirement was to enable the Commission to carry out its statutory duties – both to promote competition in local telecommunications markets, and under

² For a brief synopsis of some of our advocacy and analysis in this area, see Free Press, Notice of Written Ex Parte Presentation, WC Docket No. 11-10 (filed July 11, 2019).

³ See Local Competition and Broadband Reporting, CC Docket No. 99-301, Notice of Proposed Rulemaking, 14 FCC Rcd 18100 (1999).

Section 706 of the 1996 Act.⁴ But since the Commission began collecting this information, it has modified the reporting requirements numerous times in order to serve these original purposes (as well as the agency's overall public interest mission) better.

The two most important revisions to Form 477 came in the 2008 Order⁵ and the 2013 Order.⁶ The former jettisoned the much-maligned ZIP code subscribership reporting requirement in favor of a far more granular Census Tract-based subscribership reporting system, one that for the first time included monitoring of subscriptions by speed tier and technology. The 2013 reforms saw the Commission taking over the NTIA's Census Block-level deployment reporting efforts, which were the product of the American Recovery and Reinvestment Act.⁷ The 2013 Order is notable for several reasons. It was the first time the Commission required separate reporting for deployment and subscribership, having previously used subscribership as a proxy for deployment. It also marked a sea change in how the Commission made granular data publicly

⁴ See Local Competition and Broadband Reporting, CC Docket No. 99-301, Report and Order, 15 FCC Rcd 7717, ¶¶ 1-3 (2000).

⁵ See Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol, WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, 23 FCC Rcd 9691 (2008) ("2008 Order"); see also Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership, WC Docket No. 07-38, Order on Reconsideration, 23 FCC Rcd 9800 (2008).

⁶ See Modernizing the FCC Form 477 Data Program, WC Docket No. 11-10, Report and Order, 28 FCC Rcd 9887 (2013) ("2013 Order").

⁷ See American Recovery and Reinvestment Act of 2009, § 6001(k)(2), Pub. L. No. 111-5, 123 Stat. 115 (2009) ("Recovery Act"). The Recovery Act directed the Commission to develop a National Broadband Plan, and directed the NTIA to develop and maintain a comprehensive nationwide and publicly available map of broadband service capability and availability. See *id.* § 6001(l).

available. Despite the Commission's historical over-deference to claims of confidentiality, the agency carried on the NTIA's practice of releasing the full, underlying Block-level data set.

The 2013 Order is also notable for what the Commission did not do: It did not sunset the subscribership reporting requirements, even as it began requiring separate reporting of deployment data to populate a National Broadband Map. In that order, the Commission explained why collecting granular subscribership data remains critical to its statutory duties:

Subscription information enables the Commission to fulfill its statutory and regulatory duties. For the past thirteen years, the collection of subscription data via Form 477 has served as the Commission's principal tool for monitoring telephone and broadband subscriptions and competition. Form 477 subscription data also enable the Commission to evaluate barriers to adoption, administer and reform the universal service program, monitor the PSTN-to-IP conversion by providing insight into how many customers rely on each type of network technology in each area, and better assess which services are purchased independently or in combination with other services. These data also support the Commission's efforts to ensure public safety by providing a measure of what networks and providers customers rely on in each area.⁸

While the sentiment above may seem obvious, it is critical to recall and highlight it in the instant proceeding, where so much of the focus lands on the matter of directing USF High Cost subsidies. When the Commission undertook the continuation of congressionally-mandated broadband deployment reporting and publication, it also continued to collect subscription data at a very granular level. And it did so expressly because of the value of this data for numerous statutory purposes, most notably monitoring broadband market competition (or lack thereof).

⁸ 2013 Order ¶ 56 (emphasis added).

B. The Commission Must Finish Implementing the National Broadband Plan’s Recommendations on Data Collection and Analysis, by Collecting Pricing and Quality of Service Data, Conducting Meaningful and Granular Marketplace Competition Analysis, and Allowing Researchers to Access Disaggregated Form 477 Subscribership Data.

The continued collection and publication of adoption data, and other data not limited to broadband deployment alone, should enable better competition analysis by the Commission. Conducting such analysis is not merely an implied directive of the law. Congress expressly directed the Commission to formulate and enact a National Broadband Plan, and that Plan made numerous clear and unambiguous recommendations to the Commission concerning the collection and dissemination of data on broadband adoption, quality, and pricing, in order to better promote broadband marketplace competition that benefits internet users and the nation as a whole. The Commission has adopted policies to implement some portions of the Plan, but failed to carry out some of the most important recommendations on broadband data collection and publication.

This failure to finish the job is not solely due to inaction by the current Commission: the agency and the Wireline Competition Bureau seem to have dropped the matter after the prior change of leadership in the fall of 2013. Whatever the reason, there is simply no excuse to continue this path of inaction and willful ignorance regarding the importance of analyzing broadband market competition.⁹ Fortunately, the current Commission leadership has a good

⁹ The Commission has previously acknowledged its failure to utilize Form 477 data to analyze competition. See Sharon Gillett, Chief, Wireline Competition Bureau & Paul de Sa, Chief, Office of Strategic Planning and Policy Analysis, “Tracking broadband data...,” Blogband (Feb. 15, 2010) (“However we recognize that the Form 477 data could still be improved. To take one example, the current report does not provide sufficient information to assess competition.”).

foundation to build upon. The 2011 NPRM¹⁰ and the 2013 Order built this foundation by embracing the National Broadband Plan’s recommendations.

Indeed, in the 2011 NPRM the Commission repeatedly highlighted the importance of collecting information to analyze competition fully, recounting that the Plan “noted the necessity for ‘continuous collection and analysis of detailed data on competitive behavior,’ and stressed the need for the Commission to conduct ‘more thorough data collection to monitor and benchmark competitive behavior.’ In particular, recommendation 4.2 of the Plan suggested that the Commission ‘revise Form 477 to collect data relevant to broadband availability, adoption and competition.’”¹¹ And it wasn’t merely the Commission or consumer advocates highlighting these recommendations: the governmental agencies most responsible for enforcing competition laws were also urging the Commission to implement the NBP’s data collection recommendations:

“The National Broadband Plan also noted that statements from a number of commenters – including officials from the Department of Justice and the Federal Trade Commission – demonstrate that ‘additional data are needed to more rigorously evaluate broadband competition.’ The Plan concluded that to ensure that the right policies are put in place so that the broadband ecosystem benefits from meaningful competition as it evolves, it is important to have an ongoing, data-driven evaluation of the state of competition.”¹²

¹⁰ See Modernizing the FCC Form 477 Data Program, WC Docket Nos. 11-10, 07-38, 08-190, 10-132, Notice of Proposed Rulemaking, 26 FCC Rcd 1508 (2011) (“2011 NPRM”)

¹¹ Id. ¶ 18 (internal citations omitted).

¹² Id. ¶ 30 (internal citations omitted); see also, e.g., National Broadband Plan at 42 (quoting the U.S. Department of Justice’s comments stating that “it is crucial that the FCC track and compare the evolution of pricing in areas where two service providers offer very high peak speeds with pricing in areas where only one provider can offer very high peak speeds. The FCC should benchmark prices and services and include these in future reports on the state of broadband deployment”).

The mere collection of granular deployment data is no substitute for a robust set of data that actually enables competition analysis. As the Commission noted in the 2011 NPRM “although more robust deployment and subscription data may give the Commission a view of the potential for competition in an area, the National Broadband Plan and a number of commenters have explained that such data alone would not necessarily reveal the actual extent of competition or the level of benefit that consumers enjoy from any competition that exists, and that price and service quality data could fill these gaps.”¹³

It is unfortunate, though not surprising, that the debates around broadband data have moved away from the issue of competition analysis to a simple binary of deployed/not deployed. ISPs howl and go on the attack every time the specter of collecting pricing data is raised. This is to be expected from firms in an industry notorious for its lack of competition; but it is shameful when the Commission embraces the industry’s position and shirks its duties to telecommunications users. And when it comes to the duopoly home internet market, it is also incongruous with standard Commission approach of protecting competition in the mobile markets, where the agency relies heavily on the Numbering Resource Utilization Forecast and Local Numbering Portability databases to measure the likely impact of wireless mergers.¹⁴ But

¹³ 2011 NPRM ¶ 31 (emphasis added).

¹⁴ The instant notice acknowledges the importance of collecting detailed mobile subscription data, noting that such “data serve an important purpose in understanding the marketplace for mobile services, that aid in competitive analysis, particularly in transaction review.” Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program, WC Docket Nos. 19-195, 11-10, Report and Order and Second Further Notice of Proposed Rulemaking, FCC 19-79, ¶ 133 (rel. Aug. 6, 2019) (“2019 Further Notice”). We agree with the suggestion in the 2019 Further Notice that the Commission should require CMRS carriers to further specify whether a connection is an IoT or machine-to-machine connection, as those connections are sold in a separate marketplace from consumer voice/text/data bundles. See *id.*

for some reason, the Commission has a track record of accepting that a weak duopoly is unworthy of monitoring, even though research using Form 477 data has demonstrated that the lack of wired competition harms consumers.¹⁵

The National Broadband Plan's recommendations could not be any more clear. The Commission must collect granular data on advertised and actual prices paid for broadband services, as purchased in bundles or in standalone packages, and for both promotional and non-promotional rates.¹⁶ The Commission also must collect information on switching barriers,¹⁷ and investigate with data whether or not ISPs are denying service based “on the income of the residents in a particular geographic area.”¹⁸ This pricing data must be collected at a highly-granular geographic level.¹⁹ And the Commission must collect subscribership data at the

¹⁵ See National Broadband Plan at 38-39 (describing an econometric study that utilized “imperfect” third-party pricing data and confidential Form 477 subscribership data, which found “monthly prices are lower when more wireline providers are in a census tract”).

¹⁶ See *id.* at 43-44 (“The FCC should collect data on advertised prices, prices actually paid by subscribers, plans, bundles and promotions of fixed and mobile broadband services that have material penetration among users, as well as their evolution over time, by provider and by geographic area. Collecting information on advertised and promotional prices, rather than only prices current subscribers pay, is very helpful for analyzing competition because advertised prices focus on winning new customers or keeping customers considering switching providers and can offer important insights into how firms compete. In addition, it is important that the FCC collect information about the pricing plans to which customers are actually subscribing. Pricing plans that are available to customers but are not de facto marketed by service providers tend to have more limited competitive impact.”).

¹⁷ See *id.* at 44 (“The FCC should also collect information related to switching barriers, such as early termination fees and contract length. To complement this information, the FCC should collect data on customer churn, as well as providers’ share of gross subscriber additions.”).

¹⁸ *Id.*

¹⁹ See *id.* (“The data collection should be done in a way that makes possible statistically significant, detailed analyses of at least metropolitan service area (MSA) or rural service area (RSA) levels, thus allowing the FCC to understand the effect of bundles and isolate the evolution of effective pricing and terms for broadband services.”) (emphasis added).

most-granular level possible.²⁰ In addition, while the prevalence of usage caps was far lower in early 2010 than it is today, the Plan did stress the need for the Commission to ensure that usage fees did not impact national policy priorities. Therefore, given the increasing implementation of such caps in wired networks (where they bear little relation to engineering concerns, and appear to be strictly a function of market power), the Commission must also require ISPs disclose any such limitations when reporting whether or not a service is deployed in a given area.²¹

Finally, it is critical for the Commission to finish the job of implementing the National Broadband Plan's recommendation that outside researchers be granted confidential access to the full, disaggregated Form 477 subscribership data.²² Though the Commission may have forgotten, it already directed the Wireline Competition Bureau to develop a system so that outside

²⁰ See *id.* at 43 (“To improve its ability to make informed policy decisions and to track deployment, adoption and competition issues, the FCC should transition as quickly as practical to collecting location-specific subscribership data by provider, technology, actual speed and offered speed. Such data would make it possible for the FCC to aggregate the data to any geographic level rather than relying on providers to allocate subscribers by census tract or block.”) (emphasis added).

²¹ See *id.* at 194 (“Additionally, national priorities should not be restricted by caps on bandwidth. Broadband usage patterns and pricing models are evolving rapidly. In some cases, fixed and mobile broadband service providers have put in place volume caps that have differential impact on users; in other cases, they have offered specific plans that charge on a usage basis. Such pricing schemes may raise policy issues, but it is premature for this plan to address them, as there are a wide variety of methods by which they can be implemented. If ISPs adopt volume caps or usage-based pricing as the model for how broadband should be priced, the FCC should ensure that such decisions do not inhibit the use of broadband for public purposes such as education, health care, public safety, job training and general government uses.”).

²² See *id.* at 44 (“The FCC should have a general policy of making the data it collects available to the public, including via the Internet in a broadband data depository, except in certain circumstances such as when the data are competitively sensitive or protected by copyright. Further, the FCC should implement a process to make additional data that is not accessible by the public available to academic researchers and others, subject to appropriate restrictions to protect confidentiality of competitively sensitive materials.”).

researchers can access confidential disaggregated Form 477 subscribership data, but the Bureau never acted on this directive.²³ As far as we are aware, this decision has not been reversed, and there's simply no reason to delay this matter any further. Given the Commission's recently demonstrated poor quality control over Form 477 data,²⁴ and its seeming unwillingness to conduct meaningful competitive market analysis, it is imperative – now more than ever – to let outside researchers access the full disaggregated Form 477 subscribership data.

²³ See 2013 Order ¶ 80 (“While we do not expand public access to Form 477 subscription data at this time, we delegate authority to the Wireline Competition Bureau, in consultation with the Wireless Telecommunications Bureau, to explore ways to allow greater public access to Form 477 subscription data, and to increase public access to such data if this can be accomplished in a manner that addresses concerns about the competitive sensitivity of the data. In particular, in the Notice, the Commission asked whether the Commission should allow researchers to review disaggregated Form 477 data, consistent with the recommendations of the National Broadband Plan. We direct the Bureaus to develop a plan to enable such access. The Bureaus should propose a definition of ‘researcher,’ identify reasonable terms and conditions of access, and define a standard to ensure that sensitive data are not revealed through disclosure by such researchers. The Notice also sought comment on whether ‘the passage of time diminish[es] the commercial sensitivity of certain types of data.’ We direct the Bureaus to develop a process or standard under which the Commission could make disaggregated Form 477 subscription data available to the public after the passage of a certain period of time (three years, for example), and under what terms or conditions, if any, the data should be disclosed. For example, the Bureau should consider whether historical data should be available only pursuant to protective order, or whether other restrictions on use or publication would be appropriate. If the Bureaus identify ways to increase public access to subscription data while addressing concerns about the competitive sensitivity of the data, we direct the Bureaus to increase public access accordingly.”) (emphasis added and internal citations omitted).

²⁴ See the discussion of over-reporting by CLEC/WISP BarrierFree discussed herein; an issue that still remains unresolved, and one that may or may not indicate a larger problem with data quality control inside the Commission.

C. Increasing the Granularity of Form 477 Deployment Reporting Requirements Will Likely Enhance The Commission’s Understanding of Broadband Deployment, But The Commission Must Take Steps to Address the Potential For Overstating The Level of Competition from CLECs, Fixed Wireless and Satellite Providers.

1. Satellite Availability is Vastly Overstated and the Commission Should Modify How it Analyzes and Presents this Information.

In the 2019 Further Notice, the Commission rightly points out that the current methodology for satellite ISP reporting needs improvement to “reflect more accurately current satellite broadband service availability.”²⁵ Indeed, though currently in theory “satellite service offering 25 Mbps/3 Mbps speeds is available to all but 0.03% of the U.S. population,” the number of subscribers to this level of satellite broadband is so low that the Commission redacts the total from its semi-annual High Speed Internet Access Reports.²⁶ Satellite connections at any speed comprised just 1.7 percent of all fixed subscriptions at the end of 2017, despite being available to nearly the entire country. This disparity alone is a giant red flag that despite universal “deployment,” satellite broadband is not in any real sense “available” to most people living in the United States.²⁷ If it were, we would certainly expect the level of adoption to be much higher

²⁵ 2019 Further Notice ¶ 85.

²⁶ See, e.g., “Internet Access Services: Status as of December 31, 2017,” Industry Analysis Division Office of Economics & Analytics, Federal Communications Commission, figs.21 & 23 (Aug. 2019) (“December 2017 High Speed Report”).

²⁷ The Commission has a long-standing policy that recognizes that mere deployment of a technology does not necessarily equate to the service in question being “available” in a meaningful way. See, e.g., Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, Report, 14 FCC Rcd 2398, ¶ 30 (1999) (“The record before us focuses on deployment of advanced capability, such as investment and construction plans, and generally lacks information about availability, which we believe refers to a consumer’s ability to purchase a capability that has been deployed.”) (emphasis added); see also Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and

than 1.7 percent of all fixed lines, particularly given the fact that there are more than 7 million households located in areas where satellite is the only non-mobile option at the 25/3 Mbps level (including 2.8 million households where satellite is the only non-mobile option at the 4/1 Mbps level; and 1.7 million households where satellite is the only non-mobile option at any downstream speed above 200 kilobits per second).²⁸

But we only need to look at the satellite internet companies' own marketing materials, and listen to their own words, to understand that this service is not at all "available" to most people residing in the United States. Hughes Network Systems' senior vice president for marketing recently told the New York Times that the company's internet service is "not positioned as a replacement for fiber or cable . . . We're for the 18 million Americans who don't have a typical high-speed connection."²⁹

Recognizing that even the new shapefile reporting methodology for satellite "deployment" will still result in a vast overstatement of the "availability" of this technology, the 2019 Further Notice seeks input on how the Commission "can improve upon the existing satellite broadband data collection to reflect more accurately current satellite broadband service

Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, CC Docket No. 98-146, Notice of Inquiry, 15 FCC Rcd 16641, ¶ 13 n.26 (2000) ("Factors that affect the availability of broadband services might include the existence of content that requires broadband service for a consumer to receive it, the purchase of personal computers for the home, trends in the operation of the Internet, the ability of WebTV and other TV set-based forms of Internet access which require broadband speeds, and the development of technology that will enable a cost-effective fixed wireless last mile."); see also 2011 NPRM ¶ 34 ("We also note that the Commission has long identified broadband availability as a broader concept than broadband deployment.") (emphasis added).

²⁸ Free Press analysis of FCC Form 477 Deployment Data as of June 30, 2018, Version 1.

²⁹ Dan Koepfel, "Moving to the Woods Killed My Internet. Here's What I Did About It," Wirecutter (Sept. 11, 2019).

availability”³⁰ and determine “whether there are any other limitations that we should place on the reporting of fixed satellite broadband service.”³¹

While the 2019 Further Notice suggests potential modifications such as requiring “satellite broadband providers that rely on GSO satellites [to] exclude from their reported coverage polygons any area where terrain blocks a clear view of their satellites,”³² modifications like this won’t solve the satellite overstatement problem. The better approach is likely found in the 2019 Further Notice’s suggestion that the Commission make use of Form 477 subscriberhip data to identify all areas where satellite broadband services do not compete against other access technologies.³³ We emphasize the word “compete” because identifying whether or not there are any available, unsubsidized but competing broadband services offered by non-ETCs in a given USF study area is one of the purposes for the National Broadband Map. Each ISP certainly knows where they compete. Satellite ISPs know where they market their services. The Commission could require satellite ISPs to submit a list of ZIP codes where they mail direct marketing materials to existing or potential customers and the null set would be a good indicator of where these ISPs are not competing for customers.

A more efficient and potentially accurate method that would require no new reporting is to do what the 2019 Further Notice suggests: using Form 477 Census Tract-level subscriberhip data to identify those Tracts where satellite ISPs have few (or no) customers. While Tracts are considerably larger in size (population and area) than Blocks, it is almost certainly the case that

³⁰ 2019 Further Notice ¶ 85.

³¹ Id. ¶ 87.

³² Id.

³³ See id. ¶ 86.

Tracts with one or more terrestrial fixed ISPs reporting deployment that contain no reported satellite connections are areas where satellite ISPs are not in fact competing for customers, and therefore are not “available” in any meaningful way. It is difficult to suggest a non-zero de minimis subscribership ratio without additional data; but the Commission could settle on a threshold with high accuracy if it were to allow third party researchers to utilize the raw Form 477 subscribership data under protective order.³⁴ At a minimum, in both the public map and in the Census Block Form 477 raw data, the Commission should flag those areas (or Tracts) where a satellite provider has reported deployment, but has never reported a single connection in its Form 477 subscribership submissions.

2. Form 477 Overstates the Availability and Competitive Presence of Fixed Wireless Broadband Providers, and the Commission Should Modify How it Analyzes and Presents this Information.

Though satellite availability is vastly overstated for the reasons discussed above and in the 2019 Further Notice, both fixed wireless and CLEC-provisioned broadband service availability are also prone to overstatement in the Form 477 deployment data. Addressing this likely overstated availability is critical for the Commission, particularly in its analysis of Form 477 data for various congressionally-mandated reports.

The Commission did make an important change in the order portion of the instant notice that will help mitigate the potential for fixed wireless carriers to overstate the actual availability

³⁴ The Commission has an open proceeding on implementing the National Broadband Plan’s recommendation to allow third-party researchers to access raw Form 477 subscribership data under a highly confidential protective order. See Comment Sought on Free Press Request to Review Form 477 Data and Request for Protective Order, WC Docket No. 10-75, Public Notice (rel. Mar. 19, 2010); see also Letter from Ben Scott et al., Free Press, to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket Nos. 09-137, 09-51, 09-191, WC Docket Nos. 07-52, 07-38 (filed Feb. 22, 2010).

of their services. Gone is the vague “could provision without extraordinary commitment of resources” language; now the Commission only considers fixed wireless service as deployed if the fixed wireless carrier has “already installed enough base stations to cover and meet reasonably anticipated customer capacity demands.”³⁵ It remains to be seen how this change will impact the stated availability of fixed wireless services, which (according to the June 30, 2018 Form 477 data) were deployed to 37 percent of the U.S. population. Despite this supposed widespread availability, fixed wireless connections only accounted for 1.2 percent of all residential fixed connections.³⁶ A visual inspection of the National Broadband Map indicates that fixed wireless providers are claiming to serve large swaths of many rural Blocks, despite the potential for terrain issues to reduce actual availability of services that rely on point-to-point signal transmission. Fortunately the 2019 Further Notice recognizes that the same propagation issues that plague mobile wireless deployment reporting also impact fixed wireless services.³⁷ Free Press supports the adoption of additional reporting standards for fixed wireless carriers that will offer more accurate polygon coverage data, including probability of cell-edge throughput and spectrum utilization rates.

But because the purposes of Form 477 data go well beyond answering the simple binary deployment question, the Commission must take additional steps to better convey the actual competitive availability of fixed wireless services. Just like satellite, fixed wireless services may in many places be technically “deployed,” but not “available” in any meaningful way because

³⁵ 2019 Further Notice ¶ 13.

³⁶ See December 2017 High Speed Report fig.13.

³⁷ See 2019 Further Notice ¶ 80.

these fixed wireless carriers are not competing for customers in these areas. The low overall subscription rate to fixed wireless services nationwide certainly suggest this is the case. Therefore the Commission should also apply a de minimis subscribership methodology to fixed wireless services similar to that proposed in the 2019 Further Notice for satellite broadband. As we suggested for satellite technology, at a minimum, in both the public map and in the Census Block Form 477 raw data, the Commission should flag those areas (or Tracts) where a fixed wireless provider has reported deployment, but has never reported a single connection in its Form 477 subscribership submissions. This additional information would provide extremely important context to the basic deployment maps and data and convey a far more accurate portrait of broadband availability and competition.

3. Form 477 Overstates the Availability and Competitive Presence of CLEC Broadband Providers, and the Commission Should Modify How it Analyzes and Presents this Information.

Finally, we see the same overstated availability problem that we've identified for satellite and fixed wireless providers for CLECs too, particularly when it comes to residential broadband. For example, though the now well-known CLEC/WISP BarrierFree supposedly "corrected" its vastly overstated Form 477 December 2017 deployment data, in its resubmitted data that company still claims to offer gigabit fiber broadband in every Block in which Verizon offers its FiOS fiber service in New York state – 93,232 identical Census Blocks.³⁸ This seems completely

³⁸ While BarrierFree initially claimed to serve every Block with gigabit fiber in 8 states, the December 2017 "Version 2" Form 477 data (which presumably contains its promised corrected data) still shows BarrierFree claiming to offer 940 Mbps downstream fiber service in the same 93,232 New York state Census Blocks in which Verizon also reported the same exact service. However, BarrierFree does not advertise fiber services at all – to residential or business users – on its website, and this past March its CFO told Ars Technica it offers fixed wireless services, without any mention of FTTH. In the same revised data, Barrier Free is claiming to serve a large portion of New York state with fixed wireless services, indicating deployment to 153,582 Blocks

implausible, for numerous reasons,³⁹ but may indicate the potential for CLECs to overstate actual competitive availability due to Form 477's allowances (even as revised in order accompanying the 2019 Further Notice) for CLECs' reported deployment. While the "10-day" language added to the reporting requirement by the order in the above-captioned dockets may greatly reduce this potential for overstatement, a company being theoretically capable of competing within a certain number of days is not the same thing as actually competing for customers.

We question the wisdom of classifying CLECs as "facilities-based" carriers for the purpose of deployment reporting. We understand the rationale for doing so when it comes to business-class broadband services (a market in which CLECs do compete for customers, often

containing 16.2 million persons. This is more than two-times the number of persons served by Altice in New York, the nation's fourth-largest cable company. This seems implausibly high, particularly considering the incredible fact that BarrierFree suddenly did not report at all for the June 30, 2018 filing period. Free Press initially identified the BarrierFree overstatement issue in a letter to the Commission this past March. See Letter from S. Derek Turner, Research Director, Free Press, to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket No. 18-238, at 1, 3-5 (filed Mar. 5, 2019); see also Jon Brodtkin, "Ajit Pai's rosy broadband deployment claim may be based on gigantic error," Ars Technica (Mar. 7, 2019).

³⁹ Our primary concern is the potential for CLECs over-reporting competitive availability due to their ability to order a LEC-owned circuit (UNE or BDS) and provision end-user service over that circuit, whether or not they actually market to customers in that area. It is unclear to us why BarrierFree is reporting fiber service in all of Verizon's New York state FiOS Blocks, as FTTH has not been a mandated Section 251 network element since before the time Verizon deployed FiOS. Perhaps it is simply the case that BarrierFree is just incapable of submitting accurate data, as it did not file anything indicating deployment as of June 30, 2018. Nonetheless, CLEC overstatement has plagued the mapping process since its inception at the NTIA. See, e.g., Free Press, Reply to Opposition, MB Docket No. 14-57, at 27-28 n. 50 (filed Dec. 23, 2014) ("The NTIA data vastly overstates the availability of non-ILEC offerings, as it includes several CLECs that do not actually serve large portions of the areas they claim to serve, but instead report areas where they are willing potentially to serve business customers using leased ILEC facilities if such service is requested. For example Platinum Equity Inc., the parent company of MegaPath and Covad, is shown in NTIA data as serving a whopping 44 percent of the country, when this is plainly not the case. Indeed, according to the NTIA's data, Platinum Equity is allegedly the largest wired ISP in the country as measured by availability, ahead of Comcast, AT&T, Verizon, Time Warner Cable and every other incumbent cable or telco provider!").

using a combination of their own equipment and resold LEC facilities). But it makes no sense when it comes to consumer-class broadband services. If the Commission is unwilling to alter how it requires CLECs to report, it is imperative that it take steps to modify how CLEC data is publicly presented and analyzed.⁴⁰ We strongly urge the Commission to apply a de minimis subscribership methodology to CLEC services similar to that proposed in the 2019 Further Notice for satellite broadband. In both the public map and in the Census Block Form 477 raw data, the Commission should flag those areas (or Tracts) where a CLEC has reported deployment, but has never reported a single connection in its Form 477 subscribership submissions. Doing so will shine a light on the minimal competitive presence that CLECs using resold LEC facilities have in the residential broadband market.⁴¹

⁴⁰ In the 2019 Further Notice, the Commission notes that “if there is a complaint that the fixed broadband coverage polygons are incorrect, we believe it is likely that the data are incorrect for earlier time periods as well,” then wonders if it “should [] require providers to resubmit all earlier datasets for the affected areas to conform to any corrections?” The notice indicated that revising past data would present a “burden” to ISPs, and that “it is unclear whether the time-series data would be useful in targeting USF support.” This is a myopic view of the utility of Commission broadband data, which serves many more purposes than just accurate USF targeting. We strongly urge the Commission to protect the integrity of the entirety of its broadband data – past and present – as time-series data is one of the most powerful tools for public policy analysis. Furthermore, we strongly urge the Commission to adopt penalties for submitting inaccurate data, which should be particularly severe for “chronic filers of bad data.” If it does not, it will simply incentivize lazy data submissions, which would threaten the integrity of the entire database. See 2019 Further Notice ¶¶ 83, 94.

⁴¹ When the Commission took over deployment monitoring from NTIA, it made several key changes to increase the utility of this data for purposes of the Commission’s statutory duties. One was to require separate reporting of business and consumer (or residential) broadband service deployment. This was critical to reducing (though not eliminating) the potential for CLECs’ reporting to overstate the true level of broadband competition. See 2013 Order ¶ 24 (“[T]he SBI does not routinely separate residential from business data. The Form 477 deployment collection will require filers to distinguish, where appropriate, between residential and nonresidential deployment. This will help the Commission to better estimate the level of competition in a market and the number of providers that compete for a particular class of customers.”).

II. The Commission Should Not Sunset Form 477, as it Remains a Vital but Underutilized Resource for Understanding the Broadband Market, and Should Maximize the Utility of the DODC by Continuing to Make Census Block-Level Deployment Data Publicly Available.

The 2019 Further Notice states that “[o]ver the long term, [the Commission] expect[s] the Digital Opportunity Data Collection will largely displace the Form 477 process, at least with respect to the collection of granular deployment data” and thus seeks comment “on discontinuing the broadband deployment data collection that is part of Form 477 at some point after the new collection has been established.”⁴² While we understand the Commission’s motivation for this question, there is actually no good reason why the DODC reporting system should cause Form 477 Census Block data dissemination to be sunset. We emphasize the word “dissemination” here because of the actual lack of meaningful differences between how many ISPs prepare their current Form 477 filings and how they will prepare their DODC submissions.

ISPs do not as a normal matter have a ready list of the Census geographies in which they offer service (or at least they did not before the NTIA’s mapping initiative and the 2013 changes to Form 477 when the Commission started preparing to take over that mapping function). Indeed, in its instructions to ISPs on how to file their Block-level counts, the Commission presumes ISPs will start with a map of their service area, in shapefile format.⁴³ The Commission’s instructions direct ISPs on how to download open source software that will convert these shapefiles into Census Blocks and other Census-based geographies. Thus, the initial DODC appears to merely require fixed ISPs to “submit maps of the areas in which their service is available,”⁴⁴ while it

⁴² 2019 Further Notice ¶ 135.

⁴³ See, e.g., “FCC Form 477 Resources, Generating Fixed Broadband Deployment Data for FCC Form 477, Instructions on how to use QGIS,” FCC.gov (last accessed Sept. 18, 2019).

⁴⁴ 2019 Further Notice ¶ 10.

continues to use these same maps to generate the list of Census Blocks where such ISPs offer service. We see no reason why ISPs should not be required to continue to provide this list of Census Blocks, which the Commission can continue to release publicly (with some additional details reflecting the information provided by the more granular maps and potential additional information afforded from the use of a base-layer location fabric⁴⁵ that may be adopted in the future). However, if the Commission does decide to eliminate the requirement for ISPs to submit Census Block lists along with its shapefiles/polygons, the Commission must take each ISPs' shapefiles and do the QGIS conversions itself, then release the underlying data in Census Block-level database format. While it is possible for members of the public (including non-profits, academics, state agencies, and others) to do such a conversion themselves, to do so semiannually for each map submitted by the thousands of filers would be an insurmountable burden. If the Commission truly values public feedback, analysis and verification (as embodied in the 2019 Further Notice's concept of crowd-sourcing), then the Commission has an obligation to make Census Block-level data easily accessible. Maps have value, but knowledge is not gained if only a few parties are able to utilize the underlying information that populates the National Broadband Map.

⁴⁵ In the 2019 Further Notice, ¶ 111, the Commission asks if this location-based data should be fully accessible by the public. We see no good reason why it should not be fully available. The Commission of course does not have this information currently, and will have to contract with one or more third parties to produce it. CostQuest indicates that a fully open data source can be produced, but it would cost more to produce than a proprietary location fabric. While we have no certainty as to the likelihood of Congress passing recently introduced legislation, it is clear that there is strong bipartisan support for making the entirety of the DODC, including the location fabric, fully publicly available. See, e.g., Congress of the United States House of Representatives, Committee on Energy and Commerce, Subcommittee on Communications and Technology Hearing Regarding "Legislating to Connect America: Improving the Nation's Broadband Maps" (Sept. 11, 2019).

Therefore, we strongly urge the Commission not to sunset the Form 477 Census Block-based deployment reporting requirement.⁴⁶ However, we do think that the Commission should incorporate some of the additional details that will be gleaned from the DODC submission into the Census Block-level data. For example, the Block-level data should contain new fields that indicate whether a Block is fully or partially covered (and if location fabric is used in the future, another field can contain the percentage of housing units served by the given ISP at the given speed and quality threshold). The Block-level data should also contain a new field that flags whether or not the indicated deployment is live, or whether it is one that is claimed under the “10 days” qualification.

In sum, the use of Census-based geographies is invaluable for demographic and economic analysis of broadband deployment. This is the case not just in rural areas, but in urban areas where the digital divide is primarily driven by inadequate competition not inadequate deployment. The Commission must not throw out this valuable demography tool in the name of improving its data. Sunsetting the current Form 477 Census Block-based reporting and dissemination is completely unnecessary. Whatever imagined benefits might arise from doing so would not outweigh the lost knowledge and insight from reporting and dissemination of data in a granular database format that is still easily accessible and usable by researchers.

⁴⁶ Though the 2019 Further Notice was ambiguous, we do not believe the Commission was proposing to end or modify the current Form 477 subscriber reporting requirement. Such a rash action would certainly require more adequate notice, and would be highly detrimental to the Commission’s, Congress’s, and the public’s ability to fully understand the U.S. broadband market.

III. Conclusion

The DODC is a welcome evolution of the Commission's broadband data collection and dissemination efforts. The changes will mean more efficient targeting of scarce USF High Cost resources. And if the Commission follows through on its commitment to ensure full public access to the data, our knowledge and understanding of the broadband market will grow.

But as the Commission itself has repeatedly recognized, mere deployment data is not the same as usable information on availability; and its broadband data serves many more purposes than simply identifying where to target subsidies. The National Broadband Plan made numerous recommendations for broadband data collection, analysis, and public dissemination. The Commission carried out some, but left many others undone, particularly on competition analysis and third-party access to data. Now that the Commission has made improvements to better identify unserved rural areas, it has no excuse to leave the remaining data work unfinished.

Congress, the public, and the Commission need high-quality data on all aspects of the broadband market to ensure everyone in this country has access to and can adopt affordable, high-quality telecommunications services. Form 477 deployment and subscribership data, and now the DODC, are important tools that will aid that work. But better data and more analysis is needed, particularly on the issue of competition, to help us meet our national broadband goals.

Respectfully Submitted,

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