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January 31, 2017

The Honorable Ajit Pai, Chairman
The Honorable Mignon Clyburn, Commissioner
The Honorable Michael O’Rielly, Commissioner
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Dear Chairman Pai, Commissioner Clyburn and Commissioner O’Rielly:

Free Press has advocated for more than a decade for policies to reduce the digital divide. That is why we took special notice of Chairman Pai’s statement that one of his “core priorities going forward” will be “to do what’s necessary” to “bring the benefits of the digital age to all Americans.”¹ This statement suggests that Commission sentiment has evolved since former Chairman Powell’s “Mercedes divide” comments dismissively minimized the struggle of people lacking internet access.²

No matter how laudable the new Chairman’s sentiment may be, his proposals to close that divide could be ineffective – and even harmful. The Commission must not subsidize build-out that is already occurring in the market, and yet not even address the primary structural barrier keeping tens of millions of people offline: affordability of the services already available to them.

Most policymakers now recognize that home internet access is a necessity for adequate participation in modern society. They see that for those individuals fortunate enough to have it, broadband technology can open up a world of opportunities.³ Yet major adoption gaps persist between rich and poor people, white people and people of color, rural and urban residents, and

¹ Remarks of Ajit Pai, Chairman, Federal Communications Commission (Jan. 24, 2017) (“January Pai Speech”).

² See Alan Pearce, “Closing the Gap: Smart Taxation Could Be Key in Solving the Problem of the Digital Divide,” *America’s Network* (Sept. 1, 2001). Chairman Powell’s full quote in context was as follows: “I think the term [digital divide] sometimes is dangerous in the sense that it suggests that the minute a new and innovative technology is introduced in the market, there is a divide unless it is equitably distributed among every part of the society, and that is just an unreal understanding of an American capitalistic system. I think there is a Mercedes divide. I would like to have one, but I can’t afford one. I’m not meaning to be completely flip about this”

³ See, e.g., Remarks of Commissioner Michael O’Rielly Before the Internet Innovation Alliance, “What is the Appropriate Role for Regulators in an Expanding Broadband Economy?” (June 25, 2015) (“[T]he constant advancements and ever-changing marketplace have provided a profession and steady income but, more importantly, *technology has expanded my capabilities beyond measure. I have taken advantage of Internet broadband to expand my horizons* both as a consumer and a professional.”) (emphasis added). Despite this recognition of the benefits he gained from access to technology, Commissioner O’Rielly missed the importance of ensuring that others have the same opportunities he enjoys, claiming that “Internet access is not a necessity in the day-to-day lives of Americans . . . People can and do live without Internet access, and many lead very successful lives. Instead, the term ‘necessity’ should be reserved to those items that humans cannot live without, such as food, shelter, and water.” *Id.*

along other divides too – even as Congress and the Commission have devoted billions of dollars to broadband deployment and other initiatives intended to help eradicate such digital divides.

In light of that investment and those well-intentioned policies, we must ask why adoption gaps persist. We must not close our eyes to real problems if the aim is to determine what actually can be done to achieve Chairman Pai’s stated goal: bringing the benefits of the digital age to everyone “regardless of race, gender, religion, sexual orientation or anything else.”⁴

To help answer this question, Free Press would call the Commission’s attention to our recently completed study, *Digital Denied*.⁵ With this study, we undertook a comprehensive data-driven analysis of the digital divide, with the goal of uncovering the factors that most contribute to or deter adoption in low-income and marginalized communities. Our findings are voluminous, and we are more than willing to brief each of you and your staffs on this research. However, we highlight here a few key results about which the Commission should be aware if it is serious about closing the digital divide as a core priority.

First, as the Commission is well aware, there are two major types of digital divide in the United States. One is primarily confined to certain rural areas. While various forms of Internet access service are available to the near entirety of the U.S. population, a small proportion of the rural population lacks access to the quality of services commonly available in non-rural areas.⁶ Despite the widespread availability of at least some form of access in rural areas, home internet adoption (defined as adoption of internet access using any technology, whether wired, fixed wireless, or mobile wireless) remains lower in non-metropolitan areas (65 percent) than in metro areas (75 percent). Our analysis indicates that income differences account for some of this gap.⁷

⁴ January Pai Speech, *supra* note 1.

⁵ S. Derek Turner, Free Press, “Digital Denied: The Impact of Systemic Racial Discrimination on Home-Internet Adoption” (Dec. 2016) (“Digital Denied”).

⁶ According to the June 30, 2014 National Broadband Map data, 99.1 percent of the rural population in the U.S. had access to non-satellite internet access services offering downstream speeds at or above 768 kilobits per second. At speeds above 1.5 Mbps, 99 percent of the rural population still was served by one or more such providers. And even at 10 Mbps, 96 percent of the rural population had one or more such ISPs available to them. The widespread deployment of mobile wireless data services is largely responsible for closing this basic deployment gap between rural and urban America. As of mid-2014, mobile wireless data services were available to 97.9 percent of the rural population, while DSL and cable modem were only available to 72 percent and 54.1 percent of the rural population respectively. See National Telecommunications and Information Administration, “Broadband Statistics Report: Broadband Availability in Urban vs. Rural Areas” (Mar. 2015). Free Press’s analysis of the December 31, 2014 FCC Form 477 deployment data indicates that 80 percent of the rural population was served by one or more wired providers at speeds of 3 Mbps or higher. Furthermore, our analysis of the most recent Census Bureau survey data on home internet use indicates that only 243,000 of the 6.6 million non-metropolitan households that do not subscribe to any home internet service cited “not available in area” as the “most important reason” for not subscribing.

⁷ In 2015, the median household income for persons in metropolitan statistical areas was \$59,258, but just \$44,657 for persons outside of these areas. Median incomes in metro areas increased 1.75 percent from 2014 to 2015, and declined by 2 percent in non-metro areas. See United States Census Bureau, “Income and Poverty in the United States: 2014” (Sept. 2015).

Deployment plays a role too in the observed rural-urban adoption gap,⁸ particularly in rural communities of color. For example, looking to demographic categories in which Census respondents can self-identify, 19.7 percent of the rural non-Hispanic White population has no available wired provider at downstream speeds of 3 Mbps or higher. Yet 32.3 percent of rural Hispanic people, 21.8 percent of rural Black people, and 43.2 percent of rural American Indian/Alaska Natives are completely unserved by any wired ISP even at that low speed.⁹

But the second type of digital divide is even larger, yet too often receives less attention from federal policymakers. While the rural-urban deployment gap is an important problem that the Commission is uniquely equipped to address, it pales in size to the adoption gap in non-rural areas.¹⁰ In urban communities, it is the lack of affordability – not a total lack of access to services – that deprives tens of millions of families from the communications services they so desperately want and need.

Let us be clear: the lingering narrative that non-adopters simply do not want to go online is dead wrong, based on usage data and survey responses for families living in marginalized communities. As our research shows, low-income families and people of color lacking home access have a very high demand for it.¹¹

⁸ Our analysis of the most recent Census data indicates that 58 percent of households in metro areas subscribe to wired home internet, compared to 44 percent in non-metro areas (with 95 percent confidence intervals of 57 percent to 58 percent for wired adoption in metro areas, and 43 percent to 46 percent for wired adoption in non-metro areas). This 14 percentage point gap in wired adoption between metro and non-metro areas is larger than the 10 percentage point gap between metro and non-metro areas highlighted in the main text above (75 percent vs. 65 percent) for internet adoption of any technology (wired or mobile). This suggests that deployment differences may impact not just whether a rural family subscribes to some form of internet access, but also the type of service the family is purchasing. Yet looking at such adoption figures in combination with these deployment statistics and those cited in note 6, *supra*, we are confident that the bulk of the overall rural-urban adoption gap stems from income differences, and the inability of a number of rural families to afford the high-speed internet access services that are available in their communities (which may be monopoly markets) – not just from basic deployment gaps and shortfalls in rural areas.

⁹ See *Digital Denied*, Part VII. Our analysis also reveals a competitive gap in rural communities of color. Whites living in a rural census block have on average 1.29 wired ISPs offering service at downstream speeds of 3 Mbps and higher, compared to 1.04 such ISPs for rural Hispanics, 1.22 for rural Blacks, and 0.78 for rural American Indian/Alaska Natives. At 25 Mbps and higher, rural Whites have an average of 0.71 wired ISPs, compared to 0.57 ISPs at that speed for rural Hispanics, 0.66 for rural Blacks, and just 0.38 for rural American Indian/Alaska Natives. While 43.3 percent of the rural White population has two or more wired providers at downstream speeds of 3 Mbps and higher, only 32.9 percent of rural Hispanics, 40 percent of rural Blacks and an exceedingly low 18.5 percent of rural American Indian/Alaska Natives have two or more such providers. At downstream speeds of 25 Mbps and higher, 10.8 percent of the rural White population has two or more wired ISPs, compared to 8.4 percent of the rural Hispanic population, 9.9 percent of the rural Black population, and 5.3 percent of the rural American Indian/Alaska Native population.

¹⁰ Our analysis of the Census Bureau Current Population Survey data indicates that as of mid-2015 there were 26.9 million households in metro areas without home internet service, compared to 6.6 million in non-metro areas.

¹¹ See *Digital Denied*, Part V. Our analysis reveals that the lower the family income of a household without home internet, the more likely that household is to cite broadband affordability and lack of computer ownership as reasons for not subscribing, and the less likely they are to cite a lack of interest or need. Furthermore, Black and Hispanic households without home internet are far more likely to cite affordability, and far less likely to cite don't want/don't need, than are White households without home internet. For example, 39 percent of non-internet Hispanic households and 35 percent of non-internet Black households cite "can't afford it" as a reason for not

Non-adopters in these demographic groups take extraordinary measures to go online elsewhere,¹² and would overwhelmingly subscribe if home access were more affordable.¹³ Indeed, the data indicates that the observed over-reliance on mobile-only access by low-income households and households of color is primarily driven by the high cost of wired access, and by the barriers to wired internet adoption created by credit screening of potential subscribers.¹⁴

The use of credit checks by wired ISPs, and the lack of affordable pre-paid wired Internet options that remove credit checks and other such adoption obstacles, are among the many systemic barriers responsible for America's home internet divide. Our research also reveals that households with one or more members who go online at work are far more likely to have a home internet connection than those with no members are exposed to this technology on the job (a

subscribing, compared to just 21 percent of White households without home internet. This racial/ethnic gap in reported affordability concerns also appears among low income populations in these various racial/ethnic demographics. While 44 percent of low-income Hispanic households without home internet and 41 percent of low-income Black households without home internet cite "can't afford it" as a reason for not subscribing, only 29 percent of low-income White households without home internet cite that reason for not adopting it.

¹² See *Digital Denied*, Part V. Our research indicates that public institutions such as libraries are an important access method for low-income people and persons of color lacking home wired and wireless internet, particularly because these users are less likely to have access to the internet at their place of employment. Because Hispanic and Black people who do not subscribe at home are more likely to go online outside of the household than White non-subscribers are, the size of the racial/ethnic digital divide closes slightly when we consider such use. There is a gap of 10 percentage points between White and Hispanic households, and a gap of 14 percentage points between White and Black households, for persons with any wired or wireless internet subscription at home. That closes to 6 points for Hispanic people and 8 points for Black people using the internet anywhere, via any access method.

¹³ The Census Bureau asked home-internet non-adopters if they would buy service offered at a lower price. Nearly a quarter (23 percent) of non-adopting households said they would subscribe at a lower price, a result that did not vary significantly between high-income and low-income non-adopters. Despite the similar willingness across income strata to subscribe at lower prices, there is a large difference between people of different races or ethnicities. While only 18 percent of non-adopting White households said they would subscribe at a lower price, 33 percent of non-adopting Hispanic households and 28 percent of non-adopting Black households said they would. This race/ethnicity difference in willingness to adopt home internet at a lower price was also seen among the poorest Americans. Only 16 percent of low-income non-adopting White households said they would subscribe to home internet at a lower price, compared to 27 percent of low-income Black and 26 percent of low-income Hispanic non-adopting households.

¹⁴ Our analysis of Census and Pew survey data indicates that cellular phone and mobile-internet access adoption rates for people of color are the same as or close to the adoption rates for Whites. Among households in the bottom income quintile, the cellular-telephone and mobile-internet adoption and usage rates are actually higher for Hispanics and Blacks at that income level than they are for Whites in the same income bracket. Overall, Hispanics and Blacks have cellular and smartphone-adoption levels slightly above what one would predict based on income alone. We find that the lack of any significant racial or ethnic divide for cellular-telephone and mobile-internet services, and particularly the lack of such a divide among low-income households, is primarily due to the existence of a more competitive and better-functioning market for mobile services in comparison to the market for wired home internet. There are many wireless resellers that specifically seek to serve low-income customers and that do not subject such customers to credit checks, while resale, prepaid, and other credit check-free options are nearly total non-existent in the wired home access market. The absence of any significant gap for mobile adoption reflects the fact that low-income households in general, and those headed by people of color in particular, tend to adopt mobile as their only home-internet service in response to the participation barriers they face in the wired market.

result that is significant even the presence of income and other control variables).¹⁵ For example, nearly 95 percent of employed individuals who go online at work have home internet, compared to just 66 percent of employed individuals who do not use the internet at their jobs. But exposure to the internet at work varies greatly by race/ethnicity. Among employed persons, 61 percent of Whites go online at work, versus just 38 percent of Hispanics and 47 percent of Blacks. This racial/ethnic gap in work internet exposure is observed and is of statistically significant magnitude not just across different occupation categories but even within many such occupation categories.¹⁶

Our research contains many similar findings that all point to the same conclusion: the root cause of the adoption gap is the lack of affordability, and that is an outcome created primarily by a market structure that produces too few affordable choices and suboptimal competition. The adoption gap is an affordability gap.

The lack of affordability is a major problem, but not an intractable one. Public policy can play a central role in closing this gap, but only if policymakers are willing to finally acknowledge this problem and work towards making broadband more affordable.

This persistent digital divide means we need a better approach. There are numerous potential public policy responses, but not all policy interventions will be effective, and some could actually make things worse. This is why independent agencies like the Commission need to start with analysis, based on agreed upon facts and data; then proceed to solutions, recognizing the tradeoffs.

Both before and after announcing his own selection as chairman, Chairman Pai has been pushing a very specific set of policies in the name of closing the digital divide.¹⁷ These policies are wholly focused on deployment, not affordability or adoption. Chairman Pai's central proposal to address the digital divide in non-rural areas is to create what he terms "Gigabit Opportunity Zones." Apparently he believes that we can solve the adoption gap by providing "financial incentives for internet service providers to deploy gigabit broadband services in low-income neighborhoods"; by incentivizing "local governments to make it easy for ISPs to deploy these networks"; and by offering "tax incentives for startups of all kinds in order to take advantage of these networks and create jobs in these areas." The core of Chairman Pai's plan is giving tax breaks to ISPs who deploy gigabit networks in areas where household incomes are at or below 75 percent of the national median value. The Chairman suggests that Congress could

¹⁵ See *Digital Denied* at 121 (referencing econometric results that indicate that "[w]ork use is by far the single most important determinant of home-internet adoption, having a marginal impact of 26 percentage points even after controlling for race/ethnicity, income, education, geography, and other factors.").

¹⁶ *Id.* at 122, Fig. 99. This figure shows the percent of employed person who reported using internet at work (in the mid-2015 Census Current Population Survey), by race/ethnicity, for 22 different occupation types. White employees were statistically significantly more likely to report using internet at work than Black or Hispanic workers for many occupations. For example, amongst employees in the "sales and related occupations" category, 62 percent of Whites said they used internet at work, versus just 43 percent of Hispanics and 38 percent of Blacks.

¹⁷ See Remarks of FCC Commissioner Ajit Pai at the Brandery, "A Digital Empowerment Agenda," Cincinnati, Ohio (Sept. 13, 2016); see also John Eggerton, "Pai Meets With Diverse Stakeholders on Digital Divide," *Broadcasting & Cable* (Jan. 25, 2017).

amend tax law to allow ISPs “to immediately expense all capital spending associated with bringing gigabit services to residents and businesses” in these below-median income areas, and could allow these firms to carryover losses for seven years.

While the notion that government should encourage deployment in currently served areas using tax incentives is not *a priori* objectionable, subsidizing deployments that would occur in the absence of any such incentives is, by definition, corporate welfare. But using such taxpayer dollars to pay for deployments that these ISPs would already make – all under the guise of bringing low-income families online when there’s no reason to expect that this would actually help in that regard – is the kind of cynical political move that undermines faith in government.

Put simply, the policy proposals put forth by Chairman Pai will not move the needle on the digital divide. That is because a substantial portion of the digital divide stems from an adoption and affordability gap in urban areas, and is not in any way related to a deployment gap. Low-income people and communities of color are on the wrong side of the digital divide because of a lack of affordable options stemming in large part from competitive market failures. This results in high prices and other barriers to adoption. Chairman Pai has said that “every consumer should have affordable choices in a competitive marketplace,” but nothing in his proposal would actually make broadband more affordable. There’s simply no reason to believe that subsidizing gigabit deployments would result in new services priced at a level that would make them affordable to current non-adopters.

Moreover, beyond these affordability considerations, it must be noted that there is currently no deployment gap for high-speed services in urban areas. And there will be no deployment gap for gigabit services either, as we outline below. Thus, we question the efficacy, efficiency and entire rationale of using scarce taxpayer resources to fund gigabit deployments, even in below-median income areas.

DOCSIS 3.0 cable technology is currently available to nearly every American living in urban areas, and to more than half of those living in rural areas.¹⁸ This technology already enables 100 Mbps and higher internet access services, and it is widely available in the below-median income areas that Chairman Pai’s Opportunity Zones idea targets. Yet despite the widespread availability of high-speed services there, the adoption gap in these areas persists.

But what about gigabit services? As we document below, cable company ISPs are currently rolling out the next incremental version of this technology (DOCSIS 3.1), which will enable symmetric multi-gigabit per second transmission. Nearly every cable ISP has already gone on record indicating their plans to deploy multi-gigabit residential services throughout its entire service area over the next few years. This is not surprising: it’s the expected outcome, as

¹⁸ Free Press’ analysis of the December 31, 2014 Form 477 Deployment data and Census population data indicates that 92 percent of the population living in urban Census blocks was served by a provider offering DOCSIS 3.x technology in those blocks. Given the continued rollout of this technology in the subsequent two years, it is certain that this figure is now close to 100 percent of the urban population. This analysis also indicates that as of the end of 2014, 50 percent of the population in rural blocks was served by a provider offering DOCSIS 3.x technology. *See Digital Denied*, Part VII.

the costs of this incremental technology upgrade are so low that overall capital spending will not materially increase.¹⁹

For example, Comcast has made it clear that it is bringing multi-gigabit per second service to its entire network in the next two years.²⁰ Charter has also outlined its plan to use DOCSIS 3.1 to bring multi-gigabit service to its entire footprint by 2021.²¹ Altice, parent company of Cablevision and Suddenlink, is going further, deploying full fiber to the home across its footprint in the next five years.²² Privately held Cox Communications offers gigabit speeds in all of its markets.²³ Even smaller cable companies have already deployed or are moving quickly to deploy these next generation services.²⁴

¹⁹ See, e.g., Comments of Tom Rutledge, Chairman and Chief Executive Officer, Charter Communications Inc., Q3 2016 Charter Communications Inc. Earnings Call (Nov. 3, 2016) (“Charter Q3 2016 Call”) (“Over the next five years or so, with relatively small infrastructure investments, our network will be able to deliver symmetrical multi-gigabit speeds with high compute and low latency capabilities to all 50 million homes and businesses in our footprint.”); see also Alan Breznick, “White Paper – DOCSIS 3.1: Cable Tackles the Gigabit Challenge,” *Heavy Reading* (Feb. 2016) (“Besides the faster download and upload speeds, DOCSIS 3.1 also offers cable providers such other tangible benefits as higher bandwidth capacity, greater operational efficiencies, better quality control, real-time performance analysis and lower costs, all without necessarily having to upgrade their HFC networks, expand their RF plant spectrum or add more fiber lines.”). Comcast’s experience shows that the evolution of the cable network over the past decade has not required a material increase in the proportion of its cable revenues devoted to network and equipment investments. During the past decade Comcast has rolled out DOCSIS 3.0 services, deployed more advanced set-top boxes and home internet gateway services, pushed fiber deep into its network, and increased internet speeds more than a dozen times, and it is currently deploying DOCSIS 3.1 services as well as Ethernet and other multi-gigabit services. It has done so while maintaining a relatively stable capital intensity. From 2009 to 2016 Comcast’s cable segment capital intensity was 17%, 15%, 13.7%, 12.9%, 12.4%, 12.9%, 13.9%, 15% and 15.2%.

²⁰ See Comments of Mike Cavanaugh, Senior Executive Vice President and Chief Financial Officer, Comcast Corporation, at the UBS Global Media and Communications Conference (Dec. 7, 2016). When asked by UBS analyst John Hodulik to “talk a little bit about, related to that, the speed increases that you’ve seen and what we expect going forward,” Cavanaugh responded, “we’re rolling out DOCSIS 3.1. We think that’s the most effective and efficient way to give big speeds across the footprint most quickly, most economically. . . . In a couple of years’ time, we’ll have the next-generation DOCSIS, which will allow for a multi-gig symmetrical. So that’s our roadmap; nothing changes about that roadmap.”

²¹ See Charter Q3 2016 Call, *supra* note 19.

²² See “Altice USA Unveils ‘Generation Gigaspeed’ A Full-Scale Fiber-To-The-Home Network Investment Plan To Enable 10 Gigabit Broadband Speeds,” Altice USA Press Release (Nov. 30, 2016) (“Altice USA, the fourth largest U.S. cable company, today announced plans to invest further in the U.S. by building a next-generation fiber-to-the-home network capable of delivering broadband speeds of up to 10 Gbps across its footprint. [. . .] The company’s five-year deployment schedule will begin in 2017, and the company expects to reach all of its Optimum footprint and most of its Suddenlink footprint during that timeframe.”).

²³ See “Cox Communications Launches Gigabit Internet Service in Gainesville,” Cox Communications Press Release (Nov. 16, 2016) (“Cox has been deploying gigabit speeds to businesses for more than a decade, and the company will offer residential gigabit speeds in all of its markets by the end of 2016.”).

²⁴ See, e.g., “Entire Mediacom Communications Broadband Network to be Gigabit-Ready by Year End,” Mediacom Communications Press Release (Dec. 7, 2016) (“Mediacom Communications today announced the company’s entire broadband network will be gigabit-capable by the end of 2016. Mediacom will become the first major U.S. cable company to fully transition to the DOCSIS 3.1 ‘Gigasphere’ platform, the latest generation of broadband technology. As a result, virtually all of the 3 million homes and businesses that Mediacom serves across its 22 state footprint will be able to enjoy speeds that are up to 40 times faster than the minimum broadband

Thus it is clear that most homes and businesses with access to cable broadband today will have access to gigabit-level services in the next few years, without a cent of taxpayer support. As for Local Exchange Carriers (LECs), natural monopoly economics combined with cable's inherent cost advantages means that these companies are only going to make targeted upgrades, no matter what free money is thrown at them through tax incentives, grants and interest-free loans. However, Verizon currently has fiber services available to more than 70 percent of its customer premises.²⁵ AT&T has or will soon have its Gigapower service available to 12.5 million customer locations, and its fiber-to-the-node VDSL service and/or IPDSLAM U-Verse service are available to 75 percent of its wireline footprint.²⁶ AT&T is also exploring a fixed wireless gigabit offering dubbed "AirGig."²⁷ CenturyLink plans to have 40 Mbps in 90 percent of its passings in its top 25 markets by 2019, with 100 Mbps available to 70 percent of these passings, and gigabit available to 20 percent of them.²⁸

Finally, all four of the national wireless carriers have made clear their plans to deploy 5G services starting this year, which they claim will be capable of speeds exceeding 1 gigabit per second.²⁹ These wireless services will be widely available in rural areas, just as 4G LTE services are today.³⁰

definition set by the Federal Communications Commission."); *see also* "WOW! 1 Gig Internet Now Available in Auburn and Huntsville," WOW! Internet, Cable & Phone Press Release (Oct. 11, 2016).

²⁵ *See* Comments of Fran Shammo, Executive Vice President and Chief Financial Officer, Verizon Communications Inc., Q3 2015 Verizon Communications Inc. Earnings Call (Oct. 20, 2015) ("We will have covered over 70% of the footprint with our fios product.").

²⁶ *See* Comments of Randall Stephenson, Chairman and Chief Executive Officer, AT&T Inc., Q4 2016 AT&T Inc. Earnings Call (Jan. 25, 2017) ("We're building out fiber to 12.5 million locations."); *see also* Application of AT&T Inc. and DIRECTV, Description of Transaction, Public Interest Showing, and Related Demonstrations, transmitted by letter from Maureen R. Jeffreys, Counsel for AT&T, to Marlene H. Dortch, Secretary, FCC, MB Docket No. 14-90, at 10 (filed June 11, 2014).

²⁷ *See* "AT&T Labs' Project AirGig Nears First Field Trials for Ultra-Fast Wireless Broadband Over Power Lines," AT&T Inc. Press Release (Sept. 20, 2016).

²⁸ *See* Comments of Glen Post, President and Chief Executive Officer, CenturyLink Inc., from call with investors concerning acquisition of Level 3 Communications (Oct. 31, 2016) ("[B]y 2019, we expect for our top 25 markets that we will have over 90% of homes and businesses passed with 40 megabits or more of service. We will have over 70% of those homes and business passed with 100 megabits or more of service. And then over 20% of those homes and businesses passed with GPON or a gigabit or more.").

²⁹ *See, e.g.*, "AT&T Details 5G Evolution," AT&T Inc. Press Release (Jan. 4, 2017) ("We trialed several video streaming and conferencing experiences, and saw upload and download speeds around 1 Gbps during the first phase of the trial."); *see also* Comments of Lowell McAdam, Chairman and Chief Executive Officer, Verizon Communications Inc., Q2 2016 Verizon Communications Earnings Call ("We have typically seen speeds above 1 gigabit over, let's just say, 500 yards or less, because of the combined space that we've got available to us. With that sort of speed we've been able to put up six ultra high-definition TVs, six virtual-reality units, numerous tablets, etc., so those services are only drawing in the 300 to 400 megs of throughput. So lots of headroom."); Neville Ray, Chief Technology Officer, T-Mobile USA, "Busting 2016's Biggest Mobile Network Myths," (Dec. 29, 2016) ("In fact, while Verizon is talking about 1 Gbps on 5G, just last week we reached nearly 1 Gbps (979 Mbps) on our LTE network in our lab thanks to a combination of three carrier aggregation, 4x4 MIMO and 256 QAM (and an unreleased handset). This is the fastest speed possible on a mobile device today and T-Mobile will absolutely be first to Gigabit speeds! Ever advancing LTE will continue be the technology that powers wireless into the next decade – and there will be major advancements to come, well beyond 'just' Gigabit speeds."); Comments of John Saw, Chief

Therefore, it is clear that nearly everyone in the United States will soon have access to gigabit-level service, just as the majority of them have access to 25 Mbps service today.³¹ But telecommunications isn't a field of dreams: if you build it, they won't come if the price is too high. Access to a service is meaningless unless that service is affordable. Indeed, adoption of wired service appears to be stagnant even as cable companies and LECs deploy higher capacity networks.³² This is largely because of high prices and other barriers such as credit checks, which result in a disproportionate number of low-income Americans turning to mobile wireless service as their sole method of home internet access.³³

This is the chief reason that a Pai policy of subsidizing gigabit deployment with tax incentives will not make a dent in the digital divide. If \$50 per month 50 Mbps service is already too expensive for lower income families, why should we expect slightly accelerated availability of \$140 per month 1000 Mbps services in a few areas to increase adoption?³⁴ And even in the few areas where such a policy might hasten the entry of a 2nd or 3rd high-speed carrier, the basic economics of telecom provisioning mean that the prices of these services are unlikely to drop below \$70 per month.³⁵

Furthermore, such tax incentives would be hugely wasteful from the perspective of those concerned with conserving tax dollars and not further increasing the size of the budget deficit.

Technology Officer, Sprint Corporation, at Barclays Global Technology Conference (Dec. 7, 2016) (describing his belief that Sprint is better positioned to deploy 5G because of the company's 2.5 GHz spectrum licenses).

³⁰ According to Form 477 mobile deployment data, 99.7 percent of the U.S. population has access to one or more LTE carriers; 98.8 percent has access to two or more LTE carriers; and 95.9 percent has access to three or more such carriers. See *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, WT Docket No. 16-137, Nineteenth Report, 31 FCC Rcd 10534, 10565 (2016).

³¹ Free Press's analysis of the December 31, 2014 Form 477 Deployment data and Census population data indicates that 89 percent of the U.S. population resided in a Census block with one or more providers offering 25 Mbps or higher downstream services. In urban blocks, 96 percent of the population were served by a provider offering 25 Mbps or higher downstream services. And 60 percent of the population in rural Census blocks had access to services at this level or higher.

³² *Digital Denied* at 20.

³³ *Id.*, Part V (discussing survey data from non-adopters) and Part VI (discussing survey data from adopters). "Affordability" was the top response among mobile-only households in the bottom income quintile to the question "which of the following is the most important factor to your household regarding your internet service at home?", cited by 37.1 percent of these households. "Mobility or ability to use service outside the home" was only cited by 6.9 percent of these mobile-only low-income households. In contrast, "affordability" was just the third-highest response among mobile-only households in the top 3 income quintiles (25.1 percent of these households), behind "Reliability of internet service" (33.6 percent) and "Internet service speed" (31.1 percent).

³⁴ See, e.g., "Comcast to Deliver Gigabit Internet Service in Detroit Over Its Existing Network Infrastructure," Comcast Corporation Press Release (Nov. 1, 2016) ("The base price of the new service with no contract is \$139.95 per month."). This price does not include other taxes and fees.

³⁵ See, e.g., Jon Brodtkin, "Comcast takes \$70 gigabit offer away from cities near Chicago," *Ars Technica* (Nov. 15, 2016); see also Chris Moran, "Thanks to Google Fiber and AT&T, Comcast Gigabit Service Will Only Cost \$70 in Atlanta," *Consumerist* (Mar. 15, 2016).

Because these networks are coming anyway, any tax relief tied to these deployments can only be viewed as wasteful spending. That means this particular flavor of infrastructure policy advanced by Chairman Pai is nothing more than a wealth transfer from taxpayers to the big multinational banks that hold equity in these cable and phone companies that stand to benefit from such tax breaks. Put simply, why should taxpayers subsidize any portion of AT&T's pending 10-million location fiber deployments, or Comcast's pending 56 million location DOCSIS 3.1 deployments, when these companies have already budgeted and planned for those expenses?

The answer cannot be that such corporate gifts would trickle down to the public, because that explanation simply highlights the inherent inefficiency and wastefulness of this approach when there is no reason to expect more affordable prices for the offerings on these networks.

If the Commission is serious about closing the digital divide, there are far better policy approaches than lavishing gigabit tax breaks upon ISPs.

If tax breaks are the preferred mechanism to close the digital divide, these breaks should be directed towards internet users, not carriers. Gigabit deployment incentives won't move the adoption needle at all, but the same amount of money spent on targeted tax credits for individual low-income families would. Imagine how many young children would benefit if their parents received a \$10 monthly credit for internet access services, compared to how these people's lives would be impacted by the availability of gigabit access services they cannot afford.

Or, if the toxic nature of our current politics means that tax credits for families are a non-starter – and it must be tax breaks for corporations – then those gifts should be precisely targeted at increasing adoption in low-income communities. Instead of allowing ISPs to write off a substantial portion of their pre-existing deployment plans, why not give incentives to carriers who market free or low-cost broadband on just, reasonable, and nondiscriminatory terms to low-income communities?

Tax policy is of course not the domain of the Commission. The agency has the expertise to advise Congress on the potential impact of tax policy changes; but if it wants to move the needle on the digital divide, the Commission must use its existing authorities granted by Congress in the Communications Act. Changes to the Federal Universal Service Fund, begun by former Chairman Genachowski and continued by Chairman Wheeler and now Chairman Pai, are one way to address the rural/urban deployment gap. Free Press participated in these proceedings, and we largely welcome the general trajectory of USF modernization.

But as noted above, the rural deployment problem has long received outsized attention compared to the overall affordability gap. It's far past time for the Commission to devote the same level of commitment to the problem of affordability as it has to the problem of rural deployment. The first step is admitting the problem: the Commission must acknowledge the lack of wired home-internet competition and the existence of ISP market power, and make safeguarding against monopoly abuses a top priority.

This job must start with the Commission doing the central job of a regulatory agency: using public policy to correct market failure. The lack of a robust wholesale/resale market for

wired home broadband is an example of such a market failure. If the Commission wishes to make the digital divide a thing of the past, it must take steps to encourage the development of a robust wholesale/resale market for wired home-internet services.

One of the primary benefits of creating a robust resale market would be the likely development of a prepaid market. While ISPs may want to hedge against the costs resulting from customer non-payment by requiring credit checks and cash deposits, many customers who are not a material risk are denied services because of their inability to pass a credit check or offer a cash deposit. Resellers in the wireless market have been more than willing to shoulder this risk, and it has resulted in higher earnings for the facilities-based providers as well as more equitable adoption opportunities for those who might otherwise be shut out entirely due to poor credit ratings. Thus, a central goal of the Commission's strategy to close the digital divide must be the creation of a resale market and a prepaid market for home internet services.

The Commission must also act now to ensure that ISPs are not using credit scores to discriminate unreasonably on the terms and services they offer. This credit check barrier is a feature of today's duopoly home internet market, keeping families who could otherwise afford home access on the wrong side of the digital divide. While credit check barriers are already harming adoption, recent developments raise the specter that ISPs might use these checks as a tool to determine the quality of customer service a paying subscriber receives. For example, Cable One indicated last year that it might offer customers with lower credit scores a lower quality of customer care. The Washington State attorney general sued Comcast for many customer-service failings, including obtaining deposits from customers with high credit scores, improperly running credit checks on customers who paid a deposit to avoid a credit check, and improperly collecting deposits from customers who were not required to pay a deposit. The Communications Act has specific requirements that telecommunications services such as broadband internet access be offered on a reasonable and non-discriminatory basis, and the Commission must be vigilant in its efforts to enforce these requirements. This is one reason among many that it would be wrong for the Commission to reverse course on its correct decision to once again place broadband access services under the protective umbrella of Sections 201 and 202 of the Communications Act.

Finally, while rural deployment challenges account for only a small portion of overall adoption gap, these challenges are very real and require continued Commission action. Our research suggests that the benefits of rural deployment subsidies are not being felt equitably in rural communities of color. Therefore, we urge the Commission to replicate our analysis, and ensure that Connect America Fund dollars are going to all needy rural communities, regardless of the racial/ethnic composition in those areas.

In conclusion, we applaud Chairman Pai's use of the bully pulpit to push the Commission, Congress and industry to take meaningful action to finally close the digital divide. But we hope that the Chairman and Commissioners recognize the need for smart policies, not long-preferred ones. The United States needs real leadership. People struggling without internet access do not need politicians cynically using their plight as the justification for corporate tax gifts, when there's no reasonable expectation that such actions would ease that plight in the slightest.

Sincerely,

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