

ORAL ARGUMENT SCHEDULED FOR FEBRUARY 1, 2019
No. 18-1051 (and consolidated cases)

**IN THE UNITED STATES COURT OF APPEALS
FOR THE DISTRICT OF COLUMBIA CIRCUIT**

MOZILLA CORPORATION, et al.,

Petitioners,

v.

FEDERAL COMMUNICATIONS COMMISSION and
UNITED STATES OF AMERICA,

Respondents.

On Petitions for Review of an Order of the
Federal Communications Commission

**BRIEF OF THE INFORMATION TECHNOLOGY AND
INNOVATION FOUNDATION AS *AMICUS CURIAE*
IN SUPPORT OF RESPONDENTS**

Arthur J. Burke
Reagan Lynch
Davis Polk & Wardwell LLP
450 Lexington Avenue
New York, NY 10017
(212) 450-4352
arthur.burke@davispolk.com

Counsel for Amicus Curiae

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**STATEMENT REGARDING CONSENT TO FILE AND SEPARATE
BRIEFING**

All parties have consented to the filing of this brief.

Pursuant to Circuit Rule 29(d), *amicus curiae* states that it is unaware of any other amicus brief addressing the investment and innovation issues identified herein from a public policy perspective. Among the other issues addressed, *amicus curiae* believes that its brief is particularly useful in providing the Court with additional detail regarding an analysis conducted by the Internet Technology and Innovation Foundation and cited by the Federal Communications Commission in its Restoring Internet Freedom Order that is discussed in the Joint Brief for Petitioners Mozilla Corporation, et al.

Given the significance of the consolidated cases before the Court and the large number of issues raised by the parties, other organizations and individuals are likely to file separate briefs as *amicus curiae* in support of Respondents. Because of the unique perspectives and expertise of various amici, it is impractical to collaborate in a single brief. Moreover, just as the Court will benefit from the presentation of additional arguments by amici in support of Petitioners, so too will it benefit from the presentation of a diverse set of additional arguments in support of Respondents.

**CERTIFICATE AS TO PARTIES,
RULINGS, AND OTHER CASES**

A. Parties.

Except for the Information Technology and Innovation Foundation, and any other *amici* who have not yet entered an appearance in this Court, all parties, intervenors and amici appearing in this Court are listed in the Brief for Respondents.

B. Rulings Under Review.

References to the ruling at issue appear in the Brief for Respondents.

C. Related Cases.

Amicus curiae adopts the statement of related cases presented in the Brief for Respondents.

/s/ Arthur J. Burke

Arthur J. Burke
Counsel for Amicus Curiae

October 18, 2018

**CORPORATE DISCLOSURE, AUTHORSHIP, AND
FINANCIAL CONTRIBUTION STATEMENTS**

Pursuant to Rule 29(a)(4)(A) of the Federal Rules of Appellate Procedure, and consistent with D.C. Cir. Rule 26.1, *amicus curiae* states that the Information Technology and Innovation Foundation is a nonpartisan, nonprofit organization with no parent corporation and no publicly held corporation owning 10% or more of its stock or other interest in the organization.

Pursuant to Rule 29(a)(4)(E) of the Federal Rules of Appellate Procedure, *amicus curiae* states that no counsel to a party in the matter before the Court authored this brief in whole or in part; that no party or party's counsel contributed money intended to fund preparing or submitting this brief; and that no person contributed money to *amicus curiae* that was intended to fund preparing or submitting this brief.

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GLOSSARY

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|-----------------------|---|
| BIAS | Broadband Internet Access Service |
| DOJ | Department of Justice |
| FTC | Federal Trade Commission |
| FCC | Federal Communications Commission |
| ITIF | Information Technology and Innovation Foundation |
| <i>RIF Order</i> | <i>Restoring Internet Freedom, Declaratory Ruling, Report and Order, 33 FCC Rcd. 311 (2018)</i> |
| Title I | Title I of the Communications Act of 1934, as amended, 47 U.S.C. § 151 et seq. |
| Title II | Title II of the Communications Act of 1934, as amended, 47 U.S.C. § 201 et seq. |
| <i>Title II Order</i> | <i>Protecting and Promoting the Open Internet, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd. 5601 (2015)</i> |

INTEREST OF AMICUS CURIAE

The Information Technology and Innovation Foundation (“ITIF”) is an independent 501(c)(3) nonprofit, nonpartisan research and educational institute—a “think tank”—the mission of which is to formulate, evaluate, and promote policy solutions that accelerate innovation and boost productivity to spur growth, opportunity, and progress. Ranked by the University of Pennsylvania as the world’s leading science and technology think tank,¹ ITIF’s goal is to provide policymakers around the world with high-quality information, analysis, and recommendations. To that end, ITIF adheres to a high standard of research integrity with an internal code of ethics grounded in analytical rigor, policy pragmatism, and independence from external direction or bias.

Broadband policy has been a core interest of ITIF since its founding in 2006. ITIF has been directly involved in the open Internet debate since 2006, when ITIF founder and president Robert D. Atkinson co-authored a novel middle-ground proposal on network neutrality that would have allowed for differential treatment of Internet traffic, as long as broadband providers (1) were transparent about their practices, (2) made open,

¹ James G. McGann, *2017 Global Go To Think Tank Index Report*, LAUDER INST. (Jan. 31, 2018), https://repository.upenn.edu/cgi/viewcontent.cgi?article=1012&context=think_tanks.

unmanaged Internet access available, and (3) were subject to oversight to ensure differential broadband performance arrangements do not harm competition or consumers.²

More broadly, ITIF has authored numerous reports, papers, and policy memoranda examining policies affecting the broadband industry and has generally concluded that the United States' reliance on facilities-based, intermodal competition and light-touch regulation has been instrumental in the nation's relative success in deploying high-speed broadband Internet.³

ITIF believes that broadband Internet access service ("BIAS") is essential in 21st century life, and advocates for policies that accelerate the deployment, access, and adoption of high-speed Internet, and encourage continued network innovation. ITIF does not believe, however, that BIAS should be treated as a utility simply because consumers increasingly view broadband Internet access as critical. Utility-style regulation could undermine the rapid advance of broadband technology that continues to transform the online business models, service offerings, and technologies

² Robert D. Atkinson & Philip J. Weiser, *A Third Way on Network Neutrality*, INFO. TECH. & INNOVATION FOUND. (May 30, 2006), http://www.itif.org/files/netneutrality.pdf?_ga=2.202507729.1183293212.1539709761-1392115316.1538759776.

³ See, e.g., Richard Bennett, Luke A. Stewart, & Robert D. Atkinson, *The Whole Picture: Where America's Broadband Networks Really Stand*, INFO. TECH. & INNOVATION FOUND. (Feb. 12, 2013), http://www2.itif.org/2013-whole-picture-america-broadband-networks.pdf?_ga=2.198314735.1183293212.1539709761-1392115316.1538759776.

that consumers have come to expect. In nations with sufficient inter-modal competition, like the United States, ITIF strongly favors reliance on market forces, backed up with antitrust-informed, light-touch regulation to engender investment, innovation, and ever-improving consumer welfare.

To that end, ITIF believes that ultimately Congress must resolve the dispute over open Internet issues through bipartisan federal legislation in order to end the regulatory uncertainty resulting from repeated reversals of policy at the FCC. In the interim, ITIF also believes that classification of BIAS as a Title I information service, as the FCC has done in its *Restoring Internet Freedom, Declaratory Ruling, Report, and Order*, 33 FCC Rcd. 311 (2018) (the “*RIF Order*”), promotes broadband investment and innovation that ultimately benefit consumers.

SUMMARY OF ARGUMENT

Strong public policy justifications supported the FCC's change of course in its *RIF Order*. The *RIF Order* reduces barriers to investment in broadband infrastructure and promotes innovation both in the provision of broadband services and throughout the broader Internet system by (1) restoring the light-touch regulation of BIAS as an "information service" under Title I of the Telecommunications Act of 1996 (the "Act") rather than as a "common carrier" service under Title II of the Act, (2) rejecting bright-line conduct rules related to potentially beneficial network practices, and (3) preempting inconsistent state and local regulation.

Available evidence, including analysis conducted by ITIF, suggests that the temporary Title II classification of broadband providers depressed investment. This decline likely arose from the uncertainty created by the FCC's sweeping change to the fundamental regulatory structure for BIAS in 2015, combined with concern about a potential slide into even more onerous common carrier regulations, including price controls which the FCC could have, but chose not to impose in its *Protecting and Promoting the Open Internet, Report and Order on Remand, Declaratory Ruling, and Order*, 30 FCC Rcd. 5601 (2015) (the "*Title II Order*").

Fears of a decline in aggregate broadband investment following the *Title II Order* appear to have been borne out: Basic analysis of BIAS providers' financial documents indicate reduced investment after the *Title II Order*.⁴ In the public policy debate surrounding the impact of the *Title II Order*, ITIF compared conflicting analyses of investment data, seeking to explain the disparate findings of a fairly simple empirical question—was investment up or down after Title II?⁵ ITIF found that, with a modest attempt to control for unrelated capital expenditures (such as excluding the construction of a mobile network in Mexico), the numbers could be reconciled.⁶ ITIF estimated a two to three percent decline in investment after the *Title II Order*.⁷

This investment decline may, of course, have been due to a multiplicity of factors, and the more important, if more difficult to answer, policy question is what investment would have been “but for” the imposition of Title II. Nevertheless, this rare decline in U.S. broadband investment,

⁴ See Hal J. Singer, *2016 Broadband Capex Survey: Tracking Investment in the Title II Era* (Mar. 1, 2017), <https://haljsinger.wordpress.com/2017/03/01/2016-broadband-capex-survey-tracking-investment-in-the-title-ii-era/>.

⁵ Doug Brake, *Broadband Myth Series, Part 1: What Financial Data Shows About the Impact of Title II on ISP Investment*, INFO. TECH. & INNOVATION FOUND. (Jun. 2, 2017), <https://itif.org/publications/2017/06/02/broadband-myth-series-part-1-what-financial-data-shows-about-impact-title-ii>.

⁶ *Id.*

⁷ *Id.*

which was unprecedented outside of a recession, provides strong support for the policy correction set out in the *RIF Order*.

The *Title II Order* also unnecessarily stifled innovation. The common carrier designation and strict conduct rules set out in the *Title II Order* likely undermined the ability of BIAS providers to compete and differentiate their services generally. The overly restrictive ban on paid prioritization also diminished the ability of service providers to offer guaranteed levels of performance, potentially restricting the development of applications delivering services that impose greater demands on broadband networks. Prioritization can be implemented such that it dramatically improves the functionality of some applications without detrimentally impacting the perceived performance of others. A case-by-case analysis of prioritization practices, informed by antitrust principles, such as that implemented by the *RIF Order*, would better encourage innovation in real-time applications while protecting against abuses of the technology. *See RIF Order* ¶¶ 148-153.

In addition, the *RIF Order*'s preemption of inconsistent state-level regulation is sound public policy and necessary to ensure that the benefits of the *RIF Order*'s light touch regulatory framework—i.e., increased investment and innovation—accrue to consumers. A uniform federal

framework (1) reduces regulatory complexity, (2) avoids a patchwork of inconsistent or even conflicting state laws with requirements that may be difficult or impossible to comply with, (3) provides predictability to both BIAS providers and their customers, and (4) promotes competition by reducing barriers to entry associated with the high cost of complying with parallel regulatory frameworks. Moreover, the technological framework of the Internet is less reliant on local infrastructure than predecessor telephone networks, further undermining a traditional rationale for state jurisdiction in the telecommunications space and further justifying preemption of state-by-state regulation of BIAS.

For all of these reasons, the Court should reject Petitioners' challenges to the *RIF Order*.

ARGUMENT

The FCC relied upon ample policy justifications in the record supporting its *RIF Order*, which returned the agency's BIAS regulation to the light-touch regulatory framework for Title I information services that BIAS enjoyed for decades leading up to the agency's 2015 *Title II Order*. In particular, the FCC found that reclassifying BIAS as a Title I information service would improve broadband investment conditions and would also improve innovation both in the provision of broadband services and throughout the broader Internet system. *RIF Order* ¶¶ 20, 86. The FCC also concluded that state or local regulation of BIAS would undermine these goals and, consistent with the agency's past practice, the FCC therefore expressly preempted such state and local regulation. *RIF Order* ¶¶ 194-195.

ITIF does not believe the status quo with respect to open-Internet policy is ideal, and continues to call for federal legislation addressing open Internet issues.⁸ But ITIF believes that the evidence supports the FCC's findings on each of these public policy issues. ITIF also agrees with the FCC that, in addition to being well supported on public policy grounds, the *RIF Order* would result in better investment and innovation outcomes, as

⁸ See, e.g., Doug Brake, *Why We Need Net Neutrality Legislation, and What It Should Look Like*, INFO. TECH. & INNOVATION FOUND. (May 7, 2018), http://www2.itif.org/2018-net-neutrality-legislation.pdf?_ga=2.134154958.1322290101.1539782451-1498723648.1539782451.

well as greater benefits to consumers, than the regulations set out in the 2015 *Title II Order* that preceded it.⁹

I. Reclassifying BIAS as a Title I Information Service would Improve Broadband Investment Conditions.

A. Broadband Infrastructure Is Capital-Intensive.

From the outset, it is critical to understand that the deployment of broadband infrastructure is capital-intensive and requires enormous fixed-cost investment. Cable and telecommunications firms participating in the BIAS market are regularly among those making the largest capital investments among firms across all industries.

For example, one study found the telecommunications and cable industry to be the sector with the largest capital expenditure in 2015 (excluding financial firms), with an estimated \$48 billion invested in that year. By comparison, the energy production and mining sector, another traditionally capital-intensive industry, invested approximately \$34 billion.¹⁰

These large-scale investment decisions are particularly susceptible to policy

⁹ The FCC's conclusions based on the evidence in the record far exceed the FCC's low burden under the Administrative Procedures Act. As Justice Scalia wrote in *FCC v. Fox Television Stations, Inc.*, there is "no basis in the Administrative Procedure Act or in our opinions for a requirement that all agency change be subjected to more searching review. . . . [I]t suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency believes it to be better, which the conscious change of course adequately indicates." 556 U.S. 502, 514-15 (2009).

¹⁰ Michelle Di Ionna & Michael Mandel, *Investment Heroes 2016: Fighting Short-termism*, PROGRESSIVE POLICY INST. (Oct. 11, 2016), https://www.progressivepolicy.org/wp-content/uploads/2016/10/InvestHeroes_2016.pdf (noting that this large investment in 2015 by telecom and cable firms reflected a net *decrease* in spending from the previous year, due in part to "increased regulatory uncertainty").

uncertainty because it may take many years for BIAS providers to recoup their investment in new infrastructure. Accordingly, companies typically scale down risk when future returns on investment are unpredictable.

B. Title II Reclassification Introduced Substantial Uncertainty and Regulatory Risk.

In 2015, the FCC's *Title II Order* reclassifying BIAS as a Title II common carrier service introduced exactly the type of regulatory risk likely to depress investment in broadband infrastructure.

The discretionary power available to the FCC under Title II is extremely broad. Early provisions of Title II were designed to manage the monopoly telephone system of the 1930s. Amendments under the Telecommunications Act of 1996 aimed to facilitate competition in the monopoly telephony market of that period. In this context, the FCC's broad authority over common carrier services pursuant to Title II, which includes price regulation and mandatory sharing of network facilities with competitors,¹¹ was perhaps more understandable.

But these conditions do not exist in the BIAS market today. And while the FCC's *Title II Order* did not impose such draconian price control requirements on BIAS providers, Title II classification opened the door to

¹¹ See 47 U.S.C. § 201.

heavy-handed interventions in future rulemakings. It is reasonable to believe such a weighty Sword of Damocles would depress long-term infrastructure investment.

Concerns about the impact of Title II classification of BIAS on investment are neither new nor partisan. In 2013, Jason Furman, then-chairman of the White House Council of Economic Advisers under President Obama, explained, “investments in infrastructure depend critically on a stable, predictable, and light-touch regulatory regime.”¹² While there are many legitimate goals of regulation, he said, this need for stability and predictability has historically been “the motivation for the approach this Administration and the Federal Communications Commission have taken in a wide range of areas like the Open Internet.”¹³ This view is correct. As noted at the outset, BIAS shares the economic features of large-scale infrastructure projects—most notably, very large, up-front fixed costs must be recouped over a period of several years. The ability of firms to develop business plans and invest over long time horizons requires confidence that regulation will not unpredictably expand to challenge business models.

¹² Jason Furman, Chairman, White House Council of Econ. Advisers, Total Factor Productivity and Telecommunications: Policy Ingredients for Shared Growth, Remarks at the American Enterprise Institute’s Center on Internet, Communications and Technology Policy 5 (Sep. 17, 2013), https://obamawhitehouse.archives.gov/sites/default/files/docs/aei_jf_telecom_9.17.13.pdf.

¹³ *Id.*

To be sure, in the 2015 *Title II Order*, the FCC did forbear from a wide array of onerous Title II common carriage provisions, such as price regulation and mandatory sharing requirements. In some sense, this forbearance in and of itself exposed Title II as a legal expedient adopted to justify the open Internet rules. But it also presented a dangerous slippery slope that would potentially depress investment. The *Title II Order*'s "for now" language clearly left open the possibility of these legal tools being applied in the future. See *Title II Order* ¶¶ 470, 488.

The concern over the impact of the *Title II Order* was echoed by investment analysts. For example, Craig Moffett of Moffett Nathanson explained when he downgraded his rating on cable stocks after the *Title II Order*, "[i]t would be naïve to suggest that the implication of Title II . . . doesn't introduce a real risk of price regulation."¹⁴

C. Empirical Evidence Suggests Title II Reclassification Suppressed Broadband Investment.

In the months prior to the FCC's *RIF Order*, there was an extensive public policy debate surrounding the impact of the *Title II Order* on broadband investment. Most of the analysis proposed to look simply to the change in broadband providers' capital investment before and after the *Title*

¹⁴ Mike Farrell, *Moffett Downgrades Cable Sector on Title II Woes*, MULTICHANNEL (Feb. 17, 2015), <https://www.multichannel.com/news/moffett-downgrades-cable-sector-title-ii-woes-388046>.

II Order. This was a relatively unsophisticated heuristic. A multiplicity of factors beyond the FCC's regulatory approach, including the natural ending of specific investment programs, the cost-savings from new technology, and prevailing economic conditions, can contribute to higher or lower levels of broadband investment from year to year. The FCC was right to be concerned with a decline in investment, however, which would be, at least in part, a result of the *Title II Order*.

ITIF participated in the investment debate with a blog post comparing two differing post-*Title II Order* investment analyses,¹⁵ which the *RIF Order* relied on in part to justify its belief that Title II contributed to a reduction in broadband investment. *RIF Order* ¶ 92. ITIF's analysis sought to reconcile and explain the differences between analyses of similar financial data that reached opposing conclusions about aggregate broadband investment during the period of Title II regulation. In particular, Free Press, a pro-net neutrality and pro-Title II organization, argued that aggregate broadband investment increased by 5.3 percent in 2015 and 2016 relative to 2013 and 2014,¹⁶ while an economic analysis conducted by Hal J. Singer, examining

¹⁵ Brake, *supra* note 5.

¹⁶ S. Derek Turner, *It's Working: How the Internet Access and Online Video Markets Are Thriving in the Title II Era*, FREE PRESS (2017), <https://www.freepress.net/sites/default/files/2018-06/internet-access-and-online-video-markets-are-thriving-in-title-II-era.pdf>.

more-or-less the same financial data, concluded there was a 5.6 percent decline relative to 2014 levels.¹⁷

ITIF found that the differences could be explained by controlling for three factors erroneously included in the Free Press analysis. Disturbingly, the Free Press figures finding an increase in U.S. broadband investment after the *Title II Order* included (1) the decision by Sprint to capitalize handsets as investment on its balance sheet mid-period, (2) AT&T's investment in constructing a wireless network in Mexico, and (3) AT&T's investments in its satellite television subsidiary, DirecTV.

Sprint's decision to capitalize handsets—regardless of whether the decision is relevant to broadband investment—happened midway through the analysis period.¹⁸ That is, halfway through the time period Free Press analyzed, Sprint began accounting for the handsets it leased as a capital expense in its financial statements, creating an artificial increase in investment figures for the period of Title II regulation. This mid-period change in accounting treatment did not reflect any change in real world

¹⁷ Singer, *supra* note 4.

¹⁸ Sprint began leasing handsets to customers in September of 2014, rather than selling them directly or subsidizing the purchase through installment plans. The leased handsets were then not expensed through cost of goods sold as they were under the prior model. Instead, they were added to “property, plant, and equipment” for accounting purposes, and depreciated over their lifespan. Setting aside whether this decision is relevant to broadband investment at all, the important point is that it was a dramatic accounting change that occurred partway through the period Free Press examined, and should be controlled for. See Ted Barac, *Sprint: All's Not As It Seems*, SEEKINGALPHA (Feb. 3, 2017), <https://seekingalpha.com/article/4042202-sprint-all-seems>.

investment decisions and should have been controlled for in one way or another. Likewise, any genuine effort to evaluate the effect of Title II on broadband investment in the United States simply cannot include investments made in Mexico nor non-broadband investments like AT&T's in its satellite television subsidiary.

Controlling only for these three factors, ITIF estimated a decline in aggregate broadband investment of roughly two to three percent after the *Title II Order*—the only year-over-year decline in U.S. broadband investment outside of a recession.¹⁹

Following the *RIF Order*, ITIF's analysis suggesting a decline in aggregate broadband investment (and analyst concern over the impact of Title II classification) was supported by the FCC's independent findings regarding the rate of deployment of broadband services. Section 706 of the Telecommunications Act requires the FCC to report periodically on whether advanced telecommunications capability “is being deployed to all Americans in a reasonable and timely fashion.”²⁰ In its 2018 Report, the FCC found that “the pace of both fixed and mobile broadband deployment declined dramatically in the two years following the prior Commission's

¹⁹ Brake, *supra* note 5.

²⁰ 47 U.S.C. § 1302.

Title II Order.”²¹ While deployment differs from investment, the FCC’s findings are consistent with the conclusion that aggregate investment in BIAS was hurt by Title II classification.

Remarkably, petitioners in this matter continue to rely on the flawed analysis performed by Free Press. Joint Brief for Non-Government Petitioners at 68. Petitioners characterize the attempt to control for investments in Mexico, for example, as “ma[king] adjustments to those reported figures to find investment declines.” *Id.* Any analytically rigorous attempt to answer the question of a regulations impact on investment should attempt to control for extraneous “apples to oranges” factors. The FCC acted reasonably in relying on analyses examining the impact of Title II on investment in broadband in the United States.

²¹ 2018 Broadband Deployment Report, *In re Inquiry Concerning Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, 33 FCC Rcd. 1660 (2018) (The report found in particular that, “[f]rom 2012 to 2014, the two years preceding the *Title II Order*, fixed terrestrial broadband Internet access was deployed to 29.9 million people who never had it before, including 1 million people on Tribal lands. In the following two years, new deployments dropped 55 percent, reaching only 13.5 million people, including only 330,000 people on Tribal lands. From 2012 to 2014, mobile LTE broadband was newly deployed to 34.2 million people, including 21.5 million rural Americans. In the following two years, new mobile deployments dropped 83 percent, reaching only 5.8 million more Americans, including only 2.3 million more rural Americans. And from 2012 to 2014, the number of Americans without access to both fixed terrestrial broadband and mobile broadband fell by more than half—from 72.1 million to 34.5 million. But the pace was nearly three times slower after the adoption of the 2015 *Title II Order*, with only 13.9 million Americans newly getting access to both over the next two years.”).

II. Classifying BIAS as a Title I Information Service and Removing Certain Bright Line Conduct Rules Should Improve Innovation and Investment.

A. BIAS Is Very Different from Static Telephone Networks and So Is Not Suited for Title II Regulation.

Common carriage regulation of the type found in Title II is best reserved for monopoly markets with little room for innovation—not dynamic services like Internet access provision. Common carriage, where used, has proven difficult to implement and enforce, risks dramatically reducing the incentive to economize on costs or innovate new technologies or business models, and inevitably raises barriers to entry.²² Thus, Title II was not the appropriate policy avenue for regulating the dynamic, evolving, and competitive BIAS market, and the FCC was right to be concerned the 2015 *Title II Order* would reduce the competitive forces that drive development of new Internet access technology or new business models that drive consumer value.

ITIF wholly agrees with the FCC’s statement that, “broadband Internet access service is categorically different from standard telephone service.” *RIF Order* ¶ 56. As the FCC explained, the voice telephone network, which is “largely static” and designed for transparent point-to-point

²² See, e.g., Christopher S. Yoo, *Is There a Role for Common Carriage in an Internet-Based World?*, 51 HOUS. L. REV. 545 (2013).

transmissions over a single circuit-switched path, is “fundamentally different” from “[t]he dynamic network functionality” used to provide packet-switched broadband Internet access. *Id.* (citing CenturyLink Comments App. 2, Bronsdon Decl., WC Docket No. 17-108, at 23 (July 17, 2017)). Telephone networks were optimized for a single, largely static functionality, whereas broadband accommodates an incredible diversity of applications and improves and changes over time, as demonstrated by the transformative impact of high-speed Internet on American life.

B. Internet Traffic Differentiation Has the Potential to Enhance Competition and Efficiency.

In this context, approaches to Internet traffic differentiation such as paid prioritization are often unfairly maligned. In fact, traffic differentiation, including paid prioritization, can be beneficial to the performance of some applications without negatively impacting others.²³ The FCC had strong public policy grounds when it changed course and declined to adopt a ban on paid prioritization or other conduct rules. *RIF Order* ¶¶ 253-262.

Prioritization or other forms of Internet traffic differentiation can optimize Internet Protocol-based (IP-based) networks for different purposes. Indeed, from the Internet’s very beginning, engineers have designed

²³ See BROADBAND INTERNET TECHNICAL ADVISORY GROUP, DIFFERENTIATED TREATMENT OF INTERNET TRAFFIC (2015), [https://www.bitag.org/documents/BITAG - Differentiated Treatment of Internet Traffic.pdf](https://www.bitag.org/documents/BITAG_-_Differentiated_Treatment_of_Internet_Traffic.pdf).

protocols for traffic differentiation precisely because the Internet is a best-effort network, in which not all applications work optimally without differentiation. Unlike circuit-switched telephony, where there was one wire and one application connecting two end-points, the Internet supports a dizzying array of applications all running over the same connection, many of which work just fine over a traditional neutral network, while others would be greatly improved by prioritization.

Because different applications operating on broadband networks have different requirements, prioritization is not a zero-sum proposition—that is, it is possible to see a benefit from prioritizing one application’s traffic without an offsetting loss to other applications. In some cases, this is because slight delays in packet delivery are virtually unnoticeable to consumers for some applications. For example, no one would notice email packets being delayed by 100 milliseconds, yet such a delay would dramatically degrade the quality of a video conferencing application. Prioritization works by optimizing the timing or scheduling of packets for different applications, allowing tradeoffs to avoid detrimentally impacting the quality perceived by a user of a particular application operating on a broadband network. It is possible to send email, stream videos, and build new tools for communication, continuing the characteristic openness of the

Internet that has generated such tremendous innovation in recent decades, with traffic prioritization (including paid prioritization) supplementing the traditional neutral Internet. Indeed this type of traffic differentiation may be critical to enabling real-time applications with very strict performance requirements, especially related to the delay or variability in the delay of data flow.

Almost all observers agree that there should be room for “specialized services” that run over the same infrastructure as the Internet, such as for telehealth or emergency service applications. The question is how strict or permissive restrictions should be on traffic differentiation generally. A relatively permissive regulatory regime, like that reflected in the *RIF Order*, would allow for companies or individuals to contract for prioritization services, and not have to navigate a bureaucratic process at the FCC or arrange for specialized billing with broadband providers. Importantly, such contracting for prioritization services would still be subject to the nation’s antitrust and consumer protection laws, including Section 5 of the FTC Act, which is enforced by the Federal Trade Commission (“FTC”) and prohibits “unfair methods of competition” and “unfair or deceptive acts or

practices,”²⁴ and Section 1 of the Sherman Act, which is enforced by the Department of Justice (“DOJ”) and the FTC and prohibits unreasonable restraints on trade.²⁵

Internet traffic differentiation, like many business practices, has the potential to be misused in a way that would harm the ability of a competitor’s service to perform well. But differentiation also has the potential to improve competitors’ services and deliver real benefits to consumers. Oversight by the FTC and DOJ on a case-by-case basis would allow the beneficial forms of traffic differentiation to flourish, while enforcing against any abuses of the technology.

Allowing beneficial forms of traffic differentiation will potentially be important in enabling next-generation applications with very restrictive requirements in terms of latency (the delay in communicating information between two endpoints) and jitter (the variation in latency over time). Whether it be robotics control, connected vehicles, or augmented or virtual reality, a permissive approach allowing BIAS providers to sell quality assurance across multiple dimensions would be a potential boon to next-generation, real-time applications.

²⁴ 15 U.S.C. § 45(a)(1).

²⁵ *See* 15 U.S.C. § 1.

Similarly, as a policy matter, the FCC position since its *Title II Order* declining to make blanket findings about sponsored data or zero-rating plans has been correct. See *Title II Order* ¶¶ 151-153. These practices, whereby some types of data are not counted against a cap for a (usually mobile) broadband plan, can again, be beneficial or harmful to consumers and competition depending on how they are designed, and should be assessed on a case-by-case basis to ensure that consumers can benefit from such arrangements. Similarly, the basic practice of capping mobile data speeds after a set usage limit has been exceeded, so long as it is clearly and accurately disclosed to subscribers, does not implicate net neutrality in any way.²⁶

III. Preemption of State Regulation of BIAS Is Sound Public Policy.

The *RIF Order* prohibits states from imposing their own net neutrality requirements, explaining that state and local broadband regulations “could pose an obstacle to or place an undue burden on the provision of broadband Internet access service.” *RIF Order* ¶ 195. This is consistent with the approach taken in the *Title II Order*, which also expressly preempted state laws inconsistent with its rules, *Title II Order* ¶¶ 430-433, and is sound as a

²⁶ See Doug Brake, *Throttling Firestorm Overblown*, INFO. TECH. & INNOVATION FOUND. (Aug. 24, 2018), <https://itif.org/publications/2018/08/24/throttling-firestorm-overblown>.

matter of policy. Simply put, BIAS is an inherently interstate service and should therefore be subject to uniform federal rules. A uniform federal approach reduces regulatory complexity, avoids a patchwork of inconsistent or even conflicting state laws with requirements that may be difficult or impossible to comply with, provides predictability to both BIAS providers and their customers, and promotes competition by reducing barriers to entry associated with the high cost of complying with parallel regulatory frameworks.

Moreover, technology has reduced the importance of the location where a service is offered, further justifying national uniformity in telecommunications regulation as a policy matter.²⁷ Chief among these technological changes is the transition from the circuit-switched networks of telephone services to the packet-routed networks of the Internet.

The architecture of the traditional telephone network relied on a single dedicated connection between endpoints—a circuit—to complete a call. Control and functionality of legacy telephony service relied on local facilities, like the operator's central offices, which were responsible for routing what were then predominantly local calls. Broadband networks, on

²⁷ See Douglas C. Sicker, *The End of Federalism in Telecommunications Regulations?*, 3 NW. J. TECH. & INTELL. PROP. 130 (2005).

the other hand, send information across the network through packet switching, whereby information is broken into pieces and routed through the network according to instructions in the packet itself. The control and signaling of the network, as well as applications and functionalities, have to a large extent moved outside the central office, if not to the endpoints of the network entirely, unlike the fundamentally local control of yesterday's circuit-switched telephones.

This transition comes with the benefits of massive increases in efficiency, better recovery from outages, and dramatically lower and virtually distance-insensitive cost. When the cost and actual practice of providing information services is largely distance-insensitive, there is no technological reason communications over state boundaries should be treated differently than communications that remain within one state's borders. Likewise, increasing competition significantly diminishes a state's interest in managing what was once considered a local natural monopoly. Network applications and services now depend on economies of scale far larger than the individual state in which they are consumed, erasing the importance of state and local boundaries. It is in the national interest to give these technologies room to grow unimpeded by artificial borders, and the FCC was justified in seeking to preempt state regulation.

CONCLUSION

The FCC had strong justifications for changing policy and returning BIAS to its Title I information service classification, rejecting bright-line conduct rules, and preempting inconsistent state-level regulations. Accordingly, the Court should reject petitioners' challenges to the *RIF Order*.

Respectfully submitted,

/s/ Arthur J. Burke

Arthur J. Burke
Davis Polk & Wardwell LLP
450 Lexington Avenue
New York, NY 10017
(212) 450-4352
arthur.burke@davispolk.com

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CERTIFICATE OF COMPLIANCE

I hereby certify that this brief complies with the length limitations of Fed. R. App. P. 29(a)(5) because it contains 4,971 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(f), which is less than one-half the maximum length authorized for a principal brief under Fed. R. App. P. 32(a)(7)(B).

I further certify that the attached *amicus* brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6), because it has been prepared in a proportionally spaced typeface using Microsoft Word 2016 14-point Times New Roman font.

/s/ Arthur J. Burke

Arthur J. Burke
Counsel for Amicus Curiae

CERTIFICATE OF SERVICE

I hereby certify that I electronically filed the foregoing with the Clerk of the Court for the United States Court of Appeals for the D.C. Circuit by using the appellate CM/ECF system on October 18, 2018. Participants in the case who are registered CM/ECF users will be served by the CM/ECF system.

Executed this 18th day of October, 2018.

/s/ Arthur J. Burke

Arthur J. Burke
Counsel for Amicus Curiae