



## TABLE OF CONTENTS

	<u>Page</u>
<b>SUMMARY</b> .....	ii
<b>I. INTRODUCTION</b> .....	1
A. The U.S. Leads the World in Internet Use and Growth.....	1
B. The U.S. Leads the World in Broadband Services and Technologies.....	5
<b>II. THE COMMISSION HAS AMPLE AUTHORITY TO RESTORE THE INFORMATION SERVICE CLASSIFICATION OF BROADBAND INTERNET ACCESS SERVICE</b> .....	14
A. Evidence in the Record Would Have Supported Alternative Conclusions on Important Issues Underlying the <i>2015 Order</i> .....	17
1. Evidence Refuted the “Gatekeeper” Theory as Basis for Regulation .....	17
2. Evidence Before the Commission Showed Significant Competition Among Broadband Providers .....	23
B. The Evidence in the Record Did Not Show a Change in Circumstances, But Rather Supported Continued Classification of Broadband Internet Access as an Information Service.....	30
<b>III. CONCLUSION</b> .....	36

## SUMMARY

Broadband networks depend on billions of dollars of capital investment every year to meet the demands of consumers and businesses that depend on the internet and the access to information, jobs and services that it brings. The data show that regulatory structures matter; in the telecommunications sector, in particular, one global investment analysis believes that regulation is the most powerful determinant of outcomes, and that “the ramifications of regulatory decisions ... extend to determining a given country’s or region’s prospects of securing an advantageous level of network investment.”<sup>1</sup> As detailed below, countries with heavy-handed, backwards looking regulatory schemes like Title II suffer from investment levels far below those in the U.S.

In order for the U.S. to retain its leading role in shaping and benefiting from the internet and to maintain its global competitiveness, the Commission must adopt a forward-looking regulatory structure for broadband internet access that will encourage the investment and innovation that our country needs. We are confident that the Commission has authority to restore the prior regulatory framework for internet access services, which recognized that light touch regulation was more appropriate. Ample evidence in the record supported alternative conclusions on many of the issues the Commission relied upon to reclassify. Moreover, the purported change in circumstances found by the previous Commission had little basis in fact, as it was based on analysis of selective evidence in the record rather than a careful consideration and balancing of all available evidence. That the court gave deference the Commission’s sleight-of-hand approach to regulating does not prove that the Commission or the court got the underlying substance right.

There are no legal impediments to the Commission taking the pro-consumer, pro-investment step of restoring the bi-partisan light-handed Title I approach to broadband services that produced so much success over the last decades. Our broadband provider members have long been committed to delivering to their customers an open internet that meets consumer expectations. Returning to a Title I approach to broadband will not alter that commitment. A lasting congressional solution is needed, but, in the interim, the Commission must undo the harm caused by the underlying order.

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<sup>1</sup> HSBC, “Global Telecoms: Regulatory Heatmap – A Temperature Check,” October, 2016.

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C.**

In the Matter of )  
 )  
Restoring Internet Freedom ) WC Docket No. 17-108  
 )  
 )  
 )

**COMMENTS OF  
USTELECOM ASSOCIATION**

USTelecom is pleased to submit its comments to the Federal Communications Commission’s (Commission or FCC) Restoring Internet Freedom proceeding in response to the Notice of Proposed Rulemaking (Notice),<sup>2</sup> which undertakes a much-needed review of the *Title II Order* that puts at risk the very freedoms and openness it purports to protect.<sup>3</sup> We agree that the internet should not be subject to utility-style regulations, and offer our views on why the Title II reclassification must be reversed.

**I. INTRODUCTION**

**A. The U.S. Leads the World in Internet Use and Growth.**

Exponential growth in new 21st Century high-speed broadband networks, services, and applications has transformed daily lives and reshaped the national and global economies. The Internet economy accounts for an estimated 5 percent of U.S. GDP and a greater share of recent

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<sup>2</sup> Restoring Internet Freedom, *Notice of Proposed Rulemaking*, WC Docket NO. 17-108, FCC 17-60 (rel. May 23, 2017).

<sup>3</sup> Protecting and Promoting the Open Internet, *Report and Order on Remand, Declaratory Ruling, and Order*, GN Docket No. 14-28, FCC 15-24 (rel. Mar. 12, 2015)

economic growth – as much as 15 percent by some estimates.<sup>4</sup> Today, Americans spend an average of more than three hours per day online, with that total rising rapidly as broadband penetration grows and Internet use displaces traditional media and other activities.<sup>5</sup> The average U.S. consumer now spends less than \$500 per year to access the Internet, and in return receives an average annual benefit of approximately \$3,000.<sup>6</sup>

Since the Internet was first commercialized during the Clinton Administration, bipartisan policies helped promote private sector investment and light-touch regulation under which the broadband Internet economy thrived. Unlike voice services, broadband services – both wired and wireless – have been competitive from the outset. The FCC long ago classified broadband as a Title I service and thereby exempted broadband from any overhang of rate and other onerous economic regulations that typically impede investment and hinder innovation. On the whole,

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<sup>4</sup> See, e.g., David Dean et al., Boston Consulting Group, *The Internet Economy in the G-20*, at 49 (Mar. 2012), <https://www.bcg.com/documents/file100409.pdf> (Internet economy made up 4.7 percent of GDP in 2010, and estimated to make up 5.4 percent of GDP in 2016); Organisation for Economic Cooperation and Development (OECD), *OECD Internet Economy Outlook 2012*, at 282, Table A5 (Oct. 4, 2012), [http://www.keepeek.com/Digital-Asset-Management/oecd/science-and-technology/oecd-internet-economy-outlook-2012\\_9789264086463-en#page284](http://www.keepeek.com/Digital-Asset-Management/oecd/science-and-technology/oecd-internet-economy-outlook-2012_9789264086463-en#page284) (in 2010, the Internet generated 4.65-7.21 percent of U.S. GDP); McKinsey Global Institute, *Internet Matters: The Net's Sweeping Impact on Growth, Jobs, and Prosperity*, at 16, Exhibit 5 (May 2011), [http://www.mckinsey.com/~media/McKinsey/dotcom/Insights%20and%20pubs/MGI/Research/Technology%20and%20Innovation/Internet%20matters%20-%20Nets%20sweeping%20impact/MGI\\_internet\\_matters\\_full\\_report.ashx](http://www.mckinsey.com/~media/McKinsey/dotcom/Insights%20and%20pubs/MGI/Research/Technology%20and%20Innovation/Internet%20matters%20-%20Nets%20sweeping%20impact/MGI_internet_matters_full_report.ashx) (Internet's contribution to U.S. GDP growth was 15% from 2004-2009).

<sup>5</sup> See, e.g., Leichtman Research Group, Inc., *Research Notes: Actionable Research on the Broadband, Media & Entertainment Industries*, at 5 (4Q 2014), [http://www.leichtmanresearch.com/research/notes12\\_2014.pdf](http://www.leichtmanresearch.com/research/notes12_2014.pdf) (“The mean reported time spent online at home per day is 2.8 hours among all individuals online at home – up from 2.2 hours per day in 2009.”).

<sup>6</sup> See, e.g., David Dean et al., Boston Consulting Group, *The Internet Economy in the G-20*, at 50 (Mar. 2012), <https://www.bcg.com/documents/file100409.pdf> (the average consumer spends \$472 on the Internet while receiving a perceived \$3,000 value, a surplus of \$2,528).

Europe has pursued a markedly more regulatory approach to broadband infrastructure than has the U.S.<sup>7</sup>

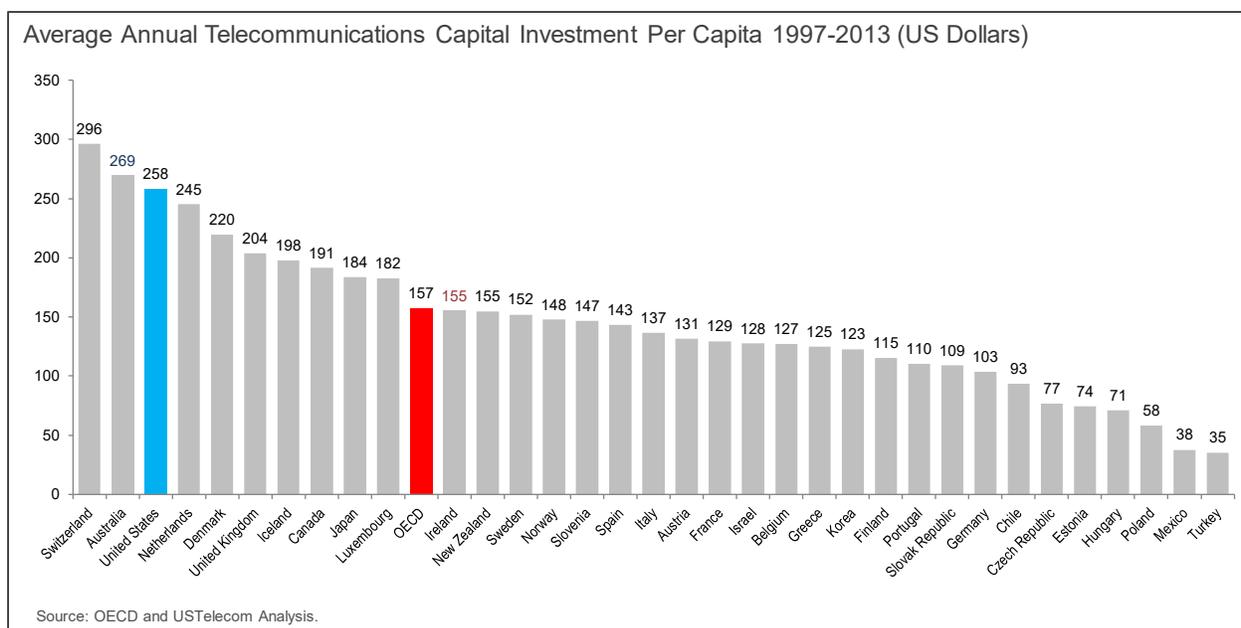
U.S. policies have encouraged more than \$76 billion in private investment in broadband networks in 2015 alone, and more than \$1.5 trillion over the past two decades.<sup>8</sup> As of 2013, United States was third among all nations in per-capita broadband investment, behind only Switzerland and Australia, countries of just 8 million and 23 million people, respectively.<sup>9</sup> See charts below.

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<sup>7</sup> See, e.g., Christopher S. Yoo, *U.S. v European Broadband Deployment: What do the Data Say?* (June 2014) at 1 (“The difference in regulation and competition models influenced the amount of broadband investment in the U.S. and Europe; Robert W. Crandall, Jeffrey A. Eisenach and Allen T. Ingraham, “The long-run effects of copper-loop unbundling and the implications for fiber,” *Telecommunications Policy*, Vol. 37, Issue 4-5, pp. 241-428 (May-June, 2013)

<sup>8</sup> USTelecom, *Broadband Investment*, <http://www.ustelecom.org/broadband-industry/broadband-industry-stats/investment> (“Broadband provider network capital expenditures in 2015 were \$76 billion...[w]ith investments totaling around \$1.5 trillion since 1996....”).

<sup>9</sup> See OECD, *Digital Economy Outlook 2015*, Table 2.31 (July 15, 2015), <http://www.oecd.org/sti/ieconomy/deo2015data/2.31-InvestCapita.xls> (Public Telecommunication Investment Per Capita); OECD, *OECD.Stat: Population*, [http://stats.oecd.org/Index.aspx?DatasetCode=POP\\_FIVE\\_HIST](http://stats.oecd.org/Index.aspx?DatasetCode=POP_FIVE_HIST) (population for Switzerland and Australia).

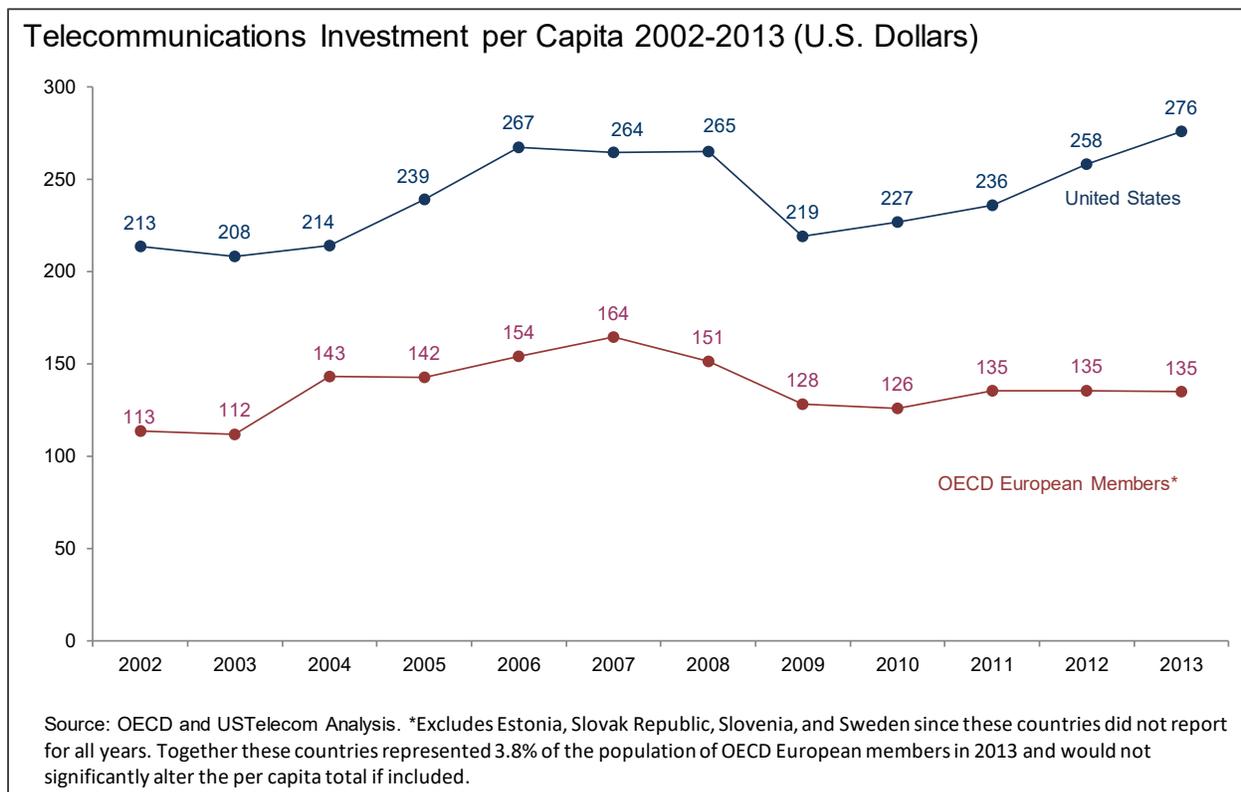


Claims by some interest groups that broadband provider capex actually may have increased in 2015 and 2016 depend on figures that ignore accounting adjustments for certain non-material items like leased cellphones and acquisitions, such as AT&T’s merger with DirecTV and a Mexican wireless operation.<sup>10</sup>

In addition, U.S. investment in broadband on a per capita basis far exceed European levels. The gap is stark as shown below. Europe-wide investment is 51% less, or \$141 less per capita, than in the U.S. If we take this \$141 per person reduction in broadband investment and multiply it by the U.S. population of approximately 315 million in 2013, we would have had \$44.3 billion less investment in U.S. broadband that year. Such a massive reduction in investment would slash

<sup>10</sup> See Pat Brogan, “Broadband Investment Heads in the Wrong Direction,” May 5, 2017, available at: <https://www.ustelecom.org/blog/broadband-investment-heads-wrong-direction>

deployment, capacity upgrades, competition, jobs, productivity and innovation across the internet ecosystem.<sup>11</sup>



## B. The U.S. Leads the World in Broadband Services and Technologies.

U.S. consumers have virtually unrivaled choice in wired and wireless broadband. U.S. policies have successfully promoted next-generation broadband technologies that provide very high-speed connectivity.<sup>12</sup> In 2016, roughly 91 percent of U.S. homes could access networks

<sup>11</sup> For further details, see Patrick Brogan, *Utility Regulation and Broadband Network Investment: The EU and US Divide*, Research Brief (April 25, 2017) available at: <https://www.ustelecom.org/sites/default/files/documents/Utility%20Regulation%20and%20Broadband%20Investment.pdf>

<sup>12</sup> See, e.g., Christopher S. Yoo, University of Pennsylvania & Center for Technology, Innovation & Competition, *U.S. vs. European Broadband Deployment: What Do the Data Say?*, at i (June 2014), <https://www.law.upenn.edu/live/files/3352> (“The difference in regulation and

capable of 25 Mbps and 76 percent of U.S. homes can access networks capable of 100 Mbps.<sup>13</sup> By contrast, in 2016, only 76 percent of European Union homes could access networks capable of 30 Mbps and 49 percent could access broadband services at 100 Mbps.<sup>14</sup> Unlike Europe, the U.S. has benefitted from having widespread competing facilities-based platforms, such as fiber, advanced DSL, and high-speed cable broadband networks.<sup>15</sup> Prior to 2015, these broadband networks had not been subject to the type of regulation that has inhibited the growth of broadband in Europe and much of the world. As of mid-2016, 84 percent of U.S. homes could choose from two or more wired broadband alternatives.<sup>16</sup> By contrast, only 44 percent of

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competition models influenced the amount of broadband investment in the U.S. and Europe. In Europe, where it was cheaper to buy wholesale services from an incumbent provider, there was little incentive to invest in new technology or networks. In the U.S., however, providers had to build their own networks in order to bring broadband services to customers. Data analysis indicates that as of the end of 2012, the U.S. approach promoted broadband investment, while the European approach had the opposite effect (\$562 of broadband investment per household in the U.S. vs. \$244 per household in Europe).”).

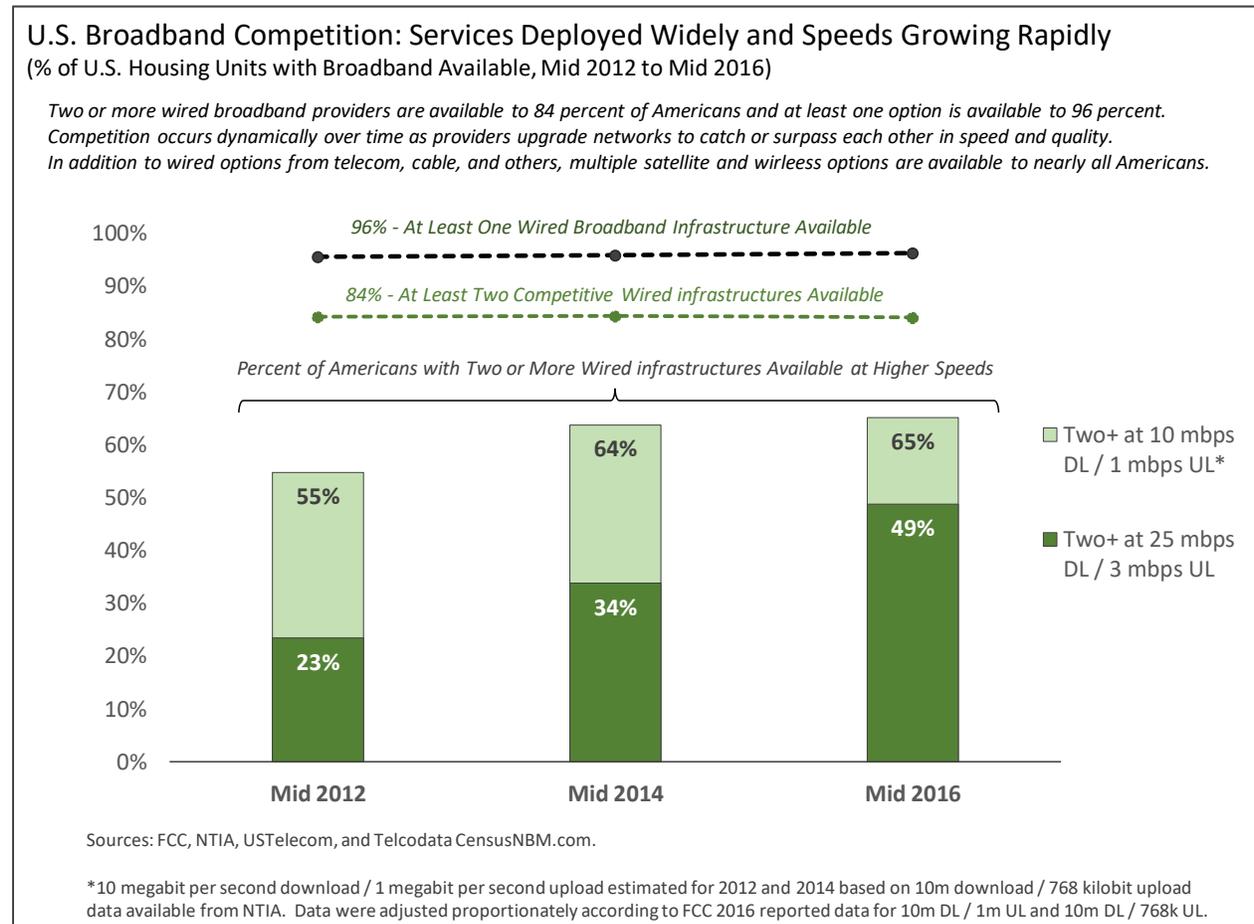
<sup>13</sup> See, e.g., CensusNBM.com, CensusNBM Report 66: National Broadband Availability for Housing Units by Technology - June 30, 2016, available at <http://censusnbn.com/doc/CensusNBM%2066%20Technology%20by%20Speeds%2025M%2050M%20100M%201G.pdf> (visited July 12, 2017).

<sup>14</sup> See, e.g., European Commission, Europe’s Digital Progress Report 2017: Connectivity, available at <https://ec.europa.eu/digital-single-market/en/news/europes-digital-progress-report-2017> (visited July 12, 2017) at 8 and 15.

<sup>15</sup> See, e.g., Roslyn Layton, *When It Comes to High-Speed Internet, The Grass Isn’t Greener in Europe*, Forbes (Feb. 7, 2014), <http://www.forbes.com/sites/realspin/2014/02/07/when-it-comes-to-high-speed-internet-the-grass-isnt-greener-in-europe/> (“Seventy-four percent of Europeans rely on DSL technology – largely because Europe lacks competition among different broadband technologies – whereas only 34 percent of Americans do.”); Roslyn Layton, American Enterprise Institute for Public Policy Research, *The European Union’s Broadband Challenge*, at 4, Table 1 (Feb. 2014), [https://www.aei.org/wp-content/uploads/2014/02/-the-european-unions-broadband-challenge\\_175900142730.pdf](https://www.aei.org/wp-content/uploads/2014/02/-the-european-unions-broadband-challenge_175900142730.pdf) (the availability of cable broadband in the U.S. is 93 percent compared to 42 percent in the E.U.).

<sup>16</sup> CensusNBM.com, CensusNBM Report 69: Percent of Housing Units with Access to Multiple Wired Broadband Providers at Any Speed - June 30, 2016 available at <http://censusnbn.com/doc/CensusNBM%2069%20Wired%20Providers%20by%20State%20at%20an%20Speed.pdf> (visited July 12, 2017).

Europeans could choose from two or more wired broadband providers.<sup>17</sup> Moreover, competitive availability at higher speeds is growing in the U.S. See chart below.



The U.S. is also a world leader in the ubiquitous availability and use of wireless broadband. The U.S. was a global leader in the robust deployment of 4G LTE five years ago; today, this service is available to more than 99 percent of the U.S. population, and more than four of five residents are able to choose among at least four LTE providers.<sup>18</sup> Approximately 40

<sup>17</sup> See, e.g., European Commission, Europe’s Digital Progress Report 2017: Connectivity, available at <https://ec.europa.eu/digital-single-market/en/news/europes-digital-progress-report-2017> (visited July 12, 2017) at 7 (stating that the cable broadband footprint in Europe reaches only 44 percent of homes in 2016).

<sup>18</sup> See, e.g., OpenSignal, *The State of LTE* (Sept. 2015), <https://opensignal.com/reports/2015/09/state-of-lte-q3-2015/> (infographic showing that LTE first

percent or more of U.S. wireless subscribers already choose LTE, compared to 13 percent in Europe and 10 percent in Asia.<sup>19</sup> As a 2014 Deloitte report found: “The United States is in the enviable position of being the global leader in mobile broadband and has recently strengthened its position after losing a significant portion of its lead a few short years ago.”<sup>20</sup>

There has also been massive investment to deliver high-capacity services to U.S. businesses of all sizes, which has been integral to the success of the overall Internet economy. A decade ago, only an estimated 11 percent of the buildings with 20 or more employees had fiber, but in the past decade that has almost quadrupled to nearly 50 percent, with significant expansion underway.<sup>21</sup> Moreover, the percentage of businesses with access to fiber is far greater, given that

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deployed in the U.S. in September 2010, when the U.S. was one of five countries that had deployed LTE); T. Sawanobori & Dr. R. Roche, CTIA, *Mobile Data Demand: Growth Forecasts Met*, at 4 (June 22, 2015) (4G LTE networks cover 98 percent of the population); Comments of AT&T at 3, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, WT Docket No. 15-125 (FCC filed June 29, 2015), <http://apps.fcc.gov/ecfs/document/view?id=60001108102> (“If T-Mobile and Sprint follow through on their announced plans, all four national carriers will have deployed LTE to cover more than 300 million people by the end of 2015 – meaning that about 94 percent of Americans will soon have a choice of at least four LTE providers.”); Cisco, *Visual Networking Index: VNI Forecast Highlights; United States – Mobile Highlights*, <http://www.cisco.com/c/en/us/solutions/service-provider/visual-networking-index-vni/vni-forecast.html> (“The United States’ mobile data traffic grew 63 percent in 2014,” and “will grow 7-fold from 2014 to 2019, a compound annual growth rate of 47 percent.”).

<sup>19</sup> 4G Americas News Release, *Year-End 2014: Nearly Half a Billion LTE Connections Worldwide* (Mar. 11, 2015), <http://www.4gamericas.org/en/newsroom/press-releases/year-end-2014-nearly-half-billion-lte-connections-worldwide/>.

<sup>20</sup> Deloitte, *United States Expands Global Lead in Mobile Broadband: How Policy Actions Could Enhance or Imperil America’s Mobile Broadband Competitiveness*, at 2 (Sept. 2014), <http://www2.deloitte.com/content/dam/Deloitte/us/Documents/technology-media-telecommunications/us-tmt-mobile-index-09262014.pdf>.

<sup>21</sup> See Vertical Systems Group, *U.S. Business Fiber Gap Drops to Half* (April 19, 2017), <https://www.verticalsystems.com/vsgpr/u-s-business-fiber-gap-drops-to-half/> (visited July 12, 2017).

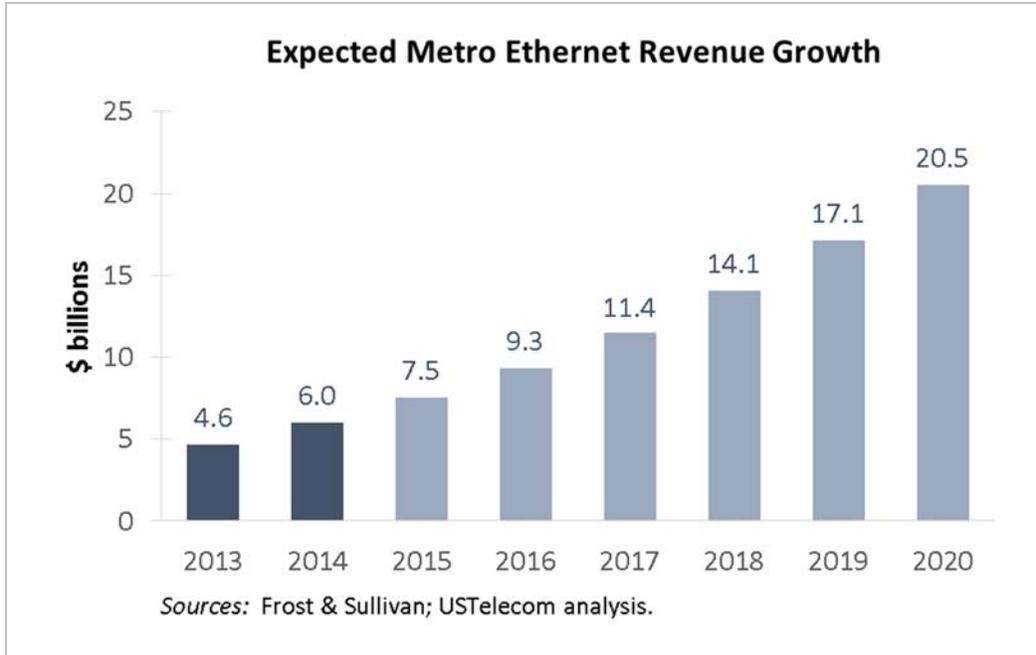
businesses tend to concentrate in multi-tenant structures that are typically the first buildings to attract fiber and other high-capacity facilities.<sup>22</sup>

Widespread fiber deployment has both facilitated and been driven by rising demand for new higher-capacity services that rely on packet-switched Ethernet and Internet protocol-based services. Businesses increasingly use these high-speed services for applications like data center interconnection, disaster recovery, video services, and access to cloud services. Consequently, there is a massive and ongoing migration away from traditional data and Internet access services toward much higher capacity Ethernet services that are tailored to take advantage of the Internet. As a result, Metro Ethernet revenues are expected to grow from more than \$7 billion to more than \$20 billion by 2020.<sup>23</sup>

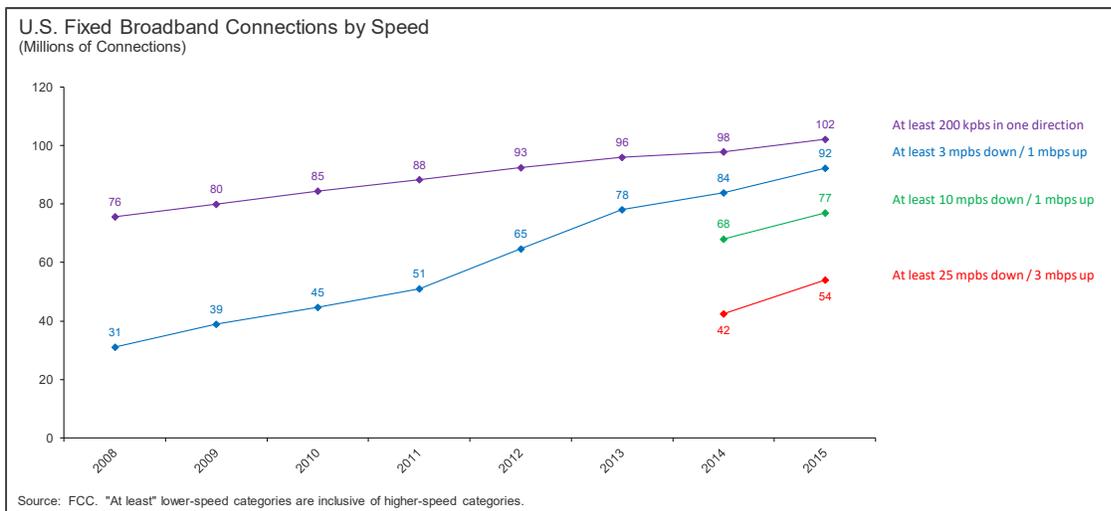
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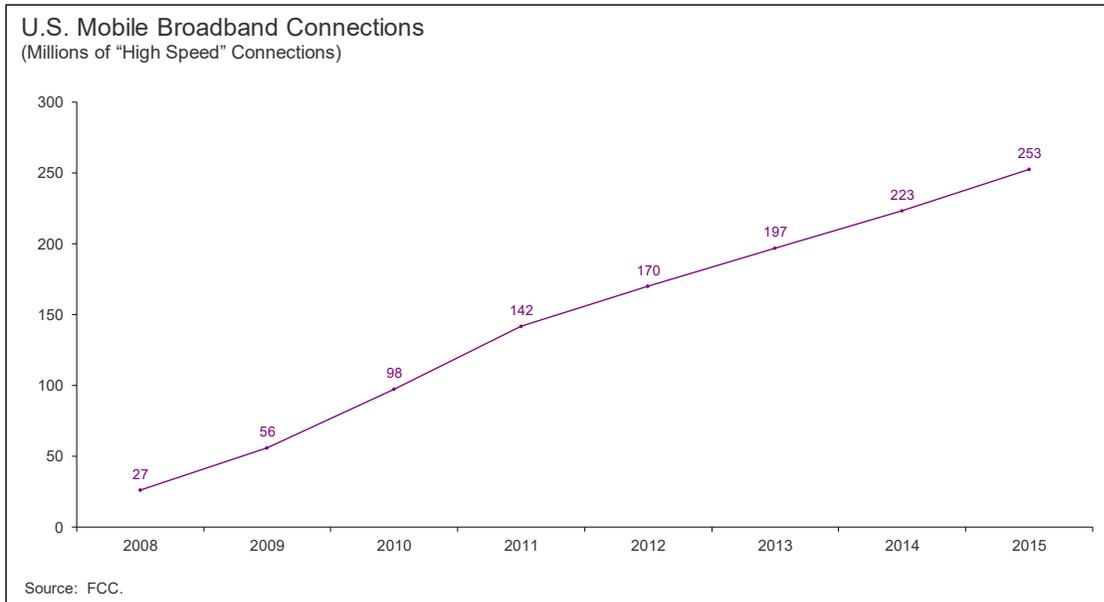
<sup>22</sup> See, e.g., *Unbundled Access to Network Elements*, Order on Remand, 20 FCC Rcd 2533, ¶ 154 (2005) (stating that when competitive LECs are deciding whether and where to build their own facilities, they “target areas that offer the greatest demand for high-capacity offerings (i.e., that maximize potential revenues) and that are close to their current fiber rings (i.e., that minimize the costs of deployment). The evidence in the record shows that the highest concentration of competitive LEC deployment of loops in the central business districts of large metropolitan areas are near where competitors have already deployed fiber rings.”); Jonathan Kraushaar, Ind. Anal. Div., Common Carrier Bureau, FCC, *Fiber Deployment Update End of Year 1998*, at 22 (Sept. 1999) (“[E]conomies of scale can be realized where facilities are provided to large business customers or to other customers concentrated in large buildings.”); Jonathan M. Kraushaar, Ind. Anal. Div., Common Carrier Bureau, FCC, *Fiber Deployment Update: End of Year 1990*, at 28 (1991) (“The key targets of [urban fiber systems] are large downtown office buildings in cities where the deployment cost and regulatory constraints of new fiber systems are not excessive.”).

<sup>23</sup> See Frost & Sullivan, *Business Carrier Ethernet Services Market Update, 2015*, at 37 (Sept. 2015) (metro segment revenue forecast for business carrier Ethernet); Frost & Sullivan, *Wholesale Carrier Ethernet Services Market Update, 2015*, at 30 (Aug. 2015) (metro segment revenue forecast for wholesale carrier Ethernet). See also Nav Chander, IDC, *Market Analysis: U.S. Carrier Ethernet Services 2015-2019 Forecast*, IDC #255002 (Mar. 2015) (“Total Ethernet revenue is expected to grow from \$7.0 billion in 2014 to \$12.1 billion in 2019, a compound annual growth rate (CAGR) of 11.4 percent.”).



The foundation of broadband investment enabled by light touch regulation and facilities-based competition has enabled significant growth in broadband adoption and usage. The charts below show the growth of fixed and mobile broadband subscriptions in the U.S. and growth in the speed of subscriptions.

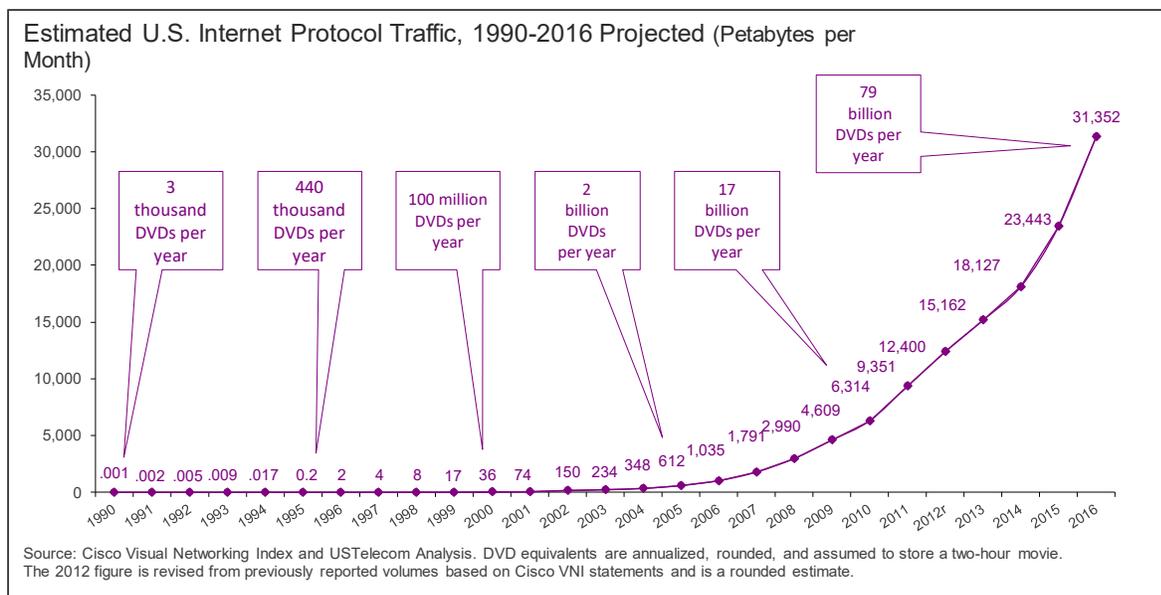




The increasing ubiquity of broadband infrastructure has enabled consumers to use their wireless and wired connections with an ever-expanding array of applications and activities beyond ordinary voice and data communications. Consumers currently use wireless devices to access news and information, listen to music, and watch video. As a result, data traffic is exploding. U.S. Internet Protocol traffic grew 26 percent in 2016 and is expected to grow another three-fold from 2016 to 2021.<sup>24</sup> See chart below. Wireless data traffic alone grew more 40 percent in 2016, and is expected to increase another four-fold or more by 2021.<sup>25</sup>

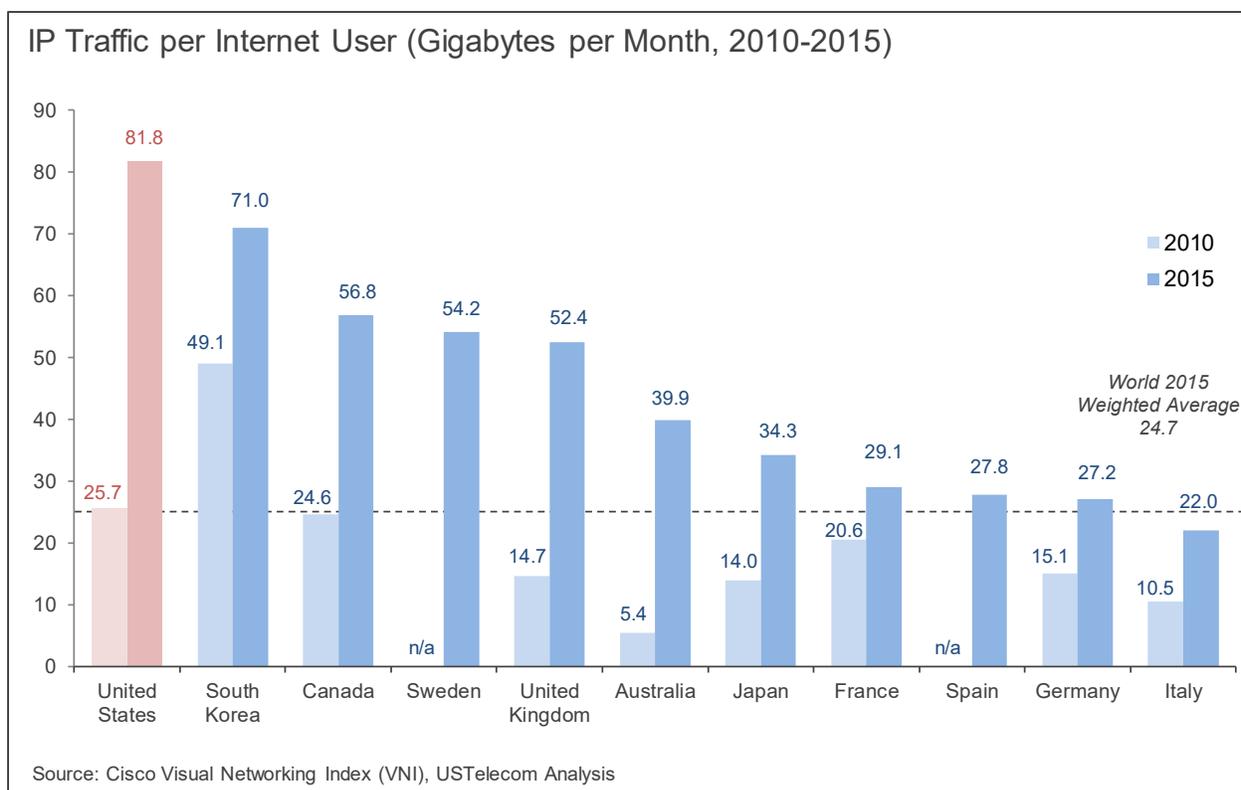
<sup>24</sup> See, e.g., Cisco Visual Networking Index, VNI Forecast Highlights Tool, 2016-2021 available at [http://.cisco.com/c/m/en\\_us/solutions/service-provider/vni-forecast-highlights.html#](http://.cisco.com/c/m/en_us/solutions/service-provider/vni-forecast-highlights.html#) (visited July 12, 2017).

<sup>25</sup> *Id.*



Given this demand growth, the U.S. has become the world leader in IP traffic per capita and per Internet user than any other country for which data are reported by the Cisco Visual Networking Index (VNI). According to Cisco, the U.S. generates more Internet traffic per capita and per Internet user than any other major nation including, South Korea, which the U.S. surpassed as world leader in 2015.<sup>26</sup> See chart below.

<sup>26</sup> See Patrick Brogan, USTelecom, *Projected Internet Traffic Growth Highlights Need for Investment-Friendly Rules* at <https://www.ustelecom.org/blog/projected-internet-traffic-growth-highlights-need-investment-friendly-rules> (June 9, 2017),



The explosion of broadband usage and traffic is driving still further demand for greater capacity at all levels of the network. In order to support the transition from 3G to 4G wireless networks, for example, the “backhaul” connections from wireless cell towers to wireless carrier networks required substantial upgrades. LTE required ten times the bandwidth of 3G, and next-generation standards like 5G wireless will require vastly greater backhaul capacity for each cell site, along with a greater number of cell sites covering smaller geographical areas.<sup>27</sup> The surging need for

<sup>27</sup> See Brian Lavallée, Ciena, *5G Wireless Needs Fiber, and Lots of It* (May 31, 2016) available at [http://www.ciena.com/insights/articles/5G-wireless-needs-fiber-and-lots-of-it\\_prx.html](http://www.ciena.com/insights/articles/5G-wireless-needs-fiber-and-lots-of-it_prx.html) (visited July 13, 2017) (explaining that 5G may require up to 10 Gbps connection rates for devices and up to 1,000 times increased bandwidth per unit area). See also Ron Kline, Ovum, *Mobile Backhaul Forecast Report: 2014-19*, at 10 (July 17, 2014) (Ron Kline, Principal Analyst, Intelligent Networks, Ovum: “As mobile operators transition their networks to 3G and 4G/LTE, they must also evolve their backhaul infrastructure to support higher bandwidth requirements. LTE requires 10x the bandwidth of 3G, and LTE-A bandwidth requirements are 6x that of LTE (66x higher than 3G).”).

high-speed broadband, however, increasingly requires investment in fiber facilities to homes, businesses, and cell sites to support that demand.

## **II. THE COMMISSION HAS AMPLE AUTHORITY TO RESTORE THE INFORMATION SERVICE CLASSIFICATION OF BROADBAND INTERNET ACCESS SERVICE.**

As the Commission is well aware, the Supreme Court squarely determined in 2005<sup>28</sup> that the FCC may lawfully classify broadband Internet access service as an “information service” that is statutorily immune from Title II common-carrier regulation. In 2015, however, the Commission, by 3-2 vote, turned its back on that conclusion, and reclassified broadband Internet access service as a telecommunications service subject to Title II.<sup>29</sup> Crucially, however, the existence of the *2015 Order* – which remains subject to Supreme Court review – creates no legal obstacle to returning regulation of broadband Internet access to the prior, extraordinarily successful regime of light-touch, information service regulation.

The law is exceedingly clear that an agency has the power to change its mind: “An agency’s view of what is in the public interest may change, either with or without a change in circumstances.” *Motor Vehicles Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 57 (1983) (quoting *Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 852 (D.C. Cir. 1970), *cert. denied*, 403 U.S. 923 (1971)). To be sure, among other things, a “more detailed justification” may be necessary when, for example, an agency’s “new policy rests upon factual findings that contradict those which underlay its prior policy; or when its prior policy has engendered serious reliance interests that must be taken into account.” *FCC v. Fox Television*

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<sup>28</sup> See *National Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967 (2005).

<sup>29</sup> Report and Order on Remand, Declaratory Ruling, and Order, *Protecting and Promoting the Open Internet*, 30 FCC Rcd 5601 (2015) (“*2015 Order*”).

*Stations, Inc.*, 556 U.S. 502, 515 (2009); see *Encino Motorcars, LLC v. Navarro*, 136 S. Ct. 2117, 2126 (2015) (agency regulation “was issued without the reasoned explanation” because agency’s explanation ignored “decades of industry reliance on the Department’s prior policy”).<sup>30</sup> Thus, the agency must “display awareness that it *is* changing position,” but that does not mean that, as a substantive matter, the agency is constrained from reaching a different, lawful conclusion. *Id.* at 2128 (emphasis added).

As to questions of statutory interpretation in particular, the Supreme Court has said that “[a]n initial agency interpretation is not instantly carved in stone,” *Chevron, U.S.A., Inc. v. National Res. Def. Council, Inc.*, 467 U.S. 837, 863 (1984). Indeed, “the whole point of *Chevron* is to leave the discretion provided by the ambiguities of a statute with the implementing agency.” *Smiley v. Citibank (S.D.), N.A.*, 517 U.S. 735, 742 (1996). Thus, for example, in *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014), the D.C. Circuit upheld the FCC’s interpretation of Section 706 of the Telecommunications Act of 1996, even though the court believed the agency had previously read the provision differently. As the court reasoned, “so long as an agency adequately explains the reasons for a reversal of policy, its new interpretation of a statute cannot be rejected simply because it is new.” *Id.* at 636 (internal quotation marks omitted). And, of course, the D.C. Circuit (incorrectly, in our view) likewise relied on an agency’s authority to change its mind in upholding, under highly deferential review, the reclassification of

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<sup>30</sup> As Judges Brown and Kavanaugh explained in dissenting from denial of *en banc* review, the D.C. Circuit erred in, among many other things, granting deference to the FCC as to a “major question” where there was no clear congressional indication of an intent to grant authority to the agency, see *U.S. Telecom Ass’n v. FCC*, 855 F.3d 381, 403-04 (D.C. Cir. 2017) (*per curiam*) (*en banc*) (Brown, J., dissenting); *id.* at 419-22 (Kavanaugh, J., dissenting). Restoring the limits to agency authority that the Supreme Court has already approved implicates no such principles. In all events, nothing in these comments should be construed to suggest that the D.C. Circuit applied an appropriate standard of review or correctly decided that case.

broadband Internet access in the *2015 Order*. See *U.S. Telecom Ass’n v. FCC*, 825 F.3d 674, 705 (D.C. Cir. 2016) (affirming the Commission’s decision as not “unreasonable”).

Case law similarly recognizes that agencies can revise their factual conclusions and, relatedly, that the same agency record can permit a range of factual conclusions. “[T]he possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency’s finding from being supported by substantial evidence.” *Domestic Sec., Inc. v. SEC*, 333 F.3d 239, 249 (D.C. Cir. 2003) (internal quotation marks omitted).

Accordingly, courts have deferred to agencies’ changed factual positions as long as the shift is adequately explained. See, e.g., *American Farm Bureau Fed’n v. EPA*, 559 F.3d 512, 521-22 (D.C. Cir. 2009) (explaining that, where EPA reconsidered factual conclusion concerning the reliability of “short-term” air-quality studies, “it need only explain itself and we will defer”).<sup>31</sup>

In this case, there is abundant reason why the Commission may and, in fact, should revisit the reclassification decision reached in the *2015 Order*. In these Comments, we focus on several of those. *First*, the key predicates of that order were incorrect even at that time; at the very least, contrary determinations were fully supported by that record. For example, there was substantial evidence in the record that broadband providers did not hold leverage over edge providers (or end users) by virtue of their supposed “gatekeeper” positions. There was also substantial evidence that consumers in large numbers were not impeded from switching providers by the cost of doing so, and in fact that they would switch if providers degraded or blocked certain content. And, although the Commission specifically disclaimed any market

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<sup>31</sup> Indeed, not only *may* an agency change course where the record permits multiple legitimate course of action, but indeed an agency *must* “consider . . . the wisdom of its policy on a continuing basis.” *Chevron*, 467 U.S. at 863-64. Accordingly, “changes in factual and legal circumstances may impose upon the agency *an obligation* to reconsider a settled policy.” *Bechtel v. FCC*, 957 F.2d 873, 881 (D.C. Cir. 1992) (emphasis added).

power analysis, the *2015 Order* nevertheless implicitly relied on an assumption that broadband providers had market power, despite significant evidence to the contrary. *Second*, the *2015 Order*'s reliance on “[c]hanged factual circumstances” to justify reclassification was not supported by the record.<sup>32</sup> Although the Commission cited changes in consumer perception and in the technical aspects of broadband Internet access, the facts cited were known to Commission long before the 2015 proceeding, and contrary conclusions were amply supported by record evidence.

**A. Evidence in the Record Would Have Supported Alternative Conclusions on Important Issues Underlying the *2015 Order***

**1. Evidence Refuted the “Gatekeeper” Theory as Basis for Regulation**

The *2015 Order* relied in significant part on a finding that broadband providers can “impose barriers to end-user access to the Internet on one hand, and to edge provider access to broadband subscribers on the other,” or, in other words, that broadband providers functioned as “gatekeeper[s]” between end users and edge providers.<sup>33</sup> It was part of the “factual record” that led the Commission to conclude that reconsideration would “most effectively permit the implementation of sound policy consistent with statutory objectives.”<sup>34</sup> The Commission also used this finding to justify its decision not to forbear from application of Sections 201 and 202<sup>35</sup> and its imposition of new rules.<sup>36</sup>

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<sup>32</sup> *2015 Order* ¶ 330.

<sup>33</sup> *Id.* ¶ 80.

<sup>34</sup> *Id.* ¶ 356.

<sup>35</sup> *Id.* ¶ 446.

<sup>36</sup> *See id.* ¶¶ 104-109; *see also id.* ¶ 205 (“We conclude that our actions regarding Internet traffic exchange arrangements are reasonable based on the record before us, which demonstrates that broadband Internet access providers have the ability to use terms of interconnection to

Even in making the finding that broadband providers had “gatekeeper” power, however, the Commission acknowledged that “there is some disagreement among commenters” about whether broadband providers exert significant leverage due to their “gatekeeper” status.<sup>37</sup> There is much general evidence that suggests that no such gatekeeper role exists. From a broad perspective, it is clear that financial markets value edge providers much more highly than broadband providers, undercutting the previous Commission’s conclusion. For example, looking at some of the largest companies on both sides of the Internet provides some interesting perspectives. Financial markets value Google, Amazon and Facebook at \$1.558 trillion compared to a valuation of AT&T, Verizon and Comcast at \$587 billion. Over the last twelve months, the same three edge companies increased their revenues by 25% while the three broadband “gatekeepers” suffered a revenue decrease of about 2%. These edge companies have well over 2 billion users while the three broadband providers have less than 300 million. As of 2016, Apple, Google, and Microsoft had at least \$460 billion in cash and investments on their books, which is more than the combined \$414 billion market capitalization of the three largest USTelecom members as of July 14, 2017: AT&T (\$223m), Verizon (\$178m), and CenturyLink (\$13m).<sup>38</sup> Google and Facebook dominate the market for internet advertising and its substantial and growing revenue stream.<sup>39</sup> And of course, broadband providers vary greatly in size. With

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disadvantage edge providers and that consumers’ ability to respond to unjust or unreasonable broadband provider practices are limited by switching costs.”).

<sup>37</sup> *Id.* ¶ 80.

<sup>38</sup> Yahoo! Finance at <https://finance.yahoo.com/> (visited July 14, 2017).

<sup>39</sup> See, Scott Cleland, “Why Aren’t Google Amazon & Facebook’s winner-Take-All Networks Neutral?” available at: <http://archive.mailermailer.com/view/69691524t-b185bddd%2A1245884p-7241a551> (visited July 14, 2017).

over 1,900 broadband providers in the U.S., no one-size fits all conclusion about blanket gatekeeper control is supportable.

In fact, the record before the Commission provided ample basis to conclude that broadband providers' supposed "gatekeeper" position or "terminating access monopoly" did not give broadband providers any power to engage in unwanted conduct and therefore did not support reclassification or otherwise justify the burdensome regulations imposed by the *2015 Order*.<sup>40</sup>

As different commenters explained, ISPs do not have "terminating access monopol[ies]" that cause market failures. The theory of the "gatekeeper" or "terminating access monopoly is *not* that a provider has market power with respect to the services it offers to its retail customers, but rather that it has market power with respect to its interactions with third parties."<sup>41</sup> With respect to customers or end users, therefore, the "gatekeeper" theory is inapt, and the proper question that the Commission should ask is whether broadband providers have market power in properly defined consumer markets. As explained below, the weight of the evidence before the Commission showed that they did not.

With respect to edge providers, the "gatekeeper" theory also fails. The fact that a broadband provider has the only pathway over the "last mile" to a particular end-user does not, by itself, mean that it has any meaningful *market* power or ability to leverage that particular connection to obtain concessions from an edge provider.<sup>42</sup> And, of course, there is a broadband

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<sup>40</sup> *Id.* ¶ 200 n.505.

<sup>41</sup> Letter from Gary L. Phillips, AT&T Services, Inc., to Marlene H. Dortch, Secretary, FCC, at 7, GN Docket Nos. 10-127 & 14-28 (Feb. 2, 2015) ("AT&T 2/2/2015 Letter").

<sup>42</sup> *Id.*; see also Jonathan E. Nuechterlein & Christopher S. Yoo, *A Market-Oriented Analysis of the "Terminating Access Monopoly" Concept*, 14 *Colo. Tech. L.J.* 21, 32 (2015) ("[A]ny consumer-facing network provider has, in some sense, 'monopoly' or 'gatekeeper' power over

connection at each end of the content path, to a consumer selecting a video and to the video provider that will provide. There is no reason to single out the connection to a consumer as being one that is somehow a gate while the connection to the content provider (generally provided by a different company) would not be. And, as AT&T pointed out in its comments, the problem of the “terminating access monopoly is a creature unique to the legacy telephone network.”<sup>43</sup> The pre-2001 market for long-distance telephone calls, for example, arguably resulted in market failures because, under the relevant regulations, local exchange carriers could charge interexchange carriers inflated rates for terminating access traffic, and the interexchange carriers could not refuse to pay.<sup>44</sup>

This problem does not arise in the market for broadband interconnection, because an edge provider can choose from a variety of alternative routes to convey its traffic to an ISP, removing the leverage of any particular ISP.<sup>45</sup> Various commenters explained that those many alternative routes – created by a well-functioning market – prevent an ISP from acquiring monopolistic leverage over edge providers.<sup>46</sup> Indeed, “[a]ny edge provider can get its traffic delivered to an

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*access to its single-homed customers, but that concept is not particularly edifying as a tool for understanding what factors actually shape interconnection arrangements.”*

<sup>43</sup> Reply Comments of AT&T Services, Inc., at 100, GN Docket Nos. 10-127 & 14-28 (Sept. 15, 2014).

<sup>44</sup> *Id.* at 100 n.357; *see also* Andres V. Lerner & Janusz A. Ordovery, *The “Terminating Access Monopoly” Theory and the Provision of Broadband Internet Access*, at 3 (attached to Letter from Kathleen Grillo, Verizon, to Marlene H. Dortch, Secretary, FCC, GN Docket Nos. 10-127 & 14-28 (Jan. 15, 2015)).

<sup>45</sup> Reply Comments of AT&T Services, Inc., at 101-02.

<sup>46</sup> *See id.* at 100; Reply Comments of National Cable & Telecommunications Ass’n at 35, GN Docket Nos. 10-127 & 14-28 (Sept. 15, 2014) (“[A]ny commercial dispute between an ISP and a network provider does not prevent an edge provider from delivering its content through one of the various other paths available.”); Letter from Kathryn A. Zachem, Comcast, Corp., to Marlene H. Dortch, Secretary, FCC, at 4, GN Docket Nos. 10-127 & 14-28 (Jan. 30, 2015).

ISP's customers *without any direct commercial relationship with that ISP.*"<sup>47</sup> That is because networks accept and deliver traffic from any number of other networks, whether on a "peering" basis (without payment, two networks agree to exchange traffic between each other's customers), a "transit" basis (one network pays another to deliver traffic between any two locations), or an "on-net-only" basis (with payment, but only between the two networks' customers).<sup>48</sup> Each network is connected to many other networks, so there are "redundant relationships on the backbone" of the Internet, and "many entities play" "dual roles" (for example, as both content delivery network and transit provider).<sup>49</sup> Thus, edge providers "frequently vary their traffic delivery techniques,"<sup>50</sup> and can choose not to deal directly with an ISP ("A") by routing traffic through another ISP ("B") who has agreed to deliver traffic to A's customers – or by routing traffic through networks C and D, which directly or indirectly route traffic to A, and so forth.

The *2015 Order* stated that "[w]ithout multiple, substitutable paths to the consumer, and the ability to select the most cost-effective route, edge providers will be subject to the broadband provider's gatekeeper position."<sup>51</sup> But based upon the evidence in the record, there *were* "multiple, substitutable paths" in the relevant area – the network between edge providers and ISPs. "In short, there is a vibrant marketplace for backbone, Internet transit, and CDN services, giving all edge providers a multiplicity of routes (including many settlement-free routes) into

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<sup>47</sup> *Id.* at 5.

<sup>48</sup> Reply Comments of AT&T Services, Inc., at 95-99; *see also* Comments of CenturyLink, at 17-20, GN Docket Nos. 10-127 & 14-28 (July 17, 2014) (comparing various providers' offers).

<sup>49</sup> *See* Comments of Comcast Corp., at 33, GN Docket Nos. 14-28 & 10-127 (July 15, 2014).

<sup>50</sup> Comments of CenturyLink, at 18.

<sup>51</sup> *2015 Order* ¶ 80.

broadband providers' networks."<sup>52</sup> Those alternative routes should have led the Commission to conclude that "there is no realistic prospect that a broadband provider in today's marketplace would or could force an edge provider to pay a 'toll' for delivering content to end users, at any level of priority."<sup>53</sup>

Likewise, the idea that every ISP has market power because it is a "gatekeeper" to its subscribers is clearly rebutted by the position of small broadband providers. The suggestion that ISPs with only tens or even hundreds of thousands of end-users could have market power over an edge provider like Netflix is contrary to both common sense and the experience of those ISPs.<sup>54</sup> Indeed, Netflix has set minimum size requirements for ISPs to enter into certain kinds of mutually beneficial arrangements.<sup>55</sup> Even compared to larger broadband providers, the largest edge providers have leverage because consumers demand access to those providers as part of their broadband service. As commenters explained, "[i]f a broadband provider were to approach one of these [content] hyper-giants and threaten to block or degrade access to its site if it refused to pay a significant fee, such a strategy almost certainly would be self-defeating, in light of the immediately hostile reaction of consumers to such conduct."<sup>56</sup> A broadband offering that lacked

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<sup>52</sup> Comments of Cox Communications, Inc., at 17, GN Docket Nos. 10-127 & 14-28 (July 18, 2014); *see also id.* ("Redundant network architecture gives edge providers substantial control over the arrangements through which their Internet traffic flows to and from Cox's and other Internet service providers' networks.").

<sup>53</sup> *Id.* at 2; *see also* Reply Comments of Cox Communications, Inc. at 17-18, GN Docket Nos. 10-127 & 14-28 (Sept. 15, 2014).

<sup>54</sup> *See* Letter from Barbara S. Esbin, American Cable Ass'n, to Marlene H. Dortch, Secretary, FCC, at 4, GN Docket Nos. 10-127 & 14-28 (Feb. 2, 2015) ("These [small] operators described how, rather than trying to congest their interconnection points for the purpose of demanding payments from edge providers, they have had to work hard to even get the attention of OTT video distributors for the purpose of enabling a better consumer experience.").

<sup>55</sup> *Id.*

<sup>56</sup> Comments of National Cable & Telecommunications Ass'n at 16, GN Docket Nos. 10-127 & 14-28 (July 15, 2014); *see also* Comments of Verizon and Verizon Wireless at 19, GN Docket

access to Netflix – which during the comment period had 35 million subscribers, more than any fixed broadband provider<sup>57</sup> – could not be successful.

All of this evidence leads to the conclusion that broadband providers’ so-called “terminating access monopoly” does not give ISPs leverage over edge providers that they could use to extract fees or otherwise engage in anticompetitive behavior.<sup>58</sup> Accordingly, the Commission erred, and acted in a manner contrary to substantial record evidence, in concluding otherwise in 2015.

## **2. Evidence Before the Commission Showed Significant Competition Among Broadband Providers**

The Commission specifically disclaimed any “conclu[sion] that market power exists in the hands of one or more broadband providers,” and stated that the *2015 Order*’s regulations “do not address, and are not designed to deal with, the acquisition or maintenance of market power or its abuse, real or potential.”<sup>59</sup> However, the Commission also made a finding that “competition for broadband Internet access service . . . is limited in key respects.”<sup>60</sup> This finding was based on the fact that “the majority of Americans face a choice of only two providers of fixed broadband for service at speeds of 3 Mbps/768 kbps to 10 Mbps/768 kbps, and no choice at all (zero or one

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Nos. 10-127 & 14-28 (July 15, 2014) (“Large Internet incumbents such as Google, Netflix, and Amazon have undeniable power to affect the consumer experience online and Internet openness, and the reach of these companies often dwarfs that of particular ISPs.”) (footnotes omitted).

<sup>57</sup> Reply Comments of National Cable & Telecommunications Ass’n at 35.

<sup>58</sup> “[T]he reality [is] that large edge providers often have far more market leverage than a broadband ISP.” Comments of Time Warner Cable Inc., at 24, GN Docket Nos. 10-127 & 14-28 (July 15, 2014).

<sup>59</sup> *2015 Order* ¶ 11 n.12. As commenters have noted, the Commission also declined to conduct a market power analysis in the 2010 Open Internet Order. *See, e.g.*, AT&T 2/2/2015 Letter, at 4.

<sup>60</sup> *2015 Order* ¶ 444; *see also id.* ¶ 81 (referring to high switching costs).

service provider) for service at 25/3 Mbps,” as well as what the Commission called “significant” costs of switching between providers.<sup>61</sup>

In fact, however, evidence before the Commission supported the conclusion that broadband providers were in fierce competition with each other in most markets, thus undermining the Commission’s reasoning in evading market-power analysis. As commenters noted, 99% of U.S. households were in census tracts where at least two wireline broadband providers competed, and 86% where three did so.<sup>62</sup> Including mobile – which, as Judge Williams wrote, “at least at the margin must operate in competition with suppliers of fixed broadband”<sup>63</sup> – raised the percentage of Americans with three options to “roughly 100 percent.”<sup>64</sup>

Beyond that, as the Commission has recognized, wireline broadband providers compete in localized markets, and assessing the level of competition (or, conversely, determining whether particular providers have market power) requires discrete local analyses. “The differences in the number of providers in different areas of the country just scratches the surface of the determinations the Commission would have to make before it could find that any broadband provider has market power.”<sup>65</sup> Although no complete analysis was therefore conducted,

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<sup>61</sup> *Id.* ¶ 444.

<sup>62</sup> Letter from Kathryn A. Zachem, Comcast, Corp., to Marlene H. Dortch, Secretary, FCC, at 10, GN Docket Nos. 10-127 & 14-28 (Dec. 24, 2014) (“Comcast 12/24/2014 Letter”) (citing December 2013 numbers); *see also* Letter from Matthew A. Brill, National Cable & Telecommunications Ass’n, to Marlene H. Dortch, Secretary, FCC, at 16, GN Docket Nos. 10-127 & 14-28 (Dec. 23, 2014) (“NCTA 12/23/2014 Letter”) (citing June 2013 numbers, which were 99% and 78% respectively).

<sup>63</sup> *U.S. Telecom Ass’n*, 825 F.3d at 750 (Williams, J., concurring in part and dissenting in part).

<sup>64</sup> Comcast 12/24/2014 Letter, at 10; NCTA 12/23/2014 Letter, at 16.

<sup>65</sup> AT&T 2/2/2015 Letter, at 5.

available analyses of individual providers showed competitive markets. For example, Verizon provided analysis showing that in almost every area where Verizon offered either fiber-based or DSL Internet access, it competed against cable.<sup>66</sup> That analysis also explained that “[t]he empirical evidence in the current context contradicts the conclusion that there is limited competition because of the ‘duopoly nature’ of the wireline Internet access industry.”<sup>67</sup> Instead, even two options for consumers gave providers the necessary incentives to keep prices low and innovation high.<sup>68</sup> In such areas, experience has shown that wireline broadband providers have competed by lowering prices and increasing speeds to draw subscribers.<sup>69</sup>

This conclusion is further supported by the reality recognized by Judge Williams: fixed broadband competes with mobile. Even in 2014, it was already “clear that wireless broadband services are adequate substitutes for wireline broadband services for purposes of determining levels of competition.”<sup>70</sup> Commenters explained that “the dramatic increases in speeds and network capacity enabled by 4G deployments over the last few years have made head-to-head competition between fixed and mobile broadband services a far more prevalent phenomenon.”<sup>71</sup> The trend of increasing mobile broadband speeds will continue to make wireless a substitute for wireline – at least for the marginal consumer, which is where competition occurs.<sup>72</sup>

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<sup>66</sup> Lerner & Ordovery, *supra*, at 24-25.

<sup>67</sup> *Id.* at 25.

<sup>68</sup> *Id.* (documenting competition between fiber and cable ISPs to cut prices and increase speeds).

<sup>69</sup> *Id.* at 26-27 (documenting a 50% price cut by Time Warner Cable in 2013 to compete with Verizon); *see also* Comments of CenturyLink, at 10 n.33 (comparing various providers’ offers).

<sup>70</sup> *Id.* at 9 n.28.

<sup>71</sup> Comments of Cox Communications, at 9-10, GN Docket Nos. 10-127 & 14-28 (July 18, 2014).

<sup>72</sup> *See* Comments of CenturyLink, at 12 (“Thus . . . broadband wireless competition helps to constrain wireline broadband prices and service quality because there are customers ‘at the margin’ who would substitute wireless broadband service for wireline service if the wireline

The Commission’s suggestion in the *2015 Order* that there was insufficient competition relied in significant part on its finding that the majority of Americans live in areas where they have at most one provider offering download speeds of 25 Mbps.<sup>73</sup> That bears on *competition*, however, only to the extent that 25 Mbps service does not compete with lower-speed service. In fact, all available evidence suggested that the opposite was true. For one thing, as the Commission found in its 2015 report, less than a third of consumers who had the option to pay for the faster service did so.<sup>74</sup> Clearly, while some end users were willing to pay more for such speeds, others were not (at least, at the available price). And while many consumers would switch providers to obtain a higher Internet speed, the evidence also indicated that they would be willing to switch providers – including to a slower service – if their provider attempted to interfere with content transmission.<sup>75</sup> In short, there was no reasoned basis for setting 25 Mbps as a threshold for determining whether consumers have meaningful choices among providers.

The Commission also cited high costs of switching between providers to support its view that competition was “limited in key respects.” However, there was substantial evidence in the record that switching costs do not materially impede consumers’ ability to choose a provider. To

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provider priced services too high or engaged in activities that reduced service performance.”); *see also* Letter from Timothy M. Boucher, CenturyLink, to Marlene H. Dortch, Secretary, FCC, at 6, GN Docket Nos. 10-127 & 14-28 (Feb. 4, 2015) (citing top mobile broadband speeds already exceeding 50 Mbps).

<sup>73</sup> *Order* ¶ 81.

<sup>74</sup> *In re 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, as Amended by the Broadband Data Improvement Act*, ¶ 42, GN Docket No. 14-126 (Jan. 29, 2015).

<sup>75</sup> *See* Comcast 12/24/2014 Letter, at 10 & n.42 (citing a Global Strategy Group survey showing that 79% of respondents would switch to a slower provider if their provider interfered with or blocked content); *see also* Comments of U.S. Telecom Ass’n, at 12 & nn.42-43, GN Docket Nos. 10-127 & 14-28 (July 16, 2014).

begin with, commenters pointed to the high baseline churn rate: One study found that broadband providers experienced annualized churn rates between 28.8% and 36%.<sup>76</sup> Another study found that about 17% of customers had switched in the last 12 months, and nearly a third in the last two years.<sup>77</sup> The Commission’s own data, in fact, revealed that a large majority of consumers considered it at least somewhat easy to switch broadband providers.<sup>78</sup> That 2010 study by the Commission itself – which the *2015 Order* disregarded on this issue – found that more than a third of respondents had switched providers at least once in the prior three years.<sup>79</sup> This churn rate exceeded that for the cellphone market.<sup>80</sup> 86% of those that had experienced switching providers found the process “easy” or “somewhat easy.”<sup>81</sup> Those consumers switched primarily to get faster service and better prices, hallmarks of competitive choice and competitive markets.<sup>82</sup> And out of the 62% who stated that they had not, 33% of responders thought it would be very easy to switch, while 30% considered it somewhat easy.<sup>83</sup> Thus, a significant majority of

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<sup>76</sup> See *id.* at 12 & n.42 (citing J. Gregory Sidak & David J. Teece, *Innovation Spillovers and the “Dirt Road” Fallacy: The Intellectual Bankruptcy of Banning Optimal Transactions for Enhanced Delivery over the Internet*, 6 J. Comp. L. & Econ. 521, 564-65 (2010)).

<sup>77</sup> Lerner & Ordovery, *supra*, at 27 (citing a Global Strategy Group survey).

<sup>78</sup> Comments of U.S. Telecom Ass’n, at 12-13 & n.44 (citing FCC, Working Paper, *Broadband Decisions: What Drives Consumers to Switch – Or Stick With – Their Broadband Internet Provider*, at 3 (Dec. 2010) (“FCC Working Paper”)). Wireless broadband providers’ churn rates are at least as high. See Lerner & Ordovery, *supra*, at 10-11 (rates as high as 26% per year).

<sup>79</sup> FCC Working Paper, at 5.

<sup>80</sup> FCC Working Paper, at 5-6.

<sup>81</sup> FCC Working Paper, at 10.

<sup>82</sup> FCC Working Paper, at 3.

<sup>83</sup> *Id.* at 3; see *id.* at 7 (only a combined 10% of the 62% who had not switched considered it very difficult or impossible, indicating that the overwhelming majority of consumers could switch if faced with degraded service).

those surveyed by the Commission who had not switched providers in the last three years believed that the process would not be a barrier.

Plainly, however the Commission's own data is analyzed, broadband consumers switch providers frequently, do so to get better prices and/or service, hallmarks of a competitive market. Thus, the Commission's own data showed that switching costs were not significant for the majority of consumers.

Switching, moreover, has become easier as the broadband ecosystem has evolved. In wireless broadband, switching costs have diminished in recent years, as telephones have become increasingly portable between providers, and as some providers have offered to pay new customers' early termination fees.<sup>84</sup> In fixed broadband, providers have offered similar incentives,<sup>85</sup> and contracts are generally shorter (often month-to-month), so the cost of switching is generally lower to start.<sup>86</sup> The existence of high churn rates and low switching costs has led providers to "offer bundles, promotions, 'price for life' guarantees, [and] discounts," in order to "stave off defections."<sup>87</sup> "Generally, customer switching between competing suppliers is evidence that consumers have viable competitive alternatives."<sup>88</sup> And plainly, broadband providers have not treated end users as "locked in" and unable to depart for a competitor.

Although the Commission stated that "generalized information about the extent of switching among broadband providers does not address the specific concerns that we identify

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<sup>84</sup> See Lerner & Ordovery, *supra*, at 13-14.

<sup>85</sup> Comments of U.S. Telecom Ass'n, at 13-14 & nn.49-56 (collecting offers by various broadband providers).

<sup>86</sup> Lerner & Ordovery, *supra*, at 27.

<sup>87</sup> Comments of CenturyLink, at 13.

<sup>88</sup> Declaration of Andres V. Lerner ¶ 45 (July 15, 2014) (Exhibit 2 to Comments of Verizon and Verizon Wireless, GN Docket Nos. 10-127 & 14-28 (July 15, 2014)).

here about consumers' likelihood and ability to switch broadband providers based on particular practices by those providers,"<sup>89</sup> in doing so the Commission flatly ignored its own study and other studies cited by commenters. Those included a Consumer Reports survey finding that "71 percent of Americans would switch broadband providers if their existing provider attempted to interfere with bandwidth-intensive services,"<sup>90</sup> and a Global Strategy Group survey finding that "82% of respondents would switch ISPs if their provider blocked, degraded, or otherwise slowed access to Internet content."<sup>91</sup> Slowing, degrading, and blocking access to content were precisely the concerns that the Commission identified in the *2015 Order*, and there was substantial evidence that consumers would switch providers in response. Thus, the evidence supported a finding not only that switching costs were low, but also that such costs *specifically* would not deter end users from switching away from providers who engaged in the conduct that concerned the Commission.

Still further evidence that was in front of the Commission came from studies of the providers themselves. Commenters cited economic analysis showing that "[e]ven if you believe the broadband provider market to be a duopoly, there is no evidence that broadband providers are earning supra-normal rates of return."<sup>92</sup> In sum, even without conducting a formal analysis of market power in each relevant market, there was substantial evidence from which to conclude that broadband providers were in fierce competition with one another for subscribers.

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<sup>89</sup> *2015 Order* ¶ 444 n.1320.

<sup>90</sup> Comments of U.S. Telecom Ass'n, at 12 & n.43.

<sup>91</sup> Comcast 12/24/2014 Letter, at 10 n.42.

<sup>92</sup> Comments of CenturyLink, at 11 & n.36 (citing Thomas W. Hazlett & Dennis L. Weisman, *Market Power In U.S. Broadband Services*, George Mason University Law and Economics Research Paper Series, 09-69 (Nov. 2009)).

**B. The Evidence in the Record Did Not Show a Change in Circumstances, But Rather Supported Continued Classification of Broadband Internet Access as an Information Service**

The *2015 Order* makes clear that, to a significant degree, the Commission grounded its decision to classify broadband Internet access as a telecommunications in the belief that the record in that proceeding showed a change in factual circumstances since the Commission determined that broadband Internet access was an information service in the 2002 *Cable Modem Order*.<sup>93</sup> As the Commission stated: “Changed factual circumstances cause us to revise our earlier classification of broadband Internet access service based on the voluminous record developed in response to the *2014 Open Internet NPRM*.”<sup>94</sup> In particular, the *2015 Order* asserted that the “premises underlying that [prior classification] decision have changed,” and in particular that, “consumer conduct,” providers’ “marketing and pricing strategies,” and “technical characteristics” of the service had changed dramatically, so that in 2015, unlike at the time of prior orders, the “indispensable function” of broadband was allegedly to be a “connection link” to third-party edge provider services and thus, in the Commission’s view, to involve a severable “telecommunications service,” not a single, integrated information service.<sup>95</sup> On review, the D.C. Circuit deferred to the FCC’s judgment as to the allegedly changed circumstances, finding that the Commission had given a “reasoned explanation” because it cited “ample record evidence” in the record supporting its conclusion.<sup>96</sup>

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<sup>93</sup> Declaratory Ruling and Notice of Proposed Rulemaking, *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, 17 FCC Rcd 4798 (2002) (“*Cable Modem Order*”).

<sup>94</sup> *2015 Order* ¶ 330.

<sup>95</sup> *Id.*

<sup>96</sup> *U.S. Telecom Ass’n*, 825 F.3d at 709.

US Telecom disagrees with the court’s analysis on those points and with the deference the court gave to the Commission’s decision to arrogate massive new regulatory authority to itself by reclassifying broadband Internet access service as a Title II telecommunications service; however, even assuming *arguendo* that the D.C. Circuit was correct that there was evidence supporting that conclusion, the Commission can and should reach a contrary conclusion now. That is because the record before the agency previously (and today) also amply supports a conclusion contrary to the one the Commission reached in 2015. That fact makes it entirely reasonable for the Commission to conclude that the prior change was unnecessary and to restore the factual and legal understanding under which the broadband exploded and thrived for more than a decade. And, of course, such a conclusion is particularly reasonable given the massive costs in depressed investment and innovation from the Title II regime and the lack of any corresponding benefit.

For instance, although the *2015 Order* spills a great deal of ink asserting that today’s “consumers are very likely to use their high-speed Internet connections to take advantage of . . . services offered by third parties,”<sup>97</sup> consumers in fact understood that broadband provided those capabilities well before the initial classification decision. Indeed, then-Commissioner Pai highlighted this point in his dissent from the 2015 decision. As he explained, by 2002, “the FCC was certainly aware that consumers were visiting third-party sites and using third-party applications in its previous classification decisions” because

[t]he *Cable Modem Order* itself noted that “cable modem service subscribers, by ‘click-through’ access, may obtain many functions from companies with whom the cable operator has not even a contractual relationship. For example, a subscriber to Comcast’s cable modem service may bypass that company’s web browser, proprietary content, and e-mail. The subscriber is free to download and

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<sup>97</sup> *2015 Order* ¶ 347.

use instead, for example, a web browser from Netscape, content from Fox News, and e-mail in the form of Microsoft's 'Hotmail.'”<sup>98</sup>

Commenters similarly pointed out in the record that “third-party email and DNS were available to, and used by, consumers at the time of the 2002 decision.”<sup>99</sup> Regardless of the ebbs and flows of consumer preference, “consumers have *always* been ‘free to download and use instead, for example, a web browser from Netscape, content from Fox News, and e-mail in the form of Microsoft’s ‘Hotmail.’”<sup>100</sup> “The Commission explicitly recognized as much,” and nevertheless “held that broadband Internet access service is an information service ‘regardless of whether subscribers use all of the functions provided as part of the service.’”<sup>101</sup>

In the same vein, although the *2015 Order* concluded that it was “evident” that broadband Internet access services are “primarily offerings of Internet connectivity and transmission capability” based upon then-current advertisements that “emphasize transmission speeds,”<sup>102</sup> the record again contained significant evidence that broadband providers advertised their service based on speed before the turn of the millennium. As then-Commissioner Pai stated succinctly, “this is nothing new.”<sup>103</sup> He cited evidence that, in 1999, Qwest was fast enough to access “every movie ever made in any language anytime, day or night,”<sup>104</sup> and that Charter was offering “Internet Light” (256 kbps service for \$24.95 per month) and “Residential Classic”

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<sup>98</sup> *Id.* at 357 (Pai, dissenting) (quoting *Cable Modem Order* ¶ 25).

<sup>99</sup> Letter from Gary L. Phillips, AT&T, Services, Inc., to Marlene H. Dortch, Secretary, FCC, at 5-6, GN Docket Nos. 10-127 & 14-28 (Feb. 18, 2015) (“AT&T 2/18/2015 Letter”).

<sup>100</sup> Reply Comments of Cox Communications, Inc., at 6-7.

<sup>101</sup> AT&T 2/18/2015 Letter, at 5-6.

<sup>102</sup> *2015 Order* ¶ 351.

<sup>103</sup> *Id.* at 357 (Pai, dissenting).

<sup>104</sup> *Id.* at 357 & n.276 (quoting Qwest, Qwest Commercial 1999 – Every Movie, <https://www.youtube.com/watch?v=xAxtxPAUcwQ>).

(1024 kbps for \$39.95 per month) as part of its “Charter Pipeline” service.<sup>105</sup> He further explained that, in the Commission’s *Second Broadband Deployment Report* in 2000, the FCC itself noted that broadband prices varied with speed, from “low-end ADSL service” priced at \$39.95 to \$49.95 per month, to “[f]aster ADSL services” at \$99.95 to \$179.95 per month, and “symmetric DSL . . . well-suited to applications . . . such as videoconferencing” and priced at \$150 to \$450 per month.<sup>106</sup> Commissioner O’Rielly likewise cited a February 2015 Verizon *ex parte*, collecting evidence establishing that “speeds have always been the focus of broadband ads.”<sup>107</sup>

If all that were not enough, the Supreme Court’s decision in *Brand X* itself recognizes that broadband providers have always competed based on speed. As Justice Scalia stated in dissent, broadband ISPs, like pizzerias, “advertise[] quick delivery” as an “advantage[] over competitors.” 545 U.S. at 1007 n.1 (Scalia, J., dissenting). In sum, regardless of whether the FCC could reasonably determine that the record in 2015 supported the view that there had been a change in consumer perception of broadband that justified its about-face on regulatory classification, it is *also* plainly the case that, at a minimum, the record also amply supported the conclusion that there was no significant change on these points.

Nor did the factual record require the Commission to treat functions such as Domain Name Service (“DNS”) and caching in the manner that it did. In reaching the conclusion that

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<sup>105</sup> *Id.* & n.277 (citing Charter, Charter Pipeline (2001), <http://bit.ly/1EQV19H>).

<sup>106</sup> *Id.* at 357-58 & n.279 (quoting *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*, 15 FCC Rcd 20913, ¶¶ 36-37 (2000)).

<sup>107</sup> *Id.* at 391 & n.25 (O’Rielly, dissenting) (citing Letter from William H. Johnson, Verizon, to Marlene H. Dortch, Secretary, FCC, at App. 1, GN Docket Nos. 10-127 & 14-28 (Feb. 19, 2015)).

broadband Internet access service was a telecommunications service, the *2015 Order* did not dispute that both such functions were an inherent part of broadband Internet access service and involved information-service functions such as storing, retrieving, and otherwise manipulating information. Nevertheless, the Commission concluded that these functions did not mean that broadband information services were information services under the Communications Act, because both DNS and caching allegedly fell within the exception to the statutory definition for the “management of a telecommunications service,” 47 U.S.C. § 153(24). *See 2015 Order* ¶ 312.

Again, however, the record reveals ample factual support for a contrary conclusion. As the *2015 Order* itself acknowledges, the telecommunications-management exception codifies the pre-1996 Act “adjunct to basic” exception to the category of enhanced services. *See id.* That exception applied where the functions that would otherwise be enhanced were designed merely to facilitate a basic transmission (that is, telecommunications) service.<sup>108</sup> Under that test, an “offering of access to a data base for the purpose of obtaining telephone numbers” was an “adjunct to basic telephone service,” but “an offering of access to a data base for most other purposes is the offering of an enhanced service.”<sup>109</sup>

The 2015 record contained ample evidence that DNS does not merely manage telecommunications, *see 2015 Order* ¶ 367, but instead, as the Commission previously concluded, “constitutes a general purpose information *processing* and *retrieval* capability that facilitates the use of the Internet in many ways.” *Cable Modem Order* ¶ 37 (emphases added). For instance, the record showed that DNS provides the processing capabilities that allow

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<sup>108</sup> *See, e.g.,* Memorandum Opinion and Order, *North American Telecomms. Ass’n*, 101 F.C.C.2d 349, ¶ 28 (1985).

<sup>109</sup> *Id.* ¶ 26.

consumers to visit a website without knowing its IP address, and thereafter to “click through” a link on that website to other websites.<sup>110</sup> It also enables other capabilities that allow subscribers to manipulate information or that provide information directly to subscribers. For example, DNS is used to offer parental controls that enable subscribers to direct what content can be viewed through their service and suggests websites customers may want to reach when they enter an incomplete or inaccurate web address.<sup>111</sup> These capabilities uniformly permit or enhance the use of the World Wide Web; they do not manage a telecommunications system or service. So, too, when Internet access providers cache content from the World Wide Web, they are not performing functions, like switching, that are instrumental to pure transmission, but storing third-party content they select in servers in their own networks to enhance access to *information*.<sup>112</sup>

Thus, as Commissioner O’Rielly explained, citing record evidence, “[t]he very essence of functionalities like DNS and caching is to provide the ‘capability for generating, acquiring, storing, transforming, processing, retrieving, utilizing, or making available information via telecommunications.’ . . . they are ‘what allow consumers to interact with and obtain information, as well as to make their own information available.’” *2015 Order* at 391-92 (quoting 47 U.S.C. § 153(20) and AT&T 2/2/2015 Letter, at 2). Then-Commissioner Pai

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<sup>110</sup> *See, e.g.*, Reply Comments of AT&T Services, Inc., at 32-33 (“DNS matches the Web site address that an end user types into a browser with the IP address of the Web page’s host server.”); AT&T 2/18/2016 Letter at 4 (“the DNS capability that consumers receive as part of broadband Internet access has always been a ‘general purpose information processing and retrieval capability.’ That is especially the case today, when providers such as AT&T offer ‘DNS Assist’ as part of Internet access.”) (quoting *Cable Modem Order* ¶ 37); Reply Comments of U.S. Telecom Ass’n, at 31-32, GN Docket Nos. 10-127, 14-28 (Sept. 16, 2014) (quoting FCC explaining to the Supreme Court in *Brand X* that DNS is “used to facilitate the information retrieval capabilities that are inherent in Internet access”).

<sup>111</sup> *See, e.g.*, Reply Comments of AT&T Services, Inc., at 33-34; AT&T 2/18/2016 Letter at 4.

<sup>112</sup> AT&T 2/2/2015 Letter at 7.

likewise stated that “[t]hese capabilities serve the interests of subscribers, not ISPs. For instance, DNS service doesn’t facilitate an ISP’s ‘management . . . of a telecommunications system or . . . service’; it allows a subscriber’s request for access to particular content to be translated into an IP address.” *2015 Order* at 355.

In this instance, moreover, we know that a contrary conclusion is, at the very least, permissible, because the Supreme Court so held in *Brand X*:

[A]s the Commission found below, part of the information service cable companies provide is access to DNS service. A user cannot reach a third-party’s Web site without DNS, which (among other things) matches the Web site address the end user types into his browser (or “clicks” on with his mouse) with the IP address of the Web page’s host server. *See* P. Albitz & C. Liu, *DNS and BIND* 10 (4th ed. 2001) (For an Internet user, “DNS is a must. . . . [N]early all of the Internet’s network services use DNS. That includes the World Wide Web, electronic mail, remote terminal access, and file transfer”). It is at least reasonable to think of DNS as a “capability for . . . acquiring . . . retrieving, utilizing, or making available” Web site addresses and therefore part of the information service cable companies provide. 47 U.S.C. § 153(20).

545 U.S. at 999 (citation omitted). In light of the Supreme Court’s statement, there is no reason the Commission should not return to its prior (and correct) understanding of this issue.

### **III. CONCLUSION.**

The Commission’s fundamental public interest goal must be to ensure that all Americans – whether they live in urban or rural communities -- can reap the benefits of connecting to a thriving and innovative internet. Investment, competition and innovation across the internet ecosystem depends, as shown above, on strong and growing levels of investment in internet infrastructure coupled with smart, forward-looking policy frameworks designed to incent them. By returning to the long-standing and successful classification of broadband internet access service under Title I, the Commission will take a major step towards supporting increased broadband deployment and competition, higher levels of broadband adoption and more

innovation across the Internet. Although more will remain to be done, removing the Title II millstone will greatly speed progress towards achieving the Commission's goal of bridging the digital divide, and securing our nation's broadband future for generations of American consumers to come.