

**UNIVERSAL SERVICE POLICY AND  
THE ROLE OF THE FEDERAL COMMUNICATIONS COMMISSION**

**QUESTIONS FOR STAKEHOLDER COMMENT**

**RESPONSES OF THE AMERICAN CABLE ASSOCIATION**

**September 19, 2014**

**Introduction**

The American Cable Association (ACA) has approximately 800 members who have built advanced communications networks in urban, suburban, and rural areas throughout the United States. The ACA membership includes larger cable operators serving more dense areas, smaller cable operators serving more rural areas, rural telecommunications carriers, and municipal utilities. No member has more than one million subscribers, and the median number of video subscribers per member is 1,060.

ACA members as a whole pass nearly 19 million homes and serve approximately seven million consumers. In the less dense small cities and rural areas, ACA members have built networks passing some eight million homes, covering nearly 20 percent of the population in these areas. Many of these builds were undertaken without government support. In fact, ACA's cable operator members used their own funding to build networks serving 1.6 million homes in areas that are considered high-cost, about 50 percent of which would be eligible for support pursuant to the FCC's Connect America Fund (CAF) cost model. These members thus have effectively freed up universal service support to be used in bringing service to more remotely located homes. As for ACA's rural telecommunications carrier members, in many instances they have leveraged government support to build higher-speed broadband networks to some of the countries' neediest and most physically remote residents.<sup>1</sup>

The technology used for most of these networks is DOCSIS; however, some telecommunications carriers use DSL technology, and all providers are deploying increasingly fiber to the home technology. Over most of these networks, providers offer the full suite of communications services, including voice, video and broadband Internet access to residential consumers and voice, broadband Internet access, and high-speed broadband to business consumers.

Because of their diverse backgrounds and different geographic areas where they provide service, ACA members view the federal universal service programs from various perspectives:

- Some members who are telecommunications carriers — either price cap or rate of return carriers — receive high-cost (legacy and Connect America Fund) support.

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<sup>1</sup> The statistics in this paragraph can be found in the March 2014 ACA paper "Connecting Hometown America, How Small Operators of ACA are Having a Big Impact," available at: <http://www.americancable.org/node/4728>.

- Many cable operator members provide service in rural areas and compete with telephone companies that receive high-cost support.
- Many members would be willing to provide services in unserved areas if they could receive high-cost support.
- Many telephone and cable members receive E-rate support.<sup>2</sup>
- Most members contribute to the universal service fund by virtue of providing telecommunications services.

In response to concerns of its members about universal service programs, about five years ago ACA developed a policy approach and advocacy plan on these issues, which bridges the diverse interests of its membership. ACA's approach and plan balances the need for policies that provide consumers and community anchor institutions with modern communications services, reflect the fact that markets are much more competitive, and include a proper transition for smaller incumbent recipients of support. At the heart of ACA's approach are the following principles:

Universal Service Should Support Broadband Service — Support should be provided to ensure consumers, schools and libraries, and rural health care institutions have access to sufficient broadband Internet access service in addition to traditional telephony services.

Support Should Not Be Used To Overbuild Competitive Providers — Universal service support should not be provided in areas where competitive operators are already providing the necessary broadband and telephony services.

Support Should Be Distributed Efficiently — Universal service support should be no more than the amount necessary to achieve a program's objectives.

Support Should Be Distributed On A Competitively Neutral Basis — Universal service support should not favor one class of providers over another, thereby skewing competition.

Rate of Return Carriers Should Have A Sufficient Transition To New Support Mechanisms — Rate of return telephone carriers receiving high-cost support should not be treated the same as price cap carriers and must have a sufficient transition to any new funding mechanism.

Universal Service Programs Should Be Fiscally Responsible — The overall universal service fund has grown significantly in the past decade, causing the contribution rate to

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<sup>2</sup> As discussed in ACA's paper, in 2013, ACA members received \$88 million in E-rate support.

climb; going-forward, the fund should be fiscally responsible and should operate within its current funding level.

Broadband Service Should Not Be Assessed For Universal Service Contributions— A universal service contribution assessment should not be levied on broadband service.

Since adopting its approach to the provision of universal service support, ACA has participated extensively in the Federal Communications Commission’s (FCC’s or Commission’s) CAF proceedings to develop the fund in areas served by price cap carriers, E-rate modernization proceeding, and contribution reform proceeding. It thus has great familiarity with a wide range of universal service issues, including the public interest obligations of support recipients, determination of areas where support should be provided, and use of different types of mechanisms to award support (model-based and competitive bidding). The responses to the questions posed by the Committee are based on these experiences and the expertise ACA has developed. It looks forward to continuing the dialog with the Committee as its work on these issues progresses.

## **Responses to Questions**

*1. Questions: How should Congress define the goals of the Universal Service Fund? Should Congress alter or eliminate any of the six statutory principles, codify either of the principles adopted by the FCC, or add any new principles in response to changes in technology and consumer behavior?*

The existing universal service statutory principles were adopted as part of the Telecommunications Act of 1996 (Section 254 of the Communications Act). In enacting this law, Congress sought to achieve many goals, including codifying the existence and operations of the high-cost fund, which stemmed from the 1984 divestiture of AT&T, and the Commission’s limited Lifeline program, and initiating the E-rate program. The statute, however, reflected the state of the communications industry at that time, and did not anticipate either the tremendous demand for and supply of broadband services or the extent to which competition would or could develop in most markets. As a result, the Commission subsequently needed to adopt the “advanced services” (broadband) principle to ensure consumers receive key essential services and the “competitive neutrality” principle to address concerns about access to and the impact of support on competition. Given how critical broadband services have become and given the growth in and importance of competition, these principles should be codified, fully integrating them into the current statutory framework. Moreover, the “competition” concept should be expanded to reflect the principles developed by ACA. That is, not only should funds be distributed in a competitively neutral manner, but overbuilding of competitors should be prohibited and funding should be distributed as efficiently as possible. ACA further proposes Congress adopt a principle regarding fiscal responsibility, in effect largely codifying the Commission’s current practice of capping or otherwise seeking to limit fund distributions.

Finally, ACA notes that for the high-cost CAF program, Congress should account for the special circumstances of rate of return carriers, who long have had the sole responsibility to serve more remote areas and who are generally smaller providers with more limited ability to reduce the

very high cost of service. While the Commission should seek to provide support efficiently to these carriers and should not provide support where competitors provide service, it should give these carriers sufficient time to transition to any new support mechanism.

*2. Question: Universal service was created to fund buildout in areas incapable of economically supporting network investment. How should our policies address the existence of multiple privately funded networks in many parts of the country that currently receive support?*

The aim of universal service is to support the provision of necessary communications service<sup>3</sup> to individuals or individuals' locations or schools, libraries, and rural health care institutions that lack access at affordable rates. The traditional high-cost program met this goal by supporting the deployment and operation of a single network in areas where the economics were not favorable for unsubsidized deployment. In the 1996 Act, Congress and the Commission sought to take advantage of the advent of competing networks, and competitive eligible telecom carriers (ETCs) were permitted to receive support from the high-cost program. As a result, multiple networks were being supported in many high-cost areas, and the high-cost fund grew substantially. In adopting the CAF, the Commission found this approach was inefficient, providing excessive support, and it is phasing out the CETC mechanism. In effect, the Commission has found that in an unserved area – which because of the development of competition is likely an economically unviable area – there is no reason to support more than one network provider. ACA concurs with this conclusion. At the same time, while that is a sound approach for the high-cost program, it is reasonable to enable Lifeline support, which is targeted at selected individuals, to be accessible by multiple carriers operating in the same area so long as support is provided efficiently.

In general, as a paradigm for how support should be provided, ACA suggests that where no or inadequate network facilities exist to provide these services, universal service support should be provided through a competitively neutral mechanism to a single entity so these facilities can be deployed and the requisite services offered.<sup>4</sup> This type of support should be regularly evaluated to determine whether support and the particular supporting mechanism continue to be necessary. Where adequate network facilities are deployed but particular individuals or institutions lack access at affordable rates, universal service support should be provided on a competitively neutral basis to the entity providing the requisite service to the individual or institution. This support should be based on the needs of the individuals and institutions for affordable service – not on the cost of network deployment. Again, the provision of support should be regularly revisited to ensure it is still necessary.

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<sup>3</sup> Voice was the original “necessary” service, but the Commission has determined that for the high-cost and E-rate programs, broadband service (with different capabilities depending upon the program) has become “necessary.” ACA expects this definition to continue to evolve. For instance, given the development of voice alternatives in virtually all markets, the Commission may at some point determine that this service no longer requires support.

<sup>4</sup> This paradigm should be adopted consistent with ACA’s principle that rate of return carriers should be provided with a sufficient transition to any new funding mechanism.

3. *Question: What is the appropriate role of states and state commissions with respect to universal service policy?*

States and state commissions should be free to establish their own universal service programs so long as support is (1) not distributed where the requisite service is already being provided, and (2) any eligible telecom carrier<sup>5</sup> can compete to obtain support on a competitively neutral basis.

For federal universal service programs, the role of the states and state commissions should be more circumscribed. It is clear that the FCC for each of the universal service programs has adopted elaborate public interest requirements and accountability measures. In effect, this leaves a limited role for the states, largely to examine whether a provider is a “bad actor.” In these instances, it is questionable whether state designation of ETCs is necessary. Accordingly, ACA suggests that the FCC take over the ETC designation process for its programs, which it does already in select instances, and permit states to participate in that process if they have material information about the qualifications of the potential ETC. This also will avoid the problem of the FCC imposing an unfunded mandate on states.

4. *Question: What is the appropriate role of the Federal-State Joint Board on Universal Service in a broadband, IP-enabled, largely interstate world? What is the appropriate role of related joint boards, such as the Federal-State Joint Board on Separations or the Federal-State Conference on Advanced Services?*

The existence of a Federal-State Joint Board mechanism is a recognition that certain regulatory responsibilities for the provision of telecommunications services are shared between the FCC and the states. This shared responsibility is particularly relevant when determining how the costs of assets used for both interstate and intrastate telecommunications services should be allocated (the Federal-State Joint Board on Separations). Congress also found it useful to employ a Joint Board to provide recommendations to implement the new universal service provisions in the 1996 Telecommunications Act (Sections 254 and 214(e)). Further, just recently the Commission submitted to a Joint Board the question of revising the universal service contribution mechanism.

Despite these uses of a Joint Board, however, it is clear their role has become more limited. This reflects the reality that they are not as necessary in a broadband IP world where states have much more limited regulatory responsibility. That said, we are still in a transition period to a broadband IP world, and ACA sees no reason to alter either the Commission’s discretionary authority to refer certain issues to a Joint Board for it to make recommendations or the mandatory authority to make such referrals on separations related issues.

5. *Question: The Universal Service Fund is one of several federal programs that support buildout of communications facilities. Are current programs at other federal agencies, like the National Telecommunications and Information Administration (which oversaw the Broadband*

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<sup>5</sup> The qualifications to become an ETC should be reasonable, and the process should not be so burdensome as to disadvantage new entrants.

*Technology Opportunities Program) or the Rural Utility Service (which oversees lending programs and oversaw the Broadband Initiatives Program) necessary?*

For many decades, the Rural Utility Service (RUS) through its telecommunications lending program and later with its broadband grant program has enabled primarily smaller telephone companies to build networks in less dense (rural) areas where the business case was more tenuous.<sup>6</sup> As a result, residents and businesses in these areas are able to receive necessary communications services. That outcome has proven valuable not only for these residents and businesses but for all Americans as we ensure that every individual in the country is interconnected.

That said, the communications sector has changed enormously since the RUS was created, and its mission and programs need to be updated to reflect the development of competitive alternatives in rural markets. Congress has begun to undertake that task in adopting new authorization legislation by ensuring that support from these programs is targeted to more remote areas where competition has not developed or will not develop. The most recent reauthorization of the programs and amendments to reflect changes in the market were made in this year's Farm Bill. Thus, Congress has begun to respond to the Committee's inquiry about whether the RUS programs are "necessary." ACA believes that Congress should continue to revisit the RUS programs to ensure they reflect market conditions and other developments – including by ensuring that support is not provided where unsubsidized competitors are providing service – and it should update them where necessary.

*6. Question: How can we ensure that the Universal Service Fund is sufficiently funded to meet its stated goals without growing the fund beyond fiscally responsible levels of spending?*

Because the universal service programs are not subject to the annual Congressional appropriations process, Congress needs to establish additional mechanisms to ensure the fund is fiscally responsible. This is especially the case because in the past 15 years, there has been substantial growth in Lifeline support and in support provided to competitive ETCs. As a result, the total fund has expanded greatly, and the contribution rate assessed consumers has increased considerably.<sup>7</sup> Fortunately, the Commission has acted recently to address some of these problems, but more is required since there is often pressure from current and potential recipients of support for additional funding. To that end, Congress should cap overall universal service

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<sup>6</sup> The BTOP and BIP programs were one-time broadband stimulus programs enacted as part of the American Recovery and Reinvestment Act. When they were being developed and implemented, ACA expressed concern that these programs provided support in areas served by competitors and did not award support on an objective basis, and these concerns remain valid and are relevant to any provision of government support. Now that projects receiving support from these programs are largely complete, ACA believes that where projects funded by these programs brought broadband service to unserved areas, the FCC should account — and to some extent has accounted — for them in determining not to expend CAF support in those same areas.

<sup>7</sup> ACA recognizes that the contribution rate also has increased because of the decline in telecommunications revenues.

funding at the current level. Congress also could cap funding for each individual program, although it may wish to give the Commission the ability within limits to increase support for one program by a certain amount so long as this support is offset by decreasing support for another program.

As for the issue of whether programs are sufficiently funded, ACA submits this cannot be addressed in a vacuum. Rather, to make this determination, Congress and the Commission need to strike a reasonable balance among different goals, including the many worthwhile objectives of the universal service programs, the potential for providers using their own funding to achieve the programs' objectives, and the burdens placed on consumers to contribute to the fund. For instance, while high-speed broadband service is increasingly being offered over DOCSIS and fiber to the home networks in more dense areas, the National Broadband Plan estimated that it would cost hundreds of billions of dollars to provide this service to every housing unit in less dense areas. Clearly, given the size of the high cost fund, that is a goal too costly to reach. Instead, in creating the CAF, the Commission appropriately adopted a more realistic vision. It sought to ensure that at least basic (and comparable) broadband service is provided in less dense areas unserved by competitors — all within the current budget. Thus, it is important to place any determination of “sufficiency” in the proper context, balancing the many and often competing goals of the universal service programs.

*7. Question: Are all of the funds and mechanisms of the current Universal Service Fund necessary in the modern communications marketplace?*

We are in the midst of great changes in the communications sector. Consumers, who once viewed voice telephony as the fundamental service, now clamor for access to high-speed broadband services. There also is an enormous transition in terms of technology and the development of competition. As a result, the universal service programs are in flux, and the FCC has raced to catch up with all of these developments. For instance, the FCC has determined that the high-cost program should support broadband service but that support is not needed in areas served by competitors. In addition, it has reoriented the E-rate program to focus on the important need of schools and libraries to have fiber to the building and in-building LAN/Wi-Fi connectivity. The Commission also is proposing to reduce support for mobile deployments as the wireless carriers roll out service to new areas. Thus, the Commission has been acting to ensure the programs are targeted where they are “necessary.” Of course, more can be done. ACA, for instance, believes, in areas where unsubsidized competitors are non-existent and unlikely to ever enter, Congress should explore combining high-cost, E-rate, and TeleHealth responsibilities and support and awarding them to a single recipient.

At some time, these programs may have much less relevance; however, because the economics of providing adequate service to the most remote areas and many community anchor institutions are so challenging and because low income people will likely still need assistance to afford service, the programs will continue to be needed. As a result, ACA believes it is important to have the proper process in place whereby the Commission regularly reviews and reorients the programs. ACA recommends that Congress in updating the Act create such a process where the FCC can ensure the programs are supporting services Americans need and do not have and that they are consistent with the objectives of competition and fiscal responsibility.

8. *Question: In lieu of the current support mechanisms, could any of the programs be better managed or made more efficient by conversion to:*

- a. A state block grant program;*
- b. A consumer-focused voucher program;*
- c. A technology-neutral reverse auction; or,*
- d. Any other mechanism.*

The universal service programs need to reflect the dynamic communications sector, and it is important that Congress and the FCC examine these programs regularly to ensure they are properly managed and distribute support efficiently. The FCC, for example, has demonstrated the benefits that can be achieved by changing the focus of the high-cost program to broadband, eliminating support where competitors provide service, and awarding support by reverse auctions. Thus, Congress should give the Commission the authority to update the programs and the support mechanisms so long as it directs the Commission to ensure any changes result in support being provided more efficiently and on a competitively neutral and fiscally responsible basis – and so long as the Commission accounts for the unique circumstances of rate of return carriers and gives them a sufficient period to transition to any new support mechanism.



**NEW YORK  
LAW SCHOOL**

September 19, 2014

The Honorable Fred Upton  
2183 Rayburn House Office Building  
Washington, DC 20515

The Honorable Greg Walden  
2182 Rayburn House Office Building  
Washington, DC 20515

**Re: Universal Service Policy and the Role of the FCC – Response to White Paper #5**

Dear Chairman Upton and Chairman Walden,

The Advanced Communications Law & Policy Institute (ACLP) at New York Law School respectfully submits the following comments in response to the Committee's white paper titled, "Universal Service Policy and the Role of the Federal Communications Commission." We appreciate the opportunity to make this submission and commend the Committee for continuing forward with its inquiry into updating the nation's telecommunications laws.

Should you or your staff have any questions, please do not hesitate to contact us.

Respectfully submitted,

/s/ Charles M. Davidson  
CHARLES M. DAVIDSON, DIRECTOR

/s/ Michael J. Santorelli  
MICHAEL J. SANTORELLI, DIRECTOR

**To:** The Honorable Chairman Upton and the Honorable Chairman Walden, Energy & Commerce Committee, U.S. House of Representatives

**From:** Charles M. Davidson & Michael J. Santorelli, ACLP at New York Law School

**Re:** Universal Service Policy and the Role of the FCC

**Date:** September 19, 2014

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The House Energy & Commerce Committee is to be commended for its ongoing efforts to update the nation's communications laws. The present inquiry<sup>1</sup> goes to the heart of communications regulation and focuses on an issue that is ripe for Congressional action. As the Committee rightly observes, "the rapid change in communications technologies, shifts in consumer preferences, and their impact on competition raise fundamental questions" about the continued relevance of universal service policies that were developed for a different marketplace and a different kind of service (i.e., basic telephony).<sup>2</sup> Because universal service has long animated government action in the U.S. communications space, the vestiges of century-old efforts to facilitate deployment of telephone networks throughout the country are still evident in many rules and laws at the federal and state levels.

*Ultimately, the success of reform efforts in this context will depend on the extent to which Congress can articulate a more contemporary and flexible universal service policy for advanced communications platforms, eliminate the residue of outdated policies, and spur continued innovation, competition, and consumer welfare enhancement.*

As discussed herein, while the goal of universal service – i.e., ensuring that every American has access to modern communications capability – remains sound, the realities of today's marketplace and the needs of tomorrow's innovators necessitate dramatically different means of achieving this worthwhile end. Effective policy reform will entail legislative action that:

- (1) Articulates a discrete, clear set of goals for universal service in the advanced communications arena;
- (2) More clearly delineates the contours of permissible regulatory action by the FCC and its counterparts at the state level for these purposes; and
- (3) Rationalizes the funding mechanisms that support these efforts.

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<sup>1</sup> See *Universal Service Policy and the Role of the Federal Communications Commission*, Aug. 22, 2014, Energy & Commerce Committee, U.S. House of Representatives, available at <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/20140822White%20Paper-USF.pdf> ("Congressional White Paper #5").

<sup>2</sup> *Id.* at p. 1.

While all three components are essential aspects of meaningful reform, successful modernization of universal service policy will ultimately hinge on whether Congress is able to rationalize, and perhaps roll back, subsidies for services that, by virtue of a consumer-driven embrace of advanced communications technologies, have fallen out of the mainstream. Via policy reform on key issues like universal service, Congress has a unique opportunity to accelerate the ongoing transition to all-IP networks and to spur the realization of important national imperatives around more robust use of advanced communications services.

To these ends, we respectfully submit the following comments regarding the development of a coherent and appropriately modern universal service policy for the broadband era. After providing a brief discussion of the relevant context for these reforms (p. 3), the comments articulate a range of foundational principles that we hope will inform the Committee's efforts on these issues. As an overview, these principles are:

1. Modernize and clearly define what is meant by "universal service" in an era characterized by cross-platform and cross-sector competition among firms in the broadband ecosystem. (p. 6)
  - Appreciate that modern universal service "problems" are much narrower and exist in a much more mature marketplace than at any point in the history of U.S. communications.
  - Ensure that the FCC embraces an "all-of-the-above" strategy for bringing advanced communications capability to unserved areas.
  - Understand and respond to the nuances of modern demand-side challenges.
2. Provide clearer grants of regulatory authority to entities tasked with implementing new universal service policies and realizing national imperatives around ubiquitous access to advanced communications services. (p. 8)
  - Precisely define the contours and reach of federal and state regulatory authority for advanced communications services.
  - Make clear that the focus of U.S. communications policy going forward is on promoting the deployment and use of advanced communications networks.
  - Encourage further regulatory modernization by the states to facilitate broadband deployment and empower the FCC with the specific tools needed to facilitate these outcomes if needed.
3. Restructure the funding mechanisms that will support modern universal service policies in a manner that preserves regulatory parity and

competitive neutrality and that bolsters efforts aimed at increasing use of advanced communications services. (p. 10)

- Articulate a clear preference for shrinking the size of the USF over time.
- Broaden the USF contribution base to reflect the interconnected nature of the modern communications ecosystem.
- Experiment with vouchers to encourage more robust adoption of advanced communications services.
- Explore the feasibility of funding universal service out of general revenues.

Each principle is expanded upon below.

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#### **WHY CONGRESS MUST ACT TO MODERNIZE UNIVERSAL SERVICE POLICY FOR THE BROADBAND ERA**

The pursuit of assuring universal service of some form of communications capability has dominated policymaking in the United States for more than a century. Even before passage of the Communications Act in 1934, policymakers at both the federal and state levels developed and implemented a range of regulations to ensure that basic telephony was being made available to as many people as possible across the United States. In the early part of the 20<sup>th</sup> century, these efforts generally entailed a *quid pro quo* with a dominant service provider: preservation of a monopoly position in local markets in exchange for, among other things, economic regulation and obligations to serve all customers. The 1934 Act enshrined the general contours of this approach and formalized a dual federal-state regulatory system to promote universal service. Indeed, under the 1934 Act, the FCC was created primarily “for the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nationwide, and world-wide wire and radio communication service with adequate facilities at reasonable charges.”<sup>3</sup>

Pursuit of this very basic desire resulted in a complex scheme of cross-subsidies, jurisdictional separations, and service obligations that sought to support expansion of the telephone network to every corner of the country.<sup>4</sup> Major updates to the communications laws in 1996, in the context of moving from a managed monopoly to manufactured

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3 47 U.S.C. 151 (1934).

<sup>4</sup> See, e.g., Charles M. Davidson & Michael J. Santorelli, *Federalism in Transition: Recalibrating the Federal-State Regulatory Balance for an All-IP World*, 29 Berkeley Tech. L. J. (forthcoming, fall 2014) (“*Federalism in Transition*”).

competition, institutionalized this complexity with respect to telephony and expanded it to support, among other things, deployment of advanced services (e.g., the Internet) to schools and libraries, and subsidies for low-income consumers.<sup>5</sup> As detailed in the white paper, the policies and programs that orbit the general notion of universal service, notably the USF, have become an \$8 billion annual subsidy, supported by a tax on customers' telephone bills, to further these myriad efforts.<sup>6</sup>

The practical consequence of these regulatory and legislative machinations, beyond the waste, fraud, and abuse that is widely acknowledged (including by the FCC) to have occurred over the last two decades,<sup>7</sup> has been that *any discussion about "universal service" in the communications space (even recent ones that have attempted to shift the focus to broadband) tends to be dominated by outdated assumptions about the role of regulation and regulators in facilitating network deployment.* The substance of these discussions tends to be larded with terms (high-cost; line support; rate floors; cost-averaging) and categories of providers (price-cap; rate-of-return; ETCs) from another era. Some 80 years after enactment of the Communications Act, "universal service" still means the same thing to stakeholders in the U.S. communications space: a Rube Goldberg-like regulatory process that continues to steer funds towards supporting the provision of voice communications services.<sup>8</sup>

Recent efforts by the FCC to change this dynamic and modernize universal service policy have been somewhat successful, but the impact of these changes is ultimately limited by existing statutory language. For example, USF reform efforts of any kind must comport with the six statutory principles for universal service cited in the white paper.<sup>9</sup> Although the Commission has successfully navigated (and supplemented) these principles in its attempt to shift the focus to broadband, the modern USF, as well as formal notions of universal service as recognized by Congress, the FCC, and federal courts, continues to revolve around

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<sup>5</sup> For a concise history of the USF and an overview of its various subsidy programs, see Thomas W. Hazlett & Scott J. Wallsten, *Unrepentant Policy Failure: Universal Service Subsidies in Voice & Broadband*, at p. 13-24, Arlington Economics (June 2013), available at <https://app.box.com/s/snp377aehtxicqy4q6ym> ("Unrepentant Policy Failure").

<sup>6</sup> *Congressional White Paper #5* at p. 2.

<sup>7</sup> See, e.g., *Unrepentant Policy Failure* at Appendix 1, available at <https://app.box.com/s/k0ry3zs9suvirs2wpcp1> (cataloguing critical assessments of the USF); *In the Matter of Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663 (2011) (noting instances of waste, fraud, and abuse in the administration of the USF and adopting reforms to prevent further abuses) ("*Connect America Fund Order*").

<sup>8</sup> Recent FCC reforms to the USF added broadband as a "supported service," but the primary focus of the Fund is still on supporting telephony. The reforms do include a long-term plan for shifting most of these subsidies towards broadband. See *Connect America Fund Order* at 17,679. In addition, FCC reforms to the E-rate portion of the fund have also begun the process of shifting subsidies towards more advanced services. For an overview of recent and ongoing E-rate reform efforts, see FCC, Modernizing E-Rate, <http://www.fcc.gov/e-rate-update>.

<sup>9</sup> *Congressional White Paper #5* at p. 1.

voice services.<sup>10</sup> As noted in previous comments to the Committee, this dynamic is increasingly incongruous with the modern realities of consumer demand for and use of advanced communications services.<sup>11</sup> The sheer array of communications options beyond basic voice (*e.g.*, email, texting, video-enabled calling, social media, etc.) makes the focus on voice appear quaint and out of step with modern society.<sup>12</sup>

Another factor supporting Congressional action in this context is ongoing uncertainty, created and fostered by the FCC, regarding the proper regulatory classification of broadband services.<sup>13</sup> Evidence does not suggest that Congress ever intended for broadband and IP-enabled services to be regulated as a public utility.<sup>14</sup> Nevertheless, the FCC has suggested that it might reclassify these services as public utilities subject to common carrier regulation under Title II of the Communications Act. Doing so would be fundamentally contrary to the notion of modernization: applying Title II regulation would be akin to turning back the regulatory clock 100 years. Moreover, Title II reclassification would inject significant uncertainty into a market that has thrived under the consistent application of a bipartisan, minimalist regulatory framework. Such an outcome, not intended by Congress in the 1996 Act, would likely result in less robust deployment of advanced networks.

In a nutshell, numerous factors argue strongly for reforming universal service policy:

- Underlying assumptions about what universal service is and how to accomplish it are out of date.
- The many universal service laws, rules, and policies at the federal and state levels make it exceedingly difficult to rethink and reshape existing programs and approaches in this context.

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<sup>10</sup> See *Direct Commc'ns Cedar Valley, LLC v. F.C.C.*, No. 11-9581 (10<sup>th</sup> Cir. 2014) (upholding the FCC's USF transformation order by noting, in part, that allowing some funds to support broadband network deployment is allowed so long as they are tied to funding support for telephone service).

<sup>11</sup> See Charles M. Davidson & Michael J. Santorelli, *Response to Congressional White Paper #1*, at p. 3-8, ACLP at New York Law School (Jan. 31, 2014), available at [http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP1\\_Responses\\_1-20.pdf](http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP1_Responses_1-20.pdf) ("Response to Congressional White Paper #1").

<sup>12</sup> See, *e.g.*, Charles M. Davidson & Michael J. Santorelli, *Response to Congressional White Paper #3*, at p. 2-5, ACLP at New York Law School (June 13, 2014), available at [http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP3\\_Responses\\_1-21.pdf](http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP3_Responses_1-21.pdf) (discussing the need for policymakers to embrace a more expansive view of the communications ecosystem) ("*Response to Congressional White Paper #3*").

<sup>13</sup> *Id.* at p. 5-10.

<sup>14</sup> *Id.* See also Christopher S. Yoo, *Is There a Role for Common Carriage in an Internet-Based World?*, 51 Hous. L. Rev. 545 (2013).

- Discussions about modernizing universal service policies tend to be confined by the vast programmatic superstructure that has enveloped the issue.
- The practical returns on investment generated by the current program continue to decline year after year as more and more consumers embrace the rich array of communications alternatives that are already widely available to them.

The following principles are offered to guide Congress’s work as it addresses these issues.

#### **PRINCIPLE #1**

*Modernize and clearly define what is meant by “universal service” in an era characterized by cross-platform and cross-sector competition among firms in the broadband ecosystem.*

- *Appreciate that modern universal service “problems” are much narrower and exist in a much more mature marketplace than at any point in the history of U.S. communications.*
- *Ensure that the FCC embraces an “all-of-the-above” strategy for bringing advanced communications capability to unserved areas.*
- *Understand and respond to the nuances of modern demand-side challenges.*

Understanding the relevant context – market dynamics; consumer demand; the pace and scope of technological innovation – is essential to developing effective and impactful communications legislation. In **1934**, the relevant context – a fragmented, nascent marketplace for telephony that was increasingly dominated by a single provider – dictated that Congress articulate a clear vision of universal service for the United States and act to formalize the *ad hoc* policy apparatus that had emerged to promote ubiquitous access of basic telephone service. Similarly, in **1996** the relevant context – a bipartisan desire to encourage competition in local telephone markets while also fostering growth of the fledgling commercial Internet – necessitated an update of existing universal service policies. As Congress considers further changes to universal service policies as part of a larger rewrite of the Communications Act, it is essential that it properly contextualize any reforms that it pursues.

Unlike at any time in the past, Congressional reforms of universal service policy will take place in a marketplace characterized by robust intermodal competition. Organic market forces stemming from the vibrantly innovative ecosystem of firms competing across platforms and sectors has already pushed advanced communications services of all kinds – *e.g.*, high-speed Internet access via wireline, wireless, and satellite; mobile telephony; cutting-edge content and access devices – to just about every corner of the country. In

many ways, then, the “problems” that need to be solved via modern universal service policy interventions are much narrower than at any time in the history of U.S. communications. Precisely defining the parameters of these “problems” will assure more impactful legislative responses.

Contemporary universal service challenges are largely twofold. *The first challenge revolves around bringing advanced communications networks – i.e., all-IP broadband infrastructure – to whatever areas of the country that remain unserved.* Data from the National Broadband Map indicate that, as of the end of 2013, 3.3% of the U.S. population lived in areas without access to a single wireline broadband provider, while only 0.2% lived in areas without access to a single wireless broadband provider.<sup>15</sup> Though indicative of nearly universal broadband coverage, these data tell only part of the access story. Indeed, recent FCCs have adopted policies that support a much different interpretation of whether adequate progress is being made toward realizing universal access to advanced communications services.<sup>16</sup> By raising speed benchmarks in a seemingly haphazard manner, excluding satellite as a comparable alternative, and casting a dim eye on the extent to which wireless should be considered a viable substitute for wireline, the FCC has made much more progress in bolstering its apparent regulatory authority over these services than on sparking solution-focused dialogues about how to bring broadband to the remaining unserved areas as expediently and efficiently as possible.<sup>17</sup>

Clearer guidance from Congress about the ends of universal service vis-à-vis assuring adequate access to advanced communications platforms could assure more productive outcomes from the FCC on this point. For example, Congress could express a preference for an “all-of-the-above” strategy for making service available to unserved communities. Such a policy choice would reduce the opportunities for the FCC to arbitrarily shape data about broadband availability and to ensure that more Americans are seen as being “served” by broadband options that are already available to them (*e.g.*, via mobile broadband networks or satellite).

*The second component of the modern universal service challenge is adoption of advanced services.* There is widespread agreement about, and data to support, the scope and contours

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<sup>15</sup> See National Broadband Map, Summarize: Nationwide, <http://www.broadbandmap.gov/summarize/nationwide>.

<sup>16</sup> As noted in previous comments, the FCC over the last few years has made questionable determinations about whether broadband is being deployed in a “reasonable and timely” manner. See *Response to Congressional White Paper #1* at p. 13. The FCC has also been faulted by some for reaching similarly dubious conclusions about whether there is “effective competition” in the wireless market. See, *e.g.*, Harold Furchtgott-Roth, *Searching for Competition in the FCC’s Mobile Competition Report*, May 30, 2012, Fierce Wireless, available at <http://www.hudson.org/research/8970-searching-for-competition-in-the-fcc-s-wireless-competition-report>.

<sup>17</sup> For additional discussion about the seemingly arbitrary manner in which recent FCCs have used data about broadband to support an expansion of its regulatory authority, see *Response to Congressional White Paper #3* at p. 10-12.

of the many demand-side challenges in this sector.<sup>18</sup> However, given the complexity associated with spurring demand for and informed use of advanced communications services, traditional approaches to “solving” this problem – *i.e.*, providing subsidies to low-income customers to offset the cost of service – offer only a starting place for moving the broadband adoption needle in any meaningful way.<sup>19</sup> As such, Congress has a unique opportunity to provide clearer guidance about whether and how universal service policy might support a broader range of demand-side activities. As discussed below, options include the creation of vouchers that could be used to offset the cost of a broadband connection, a device to access the Internet, or other resources that might help to spur greater use of advanced communications services (e.g., digital literacy skill development).

In sum, a compelling need exists for Congressional action in the universal service context. The basic policy objective – that every person in the United States should have access to some kind of communications service – remains sound, but the mechanics of realizing that objective must change. Accordingly, Congress should clearly articulate what universal service means in the 21<sup>st</sup> century. Properly done, this new definition will yield more narrowly tailored and efficient responses by the FCC and relevant counterparts, ensuring that precious public resources are not wasted in the realization of what organic market forces in the broadband space have made a very achievable goal.

#### **PRINCIPLE #2**

*Provide clearer grants of regulatory authority to entities tasked with implementing new universal service policies and realizing national imperatives around ubiquitous access to advanced communications services.*

- *Precisely define the contours and reach of federal and state regulatory authority for advanced communications services.*
- *Make clear that the focus of U.S. communications policy going forward is on promoting the deployment and use of advanced communications networks.*

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<sup>18</sup> For additional discussion and data regarding demand-side challenges in the broadband sector, *see Response to Congressional White Paper #1* at p. 8-12.

<sup>19</sup> For a more in-depth discussion of the contours of demand-side challenges, including the relationship between price/affordability and the perceived value/relevance of broadband to non-adopters, and possible solutions for addressing them, *see* Charles M. Davidson & Michael J. Santorelli, *Understanding the Debate over Government-Owned Broadband Networks: Context, Lessons Learned, and a Way Forward for Policymakers*, at Ch. 3 & 6, ACLP at New York Law School (June 2014), *available at* <http://www.nyls.edu/advanced-communications-law-and-policy-institute/wp-content/uploads/sites/169/2013/08/ACLP-Government-Owned-Broadband-Networks-FINAL-June-2014.pdf> (providing a thorough analysis, collecting sources from the robust and growing literature on these topics, and offering a range of examples for effectively addressing demand-side challenges at the local and state levels).

- *Encourage further regulatory modernization by the states to facilitate broadband deployment and empower the FCC with the specific tools needed to facilitate these outcomes if needed.*

After clearly defining new goals for and a new focus of modern universal service policy, Congress should endeavor to provide more precise direction vis-à-vis developing appropriate means for achieving these narrower ends. A central component of this effort should be the use of more precise grants of authority to federal and state regulators for these purposes. As discussed at length in previous comments to the Committee, this is a vital activity that Congress must engage in during any rewrite of the Communications Act.<sup>20</sup>

In the universal service context, current statutory language – from specific directives to general principles – has become stale, rendering it increasingly inapposite for the broadband era. But in the absence of reform, regulators must continue to rely on these provisions, resulting in an array of unintended consequences. Foremost among these is the vast expansion of judicially-accepted regulatory authority by the FCC over advanced services. Much-needed reforms to the USF, which were enacted in 2011 and recently upheld by a federal appeals court, necessitated a range of creative legal arguments based on broad interpretations of the Communications Act to survive judicial scrutiny.<sup>21</sup> Coupled with a growing trend in federal courts to grant administrative agencies considerable deference in their interpretations of relevant enabling statutes, the FCC appears to have unlocked nearly unfettered authority over every kind of communications service, including broadband.<sup>22</sup> In addition, these legal arguments, which hinged on broad readings of section 706 of the Telecommunications Act, have emboldened state regulators in their quest to expand their purview to broadband.

The result has been the emergence of a shapeless *de facto* universal service policy for broadband, one that is grounded in an expansive reading of section 706, which, according to relevant legal precedent, appears to allow the FCC – and possibly state commissions – to engage in almost any action to “encourage” and “accelerate” deployment of these networks.<sup>23</sup> As such, Congress should seize the opportunity to ensure that these recent

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<sup>20</sup> See *Response to Congressional White Paper #1* at p. 12-13; Charles M. Davidson & Michael J. Santorelli, *Response to Congressional White Paper #2*, at p. 10-13, ACLP at New York Law School (April 25, 2014), available at [http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP2\\_Responses\\_1-13.pdf](http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP2_Responses_1-13.pdf); *Response to Congressional White Paper #3* at p. 15-18; Charles M. Davidson & Michael J. Santorelli, *Response to Congressional White Paper #4*, at p. 8-9, ACLP at New York Law School (Aug. 8, 2014), available at [http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP4\\_Responses\\_1-22.pdf](http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP4_Responses_1-22.pdf).

<sup>21</sup> See generally *Direct Commc'ns Cedar Valley, LLC v. F.C.C.*

<sup>22</sup> See, e.g., *City of Arlington v. FCC*, 133 S. Ct. 1863 (2013). See also *Response to Congressional White Paper #1* at p. 14.

<sup>23</sup> 47 U.S.C. 1302 (a)-(b). See also *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014) (holding that section 706 of the Communications Act likely provides the FCC – and possibly state regulatory commissions – with broad authority to regulate broadband).

developments do not formalize limitless regulatory authority over broadband and an ill-defined universal service policy for the service based on a vague statutory provision. Accordingly, Congress should act to clearly define the roles and scope of authority for federal and state actors in this context.

Previous comments have highlighted the need for more precision in statutory grants of power to the FCC and state counterparts.<sup>24</sup> In the context of universal service policy, there are opportunities for further refinement as well. In addition to recalibrating the means and ends of universal service along the lines discussed in the previous section, Congress could also make clear that the focus of U.S. communications policy going forward is on promoting the deployment and use of advanced communications networks.<sup>25</sup> Such would serve to further clarify the mission of the FCC and provide it with the tools needed to accelerate the IP transition process. As part of this policy pronouncement, Congress could also enshrine the contours of a preferred regulatory framework for broadband, one that reflects the minimalist approach that has prevailed for well over a decade.<sup>26</sup>

An important consequence of this shift in policy priorities would be that the states would also have clearer guidance about their role in facilitating broadband deployment. Foremost among these roles would be to continue forward with their efforts to revisit and repeal outdated laws and rules regarding basic telephone service. Over the last several years, dozens of states have engaged in regulatory modernization along these lines in an effort to promote investment in next-generation communications infrastructure.<sup>27</sup> Coupled with FCC reforms to the USF and the intercarrier compensation framework, a much more rational federal-state approach to advanced services has emerged. But further progress can and should be made by the states to revise legislative and regulatory frameworks for communications services. An update of the Communications Act along the lines discussed above could encourage more expansive reform efforts by state policymakers and provide specific delegations of authority to the FCC to facilitate these changes should the circumstances warrant. But, as noted in previous comments, these efforts should not impede other state efforts to facilitate advanced communications network deployment.<sup>28</sup>

### **PRINCIPLE #3**

*Restructure the funding mechanisms that will support modern universal service policies in a manner that preserves regulatory parity and competitive neutrality and that bolsters efforts aimed at increasing use of advanced communications services.*

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<sup>24</sup> See, e.g., *Response to Congressional White Paper #3* at p. 10-12.

<sup>25</sup> See, e.g., *Federalism in Transition*.

<sup>26</sup> For additional discussion, see *Response to Congressional White Paper #3* at p. 5-10.

<sup>27</sup> See Sherry Lichtenberg, *Telecommunications Legislation 2014: Completing the Process*, NRRI Report No. 14-07 (July 2014), available at <http://nrri.org/documents/317330/b72af483-4ac3-4cc8-9d1f-1871a9284c9a>.

<sup>28</sup> See *Response to Congressional White Paper #1* at p. 16.

- *Articulate a clear preference for shrinking the size of the USF over time.*
- *Broaden the USF contribution base to reflect the interconnected nature of the modern communications ecosystem.*
- *Experiment with vouchers to encourage more robust adoption of advanced communications services.*
- *Explore the feasibility of funding universal service out of general revenues.*

Successfully reforming U.S. universal service policy will entail a comprehensive restructuring of the funding mechanisms that have long supported efforts to assure ubiquitous access to modern communications capability. There are several possible alterations that Congress might consider.

*First, Congress should articulate a clear preference for shrinking the size of the USF over time.* The FCC has already implemented reforms that seek to achieve this over the long-term, but, according to these changes, the fund will still be sizeable. Accordingly, Congress should adopt policies that guide recalibration of the fund to match the narrower focus of universal service described above. In lieu of offering such specific guidance, Congress could achieve a similar goal by expanding the scope of services deemed appropriate for “serving” unserved areas. Embracing satellite and mobile broadband platforms for these purposes would shrink the number of customers deemed unserved, thus limiting the need for a large USF. The ever-improving performance of these platforms, especially satellite – when measured in terms of bandwidth, latency, and pricing – raise important questions about the continued reluctance of the FCC to count these platforms in their broadband availability calculations. One means of assuring a more inclusive view of broadband access in the U.S. would be for Congress to revisit and clarify the notion of “reasonable comparability” as it applies to advanced communications services.<sup>29</sup>

*Second, Congress should call on the FCC to broaden the base of contributors to the USF in an effort to more accurately reflect the interconnected nature of the modern communications ecosystem.* Unlike in the past, when the financial benefits of providing communications service accrued only to the service provider (e.g., the local telephone company), a larger number of firms are benefitting from consumer use of advanced networks. Foremost among these entities are edge providers that monetize the data stemming from a customer’s online activities. Requiring some category of these firms – perhaps those of a minimum size (based on revenues stemming from data monetization activities) – to contribute to the fund would assure more parity in its structure while also potentially helping to drive down a USF tax rate that has risen exponentially in recent years (from 5.6% in the fourth quarter of 2000 to 16.1% in the fourth quarter of 2014).<sup>30</sup>

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<sup>29</sup> 47 U.S.C. 254 (b) (3).

<sup>30</sup> See FCC, USF Contribution Factor & Quarterly Findings, <http://www.fcc.gov/encyclopedia/contribution-factor-quarterly-filings-universal-service-fund-usf-management-support>.

*Third, to address pressing demand-side challenges, Congress should experiment with creating vouchers to encourage more robust adoption of advanced communications services.* As noted above, such an endeavor would by necessity be much different from the direct service subsidies for qualifying low-income households that has been the prevailing practice in the telephone context for decades. The many community-specific broadband connectivity challenges require a more nuanced program that might offer a certain level of monetary support for a wider range of consumers and activities. For example, vouchers could be made available to members of acknowledged under-adopting communities – *e.g.*, low-income households as well as qualifying senior citizens and people with disabilities – and used to offset the price of a broadband connection, an access device, or, potentially, digital literacy training resources.<sup>31</sup> To ensure that any new voucher program is effective and appropriately structured, Congress could direct the FCC to launch a pilot program to study how such demand-side universal service programs might operate in practice.<sup>32</sup>

*Fourth, when considering how best to restructure the funding mechanisms supporting universal service, Congress should explore the feasibility of replacing the current funding stream – i.e., the taxes collected on customer telephone bills – with general revenues from the U.S. Treasury.* Leaving aside important imperatives around cutting overall federal spending, the practice of supporting social programs, especially those with such a limited reach like the USF, via a specific excise tax is exceedingly rare. As discussed throughout these comments, the “problems” that need to be addressed by universal service policy interventions are much narrower today than they were a century ago when the idea of having served customers subsidize access for unserved customers first arose. Moreover, the “problem” of bringing broadband to the remaining unserved areas of the country could be more expeditiously solved by embracing technological solutions that the FCC has explicitly rejected. If Congress deems broadband access and use to be of sufficient social importance, then it might be more appropriate to spread the cost of realizing these goals across all taxpayers, much like is already done in support of other social welfare programs.

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<sup>31</sup> See *Response to Congressional White Paper #1* for additional data about under-adopting groups and the unique set of barriers that they each face.

<sup>32</sup> See, *e.g.*, Jessica Rosenworcel, *Sandbox Thinking*, Democracy Journal (fall 2014), available at <http://www.democracyjournal.org/34/sandbox-thinking.php> (expressing support for experimenting with new policies and programs in this manner).



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The House Committee on Energy and Commerce (“Committee on Energy and Commerce”) is looking to modernize the laws governing the communications and technology sector. The Communications Act of 1934 was last updated comprehensively in 1996 when Congress sought to stimulate local services competition. In order to facilitate a possible update of the Communications Act, the Committee on Energy and Commerce has released a series of White Papers seeking comment on various issues with regard to whether and how to rewrite the Communications Act. The most recent White Paper is seeking “comment on universal service policy for the modern communications ecosystem and the federal and state roles in maintaining and advancing universal service.”<sup>1</sup> ADTRAN, Inc. (“ADTRAN”) welcomes this opportunity to comment on the Universal Service White Paper.

ADTRAN, founded in 1986 and headquartered in Huntsville, Alabama, is a leading global manufacturer of networking and communications equipment, with an innovative portfolio of solutions for use in the last mile of today’s telecommunications networks. In addition, ADTRAN’s Bluesocket product family includes a suite of innovative wireless LAN solutions that combine virtualized, cloud-enabled control and management with high-performance access points. Bluesocket wireless solutions are ideal for large enterprises, Small and Medium

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<sup>1</sup> *White Paper*, “Universal Service Policy and the Role of the Federal Communications Commission,” available at: <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/20140822White%20Paper-USF.pdf> (hereafter cited as “Universal Service White Paper”).

Businesses (SMBs), educational institutions and government agencies seeking to expand wireless coverage to meet the growing demand for always-on wireless access. ADTRAN's equipment is deployed by some of the world's largest service providers, as well as distributed enterprises and small and medium businesses and schools. ADTRAN thus brings an expansive perspective to the issues surrounding modernization of the Communications Act.

ADTRAN commends the Committee on Energy and Commerce for addressing this critical subject. The federal and state universal service subsidy programs brought telephone service to the most remote and sparsely populated parts of America. But as telecommunications had advanced, the goals of the universal service program must evolve, too. The Federal Communications Commission ("Commission") has recognized the need for change, and has sought to reform comprehensively the Universal Service Fund program by shifting the focus to broadband services, both with respect to the Schools & Libraries subsidy program, as well as the High Cost program.<sup>2</sup>

ADTRAN believes the Commission is on the right path with respect to the changes in the universal service subsidy programs that have established the Connect America Fund program to subsidize broadband deployment in high cost areas and remote areas for wireline and wireless deployments. ADTRAN also supported the Commission's efforts to support broadband deployment to and within schools and libraries. ADTRAN thus believes that it may be

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<sup>2</sup> *Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform – Mobility Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011); *Connect America Fund, et al.*, WC Docket No. 10-90 et al., Further Notice of Proposed Rulemaking, 29 FCC Rcd 7051 (2014); *Modernizing the E-rate Program for Schools and Libraries*, WC Docket No. 13-184, 29 FCC Rcd 8870 (2014).

premature to consider the need for legislative reform of the universal service programs until we can judge whether these promising reforms will work as planned.

On the other hand, the Commission has also acknowledged that the funding mechanism for the federal universal service program – assessed as a tax on a shrinking portion of telecommunications services revenues – is not sustainable, and distorts the marketplace. The Commission proposed various reforms of the universal service funding mechanism.<sup>3</sup> Unfortunately, the universal service funding reform proceedings have languished at the Commission for eight years, with the adoption of only minor “band-aids” thus far. If the Commission fails to act soon on these longstanding issues, then Congress may have to adopt reforms, rather than waiting for Commission action.<sup>4</sup>

Any such changes to the current contribution system should ensure that there is adequate funding for the subsidy programs. At the same time, the subsidy program must minimize any distortions to the marketplace by ensuring that all who benefit from the widespread availability of telephone and broadband services also contribute to the subsidy programs that support universal service. Such a policy is both equitable and economically-justified.

ADTRAN looks forward to continuing its participation in this process of rewriting the Communications Act, and stands ready to serve as a resource on the rapidly changing telecommunications technologies. Telecommunications and advanced services have been, and

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<sup>3</sup> *Universal Service Contribution Methodology et al.*, WC Docket No. 06-122 *et al.*, Report and Order and Notice of Proposed Rulemaking, 21 FCC Rcd 7518 (2006); *Universal Service Contribution Methodology; A National Broadband Plan For Our Future*, WC Docket No. 06-122, GN Docket No. 09-51, Further Notice of Proposed Rulemaking, 27 FCC Rcd 5357 (2012).

<sup>4</sup> The Commission did recently refer some of these issues to the Federal-State Joint Board on Universal Service, with a request that the Joint Board present its recommended decision to the Commission no later than April 7, 2015. *Federal State Joint Board on Universal Service*, FCC 14-116, released August 7, 2014.

will continue to be an engine for economic growth in the United States. The communications laws and regulations must not create any drag on this most vibrant industry.



September 19, 2014

Honorable Fred Upton, Chair  
Committee on Energy & Commerce  
U.S. House of Representatives  
Washington, D.C. 20515

Honorable Henry Waxman, Ranking Member  
Committee on Energy & Commerce  
U.S. House of Representatives  
Washington, D.C. 20515

Re: Committee on Energy & Commerce White Paper, "Universal Service Policy and the Role of the Federal Communications Commission"

Dear Chairman Upton and Ranking Member Waxman:

On behalf of Alaska Communications Systems ("ACS") I am pleased to offer these comments to the Committee on Energy & Commerce in response to their August 22, 2014 white paper and request for comment, cited above. ACS appreciates the Committee's undertaking the critical task of examining the goals of Universal Service policy and the efficacy of Universal Service programs.

#### Background

ACS provides voice and broadband services in Alaska. ACS serves dozens of isolated communities in rural Alaska as well as most of the state's largest population centers: Anchorage, Fairbanks and Juneau. ACS provides both traditional fixed wireline services as well as mobile wireless services to residential, business and government customers throughout the state.

Like many providers in our industry, ACS historically was a monopoly provider and in that context, understood the telecommunications regulatory paradigm. In the last several decades, however, the world and our industry have dramatically changed. Individual voice customers are fleeing the wireline services in droves. Business voice customers are increasingly using voice-over-Internet-protocol ("VOIP") services. Broadband users today typically have a choice among several wireline and wireless providers. In fact, Alaska Communications today has approximately 20 percent market share in our markets. In light of these dynamic and highly competitive market conditions, it is difficult to understand why the government perpetuates a regulatory regime that was designed to regulate monopolies.

Universal Service funding has allowed for the deployment of voice and broadband services in many parts of Alaska that, otherwise, would have been without essential communications services. Certainly, federal Universal Service programs provide a critical source of funding for ACS's voice and broadband services throughout the state. Although

ACS's federal high cost support has been declining for a number of years, ACS currently relies on \$19.7 million per year in "frozen" high-cost USF support to provide high-quality voice service as well as advanced broadband capability, particularly to its rural and high-cost service areas. In areas where broadband service is not yet available, it is chiefly because high cost support in Alaska is not sufficient to make broadband affordable, not for lack of any desire to offer such services on the part of ACS.

Providing affordable broadband access is now as important to ensuring economic and social development as transportation and other infrastructure has been in the past. To that end, USF programs supporting deployment of broadband infrastructure, as well as providing ongoing support for the operating costs of that infrastructure in a manner that allows the provision of affordable access to all Americans is laudable. But, ACS fears that existing services may disappear with the changes and reductions in USF that are contemplated today. To ensure that services and rates in rural, insular, and other high cost areas remain reasonably comparable to those in urban areas, such high cost service areas require ongoing support. That support must cover, not only the necessary capital investment in network facilities, but also the costs of operating and maintaining those facilities and delivering services over time.

Contrary to the prevailing view in Washington, ACS has never considered the USF system as "broken." But, it is vital to include safeguards that ensure that available funding is used efficiently. Because of a dearth of terrestrial middle mile infrastructure in Alaska, for example, a non-ILEC can operate as an unregulated monopolist, charging the Commission's E-rate and Rural Health Care support mechanisms grossly inflated rates for services it provides to program applicants.

In its 2011 *Universal Service and Inter-Carrier Compensation Transformation Order*, the FCC dramatically revamped Universal Service support for high-cost areas, beginning with the carriers such as ACS that are regulated under price caps. The FCC froze high-cost support at 2011 levels until a new "Connect America Fund" ("CAF") could be designed and implemented. The FCC's rules for the CAF are nearly complete, and the new system is expected to be implemented in early 2015. The Committee's inquiry could not be more timely.

ACS believes that the FCC is heading down a path that will do substantial injury to many Americans living and working in Alaska. In an effort to estimate costs and allocate high-cost support among price cap carriers, the Commission has adopted a predictive model largely based on some measure of national average costs, but not taking into account many of the specific costs and conditions of Alaska, where ACS exclusively operates. In fact, the FCC staff acknowledges that the model omits certain key information about the location of customers and the cost of facilities in Alaska.

Moreover, the Commission adopted a budget for CAF before it finalized estimates of the carriers' costs, the number of locations that they would be expected to serve, or the amount of support necessary to achieve the program's objectives. As a result, the amount

of model-based support that the FCC proposes to allocate to Alaska, and the corresponding regulatory obligations that would accompany that support, are wholly unrealistic. Despite sweeping new broadband service mandates, and a sizeable increase in the total amount of high cost support flowing to the price cap carriers in the aggregate, CAF high cost support for Alaska – home to perhaps the highest-cost service areas in the nation – would *decrease* from today's frozen support levels, according to the FCC staff's near-final projections.

As things stand today, ACS will be unable to accept any model-based CAF support, because the cost to comply with the FCC's conditions would so vastly outstrip the amount of that support. For example, the FCC's cost model would require ACS to deploy high speed broadband to thousands of locations in the Alaska Bush, which are not connected to the state's road system, power grid, or other key infrastructure, let alone sufficient middle mile transport capacity to support broadband. This effort would cost hundreds of millions of dollars, even if necessary environmental and other approvals could be secured, and would be utterly impossible to undertake based on the modest amount of CAF support the FCC is offering.

Acknowledging the shortcomings of its cost model, the FCC's staff has offered ACS the alternative of continuing to receive high cost support at its current frozen level (\$19.7 million annually). Instead of model-based support, therefore, ACS is considering how to undertake substantial (but realistic) new broadband deployment obligations in exchange for continuing to receive support at current levels for ten more years. The Commission is currently considering ACS's proposals, but has not yet determined the broadband service obligations that would accompany such frozen support.

ACS believes that the rules and policies adopted by the FCC since 2011 demonstrate a historic departure from the mandate set forth in the Communications Act to provide ETCs with "specific, predictable and sufficient" support to ensure that residents of rural, insular, and high-cost areas have affordable access to services that are reasonably comparable to those available in urban areas. While the FCC acknowledges that Alaska is underserved, relative to the nation as a whole, it is not proposing any increase in support to Alaska in the CAF proceeding. Instead, the FCC's new program appears likely to increase funding for high-speed broadband in more densely populated locations, but leave a significant number of low-density locations – including many Alaska customers – without any viable option for broadband. Moreover, the FCC's policies appear to threaten existing voice service in high-cost areas like Alaska. ACS therefore urges the Committee to closely examine how the FCC is implementing the Act.

## Response to the White Paper

1. *How should Congress define the goals of the Universal Service Fund? Should Congress alter or eliminate any of the six statutory principles, codify either of the principles adopted by the FCC, or add any new principles in response to changes in technology and consumer behavior?*

ACS believes that the six statutory principles codified in Section 254(b) of the Communications Act have served the country well, to the extent that they have been supported by regulatory policies that indeed have promoted the availability to *all* Americans, including those in rural and high-cost areas, of reasonably comparable telecommunications and information services at reasonably comparable and affordable rates. If faithfully enforced, these principles should continue to embody the core mission of the Universal Service Fund. The additional FCC principles of competitive neutrality and promoting advanced services “where possible” also are appropriate goals, provided they are implemented in a manner that is consistent the overall statutory framework crafted by Congress.

However, as discussed above, in recent years the FCC has adopted new policies and rules that only partially adhere to these principles. For example, ACS believes that the Connect America Fund (“CAF”) mechanism will fail to satisfy the statutory requirement for “specific, predictable and sufficient” support mechanism in rural and high-cost areas such as the territory served by ACS. Indeed, it appears that the FCC is elevating its own objective of higher speeds in more densely populated areas over the statutory goal of reasonably comparable service everywhere. Moreover, competitive neutrality has not been served by the FCC’s “same support” rule, which allotted competitors the same high-cost support per-line as incumbent local exchange carriers, but not the same regulatory obligations. For these reasons, ACS suggests retaining the basic Universal Service principles but clarifying them in these respects:

First, Congress should clarify that, in any state or region where the FCC finds that *comparable access* to advanced telecommunications and information services is not available at rates that are reasonably comparable to those services available in urban areas, the FCC must within 12 months take specific steps to target additional support to the underserved state or region, without diminishing the support that is necessary to maintain services in areas that are already served at levels deemed comparable to urban service levels. In this regard, Congress should clarify that the FCC may not find that support is unnecessary nor that an area has “comparable access” if the only service providers in that area are subsidized under federal programs.

Second, Congress should clarify that, in weighing whether Universal Service rules and mechanisms are competitively neutral, the FCC must consider not only the distribution of support but also the obligations tied to the support, and forbear from or preempt regulatory obligations that are not supported by commensurate funding levels.

2. *Universal service was created to fund buildout in areas incapable of economically supporting network investment. How should our policies address the existence of multiple privately funded networks in many parts of the country that currently receive support?*

Universal service policy should distinguish between areas that are economically capable of supporting one or more providers *without subsidies*, and areas that support one or more providers *only with subsidies*. Alaska is a case on point. Alaska is very expensive and difficult to serve, so there has been virtually no competition by unsubsidized competitors. However, in much of ACS's local exchange territory, the local cable provider has overbuilt ACS, having the benefit of identical per-line support amounts as ACS under the FCC's "same support rule."

Though the rule since has been discredited, and the FCC gradually is phasing out duplicative support under this rule, damage has been done in at least two respects: *First*, competitors with fewer regulatory obligations than the incumbent local exchange carrier (ACS) have received substantial subsidy amounts to deploy their networks where most profitable "cherry picking" of the incumbent's customers occurs and support is diverted away from areas that lack broadband altogether.

*Second*, to compound the problem, the FCC is revamping the subsidies and proposing to deny CAF support to the incumbent in any area already served by a subsidized or unsubsidized competitor, including areas where no provider has ever demonstrated the ability to deliver voice or broadband services without support. This may leave customers without any provider that is both able to provide service and required to do so on request. In adopting Universal Service policies, ACS urges Congress to consider the effect of subsidies on competition, and also to consider the effect of depriving an area of subsidies where no provider has demonstrated any ability to provide service without them.

3. *What is the appropriate role of states and state commissions with respect to universal service policy?*

With networks and services increasingly agnostic as to the location of the customer, distinctions between intrastate and interstate jurisdictions become less meaningful by the day. As customers increasingly come to view wireless and broadband services as substitutes for traditional wireline, regulation should reflect this inevitable evolution by ensuring that all competing services are regulated in a like manner. Because the Communications Act limits state commission authority to regulate broadband and wireless services, the FCC should take a greater role in supplanting state jurisdiction and reducing Title II regulation of ILEC voice services, in order to achieve regulatory parity among ILECs and their competitors. ACS does not support expanding Title II regulation to encompass broadband. Rather, having given the FCC some twenty years to pursue the pro-competitive, deregulatory goals of the Telecommunications Act of 1996, ACS believes that

amendments to the Communications Act should take the next logical step by further lowering and eliminating the legacy regulatory burdens that overhang ILECs in particular.

Moreover, state regulation – which focuses on the incumbent local exchange carrier, but not other competitors – has been a drag on investment and innovation. As AT&T pointed out in its June 13, 2014 comments to this Committee, the relatively open regulatory environment for wireless, media and broadband providers during the last two decades yielded unprecedented growth and innovation *in contrast to* the traditional, circuit-switched wireline telephone operators, “a remaining province of significant regulation,” where subscribership and revenues have steadily fallen and few investment incentives exist. It made sense to allow the states to regulate telephone service when it was a monopoly, and commerce was primarily local or regional, but such monopolies no longer exist, and consumers every day have access to national and global communications. Substitute services such as wireless, VOIP (Vonage, Skype, etc.) and Wi-Fi have decimated the telephone companies’ customer base and revenues. The regulatory environment needs catch up to an industry that has evolved into a highly competitive, national and global market. State regulation is outmoded. And national regulation, as discussed below, needs to be trimmed back to allow all competitors to succeed.

With respect to universal service, Congress and the FCC should continue to be responsible for ensuring that rates and services remain affordable and reasonably comparable nationwide, while state commissions should remain free to augment those federal mechanisms to address statewide and local issues in appropriate ways. Nevertheless, Congress should take steps to ensure that state commissions do not hamper economic development or investment in telecommunications networks by continuing to impose outdated and unnecessary legacy asymmetric rate regulation on ILEC telecommunications services that they cannot and should not apply to wireless and broadband services against which they compete.

For all of these reasons, Congress should act to preempt state regulations that merely duplicate or impede federal policies, including regulatory parity among ILEC and competitive wireline, wireless, and broadband services that includes elimination of onerous Title II regulation of wireline voice services in light of robust cross-platform competition. Voice and broadband should be regulated similarly, regardless of the mode of delivery: wireline, wireless, and VOIP should be on an equal footing. Universal Service is a program of national importance, part of our critical economic, educational and political infrastructure, and should be governed at the national level. And, as discussed below, even national regulation needs to be overhauled so that outmoded rules are no longer permitted to hold back telephone companies, and regulation is proportionate to subsidies.

4. *What is the appropriate role of the Federal-State Joint Board on Universal Service in a broadband, IP-enabled, largely interstate world? What is the appropriate role of related joint boards, such as the Federal-State Joint Board on Separations or the Federal-State Conference on Advanced Services?*

For the reasons states above, ACS does not believe that the federal-state joint boards and conferences have the same relevance in the twenty-first century that they had in prior decades. Separations, the definition of Advanced Services, and Universal Service policies all are matters that must be decided at the national level if the U.S. communications infrastructure is going to be sufficiently robust to support economic growth in the decades ahead.

5. *The Universal Service Fund is one of several federal programs that support buildout of communications facilities. Are current programs at other federal agencies, like the NTIA (which oversaw BTOP) or the RUS (which oversees lending programs and oversaw BIP) necessary?*

The Committee has identified an issue that has caused a great deal of market distortion in Alaska in particular. One service provider received \$88 million in BIP funding (a combination of grant and loan) to deploy terrestrial broadband middle mile facilities in southwest Alaska, but the provider systematically has declined requests of other service providers for cost-based access to these facilities.<sup>1</sup> To the extent that it is willing to offer these services at all, it has steadfastly insisted on prices for terrestrial transport (over which it exercises an unregulated monopoly in the area) that are more than double the rates for equivalent satellite transport capacity. Neither the RUS nor the FCC has taken any enforcement action despite BIP requirements and assurances by the provider that it would provide reasonable non-discriminatory access to the heavily subsidized facilities.

As a result, the public interest has been harmed in several respects as a result of the lack of oversight. Most obviously, the public is denied the benefit of effective competition in these markets. In addition, USAC has been dispensing compensation for service to rural health care providers, schools and libraries at prices that significantly exceed market value, harming the consumers who ultimately pay for all Universal Service programs, and diminishing the integrity of the government-sponsored subsidy programs.

If Congress continues to fund programs such as BTOP and BIP, or fashions new subsidy programs in the future, it should enact more specific guidelines to ensure that recipients of such funding obey the same regulatory mandates as carriers receiving

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<sup>1</sup> See *Connect America Fund*, Letter from Karen Brinkmann, Counsel to ACS, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 10-90 (filed Jan. 29, 2014) (attached as **Exhibit A**).

Universal Service support under the Communications Act, such as reasonable, non-discriminatory access to wholesale as well as retail customers. Congress also should enact a strict enforcement mechanism to ensure that the FCC (or some agency) has clear authority to enforce the operating requirements for subsidized facilities.

6. *How can we ensure that the Universal Service Fund is sufficiently funded to meet its stated goals without growing the fund beyond fiscally responsible levels of spending?*

USF is an American success story. With over 95 percent of the nation having access to quality voice service, and many rural customers (with the notable exception of Alaska's rural customers) having access to broadband, USF cannot be said to have failed. Even the current size of the overall program, about \$7 billion per year, is reasonable in light of the successes achieved so far.

Congress should ensure that contributions to the fund are expanded to include as broad a base of services and providers as possible, because all services and providers – and their customers – benefit from universal transmission networks. This does not mean that the overall amount collected should grow. To the contrary, creating such a broad contribution base while maintaining the current total size of the USF mechanisms should help avoid competitive distortions and reduce the burden on any individual service to the lowest possible level.

But, Congress should also put in place safeguards to ensure that support is used efficiently and effectively to ensure that all Americans have access to affordable, reasonably comparable voice and broadband services. For example, ACS believes that Congress should build on the FCC's elimination of its failed "same support" rule by limiting E-rate and rural health care support unless these customers are billed rates for these services that are reasonably comparable to those charged in urban areas. It is the role of high cost support, not E-rate or the rural health care mechanisms, to ensure affordability and reasonable comparability of rates and services across urban and rural areas.

7. *Are all of the funds and mechanisms of the current Universal Service Fund necessary in the modern communications marketplace?*

Congress should reexamine the mechanism under Section 214(e) for designating ETCs. States and the FCC have been far too eager to designate competitive ETCs for purposes of receiving high-cost and low-income support, but have failed to impose the same requirements on them as the incumbent local exchange carriers historically have borne.

Similarly, Congress should require that regulators reexamine obligations that historically were tied to monopoly status or federal subsidies, and eliminate them when support is eliminated. Access to network facilities, discounted services, and other elements of monopoly regulation no longer have a place in this highly competitive environment.

The Telecommunications Act of 1996 will be 20 years old by the time Congress takes action on any changes. The provisions that were adopted then to provide incentives for fledging competitors to enter the market no longer are needed, nor do they make sense.

8. *In lieu of the current support mechanisms, could any of the programs be better managed or made more efficient by conversion to:*

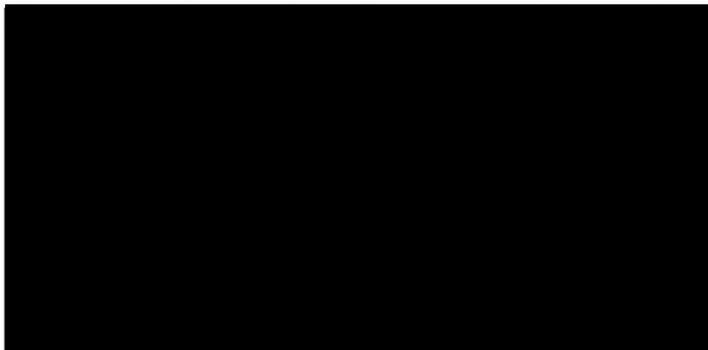
- a. A state block grant program?*
- b. A consumer-focused voucher program?*
- c. A technology-neutral reverse auction?*
- d. Any other mechanism?*

While block grants, auctions and consumer vouchers are appealing in principle, they are not practical solutions for Universal Service. Networks are not built one customer location at a time. Network planners consider the overall distribution of population, the geography, and other characteristics of the total service area to develop the most efficient network design that maximizes existing resources while providing scalability to meet future demands. Network operators require a predictable amount of funding to implement such a design. Until now, USF has provided a stable platform on which carriers in rural and high-cost areas like Alaska could base their plans and responsibly recommend continued investment. Removing that certainty would likely result in carriers like ACS pulling out of rural and high-cost areas altogether.

#### Conclusion

The proper goal for USF is to help make available affordable and reasonably comparable telecommunications connectivity and advanced services to all Americans. Where funds are limited, it is critical that they be targeted in the first instance to the highest-cost areas where market forces (*i.e.*, unsubsidized competitors) will be the least likely to achieve connectivity in the absence of incentives. Where support is not provided, regulatory obligations that were linked to support should cease. With careful reforms, Congress can eliminate the mismatch of duties and subsidies, and create better incentives for all service providers to innovate and invest in our national infrastructure.

ACS looks forward to working with the Committee as your process moves forward. Please direct any questions concerning this matter to the undersigned.



# Exhibit A

*Connect America Fund*, Letter from Karen Brinkmann, Counsel to ACS, to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 10-90 (filed Jan. 29. 2014)

January 29, 2014

**VIA ELECTRONIC FILING**

Marlene H. Dortch, Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

Re: *Connect America Fund*, WC Docket No. 10-90;  
*Universal Service Reform – Mobility Fund*, WT Docket No. 10-208;  
*Rural Health Care Support Mechanism*, CC Docket No. 02-60;  
*Modernizing the E-Rate Program For Schools & Libraries*,  
WC Docket No. 13-184

Dear Ms. Dortch:

Alaska Communications Systems (“ACS”) hereby responds to recent filings by General Communication, Inc. (“GCI”) concerning the Commission’s universal service programs as they pertain to Alaska, and in particular the funding that ACS may be offered in Phase II of the Connect America Fund (“CAF”) through the forward-looking cost-based model currently under development by the Wireline Competition Bureau (the “CAM”).<sup>1</sup>

**There Is Only One Provider-of-Last-Resort In Alaska’s Price Cap Service Areas**

ACS is the only price cap carrier operating in Alaska and the largest incumbent local exchange carrier (“ILEC”) in the state, serves more rural customer locations than any other ILEC in the state, and as such has a substantial stake in the Bureau’s structuring of the CAF program. As the Commission is aware, ACS and GCI compete head to head in much of the Alaska market for telecommunications and information services. While GCI is the larger competitor, and enjoys a greater share of most segments of the market, GCI does not bear the regulatory burdens

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<sup>1</sup> ACS recently filed its analysis of CAM version 4.0 (“CAM v4.0”). Comments of Alaska Communications Systems, WC Docket No. 10-90, filed Jan. 7, 2014 (“ACS CAM v4.0 Comments”). No formal opportunity for reply comments was provided. See *Wireline Competition Bureau Announces Availability of Version 4.0 of the Connect America Fund Phase II Cost Model and Seeks Comment on Adopting Current Default Inputs In Final Version of Model*, WC Docket No. 10-90, Public Notice, DA 13-2304 (Wireline Competition Bur. rel. Dec. 2, 2013); *Wireline Competition Bureau Seeks Comment on Additional Connect America Fund Phase II Issues*, WC Docket No. 10-90, Public Notice, DA 13-2317 (Wireline Competition Bur. rel. Dec. 3, 2013).

of an ILEC or provider-of-last-resort (“POLR”), subject to federal and state regulations requiring, *inter alia*, affordable rates, competitive network access and public accountability. ACS does bear both ILEC and POLR regulatory burdens, and thus shoulders a higher level of responsibility to federal and state regulators and to the public for every dollar of universal service support that ACS receives. When ACS accepts support, the public is assured that ACS will deliver to all eligible locations affordable, reliable access to the covered services – whether voice or broadband – for which the support is intended.

For many years, GCI has accepted substantial resources from each of the FCC’s universal service programs – high-cost support, the schools and libraries fund, the rural health care fund, and the low-income fund. Yet, as a competitive eligible telecommunications carrier (“CETC”) in ACS’s service areas, GCI has far fewer regulatory obligations and thus GCI may be said to be far less accountable to the Commission, USAC and the public, for its use of all of this support. For example, though GCI continues to receive CETC support under the “same support” rule, it has no obligation to deploy broadband, whereas ACS is required under the CAF rules to demonstrate that an increasing percentage of high-cost support is used to build and operate broadband networks.<sup>2</sup> In addition to high-cost support, GCI has handsomely benefitted from sizable federal grants and loans to build its TERRA-SW broadband network of fiber and microwave facilities connecting a number of southwest Alaska communities; yet notwithstanding this public funding, GCI extracts substantial support dollars reflecting monopoly rents from the federal schools and libraries fund and the rural health care fund.<sup>3</sup> However, as further discussed below, accountability has been lacking when GCI declines to provide capacity to competitive providers at rates that bear any relation to a market price.

In its recent advocacy, GCI has argued for increased federal high-cost funding for the *least* populated areas of Alaska, mainly in areas where GCI enjoys market power, particularly in high-capacity contracts with anchor institutions, due to limited middle mile infrastructure<sup>4</sup> and where per-locations costs are so high that the Remote Areas Fund rather than CAF Phase II most likely will apply; but GCI also argues for *reduced* federal high-cost funding for *other* parts of Alaska – the parts where most Alaskans reside – where far more of the population could benefit from increased access to broadband.<sup>5</sup> As ACS explains below, GCI’s strategy appears to be

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<sup>2</sup> 47 C.F.R. §54.313(c).

<sup>3</sup> See, e.g., *Modernizing the E-Rate Program For Schools & Libraries*, WC Docket No. 13-184, Reply Comments of General Communication, Inc. at 21 (filed Nov. 8, 2013) (“GCI E-Rate Reply”); *id.*, Comments of the Alaska Rural Coalition at 10-11 (filed Sept. 16, 2013) (“ARC E-Rate Comments”).

<sup>4</sup> As discussed in more detail below, GCI enjoys market power in operating federally-subsidized middle mile facilities, and has been able to forestall competition on those routes, even as GCI argues in these CAF proceedings that ACS enjoys some imagined competitive advantage, not acknowledging how much more heavily regulated ACS historically has been and continues to be. See *infra* pp. 11-13.

<sup>5</sup> The Commission has acknowledged that broadband deployment in Alaska presents unique challenges. These challenges are not limited to the Bush or even to rural Alaska. Even in the parts of the state qualifying as non-rural, Alaska lags behind most of the nation in broadband

directed *not* at increasing broadband availability for the greatest possible number of Alaskans, but rather at *shifting* the support available from ACS to GCI while refusing to assume any of the hallmark POLR or ILEC obligations in connection with its receipt of broadband funding. As ACS explains below, this line of advocacy is neither persuasive as a policy matter nor helpful to Alaskan consumers. As ACS has long argued, most of Alaska requires continuing high-cost support merely to sustain voice service, and requires increased support to justify broadband investment and ensure that services will be affordable.

The Commission should promptly finalize the model for CAF Phase II, with the adjustments advocated in the ACS CAM v4.0 Comments, to ensure that support for Alaska is sufficient to bring the benefits of broadband to this challenging environment. Further, the Commission should ensure that all recipients of high-cost support are held accountable going forward, by linking support and regulatory obligations, so consumers are not left without a reliable, affordable broadband provider. And the Commission should grant ACS's Application for Review of the Bureau's decision to solicit CAF Phase II census block challenges in areas served by a *subsidized* competitor, because such challenges, if granted, would harm consumers.<sup>6</sup> The Commission should act consistently with its expressed intent to provide CAF Phase II in all price cap service areas with no *unsubsidized* competitors in order to enable broadband deployment to *all* high-cost locations in those areas.

### **GCI Advocacy For Reducing Support to ACS Would Harm Alaska Consumers**

In recent months, GCI has been advocating throughout a variety of universal service proceedings that the Commission should curtail high-cost support in Alaska to ACS – an ILEC facing subsidized competition in high-cost service areas in one of the most under-served states in the Nation – even while GCI's support in many of the same locations should be extended and expanded. For example:

- In the CAF proceeding, GCI repeatedly has put forth the argument that census blocks in which ACS is the ILEC should be deemed “served by an unsubsidized competitor” and thus ineligible for CAF Phase I and Phase II support if GCI provides broadband service *in any part* of the census block, even if GCI has for years received and continues to receive high-cost subsidies to fund its operations – and thus is not an “unsubsidized competitor” in those areas under the Commission's definition – *and without any assurance* that GCI would remain a service provider following phase-down of CETC support nor assume any

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availability. The Commission reports that Alaska is fourth in the nation for unserved non-rural areas, with the percentage of population that is unserved almost two and a half times the national average. *Deployment of Advanced Telecommunications Capability to All Americans In a Reasonable and Timely Fashion*, Eighth Broadband Progress Report, 27 FCC Rcd 10342 (2012).

<sup>6</sup> ACS Application for Review, WC Docket No. 10-90, filed Nov. 26, 2013 (“ACS AFR”).

obligation to serve 100 percent of the affected customer locations;<sup>7</sup>

- In the CAF proceeding, GCI also argues that Alaska support should “remain at least as high as it is today, and should likely increase,” but should be withdrawn away from communities where GCI has a presence (even though not universal) as a subsidized competitor to ACS, and targeted exclusively to high-cost areas that lack access to any broadband meeting the Commission’s performance requirements – whether subsidized or unsubsidized – and are “unlikely” to have such access in the “foreseeable future” in the absence of support – particularly communities that are off the road system (*i.e.*, in the Bush);<sup>8</sup>
- GCI argues that the CAM is not well suited to predicting forward-looking costs in the off-road portions of Alaska, nor for calculating a reserve price for an auction should the price cap ILEC decline the offer of CAF II support in exchange for a statewide commitment, yet GCI states that the CAM should be used to calculate the amount of support offered to ACS, while opposing ACS’s proposed changes to the CAM;<sup>9</sup>
- In Mobility Fund proceedings, GCI asks the Commission for a \$78 million Alaska set-aside for mobile voice and broadband services in “Remote Alaska” and argues that model-driven support is insufficient for the state;<sup>10</sup> and

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<sup>7</sup> *E.g.*, *Connect America Fund, ACS Application for Review of the CAF Phase II Service Obligations Order*, WC Docket No. 10-90, Reply Comments of GCI 2, 8 (filed Dec. 23, 2013) (“GCI AFR Reply”); *id.*, *Opposition of General Communication, Inc.* at 8 (filed Dec. 11, 2013) (“GCI AFR Opposition”); *Connect America Fund, ACS Petition for Waiver of Section 54.313(c) of the Commission’s Rules*, WC Docket Nos. 10-90 & 05-337, Comments of GCI at 5 (filed May 13, 2013) (“GCI CAF Comments”); *Connect America Fund*, WC Docket No. 10-90, Letter to Marlene H. Dortch, FCC Secretary, from John T. Nakahata, Counsel to GCI, at 1 (filed May 7, 2013); *Connect America Fund*, WC Docket No. 10-90, Reply Comments of GCI On the Design of the Remote Areas Fund at 5-6 (filed April 12, 2013) (“GCI RAF Reply”). In the GCI AFR Reply, GCI attaches maps purporting to show where GCI and ACS provide overlapping broadband coverage, based on the National Broadband Map; to the extent that it is probative at all, GCI’s exhibit demonstrates that significant portions of Anchorage, Fairbanks, Juneau, Sitka, Kodiak and the Kenai Peninsula lack broadband access from GCI today, notwithstanding the subsidies it has been receiving – GCI offers no explanation how customers in those locations would be served in the future if GCI succeeds in disqualifying these areas from CAF II support.

<sup>8</sup> GCI AFR Reply at 8-9. GCI does not explain how the Commission would make this predictive judgment other than based on a higher per-location cost threshold.

<sup>9</sup> *Connect America Fund*, WC Docket No. 10-90, Comments of General Communication, Inc. at 2 & 7, filed Jan. 7, 2014 (“GCI CAM v4.0 Comments”).

<sup>10</sup> Letter to Marlene H. Dortch, FCC Secretary, from John T. Nakahata, Counsel to GCI (filed Sept. 17, 2013) (“GCI Mobility Fund Letter”). *See also* GCI CAM v4.0 Comments at 7, 14-15

- In the E-Rate proceeding, GCI argues that it requires additional, super-priority funding for fiber-based middle mile facilities for Internet access for remote rural school districts.<sup>11</sup>

While the record incontrovertibly demonstrates that Alaska is both under-served and expensive to serve, relative to the rest of the United States, and the Alaska Bush is surely deserving of a substantial expansion of high-cost support, ACS objects to GCI's counter-intuitive assertion that GCI merits more support and ACS less, ostensibly as a matter of competitive fairness. (GCI's own arguments both support and oppose increased subsidies for broadband deployment in rural Alaska.) GCI's logic fails because it leaves the consumer out of the equation. It is not ACS but GCI that seeks to constrain competition for broadband services in areas where ACS otherwise would be eligible for high cost support. The consumer would be the loser if GCI's arguments were to prevail.

First, GCI fails to provide convincing evidence that it provides broadband meeting the Commission's minimum requirements throughout the census blocks where GCI would disqualify ACS from CAF II support. GCI argues that it provides equal or greater value to consumers, and GCI has created a list of broadband offerings and prices for the Commission's benefit.<sup>12</sup> GCI's own list shows, however, that with its usage caps, GCI's service is neither comparable to what ACS provides nor compliant with the Commission's requirement that a minimum usage allowance of 100 GB per month be offered at an affordable rate, with the opportunity for the customer to obtain additional data allowances at a reasonable added expense to the consumer.<sup>13</sup> For example, GCI reports that customers may order 12 Mbps for \$59.99 per month with a 60 GB usage allowance, but with GCI's \$11.99 monthly "access" fee (for non-cable TV subscribers), the price the end-user actually must pay is \$71.98 per month for standalone broadband service. With the \$5 monthly overage fee paid by the average GCI subscriber, the price rises to \$76.98 per month.<sup>14</sup> Moreover, for a service that meets the Bureau's minimum capacity requirement of 100 GB per month, a GCI customer would have to pay at least \$81.98 per month.<sup>15</sup>

GCI attempts to show that its service is priced comparably to a lower speed ACS service, but ACS imposes none of the GCI "extra" fees. For example, ACS's 4 Mbps service is offered at \$89 per month, with *no cap* on monthly usage nor overage fees, and no hidden charges or penalties.<sup>16</sup> With complex pricing full of hidden fees, bundling requirements, and usage limits,

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(arguing in the CAF II context that the CAM produces inadequate support for remote communities and off-road areas of Alaska).

<sup>11</sup> GCI E-Rate Reply at 8-9; *Modernizing the E-Rate Program For Schools & Libraries*, Comments of GCI at 8-9 (filed Sept. 16, 2013) ("GCI E-Rate Comments").

<sup>12</sup> GCI CAF Comments at 3; GCI AFR Opposition at 7.

<sup>13</sup> *Connect America Fund*, WC Docket No. 10-90, Report & Order, DA 13-2115, ¶14 (Wireline Competition Bur. rel. Oct. 31, 2013) ("*CAF II Service Obligations Order*").

<sup>14</sup> See Declaration of Caitlin McDiffett, attached, ¶7.

<sup>15</sup> *Id.* ¶¶4, 7.

<sup>16</sup> GCI fails to explain that the prices it lists *are not actually available to end-users as shown* – they are imputed prices that only can be realized if the customer purchases a bundled offering,

GCI's broadband pricing cannot easily be compared to that offered by ACS. In short, the Bureau has no basis to conclude that GCI offers a plan that complies with the CAF II service requirements.

Second, while GCI desires to disqualify census blocks where it competes against ACS, GCI makes *no* commitment to serve all consumers or meet FCC-prescribed performance standards in those census blocks, should the subsidies be terminated.<sup>17</sup> It is impossible to conclude based on the record in these proceedings that consumers would be adequately served if high-cost support were withdrawn from the census blocks served by ACS and served – or partially served – by GCI as a subsidized competitor. Indeed, even if GCI were offering compliant broadband and voice services, the Commission has no assurance that GCI's coverage extends to 100 percent of high-cost locations, and ACS's experience is that coverage by GCI is significantly less than comprehensive, notwithstanding its receipt of federal subsidies.<sup>18</sup> If GCI declines to serve 100 percent of customers with the aid of federal subsidies, the Bureau cannot conclude that GCI will serve 100 percent of high-cost locations when subsidies are phased out.

ACS agrees that the CAM ought to model costs at realistic levels that will not only help carriers extend broadband to additional locations but help them sustain broadband availability as community needs grow.<sup>19</sup> That does not mean that only the most remote parts of Alaska are deserving of CAF II support, however."<sup>20</sup> Shifting support away from the more populous to the less populous census blocks served by ACS would disserve a substantial portion of Alaskans. Moreover, as described below, GCI's arguments overlook the clearly articulated Commission

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and incurs additional one-time fees and overage fees not disclosed by GCI in these filings. For example, GCI's 12 Mbps service is \$59.99, not \$49.99 as GCI states, unless purchased in a bundle with other services, and additional charges apply. *See id.*; GCI CAF Comments at 3; GCI AFR Opposition at 7.

<sup>17</sup> *See Connect America Fund, ACS Application for Review of the CAF Phase II Service Obligations Order*, WC Docket No. 10-90, Reply of Alaska Communications Systems (filed Dec. 23, 2013) ("ACS AFR Reply") at 2-3.

<sup>18</sup> *See ACS AFR Reply* at 4 & n. 15.

<sup>19</sup> *See GCI E-Rate Comments* at 10-11. *See also GCI Mobility Fund Letter* at 2 & attachment.

<sup>20</sup> GCI misleadingly states that the ACS service areas "tend to be ones (although not exclusively) that are closer to fiber networks and that are on the road system, rather than areas that are not on the road system." *GCI E-Rate Comments* at 11. More than half of ACS's wire centers are dedicated to serving some 49 Bush communities that are off the road system and disconnected from fiber and electrical power networks. These Bush communities are extremely costly for ACS to serve because it relies on very expensive and inefficient satellite backhaul capacity – capacity that ACS in many cases must purchase from GCI – or limited capacity microwave links, largely because universal service support has been inadequate to extend fiber along these high-cost intrastate transport routes. *See, e.g., Letter to Marlene H. Dortch, FCC Secretary, from Karen Brinkmann, Counsel to ACS, in WC Docket No. 10-90* (filed Dec. 9, 2013), Slide Presentation at 5-6. *See also Connect America Fund, WC Docket No. 10-90, Comments of Alaska Communications Systems* (filed June 18, 2013) at 4-6 & n. 5 (and prior ACS filings cited therein).

policy to fund broadband deployment by price cap ILECs for an initial period in all areas not served by an unsubsidized competitor, to stimulate broadband build-out in an efficient and effective manner while continuing to support voice services in high cost areas.<sup>21</sup>

**The Commission Clearly Expressed Its Intent To Fund CAF II In All Areas Where Broadband and Voice Services Cannot Be Assured Without Federal Support**

In the *USF/ICC Transformation Order*, the Commission decided to offer ILECS a one-time opportunity to accept targeted support for all high-cost price cap areas in a state, excluding only those high-cost areas already served by an *unsubsidized* competitor that meets the Commission's performance requirements for voice and broadband services (affordability, speed, latency and capacity).<sup>22</sup> The Commission noted that accountability would be a hallmark of this new program – CAF II support may be accepted by the ILEC only in exchange for enforceable commitments to provide broadband services and standalone voice services meeting the performance criteria published by the Bureau (governing speed, latency, usage and price) in 100 percent of covered customer locations. At the end of five years, or in states where the ILECs decline to make the required commitments, the Commission will implement a market-based support allocation mechanism for the distribution of support in eligible areas.<sup>23</sup>

In adopting this framework, the Commission expressly acknowledged that the ILEC is subject to mandatory regulatory obligations that are not shared by CETCs – whether cable-based or wireless – such as the obligation to provide universal voice service throughout the ILEC's study area.<sup>24</sup> For these reasons, the Commission elected to avoid disruption to consumers that would result from immediate withdrawal of ILEC support, and allow the ILECs a one-time opportunity to target support to high-cost locations in their price cap territories statewide.<sup>25</sup> Should ACS accept CAF II support, it would be required to fulfill the Commission's requirements to provide voice service statewide and broadband service meeting the Commission's criteria in 100 percent of high-cost locations in the covered census blocks and be held accountable should it fail to do so<sup>26</sup> – the ILEC may not merely target areas where GCI has deployed facilities (which often do not cover census blocks in their entirety).<sup>27</sup> Thus,

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<sup>21</sup> See, e.g., *USF/ICC Transformation Order*, 26 FCC Rcd 17663, ¶ 177 (2011) (ILECs' history of providing universal voice service over wide geographic footprints "puts them in a unique position to deploy broadband networks rapidly and efficiently" throughout their service areas).

<sup>22</sup> *USF/ICC Transformation Order* ¶170.

<sup>23</sup> E.g., *id.* ¶¶166, 172, 178.

<sup>24</sup> *Id.* ¶175.

<sup>25</sup> *Id.* ¶165 ("we seek to avoid consumer disruption – including the loss of traditional voice service – while getting robust, scalable broadband to substantial numbers of unserved rural Americans as quickly as possible").

<sup>26</sup> E.g., *id.* ¶161 (CAF II recipients must extend broadband to 85 percent of supported locations in their service areas within three years and 100 percent within five years, and report annually on their progress extending broadband throughout their service areas, or lose support).

<sup>27</sup> Thus GCI is incorrect in asserting that the support would merely encourage ACS to overbuild in GCI's coverage areas, not improve broadband availability. See GCI AFR Reply at 4.

implementing CAF Phase II in all census blocks not currently served by an unsubsidized competitor, as envisioned by the Commission, will best ensure accomplishment of the Commission's goal of rapid, widespread broadband deployment for the benefit of consumers.<sup>28</sup>

GCI errs when it states that ACS would have "preferential" status under the CAF Phase II program.<sup>29</sup> The Commission quite clearly imposed rigorous performance requirements, including facilities deployment deadlines in the third and fifth years, service requirements for both voice and broadband (covering price, speed, latency, and usage), and reporting obligations, on all price cap carriers who accept the support.<sup>30</sup> In contrast, GCI – though subsidized for many years and continuing to receive high-cost subsidies for years to come – is under no requirement to deploy broadband to any minimum number of locations, nor to offer a level of service conforming to any minimum performance standards. ACS would be happy to discuss whether the trade-off for receiving high-cost support is "preferential" if GCI would undertake all of the price cap ILEC and POLR obligations that currently apply to ACS in these areas, including federal obligations under Sections 251, 252 and 254 of the Communications Act as well as obligations under Alaska law. Thus far, GCI has not volunteered to step into ACS's shoes.

As ACS has observed in seeking review of paragraph 41 of the Bureau's October 31 *CAF II Service Obligations Order*, the Commission reasonably made a bright-line distinction between areas "served by an unsubsidized competitor" and all other areas – whether served by a subsidized competitor or by no provider at all.<sup>31</sup> In establishing this framework, the Commission considered a variety of alternatives for determining eligibility for support and appropriate allocation of support.<sup>32</sup> The Commission "carefully weighed the risks and benefits of alternatives, including using competitive bidding everywhere for the distribution of CAF support."<sup>33</sup> It also considered whether to exclude from eligibility for CAF Phase II support all areas served by a cable company offering broadband.<sup>34</sup> It rejected these proposals. Instead, the Commission made an affirmative choice to target CAF II support in all price cap service areas

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<sup>28</sup> See, e.g., *USF/ICC Transformation Order* ¶165 (accountability is ensured by "holding the incumbent carrier to broadband and other public interest obligations over large geographies in return for five years of CAF support").

<sup>29</sup> GCI RAF Reply at 4.

<sup>30</sup> *USF/ICC Transformation Order* ¶¶173-174.

<sup>31</sup> E.g., *USF/ICC Transformation Order* ¶¶156, 165, 170, 171, 175.

<sup>32</sup> See, e.g., *USF/ICC Transformation Order*, ¶170 (noting that the Commission considered alternatives proposed by the ABC Plan proponents, the State Members, and NCTA).

<sup>33</sup> *Id.* ¶174. See also *id.* ¶165 (CAF was "not created on a blank slate, but rather against the backdrop of a decades-old regulatory system. The continued existence of legacy obligations, including state carrier of last resort obligations for telephone service, complicate the transition to competitive bidding").

<sup>34</sup> *Id.* ¶170 ("The model scenarios submitted by the ABC Plan proponents excluded areas already served by a cable company offering broadband. [...] We conclude, on balance, that it would be appropriate to exclude any area served by an unsubsidized competitor that meets our initial performance requirements...").

where market forces alone are inadequate to ensure broadband availability – those served, if at all, only by subsidized providers.<sup>35</sup>

It is therefore wrong on both the law and public policy to encourage challenges to CAF Phase II eligibility for high-cost census blocks that are served by a *subsidized* competitor at the time the model is finalized.<sup>36</sup> If a subsidized competitor such as GCI were to successfully challenge the eligibility of census blocks such as ACS's, consumers in those census blocks would have no assurance that any provider would deploy to those locations in any reasonable timeframe the minimum level of broadband that meets the Commission's performance criteria. There would be no FCC requirement for any unsubsidized competitor to do so, nor any mechanism to offer support in exchange for an enforceable broadband commitment. As ACS has pointed out, if a census block is deemed ineligible for CAF Phase II, high-cost funding will be unavailable for that census block.<sup>37</sup> The Commission may decide in the future to provide for competitive distribution of support to such areas, but it has not yet announced or even proposed any such program.<sup>38</sup> Thus, any suggestion that the Commission could disqualify certain census blocks from CAF Phase II but still auction some level of support for service to the same census blocks is without foundation in any Commission precedent. For this reason, disqualifying currently supported census blocks from CAF II support threatens universal service.

The Commission is phasing out CETC support over a five-to-seven-year transition period, which may be extended.<sup>39</sup> CETC support thus will continue to be provided while CAF II is implemented, and of course recipients such as GCI had the benefit of CETC support to extend broadband into ILEC territories, even if they chose to do so in selective locations. GCI also advocates extending CETC support beyond the current horizon.<sup>40</sup> While CETCs such as GCI have been supported for years, and remain supported for an unknown period yet to come,<sup>41</sup>

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<sup>35</sup> See ACS AFR at 5-7 (citing *USF/ICC Transformation Order*); ACS AFR Reply at 3.

<sup>36</sup> ACS AFR at 5-7.

<sup>37</sup> ACS AFR at 4, 10-12 (citing *USF/ICC Transformation Order*).

<sup>38</sup> ACS AFR Reply at 5, citing *USF/ICC Transformation Order & Further Notice of Proposed Rulemaking*, 26 FCC Rcd 17663, ¶1191 (2011) (FCC did not seek comment on any ideas for support distribution to areas deemed ineligible for CAF support, but only on support for areas identified by the CAF II model as eligible for support, where the ILEC declines to accept the statewide commitment).

<sup>39</sup> The five- to seven-year phase-down of CETC support will be suspended in the event that the Mobility Fund Phase II is not operational by June 30, 2014. *Id.* ¶519. See generally 47 C.F.R. §54.307(e).

<sup>40</sup> GCI Mobility Fund Letter at 2.

<sup>41</sup> When the Commission adopted the *USF/ICC Transformation Order* it could have specified that “unsubsidized competitors” would include all competitors who are expected to lose support some number of years in the future – but the Commission did not do so. Rather, it defined an unsubsidized competitor as a fixed voice and broadband service provider that “does not receive” (present tense) support – and the Commission codified this definition in its rules. 47 C.F.R. §54.5. The Commission ordered that the Bureau should determine who is an unsubsidized

CETCs simply have not assumed the same obligations as the ILEC to offer voice and broadband services meeting FCC performance requirements to one hundred percent of support locations within a fixed number of years, and fulfill state-imposed POLR duties even in the absence of support.

Allowing ACS a one-time option to elect CAF II support in census blocks where it is the ILEC and GCI is a CETC will give consumers the continuity of existing services and a unique opportunity for increased access to broadband. The support will come with many strings attached, and will require substantial investment by ACS. In contrast, allowing GCI to disqualify census blocks where it is operating as a subsidized competitor would, in the short term, create the counterintuitive result that the CETC would continue to receive support devoid of broadband commitments under the Commission's now-repudiated "equal support" rule, while the ILEC, which bears the sole POLR obligation, would face the loss of the federal high cost support necessary to meet its service obligations. In the long term, the damage to the Commission's broadband public interest goals appears even more grave, as such a decision would disqualify these census blocks from any high-cost support for the foreseeable future. This would do nothing to promote universal availability of voice or broadband in the affected census blocks, and likely would result in the decline of services to consumers over time, because there is no guarantee nor even any evidence that either GCI or ACS can continue to offer services in these census blocks in the absence of support<sup>42</sup> – GCI does not even offer universal coverage there today – and there will be no regulatory compulsion for GCI to even try. The appropriate time to consider whether to discontinue support to census blocks served by GCI as a subsidized competitor would be the *end* of the CAF Phase II commitment period, provided the phase down of CETC support also is complete by that time.

For these reasons, the Commission made a reasoned decision to fund ILEC deployment on a one-time basis in all parts of their price cap service areas except those served by an unsubsidized competitor. The Bureau's implementation of CAF Phase II must be consistent with this policy.

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provider on a date "as close as possible to the completion of the model." *USF/ICC Transformation Order* ¶170.

<sup>42</sup> The Commission was quite clear in both the *USF/ICC Transformation Order* and the *Further NPRM* that it intends to allocate support through competitive binding *only* for census blocks deemed *eligible for support* – either when the ILEC declines the statewide commitment, or at the end of five years, when the first round of CAF II funding expires. Thus, if these census blocks are disqualified in the CAF II challenge process, there will be no future support for them under current rules. *See, e.g., USF/ICC Transformation Order* ¶¶166, 178 (at the end of the five-year CAF II funding term, or when the ILEC declines statewide support and commitments, the Commission will implement a competitive allocation mechanism to distribute support in eligible areas); *id.* ¶1191 (in FNPRM the Commission seeks comment on the competitive process to award support *in the same areas identified by the CAF II model as eligible for support*, where the incumbent declines to accept the support and statewide performance commitments).

### **An Unregulated Monopolist Should Not Be Relied Upon To Serve the Public Interest**

The Commission may not reasonably rely on unregulated service providers to furnish voice and broadband service upon request in areas where it is not profitable to do so. This is the very justification for universal service support and the service obligations that historically have been tied to the funding. Against this long-accepted logic, GCI would have the Commission believe that, in the absence of CAF II obligations, it will, as an unregulated service provider, continue providing broadband in the census blocks it partially serves today, and perhaps even expand service (though it does not make any enforceable promise to do so).<sup>43</sup> The record contains no basis on which the Bureau or the Commission may conclude that any level of broadband service will be available in areas where high-cost support is withdrawn. Indeed, the only reasonable expectation is that unregulated service providers will behave like monopolists whenever the opportunity presents itself. A parallel situation is illustrative.

GCI argues that the CAM understates Alaska costs, especially for middle mile transport.<sup>44</sup> Other Alaska carriers agree, and advocate regulation of the transport prices GCI charges on the TERRA-SW network.<sup>45</sup> GCI opposes regulation of its own prices, asserting that its heavily subsidized TERRA-SW network is competitively priced.<sup>46</sup> Record evidence demonstrates, however, that GCI acts as an unregulated monopolist on the TERRA-SW routes. GCI maintains that position through a classic “price squeeze,” offering terrestrial transport capacity on TERRA-SW to competitors at a price far higher than it apparently imputes to its own affiliates offering residential retail broadband services.

ACS and other Alaska carriers have documented that GCI’s federally subsidized TERRA-SW broadband network is offered to competitors only at prohibitive rates in excess of those at which satellite transponder capacity is made available in the state.<sup>47</sup> Several Alaska parties have documented GCI’s practice of inflating the wholesale price of its TERRA-SW facilities to gouge competitors (when capacity is offered at all) as well as to overcharge the Rural Health Care fund, to the detriment of competition.<sup>48</sup> While the per-unit capacity price that GCI

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<sup>43</sup> E.g., GCI AFR Reply at 5.

<sup>44</sup> GCI E-Rate Comments at 11 (the CAM is “not reality-tested” and thus not a reliable predictor of middle mile costs for Alaska).

<sup>45</sup> E.g., *In the Matter of the Petition Filed by ALASCOM, INC. d/b/a AT&T ALASKA to be Relieved of its Carrier of Last Resort Responsibilities in Certain Locations in Southwest Alaska*, Regulatory Commission of Alaska (“RCA”) Docket No. U-12-127, Rural Coalition’s Opening Legal Brief at 26, 32 (filed Feb. 22, 2013) (asking the RCA to investigate whether GCI constrains output and charges super-competitive wholesale prices on TERRA-SW); ARC E-Rate Comments at 10-11 (prices for broadband capacity on TERRA-SW far exceed satellite prices).

<sup>46</sup> GCI E-Rate Reply Comments at 21.

<sup>47</sup> E.g., ARC E-Rate Comments at 10-11 (GCI has quoted ARC members prices for broadband capacity on TERRA-SW that far exceed satellite prices).

<sup>48</sup> E.g., *id.* (prices for broadband capacity on TERRA-SW reflect prices charged to the Schools & Libraries program, but do not reflect competitive market and have shut out ARC members from

incorporates into its own affiliate's retail offering are competitive, the capacity price that GCI offers to wholesale customers reflects the inflated rate for which USAC compensates the company via Rural Health Care and E-Rate contracts.<sup>49</sup> Thus, engaged in a classic price squeeze, GCI resists the suggestions that the Commission investigate and regulate the TERRA-SW wholesale rate.<sup>50</sup> GCI appears to be distancing itself from its promise to adhere to the FCC's policies favoring "reasonable terms" for interconnection and wholesale access, and the requirements of its BIP/BTOP award that it "offer interconnection on reasonable rates and terms."<sup>51</sup>

Remarkably, even in the high-cost context, GCI states that the Commission has been less than rigorous in enforcing the high-cost support rules where GCI is concerned. GCI states: "Legacy mechanisms did not always direct support to where it was most needed and at times directed support to areas where it may not have been necessary."<sup>52</sup> Either this is an admission by GCI that it has violated Section 254(e) of the Act by failing to use universal service funds for the purpose for which they were intended, or this is simply another in a series of self-serving statements made by GCI to draw support away from ACS to the detriment of Alaska consumers. For its part, ACS can assure the Commission that all high-cost support received by ACS has been spent in the provision, maintenance and upgrading of facilities and services for which was the support is intended.<sup>53</sup>

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bidding on local E-Rate projects); *Rural Health Care Support Mechanism*, CC Docket No. 02-60, Letter to Marlene H. Dortch, FCC Secretary, from Karen Brinkmann, Counsel for ACS (filed Sept. 24, 2012), Slide Deck Presentation at 3 (quoting GCI July 30, 2012 *Ex Parte*, "[f]urther deployment of modern wireless and broadband networks to additional currently unserved communities in rural Alaska . . . depends upon the provision of services to key anchor telemedicine and distance learning customers that are supported by the various programs of the Universal Service Fund as well as continued efforts to leverage this funding to secure other private funding sources").

<sup>49</sup> *See id.*

<sup>50</sup> GCI E-Rate Reply Comments at 21.

<sup>51</sup> Under the NTIA/RUS joint Notice of Funding Availability for Broadband Initiatives pursuant to the American Recovery and Reinvestment Act of 2009, loan and grant awardees were required to "offer interconnection on reasonable rates and terms to be negotiated with requesting parties." 74 Fed. Reg. 33104, 33111 (2009). As a loan and grant recipient GCI pledged to adhere to the policies set forth in the Commission's *Broadband Internet Policy Statement*, CC Docket Nos. 02-33 *et al.*, FCC 05-151 (rel. Sept. 23, 2005). *See id.* Through its ILEC affiliate, GCI specifically agreed to "offer wholesale and retail services to carriers and other customers that wish to provide or use broadband and other services in Service Area communities." United Utilities Inc., "TERRA-SW: Terrestrial Broadband In Southwestern Alaska," Executive Summary at 2, *available at*:

<http://www.ntia.doc.gov/broadbandgrants/applications/summaries/93.pdf>

<sup>52</sup> GCI RAF Reply at 6.

<sup>53</sup> 47 U.S.C. §254(e).

ACS believes that accountability should go hand in hand with support. Where market forces have not been sufficient to stimulate investment, support is appropriate, and should be accompanied by specific and enforceable regulatory obligations, including obligations to provide minimum levels of service and to price those services affordably. When a company is able to deploy unique facilities (such as the TERRA-SW network) using federal subsidies, Commission oversight is appropriate to ensure that the public gains the maximum benefit from the subsidized facilities, through access to competitive services at affordable rates at both the retail and wholesale levels. When support is no longer needed, regulatory obligations may become unnecessary as well. GCI should not be trusted to deploy facilities using federal support without any accountability to the FCC or the public.

**The Presence In Alaska of A Subsidized Competitor Is Relevant To ACS's Ability To Recoup Its Costs And the CAM Must Be Adjusted Accordingly**

Although GCI does not serve every location in ACS's service areas, with the benefit of federal subsidies it nevertheless has captured significant market share, which directly affects the outcome of the model in two important ways. First, the loss of market share to a subsidized competitor affects the expected average revenue per customer location ("ARPU") requiring an adjustment to the "take rate" used in the model to ensure sufficient support so that carriers have the necessary incentive to accept the associated build-out commitment.<sup>54</sup> Second, the actual presence of a second Alaska submarine cable owned and operated by a subsidized competitor lowers the percentage of traffic that may be expected to be carried on ACS's cable between Alaska and the Lower 48 states, rendering unrealistic the CAM's allocation of only 33.5 percent of submarine cable costs to the delivery of CAF-supported services by ACS.<sup>55</sup> As explained below, GCI advocates ignoring both of these effects, but its arguments are not based on sound economics.

In its comments on CAM v4.0, GCI argues that there is no relationship between GCI's receipt of high-cost subsidies in ACS's service areas and the CAM's allocation of costs to a forward-looking network in Alaska. Regarding the "take rate" – an assumption about how many subscribers may be expected to order service from the CAF-supported ILEC at a particular price (ARPU) expressed as a fixed percentage of all locations in census blocks across the ILEC's service area– GCI states that the model hypothesizes a single, greenfield network serving all customer locations, including those actually served by competitors; the model utilizes a take rate of 80 percent, according to GCI, *not* as an "estimate of the number of customers that the supported ILEC might actually obtain in those areas" but for some other reason that GCI does not explain.<sup>56</sup>

The model does attempt to estimate the forward-looking costs of serving all customer locations within a price cap ILEC's service territory, whether those locations have access to

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<sup>54</sup> ACS CAM v4.0 Comments at 16-17.

<sup>55</sup> ACS CAM v4.0 Comments at 14-15.

<sup>56</sup> GCI CAM v4.0 Comments at 11.

broadband from the ILEC, a competitor, or neither.<sup>57</sup> Contrary to GCI's assertions, however, the model uses a take rate of less than 100 percent precisely to estimate the number of customers from whom the supported ILEC reasonably may be expected to obtain the ARPU, in order to determine how much support the ILEC needs to deploy broadband to those locations and still have the ability to recover its own costs.<sup>58</sup> At any given ARPU level, the lower the take rate, the higher amount of per-location support that will be required to permit the ILEC to make the necessary level of investment and achieve a reasonable return.<sup>59</sup> The take rate should be adjusted in ACS's case because Alaska's broadband take rate is far below 80 percent, limiting ACS's ability to recover the capital and operating costs that would be required under a CAF II statewide commitment. For ACS, the take rate dilemma is exacerbated by GCI's capture (using federal subsidies) of a substantial percentage of the market. In other areas targeted by CAF II, where neither subsidized nor unsubsidized competitors have established substantial market share, the model more reasonably assumes that the ILEC will capture a higher percentage of total locations – though even in those areas without any competition, that percentage still is substantially below 100 percent. In Alaska the percentage must be still lower because, if the CAM assumes that a lone federally subsidized competitor reasonably may be expected to achieve a take rate of just 80 percent, in a market with *two* federally subsidized competitors, both cannot reasonably be expected to achieve 80 percent market share.<sup>60</sup>

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<sup>57</sup> See *Connect America Fund; High-Cost Universal Service Support*, WC Docket Nos. 10-90, 05-337, Report & Order, DA 13-807, ¶43 (Wireline Competition Bur. rel. Apr. 22, 2013) (adopting framework for CAF Phase II model).

<sup>58</sup> See *USF/ICC Transformation Order* ¶167 (CAM will identify census blocks where cost of providing universal voice and broadband service exceeds what can be recovered entirely from reasonable end-user rates, and allocate CAF II support to the locations in those census blocks).

<sup>59</sup> As explained below, the support module of the CAM accounts for this by lowering the funding threshold – the minimum cost level at or above which CAF II support will be provided – as the take rate is reduced. In recent illustrative runs of the model, the funding threshold is set at \$48 and \$52. *Wireline Competition Bureau Releases New and Improved Illustrative Results For Connect America Cost Model Version 4.0 and Updated Methodology Documentation*, WC Docket No. 10-90, DA 31-2414 (WCB rel. Dec. 18, 2013). See generally *Wireline Competition Bureau Announces Availability of Version 3.1.2 of the Connect America Fund Phase II Cost Model and Adds Additional Discussion Topics To Connect America Cost Model Virtual Workshop*, WC Docket No. 10-90, DA 13-1136 (WCB rel. May 17, 2013) (announcing Bureau's on-line posting of additional questions concerning support thresholds); *WCB Cost Model Virtual Workshop 2012: "Support Thresholds"* (Wireline Competition Bur. post May 17, 2013), available at:

<http://www.fcc.gov/blog/wcb-cost-model-virtual-workshop-2012-support-thresholds> ("May 17 Virtual Workshop"); *WCB Cost Model Virtual Workshop 2012: "Calculating Average Unit Costs/Take Rate"* (Wireline Competition Bur. post Dec. 10, 2012), available at: <http://www.fcc.gov/blog/calculating-average-per-unit-costs-take-rate> ("Dec, 10, 2012 Virtual Workshop").

<sup>60</sup> In its Cost Model Virtual Workshop, the Bureau explained the reason for using the model to calculate the total cost for all locations passed, not just the cost per subscriber: as take rate assumptions change, "the cost-per-subscriber can change dramatically even if the total cost

In the case of submarine cable costs, a large portion of the costs of broadband deployment in Alaska, GCI argues that the CAM “should not skew [the] allocation of submarine cable costs based on the presence of parallel undersea cable facilities.”<sup>61</sup> As ACS has explained, the model already makes assumptions about the presence of other Alaska providers. Its assumptions merely need to be adjusted to more accurately capture local circumstances by accounting for the existence of a second cable connecting Alaska to the Lower 48. The CAM assumes, for example, that a conservative 50 percent of the traffic on ACS’s undersea cable is CAF-eligible, and further assumes that ACS will receive compensation for carrying the traffic of other providers over the cable. Because ACS serves approximately 67 percent of Alaska customer locations as an ILEC, the CAM assumes 50 percent times 67 percent, or 33.5 percent, of the submarine cable costs may be attributed to CAF-supported voice and broadband services provided by ACS – implying that the rest of the costs should be recovered from other revenue sources.<sup>62</sup> However, because ACS competes with GCI for traffic between Alaska and the Lower 48, it is unreasonable to assume that ACS would recover 66.5 percent of the submarine cable costs from non-CAF-eligible sources. ACS therefore has proposed a more realistic allocation of 50 percent of the submarine cable costs in lieu of the 33.5 percent currently used in the CAM.<sup>63</sup>

### Conclusion

ACS advocates sizing universal service subsidies to the demands of the local market, and tying subsidies to regulatory objectives. Where subsidies are offered, regulators have a right – indeed, a duty – to demand accountability. Where subsidies are discontinued, however, regulatory obligations should be scaled back accordingly.

Consistent with the Commission’s policies announced in the *USF/ICC Transformation Order*, support should be allocated to locations that are not receiving broadband through market forces alone, and the recipients of that support should be expected to account for the locations they serve, and at what level and price, for the duration of the subsidy. GCI’s arguments will not advance the interests of consumers in Alaska nor FCC policy. In fact, if the Commission is

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changes very little.” Dec, 10, 2012 Virtual Workshop, Question 1. The Bureau recognized that, as the expected take rate is reduced, the cost recovery per-subscriber would have to increase. Examples illustrate that, should the expected take rate be reduced from 90% to 50% the cost per active subscriber would almost double, even though the total costs do not. *See id.* Given a fixed ARPU, the level of support must increase at lower take rates to ensure that carriers have a reasonable opportunity to recover their investment. *See* May 17 Virtual Workshop. The support module of the CAM accounts for this by lowering the funding threshold as the take rate is reduced. *See id.* Absent this adjustment, ILECs who are not expected to achieve an 80 percent take rate also would not be expected to accept the proffered support nor invest in broadband deployment to unserved areas. *See also* ACS CAM v.4.0 Comments at 16.

<sup>61</sup> GCI CAM v4.0 Comments at 12.

<sup>62</sup> ACS CAM v4.0 Comments at 14-15.

<sup>63</sup> *Connect America Fund*, Comments of Alaska Communications Systems, WC Docket No. 10-90 (filed Sept. 12, 2013) at 16-17.

Marlene H. Dortch, Secretary

January 29, 2014

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concerned about providing high-cost support to two providers for a particular census block, and is looking to eliminate the overlap, ACS suggests the Commission consider whether it would be reasonable to eliminate the support that produces 100 percent coverage and has strict accountability requirements, or better in such census blocks to accelerate the phase-down of support based on an outmoded program that lacks the same degree of accountability.

It is urgent that the Bureau finalize CAF Phase II and adopt a model providing sufficient support for universal broadband deployment in all of Alaska's high-cost areas that are unserved by an unsubsidized competitor.

Please direct any questions concerning this filing to me.

Very truly yours,



Karen Brinkmann  
*Counsel for ACS*

Attachment: Declaration of Caitlin McDuffett

cc: Daniel Alvarez  
Rebekah Goodheart  
Amy Bender  
Nicholas Degani  
Priscilla Argeris  
Christianna Barnhart  
Julie Veach  
Carol Matthey  
Steve Rosenberg  
Katie King  
Alex Minard  
Ryan Yates

## ATTACHMENT

*Ex Parte* Letter of Alaska Communications Systems January 29, 2014;  
*Connect America Fund*, WC Docket No. 10-90;  
*Universal Service Reform – Mobility Fund*, WT Docket No. 10-208;  
*Rural Health Care Support Mechanism*, CC Docket No. 02-60;  
*Modernizing the E-Rate Program For Schools & Libraries*, WC Docket No. 13-184

### **Declaration of Caitlin McDiffett, Alaska Communications Systems**

1. I am a Product Manager with Alaska Communications Systems. In that capacity I research and compare the voice and broadband services offered by Alaska service providers, including those offered by GCI.
2. I have reviewed the characterization of GCI's broadband offerings set forth on pages 5-6 of the January 29, 2014 Letter to Marlene H. Dortch from Karen Brinkmann, Counsel to Alaska Communications Systems, in WC Docket Nos. 10-90 *et al.*, and it accurately describes the broadband rates and fees charged by GCI as well as the usage limits imposed by GCI that frequently result in overage charges to customers.
3. Many Alaska consumers have brought their GCI broadband bills to ACS for a comparative quote, providing dozens of examples of GCI overage charges. Many of these examples include overage charges of \$200 to \$600 in a single month. In one instance, a customer was charged \$1,200 in overage fees in a single month.
4. For the customer purchasing 12 Mbps, the usage limit is 60 GB – the equivalent of two movies per week – with an overage charge of \$0.004 per MB above the limit.
5. GCI reported 2012 Home Internet revenue of \$86 million of which \$7.9 million (nearly ten percent) was derived from overage charges. On average, about \$5 per customer per month can be attributed to GCI overage charges.
6. GCI imposes usage limits or data caps at every level of Home Internet service, from its 10 Mbps service (10 GB limit, \$0.005/MB overage charge) to its 100 Mbps service (500 GB limit, \$0.0005/MB overage charge).
7. A customer purchasing 12 Mbps for standalone (non-bundled) Home Internet from GCI pays \$59.99 per month plus \$11.99 monthly "access" fee for a total of \$71.98 per month with a 60 GB usage limit (\$0.004/MB overage charge). Thus, the monthly bill for this service is more typically \$76.98, including a \$5.00 overage charge. To purchase a service with a usage limit of at least 100 GB per month, a GCI customer would have to pay \$81.98 per month (the \$69.99 standalone rate plus \$11.99 monthly access fee), subject to an overage charge of \$0.003/MB. ACS's 4 Mbps broadband offering at \$89.00 per

**ATTACHMENT**

*Ex Parte* Letter of Alaska Communications Systems January 29, 2014;  
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*Rural Health Care Support Mechanism*, CC Docket No. 02-60;  
*Modernizing the E-Rate Program For Schools & Libraries*, WC Docket No. 13-184

month with no usage limit, access fees or overage fees, compare favorably to these GCI plans.

The foregoing is true and complete as of the date hereof to the best of my information, knowledge and belief.

January 29, 2014

A large black rectangular redaction box covers the signature area.

Carlin McDuff

**COMMENTS OF ALEXICON, INC.  
SUBCOMMITTEE ON COMMUNICATION AND TECHNOLOGY  
COMMITTEE ON ENERGY AND COMMERCE  
UNITED STATES HOUSE OF REPRESENTATIVES**

**“UNIVERSAL SERVICE AND THE ROLE OF THE FEDERAL COMMUNICATIONS  
COMMISSION” WHITE PAPER #5**

**Introduction**

Alexicon, Inc. (Alexicon) appreciates the opportunity to provide comment in regards to the Energy and Commerce Committee’s efforts to modernize the Communications Act of 1934. Alexicon provides professional management, financial and regulatory services to a variety of small rate-of-return regulated Incumbent Local Exchange Carriers (ILECs) who serve diverse geographical areas characterized by rural, insular or Native American Tribal Lands. These ILECs, similar to most other small rate-of-return regulated ILECs, currently provide a wide range of technologically advanced services to their customers. These companies, through participation in various State and Federal high cost funding programs, and with their continued investment in network infrastructure, are providing customers in rural, insular and Tribal areas with services equal to or greater than urban areas, and at comparable pricing. Furthermore, these ILECs have been committed to providing their customers with innovative solutions, by adapting technologies that fit rural America, including Broadband and IP-enabled services.

**Overall Comments**

The Committee’s Fifth White Paper delves into issues that are of immediate and vital importance to rural areas of the country, and indeed the very future of Americans living in these areas. These issues surround the availability, quality, and pricing of broadband services in rural areas of the country, and the ongoing ability of rural providers to provide these services. In many ways, universal service policy in the United States is at a crossroads, and a turn down the wrong path could relegate many Americans to the wrong side of the digital divide.

**Specific Comments**

- 1. How should Congress define the goals of the Universal Service Fund? Should Congress alter or eliminate any of the six statutory principles, codify either of the principles adopted by the FCC, or add any new principles in response to changes in technology and consumer behavior?**

Congress must ensure the Federal Communications Commission (FCC) maintains its focus on ensuring quality broadband services are available to all Americans, including those living in high cost rural and Tribal areas. Alexicon believes the FCC is in many ways missing or avoiding perhaps the most important issue in telecommunications today - the apparent lag in available broadband speeds and pricing in the United States as compared to the rest of the industrialized world. Furthermore, within the United States there exists a digital divide - the metaphor used to describe the differences between services and pricing available in urban areas as compared to

most rural areas - that threatens to widen into a canyon that will become more and more difficult to cross.

As to the goals of the Universal Service fund as codified in the Act or as adopted by the FCC, Alexicon continues to believe that any problems with lagging broadband deployment in rural areas are not a function of the law, but rather with the adoption and execution of the implementing regulations. The FCC recently addressed standard broadband speeds to be made available in two proceedings, and in both, they tentatively proposed to adopt 10 mbps as the standard download speed to be made available to all Americans. As Alexicon stated in its comments filed on August 8, 2014:

“Now that the Commission has proposed a new downstream broadband speed standard, the issue becomes what the speed should be. While the Commission contrasts urban area availability at 10 Mbps with rural availability, a review of the SBI data reveals the actual gap between urban and rural downstream speed availability begins to widen substantially at the 25 Mbps level. Further analysis of the SBI’s broadband availability data reveals that just over 50% of customers in rural areas have access to broadband speeds of 25 Mbps or greater, compared to over 90% in urban areas. In certain states, the rural/urban broadband speed divide is even more striking:

State	Download Speeds		
	>25 mbps	>50 mbps	>100 mbps
AZ - Rural	28.7%	22.1%	12.2%
AZ - Urban	93.4%	88.4%	84.0%
CO - Rural	29.3%	20.9%	16.7%
CO - Urban	90.4%	88.7%	86.2%
KS - Rural	32.3%	27.6%	18.5%
KS - Urban	93.6%	91.8%	82.9%
NM - Rural	24.7%	21.3%	16.0%
NM - Urban	87.7%	85.4%	67.5%

Based on this data, Alexicon recommends the Commission consider higher standard broadband speed availability for RoR areas. This would provide two immediate benefits for all stakeholders: (1) provide RoR carriers with a more “future proof” target at which to aim, in turn allowing these carriers to plan network investments more effectively , and (2) avoid the clearly necessary exercise of revisiting the standard broadband speed in the near future, especially if the Commission adopts a 10 Mbps standard now. The trend in urban areas is clear, with over 70% of customers nationwide having access to broadband download speeds in excess of 100 Mbps.

Along with any increase in the standard broadband speeds applicable in RoR areas would be a likely increase in the need for universal service support. To begin, the last group of customers without access to today’s 4 Mbps speeds would need to be covered. These customers represent the most costly group of customers to serve, and would require the greatest planning timeline, even under the auspices of the Commission’s requirements for RoR broadband build-out. Next, all new construction would have to be able to provide

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broadband speeds at the new standard, which may necessitate upgrades or replacements of current plant. Finally, as customer demand for higher speeds increases, RoR carriers would have to ensure these needs are met. Even assuming scalable networks already exist in a majority of RLEC areas that are capable of delivering, for example, 25 Mbps downstream, there would still be costs necessary to make such broadband service available to all customers. This all leads to additional need from the federal support mechanisms. The Commission must, as Alexicon firmly believes, move forward with revising the standard broadband speeds in RoR areas, which will necessitate an analysis of such an increase on overall RoR carrier CAF needs. To increase the broadband speed standards without consideration of additional support needs of RoR carriers would merely be adding another unfunded mandate on rural LECs, to the detriment of their customers and the economies they serve.” (Internal footnotes omitted)

Clearly, in order to address this very real issue, Congress, the FCC, and other stakeholders must seriously consider what is important to this country, decide the best way forward, and provide the political will and, where necessary, the support needed to get there.

**2. Universal service was created to fund buildout in areas incapable of economically supporting network investment. How should our policies address the existence of multiple privately funded networks in many parts of the country that currently receive support?**

Alexicon must first address a common misconception related to the purpose of the current federal universal service mechanism inherent in the above question. The current universal service mechanisms were not created solely to fund “build out” of networks capable of bringing universal services to high cost areas (i.e., those areas incapable of economically supporting network investment). Instead, USF support is to be used to preserve and advance universal service in high cost areas of the country. The key term here is preserve, and in the context of providing universal service in high cost rural areas this means ongoing operations and maintenance. In other words, once the network capable of providing universal service is placed in service, there are still the high costs of operating and maintaining that network to contend with, and the current programs were designed with these considerations in mind.

As to the issue of multiple networks being funded in a single service area, what needs to be acknowledged is the carrier of last resort (COLR) concept and its importance to universal service policy. The FCC addressed the issue of duplicative support in its Transformation Order, has addressed the existence of areas where there is a supported carrier completely overlapped by an unsubsidized competitor, and is now taking up the issue of areas with less than 100% overlap. In each of these scenarios, it will be vital for the FCC and other stakeholders to recognize that universal service cannot exist without a COLR - a carrier willing and able to serve all customers, no matter the cost of serving those customers, who request service.

It therefore appears that further action in the form of changes to telecommunications law is not necessary at this time to address situations where privately funding networks exist in areas where a supported carrier operates. However, COLR policies must remain in place or the whole structure upon which universal service policy is built will collapse, and thus Congress should monitor this situation closely and intervene when necessary.

- 3. What is the appropriate role of states and state commissions with respect to universal service policy?**
- 4. What is the appropriate role of the Federal-State Joint Board on Universal Service in a broadband, IP-enabled, largely interstate world? What is the appropriate role of related joint boards, such as the Federal-State Joint Board on Separations or the Federal-State Conference on Advanced Services?**

States, state commissions, and the Federal-State Joint Boards, including the FCC-Native Nations Broadband Task Force, have vital roles to play in the broadband world, including the efforts to ensure all Americans, including Native Americans, have access to quality high speed Internet access services. As the FCC stated in the Transformation Order:

“We recognize that USF and ICC are both hybrid state-federal systems, and it is critical to our reforms’ success that states remain key partners even as these programs evolve and traditional roles shift. Over the years, we have engaged in ongoing dialogue with state commissions on a host of issues, including universal service. We recognize the statutory role that Congress created for state commissions with respect to eligible telecommunications carrier designations, and we do not disturb that framework. We know that states share our interest in extending voice and broadband service, both fixed and mobile, where it is lacking, to better meet the needs of their consumers. Therefore, we do not seek to modify the existing authority of states to establish and monitor carrier of last resort (COLR) obligations. We will continue to rely upon states to help us determine whether universal service support is being used for its intended purposes, including by monitoring compliance with the new public interest obligations described in this Order. We also recognize that federal and state regulators must reconsider how legacy regulatory obligations should evolve as service providers accelerate their transition from the Public Switched Telephone Network (PSTN) to an all IP world.” (Transformation Order, ¶15)

All stakeholders, including states, Tribal governments, and local governments, will be important in ensuring the benefits of the broadband, IP-enabled world reach all Americans.

- 5. The Universal Service Fund is one of several federal programs that support buildout of communications facilities. Are current programs at other federal agencies, like the National Telecommunications and Information Administration (which oversaw the Broadband Technology Opportunities Program) or the Rural Utility Service (which oversees lending programs and oversaw the Broadband Initiatives Program) necessary?**

Once again, it must be recognized that current universal service programs do not support only the “buildout” of communications facilities, but also support the ongoing operations and maintenance of, and provision of service over, those networks. This has to be done while at the same time ensuring that the rates charged for services are reasonable and affordable. Thus, programs such as those administered by the Rural Utilities Service (RUS) provide the starting point for the provision of universal voice and broadband services - assistance for the initial cash outlay, typically in the form of a loan or grant. In the case of the RUS’s telecommunications loan program, once the network is built, the borrower must ensure that service provision results

in cash flow streams that enable repayment of those loans. Since operating and maintaining universal service networks in rural areas would oftentimes result in unaffordable service rates, universal service support steps in to fill the gap.

As a result of the above discussion, Alexicon believes the facts speak for themselves and that universal service programs, and programs administered by other federal agencies, are important parts of an overall whole that is universal service.

- 6. How can we ensure that the Universal Service Fund is sufficiently funded to meet its stated goals without growing the fund beyond fiscally responsible levels of spending?**
- 7. Are all of the funds and mechanisms of the current Universal Service Fund necessary in the modern communications marketplace?**
- 8. In lieu of the current support mechanisms, could any of the programs be better managed or made more efficient by conversion to:
  - a. A state block grant program;**
  - b. A consumer-focused voucher program;**
  - c. A technology-neutral reverse auction; or,**
  - d. Any other mechanism****

The issues addressed in the final three questions really hit at the vital core of universal service policy in the United States, and how it must look going forward. In recent comments before the FCC in response to the 10<sup>th</sup> Annual Broadband Progress Report Notice of Inquiry, the National Tribal Telecommunications Association stated the following:

“As noted in the NOI, the Commission is also required to “include information comparing the extent of broadband service capability in a total of 75 communities in at least 25 countries abroad.” The reason for this look outside the United States is to compare broadband deployment with other countries, with a positive comparison providing additional evidence that deployment in the United States is being accomplished in a reasonable and timely fashion. Unfortunately, according to the International Bureau’s latest International Broadband Data Report, the United States ranks 24th in average actual speeds purchased and experienced by consumers, and 17th “when based on a stratified sampling technique using weighted average actual download speed.” Considering that the United States has the world’s largest single national economy and has approximately 25 percent of the nominal global gross domestic product, these broadband speed rankings are puzzling, at best, and can be seen to represent a serious failure in national broadband policy.” (Internal footnotes omitted)

Alexicon agrees with this position, and further states this is the decision that must be made in the United States as soon as possible - does the United States want to continue trailing the industrialized world in overall broadband deployment (and speeds available), or does it want to move forward and recognize that high-speed, affordable broadband services are worthy of national support? The answer should be clear, because without broadband networks capable of delivering affordable, high speed (e.g., speeds comparable to or greater than those available in other countries) to all Americans, including those living in high cost rural and Tribal areas, the

United States will find it more and more difficult to keep up with the rapidly advancing world economy.

Finally, the alternative methods listed in the White Paper (state block grant program, consumer-focused voucher program, and technology-neutral reverse auction) have little to no chance of meeting any national universal service goals. The block grant and voucher proposals each rely on the faulty premise that support is needed for initial build-out costs only, which is addressed above, or that consumer discounts for services will somehow provide telecommunications companies with the funds necessary to build, operate, and maintain networks (which they can't). Furthermore, reverse auctions will ensure that the least cost bidder, not the bidder with the ideal plans for providing universal service, will prevail in the literal "race to the bottom."

Respectfully Submitted,

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## **Universal Service Policy and the Role of the Federal Communications Commission House Committee on Energy & Commerce**

AT&T appreciates the opportunity to offer its views to the Committee on Energy and Commerce regarding its efforts to modernize the laws governing the communications sector, and specifically with respect to the Committee's review of the legislative underpinning of the nation's universal service program.

As the Committee noted in its recent White Paper focusing on universal service policy, the universal service program has existed for the better part of a century, with the concept of universal service first codified in the Communications Act of 1934. Since Congress's initial adoption of the universal service program, the market for communications services has continually transformed and evolved, and consequently, the universal service program has from time to time been revised to keep pace with those changes. Some of the revisions to the universal service program have been legislative – such as the 1996 amendments to the Communications Act – and some have been regulatory – such as the reform of the Universal Service Fund (USF), approved by the Federal Communications Commission (FCC) on October 27, 2011.<sup>1</sup>

AT&T has always supported, and continues to support, an equitable and effective universal service program. In that regard, AT&T believes that further legislative changes to the universal service program can enhance the FCC's recent Connect America Fund reforms and keep the universal service program viable and effective in a continually transforming and evolving market.

AT&T believes that those legislative changes should focus on implementing a flexible universal service policy framework that is capable of adapting as national policy objectives change. Ideally, an *adaptive universal service policy framework* would effortlessly support the policy shift that occurred from ubiquitous telephone service to the landmark Congressional goal of ensuring that “all people of the United States have access to broadband capability.”<sup>2</sup> Consistent with the FCC Connect America Fund reforms, AT&T agrees that the best mechanism for achieving that goal is the development of a public-private partnership under which there is a direct public investment in broadband infrastructure in those areas where the underlying economics do not already create adequate incentives for a network operator to deploy, improve, and maintain such broadband infrastructure.

While the FCC Connect America Fund reforms to the USF do much in this regard, uncertainty with respect to some issues may serve as obstacles to achieving the Congressional goal of universal access to broadband capability. For example, USF reform in the broadband era should

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<sup>1</sup> See *Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011).

<sup>2</sup> The American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115, 516 §6001(k)(2).

not continue to be constrained by anachronistic regulatory constructs such as the “eligible telecommunications carrier” with its echoes of the narrow-band era “carrier of last resort.” In order for the public-private partnership to flourish, federal policy should limit network build requirements and other universal service obligations to those geographic areas for which a network operator elects to receive a specified amount of funding in exchange for obligations that apply for a pre-determined length of time.

Legislative reforms should also eliminate, once and for all, the concept of allocating communications services between interstate and intrastate jurisdictions, together with the resultant bureaucracy. Modern communications networks make no distinction between interstate and intrastate transmissions. All entities that benefit from modern communications networks should support the country’s universal service programs, not a subset of entities defined with respect to legacy regulatory service classifications. In order to ensure a continuing, stable and effective USF, Congress should expand the contribution base, taking care while doing so to ensure that USF contributions continue to be stable and predictable.

In both of these respects – vestigial monopoly regulation and jurisdictional separations – the current legacy statutory framework is dramatically out of alignment with the current evolution of IP-enabled, high-speed broadband networks. Despite the continuous evolution of communications services and the networks that carry them, the universal service program remains tethered to legacy regulatory policies that apply asymmetrically, thus creating unnecessary uncertainty for firms who might choose to invest in facilities that would support the nation’s universal service principles.

Below, we provide additional comment on these issues, as well as on the specific questions that the Committee set forth in its White Paper.

**1. How should Congress define the goals of the Universal Service Fund? Should Congress alter or eliminate any of the six statutory principles, codify either of the principles adopted by the FCC, or add any new principles in response to changes in technology and consumer behavior?**

At a high level, a universal service program for this century should have two primary goals: (1) supporting the deployment, improvement, and maintenance of high-speed network facilities (based on whatever technology) to areas where the underlying economics do not already create adequate deployment incentives for a network operator; and (2) making adoption of high-speed information and communications services more affordable for institutions or populations that cannot afford them or have otherwise declined to adopt them for financial reasons.

Consistent with these goals, Congress should affirm that the existing universal service principles appropriately are no longer solely focused on telecommunications services. Today’s marketplace offers a broad variety of services, platforms and applications, all of which facilitate communication and participation in the 21<sup>st</sup> century economy. In these days of converged IP-

enabled services and the access they provide to civic, commercial, healthcare and educational resources, ensuring universal broadband access must be a foundational USF principle.

In addition, Congress should grant the FCC the flexibility to devise programs that will facilitate the adoption of appropriate levels of digital information and communications services by those who would not otherwise do so. The current principles identify the targets of such adoption programs as low-income consumers, schools, libraries, and healthcare institutions. These adoption targets clearly have merit and are supported by important public policy goals. We would suggest, however, that it may be useful to grant the FCC the discretion to revise or tailor the recipients of these adoption programs as it sees fit in the coming years.

**2. Universal service was created to fund build-out in areas incapable of economically supporting network investment. How should our policies address the existence of multiple privately funded networks in many parts of the country that currently receive support?**

To its credit, the FCC is in the process of eliminating the legacy, high-cost support it provides to multiple carriers to offer service in the same geographic area, and it has designed its Connect America Fund to award support to just one provider in a geographic area that the FCC has determined is eligible. To further support this action, Congress could direct the FCC to adopt policies that: (1) make available high-cost funding only to those areas where market forces alone are insufficient to incent private investment to provide consumers with access to services that the FCC determines are essential – in other words, those not served by an unsubsidized competitor; and (2) award high-cost support through a competitive bidding process where lowest funding bid is the primary factor in selecting winning bidders. With regard to the second of these points, AT&T supports the concept of a technology-neutral reverse auction, which the Committee raises in connection with Question 8, as a means of selecting a provider for an eligible geographic area.

**3. What is the appropriate role of states and state commissions with respect to universal service policy?**

As long as the state's action supports the FCC's universal service program requirements and policies, including voluntary provider participation, states should continue to be permitted to create their own universal service programs if they wish to spur deployment or adoption more aggressively than the federal program does. Thus, any state should be permitted to increase the financial incentives for network operators that are willing to deploy the federally supported universal service definition in high-cost areas of its geography not served by an unsubsidized competitor. Similarly, the federal system should allow states to increase the support for adoption by low-income consumers (or other adoption targets) beyond the level available under the federal program.

In doing so, however, states should be prohibited from: (1) creating obligations greater than those existing under the federal program; and (2) restricting access to state support to certain

types of providers. For example, if a state were to create additional high-cost deployment support under its state universal service fund – and assess providers or users within the state to finance the additional support – the state should nevertheless adhere to the universal service obligations set out in the federal program. Such a state should not be permitted to impose additional obligations – for instance, greater throughput speeds or faster build-out requirements – than those existing under the federal program. Doing so would put providers in the untenable position of having to modify an otherwise nationally uniform business plan to meet the idiosyncratic requirements of a single state. Particularly, if multiple states created varying or conflicting obligations through their state universal service programs, it could delay or complicate achievement of overarching federal universal service goals.

**4. What is the appropriate role of the Federal-State Joint Board on Universal Service in a broadband, IP-enabled, largely interstate world? What is the appropriate role of related joint boards, such as the Federal-State Joint Board on Separations or the Federal-State Conference on Advanced Services?**

It is AT&T's firm position that the jurisdictional separation of communications is a relic of the past that has no continuing significance in the 21<sup>st</sup> century marketplace. Today's digital, IP-enabled, broadband communications – whether voice, video or some other species of data – are inherently interstate in nature. Regardless of their end points, these communications routinely pass over infrastructure and involve processing capabilities and hosted content that transcend state boundaries. Take a single web page as an illustrative example: When a user navigates to a web page, it will be populated with data that comes from several different, geographically dispersed locations and that travels a multiplicity of different routes, often over entirely different network media, to arrive at, and be assembled before, the requesting user.

As providers transition their networks entirely to IP technology, the days when a circuit-switched voice call travelled over a wireline infrastructure entirely within a single state are becoming a distant memory. Moreover, the market for today's converged information and communications services increasingly offers those services on a non-jurisdictional and non-distance-sensitive basis. A long-distance charge on a mobile phone bill is unheard of today. With the on-going migration away from traditional telephone service, even wired, residential service, long the joint domain of local and interstate service, is increasingly moving to flat-rated billing that allows nation-wide calling.

In the face of these technological and market developments, the concept of jurisdictional separation has no continuing relevance. The board charged with establishing separations should be abolished.

The portfolio of the joint board on universal service should be reshaped and its membership broadened beyond the current representatives. The board's primary function has been to recommend policies for what services should receive federal universal service support and which contribution methodology is appropriate. However, the universal service program for the future

will focus on supporting deployment, improvement, and maintenance of communications networks to high-cost locations not served by an unsubsidized competitor, as well as how best to increase adoption by eligible low income users. Consequently, the board's historical focus on determining support for particular, interstate services that run over subsidized networks will be unnecessary.

The involvement of state regulators in questions of federally supported networks and services also has significantly diminished over time, with numerous state legislatures entirely removing large portions of telecom regulation from the jurisdiction of their respective state commissions. With this decline in state regulatory involvement and the rise in the importance of broadband deployment, private-sector competitive operators have become increasingly responsible for determining where and how to expand, improve and maintain high-speed communications networks, with their important consequences for education, economic development and public safety.

For these reasons, membership on the Joint Board (if it continues under that name) should expand beyond state utility and FCC commissioners to include: (1) state agencies responsible for economic development; (2) providers of high-speed networks; and (3) other representatives of industry. Such an expanded board would better reflect the public-private partnership that must exist to advance universal service goals.

**5. The Universal Service Fund is one of several federal programs that support buildout of communications facilities. Are current programs at other federal agencies, like the National Telecommunications and Information Administration (which oversaw the Broadband Technology Opportunities Program) or the Rural Utility Service (which oversees lending programs and oversaw the Broadband Initiatives Program) necessary?**

The federal universal service program, as administered by the FCC, should be the primary federal program focusing on the deployment, improvement, and maintenance of communications facilities to the nation's high-cost locations where there is no unsubsidized competitor. The FCC has the depth of experience and policy-making expertise to continue leading in this area and should be charged with doing so under any new statute that Congress may devise.

The Rural Utilities Service loan program also has an important role to play in helping to spur network deployment. The RUS loan program offers more affordable access to capital but still relies on competitive, market-driven calculations by private-sector entities to identify projects worth pursuing. Accordingly, it serves as an excellent example of the public-private partnership that uses government resources to ease market entry, while still relying primarily on market forces.

AT&T respectfully suggests that federal grant programs for high-speed network infrastructure like Broadband Technology Opportunities Program (BTOP) and Broadband Initiatives Program

(BIP) run the risk of ignoring market signals and improvidently investing federal dollars. Both of these programs were products of the American Recovery and Reinvestment Act and consequently served a variety of different federal policy goals. As vehicles for pursuing the single goal of network deployment, however, they were less than ideal, resulting at times in the uneconomic over-building of redundant middle-mile facilities that market demand did not support. Rather than repeating this kind of grant program in support of universal service goals, AT&T suggests that, in the future, this type of support be channeled through the universal service funding mechanisms.

We note, however, that NTIA's appropriation under BTOP also included funds for noteworthy and useful educational efforts aimed at broadband adoption. The program worked to improve digital literacy and funded public education campaigns regarding the benefits of subscribing to broadband service – all activities that Congress appropriately has barred the FCC from pursuing through its universal service authority. Continued work of this sort by NTIA, RUS, or other federal agencies like the Department of Education would be a useful and worthwhile complement to the FCC's deployment funding through the universal service program.

**6. How can we ensure that the Universal Service Fund is sufficiently funded to meet its stated goals without growing the fund beyond fiscally responsible levels of spending?**

An important corollary to the change in the focus of the services supported by the universal service programs is a broadening of the contribution base. No longer should mandatory contribution obligations be limited to “providers of telecommunications services.” Rather, the universal service program should incorporate a mechanism that recovers adequate funding from all users of modern communications networks. As the Committee is likely aware, the USF contribution factor has risen substantially since 1996 because of the diminishing base of assessable, interstate telecommunications services. Broadening the contribution base to include all users of modern communications networks – rather than merely interstate telecommunications services – will significantly reduce the funding burden that has been falling on one segment of the market. And it will distribute that burden more equitably across all of the users who benefit from the deployment and adoption programs that universal service programs fund.

**7. Are all of the funds and mechanisms of the current Universal Service Fund necessary in the modern communications marketplace?**

Congress may want to consider giving the FCC the discretion to reduce or redirect the E-Rate and healthcare funds to different policy priorities over time as circumstances change. For example, mobile learning initiatives are showing great promise, yet today's E-Rate program does not support innovative mobile 24/7 learning models. Congress may want to provide fresh E-Rate guidance to the FCC to ensure that the E-Rate program promotes adoption of new modes of

teaching and learning, such as mobile, rather than have the discretion to discourage them. Allowing the agency this kind of flexibility over the long term would allow those with the most relevant and immediate experience in administering the funds to achieve savings or dedicate program resources to the most pressing and appropriate policy priorities in the future. While there is no reason to believe that either education or healthcare will drop in importance as a public policy priority, it is conceivable that circumstances around connectivity could change for these important priorities and that other priorities might arise in the future. It could be useful for the FCC to have the flexibility to pursue such new goals without a change in legislation.

We also take this opportunity to offer a brief suggestion about the administration of the E-Rate and the low-income funds. Both of these programs, as currently structured, envision that providers will furnish the covered services (either Lifeline voice service to low income consumers or a communications service to a school or library under E-Rate) and apply a government-funded discount to the customer's bill. The provider must then look to the customer for payment of the discounted bill and to the universal service administrator for payment of the balance. This places the communications provider in an unnecessary and administratively challenging position. It also raises unnecessary enforcement and compliance challenges for the FCC and the Universal Service Administrative Company, which must both seek to ensure that the desired support is timely reaching the proper beneficiaries.

The problems arising from this model are particularly acute in the E-Rate program, where the customer is often a large school district and the bills involve numerous, complex services potentially subject to different discount rates, which may even be retroactively adjusted at times. When the 1996 Act called for the E-Rate program to provide "discounts" to schools and to reimburse providers, it is likely they were imagining the fairly simple telephone bills that were common at the time. However, the success of the E-Rate program itself has expanded scale and scope of school and library communications purchasing so greatly that the concept of a discount on a bill has become a liability to the efficient and compliant administration of the program.

The Lifeline program similarly requires participating providers to discount eligible voice services. It also imposes on private sector service providers the role of administering consumer eligibility and enrollment. While this imposes significant costs and burdens on participating providers, it also raises the question as to why providers who provide services subsidized under this government benefits program should be making eligibility determinations.

The awkward and inefficient funding flow in both Lifeline and E-Rate creates significant and unnecessary burden, expense and complexity for stakeholders. The problems could be easily ameliorated with an alternative model that directs support directly to schools, libraries or low-income beneficiaries, rather than to the provider as part of a bifurcated payment model. In addition, eliminating providers' role in administering Lifeline eligibility and enrollment would better safeguard consumers' privacy, improve the structural controls that function to safeguard against waste, fraud, and abuse, and result in more efficient benefits administration for

consumers. Adjusting the statutory language for these two programs would direct the FCC to make the changes necessary to modernize these programs and better position them for the future.

- 8. In lieu of the current support mechanisms, could any of the programs be better managed or made more efficient by conversion to:**
- a. A state block grant program;**
  - b. A consumer-focused voucher program;**
  - c. A technology-neutral reverse auction;**
  - d. Any other mechanism.**

As noted in responding to question 7 above, AT&T supports reforming both the E-Rate and the Lifeline programs so that support goes directly to the beneficiaries of the programs, rather than being paid to providers to effectuate the programs' discounts.

We also have discussed above, under question 2, the merits of using a reverse auction to identify the most cost-effective provider to serve high-cost locations where there is no unsubsidized competitor in the high-cost program. Additionally, regardless of program or mechanism, USF support must be tax efficient. USF payments that are used to make a direct public investment in broadband infrastructure to achieve Congressional broadband objectives qualify as a "contribution to the capital" of the recipient.

AT&T opposes sending universal funding to states as block grants. The FCC can pursue its policy goals directly and reliably through the various universal service support mechanisms. It can audit the programs to ensure they are running appropriately, and it provides a unified regulatory voice to which providers can look for guidance in their work with the program. All of these things would change – for the worse – if portions of the program were converted to state block grants. States would likely pursue a multiplicity of different, potentially conflicting policy goals; federal oversight of the programs would be significantly more difficult; and providers would suddenly need to look to more than fifty different jurisdictions for regulatory guidance. As discussed above, all aspects of communications over today's high-speed, IP-enabled networks are moving toward a single, unified, federal, interstate model. Block-granting universal service support to states would be in significant tension with this gathering trend in the marketplace.



September 14, 2014

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Re: Universal Service Policy and the Role of the Federal Communications Commission  
White Paper

Dear Chairmen Upton, Walden and Ranking Members Waxman, Eshoo:

The Committee recently asked for stakeholder comments on the goals and direction of the Universal Service Fund in response to its white paper. While the Association of TeleServices International is on the periphery of this issue, certain components of changes to the system could have drastic impacts on the profession and the services we provide our customers.

Founded in 1942, the Association of TeleServices International (ATSI) represents 400 of the most sophisticated telephone answering service companies in the world. With over 350,000 customers in the U.S. alone, the members generate revenue in excess of \$1.5 billion, process an estimated **3.6 billion** call transactions annually, and have an estimated **44,711** full-time employees in the industry within the United States of America. The industry provides vital diligence to the 24/7 communications links required between the public and professional, commercial, and government clients of the industry and includes telephone answering services, voice-mail services and any other business which provides enhanced communication services.

The Association of TeleServices International (ATSI) does not oppose the majority of previously suggested changes to the USF, but asks Congress to ensure that any additional costs assessed to the contributors, AND ESPECIALLY the end users, is **FAIR, EQUITABLE, and NON DISCRIMINATORY** and does not place an unfair burden on

this industry. For example, a straight “numbers” based methodology for the contribution side of USF would inadvertently cost small businesses in our industry thousands of dollars more EACH MONTH!

We also oppose any changes that would reclassify our industry as direct contributors. Some language that has been suggested previously could have been interpreted to classify users of Direct Inward Dial (DID) numbers as direct contributors to USF. We strongly feel this interpretation is wrong.

As a matter of fact, direct inward dial numbers used by our industry are not used for two-way telephonic purposes and should be exempt from any additional future assessment under any “numbers” contribution methodology. Our DIDs are used as signaling or indicator numbers to route calls to an end number and therefore not utilized like a standard DID. Extreme low volume signaling DIDs are uniquely utilized and do not and should not meet the same criteria for any suggested numbers methodology assessment.

We also believe that telecommunications carriers should contribute to USF, but also other service providers, whether or not they are classified as "telecommunications carriers," should similarly contribute if their industry receives USF monies. ATSI suggests that broadband access providers, in particular, should contribute to USF equally with traditional telephone companies, since the FCC has now repurposed USF to fund the expansion of broadband to rural and other unserved or underserved areas. It is our belief that industries that benefit from USF monies should also be required to contribute to it.

We thank you for your time and consideration of our views. If you have any questions about ATSI’s position or wish to discuss it further, please contact ATSI’s Washington Counsel, Dave Wenhold, at 703-927-1453 or by email at [dwenhold@mwcapitol.com](mailto:dwenhold@mwcapitol.com).

Sincerely,

Jeff Zindel, ATSI President

I wish to comment on these two questions in "Universal Service Policy and the Role of the Federal Communications Commission" (The paper is undated, but says it's the 5th paper):

2. Universal service was created to fund buildout in areas incapable of economically supporting network investment. How should our policies address the existence of multiple privately funded networks in many parts of the country that currently receive support?

5. The Universal Service Fund is one of several federal programs that support buildout of communications facilities. Are current programs at other federal agencies, like the National Telecommunications and Information Administration (which oversaw the Broadband Technology Opportunities Program) or the Rural Utility Service (which oversees lending programs and oversaw the Broadband Initiatives Program) necessary?

The set of questions asked, and indeed the entire paper, completely omits the subject of emergency services communications. This is an critical omission:

- reach to emergency services and reach to "areas incapable of economically supporting network investment" (Question #2 above) always greatly overlap (regardless of technology).
- there are two reasons that emergency services communicators usually cite when shunning commercial communications service. One is geographic reach -- this reason comes primarily from rural jurisdictions. The other is 'assured service' which is usually not well defined, but has resulted in segregated spectrum allocations (e.g. in 700MHz range) for emergency services (there are no valid justifications in this assertion for segregated infrastructures in a packet switched world).

Example. A rural medical emergency may be reported to the Public Services Access Point (aka 911) operator via the Universal Service-subsidized communications system. But the PSAP operator communicates to the responding ambulance via an entirely separate communications system. It is patently uneconomical to support both infrastructures over vast rural areas -- as a result, neither will meet the requirements, coverage and high availability being the most important.

Our current federal policies, fragmented that they are\*, attempt to support two segregated communications systems -- one is recognized in this paper -- the internet. The other is the emergency services communications system. The only reason to support two segregated communications systems is because that's the way we've always done it.

The result is that neither infrastructure is supported coherently or adequately.

The kind of synergism that we should, by policy, be promoting properly look like this:

- extend the internet to schools (and firehouses, police departments, PSAPs, etc). This much is currently supported by the Universal Service Policy.
- upgrade the internet to the schools for high availability. This should include, for example, alternate backup WAN routes, and backup power in the wiring closet (at least). This marginal cost is arguably an emergency services one, although it benefits the school per se as well. The availability and survivability issues are important -- yea to the schools too -- but are generally outside the scope of Universal Service Policy.
- Add radio-WAN base stations to the schools' infrastructures. This provides the reach to emergency services and is properly borne by that budget.

- Radio-WAN subscriber stations, routers and in-vehicle LANs are properly emergency services items.
- addition of a monitoring system (e.g. see SNMP) is critical to emergency services but benefits all.
- extending the reach, by adding more base stations benefits both rural (underserved) and emergency services.
- support a set of emergency services applications. The requirements differences between these and straight commercial cellphone applications are primarily three: 1) application security, 2) remote manageability and 3) Quality of Service control (primarily use of the Differential Services Control Point).

Considering both the traditional needs served by Universal Service and the needs of emergency services will benefit both and lower net cost.

Considering them in different policy and budgetary silos is poor governance.

\*several agencies including some in Commerce, Homeland Security, Transportation, and Agriculture are involved, far more than just the FCC. And somewhat more than you mention in Question #5. The guidance from these agencies is fragmentary and often simply contradictory.

Thank you for the opportunity to comment.

Rex Buddenberg

## **#CommActUpdate: Modernizing the Communications Act**

### **Universal Service Policy and the Role of the Federal Communications Commission**

#### **Comments of Competitive Carriers Association**

Competitive Carriers Association (“CCA”) submits these comments in response to the Energy and Commerce Committee’s (“Committee”) White Paper on Universal Service Policy and the Role of the Federal Communications Commission (“Fifth Paper”). The Fifth Paper was released as part of the Committee’s ongoing efforts to explore whether and how the Communications Act of 1934, as amended (the “Act”), should be updated or rewritten.

CCA is the nation’s leading association for competitive wireless providers and stakeholders across the United States. CCA’s membership includes more than 100 competitive wireless providers ranging from small, rural carriers serving fewer than 5,000 customers to regional and national providers serving millions of customers. CCA also represents approximately 200 associate members consisting of small businesses, vendors, and suppliers that service carriers of all sizes. Together, CCA’s members represent a broad range of entities with a shared goal of a competitive wireless market as a critical driver of the U.S. economy.

The Committee correctly observes that “[t]he rapid change in communications technologies, shifts in consumer preferences, and their impact on competition raise fundamental questions for Universal Service policy.” To best promote competition and, most importantly, extend broadband service to all Americans, updates to the Universal Service Fund should take into account the skyrocketing consumer demand for wireless services and incorporate parity among allocation policies. Today, mobile broadband services account for the majority of new broadband connections and mobile platforms account for the majority of the time Americans

spend using digital media. A substantial and growing percentage of Americans use *only* mobile wireless devices for their broadband needs.

Despite the boom in mobile broadband usage, large portions of the country still lack access to mobile broadband services. The FCC has inadequately addressed advancements in technology and failed to note dramatic shifts in consumer preferences. In an update to the Communications Act, Congress should correct the course of Universal Service reform to reflect these facts.

To deploy wireless services to the areas that rely on it the most, Universal Service distribution needs to reflect the realities of the market. In implementing its new Connect America Fund (“CAF”), however, the FCC has ignored technological advances that can deliver broadband and voice services to unserved and rural areas more efficiently. In doing so, the FCC has departed from the bedrock principle of competition: Congress’s direction that USF mechanisms should “neither unfairly advantage nor disadvantage one provider over another, and neither unfairly favor nor disfavor one technology over another.” This has undermined the growth of sustainable competition in rural areas of the country, and unnecessarily increased Universal Service funding requirements—and the resulting contribution burden placed on consumers—by billions of dollars.

In any update to the Communications Act, Congress should take corrective action by reaffirming a competitively neutral framework while building on the goals of the Telecommunications Act of 1996 (“96 Act”) to promote the growth of sustainable competition. This recommended approach would harness market forces to deliver services to high-cost areas at the lowest possible cost. More specifically, Congress can ensure that limited Universal Service funds are used more efficiently and effectively by making CAF support: (i) fully portable

and tying support to a provider's ability to win customers; (ii) available through a single, unified funding mechanism; and (iii) available at levels calculated using forward-looking cost models. As a result, increased efficiency would reduce the contribution burden placed on individual consumers—as would broadening the Universal Service contribution base to encompass additional services not covered by the existing Act.

**I. Federal Universal Service Policy Should Favor the Use of Competitive Funding Mechanisms that Promote the Growth of Sustainable Competition**

Section 254(b) of the Act directs the FCC to base its policies for the preservation and advancement of Universal Service on specific principles. Section 254(b) also permits the FCC to adopt additional Universal Service principles to guide its development and implementation of Universal Service policy. As a general matter, CCA believes that the principles adopted to date remain appropriate guideposts for the FCC as it shapes federal Universal Service policy.

That said, CCA also believes that these principles should be augmented in two important respects. First, Congress should reaffirm and codify the “competitively neutral” principle, which to date has been adopted but not consistently followed by the FCC. Second, Congress should codify a new principle requiring Universal Service support to be used to foster the growth of sustainable competition in rural and other high-cost areas, creating a long-term environment where competitive forces can replace government supported local monopolies.

**A. Congress Should Reaffirm “Competitively Neutral” Principles**

As the Fifth Paper notes, the FCC has invoked Section 254(b) to express a preference for “competitively neutral” Universal Service policies. Indeed, a “competitively neutral” framework has been central to the FCC's Universal Service policy for many years; the *Universal Service First Report and Order* established in the wake of the 96 Act that “Universal Service support mechanisms and rules [should] neither unfairly advantage nor disadvantage one provider over

another, and neither unfairly favor nor disfavor one technology over another.” The FCC further explained that a competitively neutral framework is valuable because it “facilitate[s] a market-based process whereby each user comes to be served by the most efficient technology and carrier.”

Unfortunately, the FCC’s recent attempts to reform its high-cost support mechanisms cast doubt on the FCC’s continuing commitment to this principle. Despite rapid growth in consumer demand for wireless services, the FCC’s reforms continue to reduce and potentially eliminate support for one specific technology: wireless. As a result, competition has suffered as the FCC’s regulatory decisions essentially pick winners and losers in the marketplace. To promote consumer preference, cost-effectiveness, and minimize competitive distortions, updates to the Act should codify a technology-neutral principle to prevent the FCC from favoring any particular incumbent or technology at the expense of consumer welfare and to the detriment of emerging competition.

**B. Congress Should Codify a New Principle Requiring Universal Service Support to Be Used to Foster Growth of Sustainable Competition**

The FCC’s current Universal Service policies do not reflect any plan for facilitating growth of sustainable competition in rural and other high-cost areas; in turn, those policies do not give consumers the full benefit of lower rates and greater range of service options that mobile competition brings. These policies discourage market entry and otherwise skew competition. To ensure that the FCC proactively considers whether and how its Universal Service policies might contribute to (or detract from) the growth of sustainable competition in rural and high-cost areas, a Communications Act update should explicitly direct the FCC to ensure that Universal Service support is used to promote growth of sustainable competition.

## **II. High-Cost Support Should Be Available to Multiple Providers in a Given Geographic Area on a Portable Basis**

As the Fifth Paper observes, “Universal [S]ervice was created to fund buildout in areas incapable of economically supporting network investment.” CCA agrees that Universal Service support can be leveraged most effectively when it is used in a targeted fashion to extend voice and broadband services to areas that would be unserved in the absence of support, however we also believe that the 96 Act was uniformly a pro-competitive document and the Universal Service provisions were intended to open rural areas to competition.

Mobile broadband is spurring economic growth opportunities, and is the only technology capable of supporting new innovations such as mobile health, mobile education, mobile wallet, and smart farming techniques that improve the lives of farmers and ranchers while increasing productivity in food production. Similarly, the expansion of mobile broadband access into unserved areas would allow for potentially lifesaving care via mobile health applications. Unfortunately, many Americans classified as “served” are unable to take advantage of new innovations that are readily available to Americans residing in suburban or urban areas. Accordingly, any assessment of whether an area is “served” should consider whether consumers there have access to reasonably comparable services, including mobile services, which the FCC has recognized are different than those offered by fixed providers.

In “unserved” areas, support should be available to consumers, not carriers, and calculated based on the number of customers served by a given provider (such that support would not be duplicative across providers). This approach would facilitate the growth of sustainable competition by encouraging market entry by any provider with an effective business plan. Making support portable and tying support payments to a carrier’s success in capturing the customer would encourage providers to be efficient and responsive to consumer needs.

Consistent with a competitively neutral framework, portability would “facilitate a market based process whereby each end-user comes to be served by the most efficient technology and carrier” and eliminate support for services that consumers do not choose to adopt.

By contrast, limiting support to a single provider per service area—as under the FCC’s existing CAF structure—effectively forecloses competition and deprives consumers of the resultant benefits. Restricting support to a single recipient creates an uneven playing field—particularly if that recipient already enjoys a host of advantages. Where a single provider receives support, that provider has little incentive to utilize the most efficient technologies or offer services that are most responsive to consumer needs—unnecessarily inflating Universal Service funding requirements and impeding competition. In addition, limiting support creates a barrier to entry for would-be competitors, as a new entrant would face a subsidized competitor that maintains the same support levels even if the new entrant wins customers, likely through reduced costs and new technological innovations. Finally, a single provider mechanism requires significant regulatory oversight over service quality and prices. This is in direct contraction to Congressional intent in 1996 and consumer preference in 2014.

Accordingly, any update of the Act should require the FCC to ensure that support is available to consumers, not carriers, on a portable basis, and should preclude the FCC from limiting support to a single provider per area. Congress should promote consumer choice, so that service providers have appropriate market incentives to provide high-quality service at affordable prices.

### **III. High-Cost Support Should Be Calculated Using a Forward-Looking Cost Model**

Currently, the FCC intends to distribute the limited amount of CAF support that will be made available to competitive providers through reverse auctions, notwithstanding its reliance on a forward-looking cost model for price cap ILECs. But as CCA has long argued, forward-

looking cost models offer the most efficient and competitively neutral means of distributing high-cost support to wireless carriers as well. In particular, such models appropriately base support on the costs an efficient carrier would incur in providing the required minimum level of broadband service for each area. Even the FCC has long recognized that forward-looking cost models best approximate the costs that would be incurred by an efficient carrier in the market, and thus send the correct signals for entry, investment, and innovation. Moreover, forward-looking cost models incent carriers to operate efficiently and eliminate incentives for carriers to inflate their costs or to refrain from efficient cost-cutting.

CCA agrees that the use of forward-looking cost models is most likely to produce efficient use of the limited resources of the CAF. Therefore, a Communications Act update should require the FCC to utilize cost models in calculating support to be awarded to all providers through any funding mechanism.

#### **IV. Universal Service Contribution Burdens Should Be Reduced by Maximizing Program Efficiency and Broadening the Contribution Base**

Federal Universal Service programs are funded by surcharges imposed on consumer bills. In recent years, the “contribution factor”—the *de facto* tax on telecommunications services that consumers must pay—has increased significantly and currently exceeds 16 percent of interstate revenue. At the same time, available funds are simply not adequate to ensure that the goals of Universal Service can be satisfied through existing programs. Perhaps most notably, even though over \$4 billion in annual support has been earmarked for distribution through the CAF program, the FCC has acknowledged that this amount will not ensure that all Americans have access to critical voice and broadband services.

Although there is a clear need to close this gap, further increasing the contribution burden on consumers is not a viable option. Fortunately, Congress can obviate the need for such action

by: (i) ensuring that Universal Service support is distributed through a competitive mechanism that encourages efficiency and minimizes funding requirements; and (ii) broadening the Universal Service contribution base to ease the burden placed on consumers.

**A. Congress Should Minimize Funding Requirements by Ensuring that Federal Universal Service Support Is Distributed through a Competitive Mechanism**

As discussed above, in implementing the CAF program, the FCC has chosen to grant funding preferences to the exclusion of more efficient competitive providers. The CAF mechanism awards these funds to incumbents without any consideration of whether competitive providers could extend high quality service to consumers at a lower cost. Moreover, support amounts are calculated using cost models based on inefficient technologies, even where more efficient technologies may be available. As a direct result of these inefficiencies, the existing CAF framework will cost the federal Universal Service fund—and ultimately American consumers—billions of dollars that need not be spent.

These inefficiencies and costs could be avoided if the CAF were restructured to encourage competition between service providers and expose support recipients to market discipline—*i.e.*, by making support available to multiple providers in a given area on a portable basis. This, in turn, would reduce significantly the contribution burden placed on consumers—while at the same time more fully realizing the objectives of federal Universal Service policy.

**B. Congress Should Broaden the Universal Service Contribution Base**

In recent years, the Universal Service contribution base has contracted as consumers have turned to new services that either are not assessed under Section 254(d) of the Act or whose status under that provision is ambiguous. Because Universal Service funding requirements have not contracted in corresponding fashion, this has resulted in an increased contribution burden placed on consumers of services that remain assessable—including mobile wireless

telecommunications services. Indeed, mobile wireless consumers currently *contribute* more than any other telecommunications sector to the Universal Service Fund even though mobile wireless providers are currently eligible to *receive* only a small subset of available funds.

The competitive imbalances created by these conditions also adversely impact competition. From a functional perspective, “assessable” and “non-assessable” services often are good substitutes for each other in the marketplace. Artificially imposing significant contribution costs on only certain services while leaving other services free from any contribution obligation skews this competition and encourages regulatory arbitrage—all of which harms consumers.

To address these issues, any update of the Act should broaden the contribution base to provide a more stable source of funding for the future and to alleviate the contribution burdens imposed on particular services. Doing so will help ensure the long-term viability of the fund, while also promoting competitive parity.

**V. Any Update of the Communications Act Should Preserve Existing Universal Service Programs While Consolidating Specific High-Cost Support Mechanisms**

Currently, federal Universal Service support is available through the High-Cost, Lifeline, Rural Health Care, and Schools and Libraries programs. CCA believes that each of these programs serves an important function and should be preserved. Indeed, mobile wireless providers have played an important role in the success of each of these programs and are providing vital services in the communities they serve. For example, CCA member C Spire recently installed a wireless solution in a middle school in Hattiesburg, Mississippi that allowed the school to launch a new program that provides students and teachers with laptop computers in the classroom and wireless high-speed Internet connections to support digital e-learning. Because C Spire offers wireless connectivity throughout the Hattiesburg community, students

will have educational access at school, at home, at the library, and anywhere else they go. Mobile wireless providers have also worked with the FCC to implement the Lifeline program and ensure that low-income consumers can enjoy the benefits of mobility. Such updates are appropriate because they reflect consumer choices and market forces, especially regarding rural and lower-income populations.

While some programs have been marred with accusations of fraud and abuse, the goals remain worthwhile funding targets for Universal Service, particularly when including the value of mobility. Waste, fraud, and abuse may unfortunately exist from bad actors seeking to game the system, and Congress should continue to provide the FCC with the tools to address and correct improper or illegal activities. For example, recent FCC reforms to the Lifeline program, as well as new information and resources regarding participation, have curtailed instances of abuse. Further reforms, including additional verification or document retention requirements, are being considered by the FCC, and if implemented in ways that do not place greater burdens on carriers may result in greater accountability for the existing Lifeline program or new, portable high cost support tied to consumer choices.

A Communications Act update should rationalize this balkanized array of support mechanisms and ensure that Universal Service support instead is distributed through a unified mechanism that is open to all providers. Eliminating artificial support silos in this fashion would increase the “portability” of high-cost support. As discussed above, this would ensure that support is used in an efficient manner that is responsive to consumer needs. In contrast, maintaining a separate high-cost support mechanism would increase administrative costs and complexity while shielding certain providers from market discipline, thereby inflating funding requirements unnecessarily.

Furthermore, recent studies have demonstrated that mobile broadband services are becoming increasingly essential to consumers, such that consumers often choose to access the Internet using their mobile devices even where faster fixed alternatives are available. Notably:

- In September 2013, Pew Research published results from its Internet & American Life Project showing that a majority of Americans now use smartphones to access the Internet. More than one-third of Internet users rely on their phones as their principal means of accessing the Internet—and this percentage continues to trend upward. These numbers are highest among rural, low-income, and younger populations in the West and South.
- Particularly among youths, mobile phones are most important to their daily lives—even more than the Internet, deodorant, or their toothbrush according to a Bank of America study on consumer mobility trends.
- In October 2013, Anna-Maria Kovacs published a study finding that mobile services accounted for roughly 60 percent of residential broadband connections as of the end of 2012 and have been responsible for the greatest number of new broadband subscribers since 2005.
- In December 2013, the U.S. Center for Health Statistics published results from the National Health Interview Survey showing that, as of the second half of 2012, nearly two in every five U.S. households (38.2 percent) used only wireless telephones.
- In June 2014, comScore reported that mobile platforms now account for about 60 percent of the total time that Americans spend using digital media. Also, in August 2014, Shopify collected data from more than 100,000 e-commerce stores that use its platform. The results indicated that 50.3 percent of traffic came from mobile (40.3 percent from mobile phones, 10 percent from tablets) and just 49.7 percent from computers.

Despite the central role of wireless services in the lives of Americans, the fact remains that significant portions of rural America lack adequate coverage because of the high costs of building the requisite infrastructure. Accordingly, Universal Service support remains vital for wireless carriers that seek to bridge the digital divide, but the FCC is inexplicably keeping the overwhelming majority of available support off limits to wireless providers. In all events, a Communications Act update that does not mandate a single, unified High-Cost mechanism should at least mandate that the FCC provide support through the Mobility Fund at levels that are

commensurate with the increased importance of mobile services to consumers and the coverage gaps that persist, reflecting the inherent value of mobility.

**VI. Any Update of the Communications Act Should Reflect Investment in Legacy Services**

Consumer assessments have funded expansion of networks beginning under the monopoly Bell system and continuing through today's Universal Service Fund. Updates to Universal Service policy should respect these previous funding decisions, and allow for appropriate draw-down periods as new mechanisms are instituted. In updating the Communications Act, Congress should direct the FCC to continue to provide funding to support operational expenses of legacy networks until an appropriate replacement service is implemented and support is in place. Failure to do so would result in a step backwards for consumers, and abandon investments already made on consumers' behalf. For example, current proposals to eliminate support for wireless services expanded through Universal Service support, without an appropriate replacement mechanism, would accordingly reduce available services. Stranding capital investments that consumers have funded for wireless network expansion would result in rusty towers and a reduction in service to rural America. In fact, a CCA member recently had to abandon its service in Montana, due to decreases in support resulting from the FCC's cap and phase down, leaving customers without service.

**VII. States and Other Federal Agencies Should Remain Involved in Developing and Implementing Federal Universal Service Policy**

While Congress and the FCC should continue to take the lead in shaping federal Universal Service policy, states should continue to have input into the development of that policy. On the whole, federal Universal Service programs have benefited from the valuable feedback that states have provided individually and collectively. Similarly, CCA sees value in

the Federal-State Joint Board on Universal Service, which aids the FCC in evaluating complex Universal Service policy issues from multiple perspectives. Of course, states also have played a key role in implementing Universal Service programs and tailoring them to the particularized needs of local markets and consumers.

Simply stated, CCA recognizes that a balance must be struck between the primarily federal role in USF and the states, and sees no compelling reason to upset the fundamental allocation of federal and state roles and responsibilities reflected in the existing Act. That said, any update of the Act should preserve existing limits on state authority to regulate services that are inherently interstate or reliant on federal resources. For example, the federal government should continue to exercise exclusive jurisdiction over radiofrequency spectrum and most aspects of commercial mobile radio service operations, as reflected in Section 332 of the Act.

As the Fifth Paper notes, federal Universal Service programs are not the only means through which the federal government has chosen to support the build-out of communications facilities. CCA takes no position with respect to the need for additional programs like NTIA's Broadband Technology Opportunities Program (BTOP). However, to the extent such programs exist, CCA believes that their effectiveness will be enhanced significantly through effective interagency coordination—including with the FCC as steward of the federal government's Universal Service programs. Further, Universal Service should not be used as collateral for receiving support under other programs, creating entanglements between government programs that prevent efficient utilization of resources and continued modernization to reflect consumer and technological trends.

\* \* \* \* \*

CCA looks forward to working with the Committee on revising the Act to ensure that federal Universal Service policy can be implemented in a more efficient and effective manner.

# Appendix



SEPTEMBER 16, 2013

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## Cell Internet Use 2013

*57% of American adults use their cell phone to go online. And 21% of cell phone owners say they mostly access the internet using their phone.*

**Maeve Duggan**

*Research Assistant, Pew Internet Project*

**Aaron Smith**

*Senior Researcher, Pew Internet Project*

<http://pewinternet.org/Reports/2013/Cell-Internet.aspx>

FOR FURTHER INFORMATION, CONTACT:

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202.419.4500

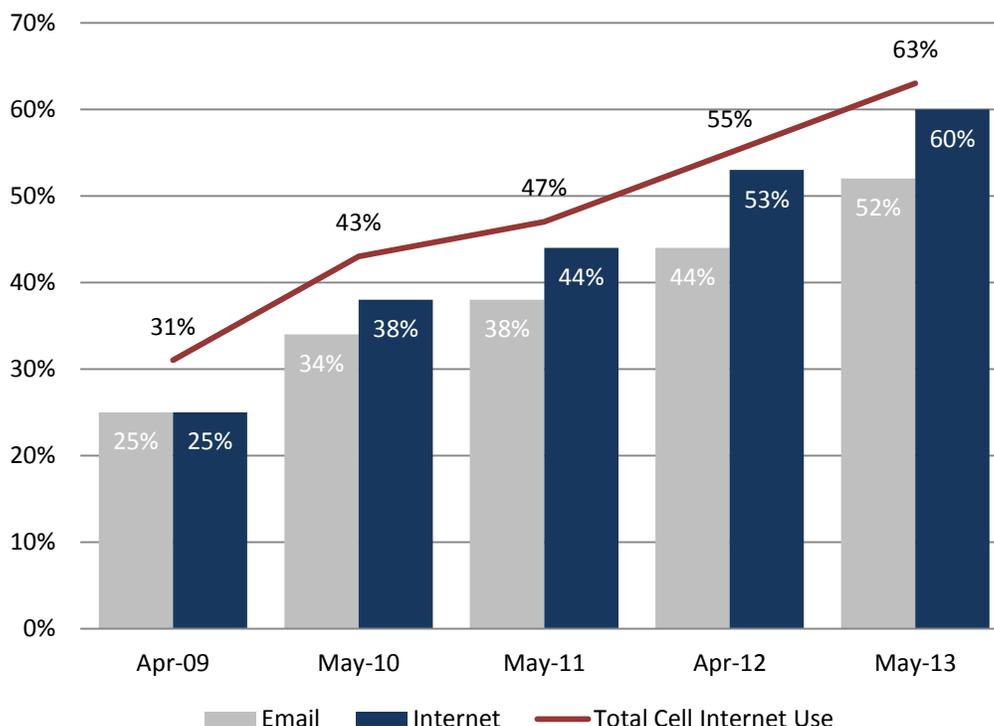
# Summary of Findings

Nearly two-thirds (63%) of cell phone owners now use their phone to go online, according to a new survey by the Pew Research Center's Internet & American Life Project. We call them "cell internet users" and define them as anyone who uses their cell phone to access the internet or use email. Because 91% of all Americans now own a cell phone, this means that 57% of all American adults are cell internet users. The proportion of cell owners who use their phone to go online has doubled since 2009.

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## Almost two-thirds of cell owners go online using their phones

*Among cell phone owners, the % who use the internet or email on their phone*



**Source:** Pew Internet & American Life Project Spring Tracking Survey, April 17-May 19, 2013. N=2,076 cell phone owners ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on cell phone owners is +/- 2.4 percentage points.

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Additionally, one third of these cell internet users (34%) *mostly use their phone* to access the internet, as opposed to other devices like a desktop, laptop, or tablet computer. We call these individuals "cell-mostly internet users," and they account for 21% of the total cell owner population. Young adults, non-whites, and those with relatively low income and education levels are particularly likely to be cell-mostly internet users.

## About this survey

These are findings from a national telephone survey conducted April 17-May 19, 2013 among 2,252 adults ages 18 and over, including 1,127 interviews conducted on the respondent's cell phone. Interviews were conducted in English and Spanish. The margin of error for all cell phone owners (n=2,076) is plus or minus 2.4 percentage points. The margin of error for cell phone owners who go online using their phone (n=1,185) is plus or minus 3.3 percentage points.

# Main Findings

## Nearly two thirds of cell phone owners use their phone to go online, and one in five cell owners do most of their online browsing on their phone

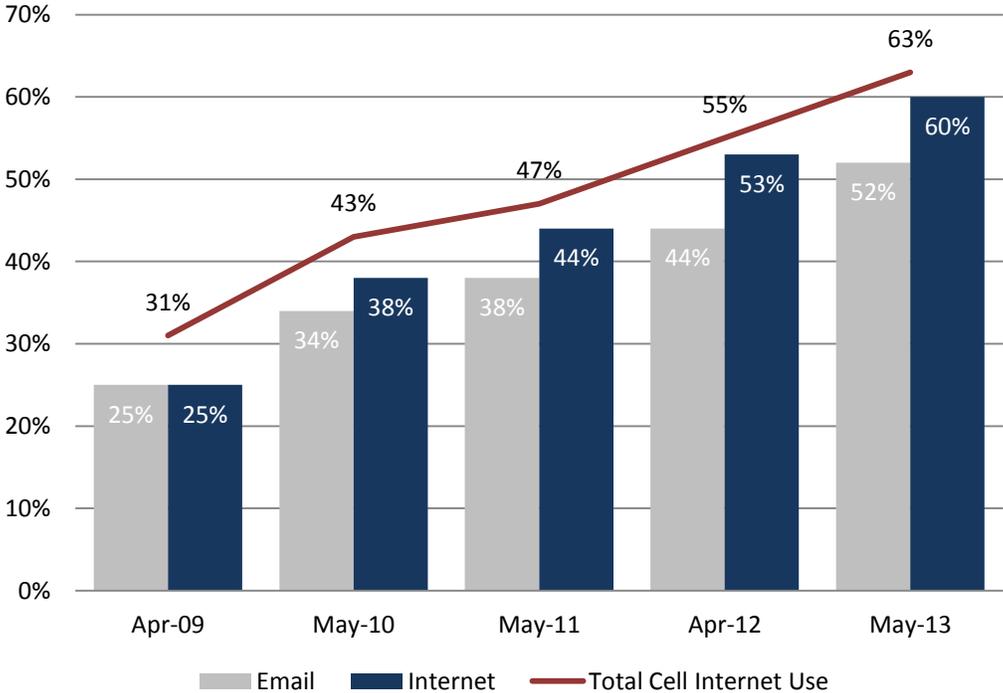
Six in ten cell phone owners (63%) now go online using their mobile phones, an eight-point increase from the 55% of cell owners who did so at a similar point in 2012 and a two-fold increase over the 31% who did so in 2009. We call these individuals “cell internet users,” and they include anyone who:

- Uses the internet on their cell phone (60% of cell owners do this), or
- Uses email on their cell phone (52% of cell owners do this)

Taken together, 63% of cell owners do one or both of these things, and are classified as cell internet users. Since 91% of Americans are cell phone owners, this means that 57% of *all* Americans now go online using a mobile phone. The steady increase in cell phone internet usage follows a similar growth trajectory for smartphone ownership. Over half of all adults (56%) now [own a smartphone](#), and 93% of these smartphone owners use their phone to go online.

### Almost two-thirds of cell owners go online using their phones

Among cell phone owners, the % who use the internet or email on their phone



**Source:** Pew Internet & American Life Project Spring Tracking Survey, April 17-May 19, 2013. N=2,076 cell phone owners ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on cell phone owners is +/- 2.4 percentage points.

## The demographics of cell phone internet usage

Just as the overall increase in cell phone internet usage has coincided with the growth in smartphone adoption, the demographic groups most likely to go online using their phones tend to match those with high levels of smartphone ownership. In particular, the following groups have high levels of cell phone internet use:

- **Young adults:** Cell owners ages 18-29 are the most likely of any demographic group to use their phone to go online: 85% of them do so, compared with 73% of cell owners ages 30-49, and 51% of those ages 50-64. Just 22% of cell owners ages 65 and older go online from their phones, making seniors the least likely demographic group to go online from a cell phone.
- **Non-whites:** Three-quarters (74%) of African-American cell phone owners are cell internet users, as are 68% of Hispanic cell owners.
- **The college-educated:** Three-quarters (74%) of cell owners with a college degree or higher are cell internet users, along with two-thirds (67%) of those who have attended (but not graduated) college.
- **The financially well-off:** Cell phone owners living in households with an annual income of \$75,000 or more per year are significantly more likely than those in every other income category to go online using their phones. Some 79% of these affluent cell owners do so.
- **Urban and suburban residents:** Urban and suburban cell owners are significantly more likely to be cell internet users than those living in rural areas. Some 66% of urbanites and 65% of suburban-dwellers do so, compared to half of rural residents.

## Demographics of cell phone internet usage

Among cell phone owners, the % in each group who use their phone to go online

		% who are cell internet users
<b>All cell phone owners (n=2,076)</b>		<b>63%</b>
a	Men (n=967)	65
b	Women (n=1,109)	61
<b>Race/ethnicity</b>		
a	White, Non-Hispanic (n=1,440)	59
b	Black, Non-Hispanic (n=238)	74 <sup>a</sup>
c	Hispanic (n=225)	68 <sup>a</sup>
<b>Age</b>		
a	18-29 (n=395)	85 <sup>bcd</sup>
b	30-49 (n=557)	73 <sup>cd</sup>
c	50-64 (n=594)	51 <sup>d</sup>
d	65+ (n=478)	22
<b>Education attainment</b>		
a	No high school diploma (n=144)	51
b	High school grad (n=565)	53
c	Some College (n=545)	67 <sup>ab</sup>
d	College + (n=799)	74 <sup>abc</sup>
<b>Household income</b>		
a	Less than \$30,000/yr (n=504)	55
b	\$30,000-\$49,999 (n=345)	60
c	\$50,000-\$74,999 (n=289)	63
d	\$75,000+ (n=570)	79 <sup>abc</sup>
<b>Urbanity</b>		
a	Urban (n=711)	66 <sup>c</sup>
b	Suburban (n=965)	65 <sup>c</sup>
c	Rural (n=398)	50

**Source:** Pew Internet & American Life Project Spring Tracking Survey, April 17-May 19, 2013. N=2,076 cell phone owners ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on cell phone owners is +/- 2.4 percentage points.

**Note:** Percentages marked with a superscript letter (e.g., <sup>a</sup>) indicate a statistically significant difference between that row and the row designated by that superscript letter, among categories of each demographic characteristic (e.g. age).

The prevalence of cell phone internet usage increased across a number of demographic groups since April 2012. This includes men and women, whites and African-Americans, the college-educated, and those in the highest-income households. Notably, cell owners between the ages of 50 and 64 experienced a larger-than-average 15 percentage point increase in the past year. Some 51% of cell owners ages 50-64 now use their phone to go online, up from 36% who did so in the spring of 2012.

## Demographics of cell phone internet usage—change over time

*Among cell phone owners, the % in each group who use their phone to go online over time*

	April 2012 (n=1,954)	May 2013 (n=2,076)	Change
<b>All cell phone owners</b>	<b>55%</b>	<b>63%</b>	<b>+8 percentage points</b>
Men	57	65	+8
Women	54	61	+7
<b>Race/ethnicity</b>			
White, Non-Hispanic	52	59	+7
Black, Non-Hispanic	64	74	+10
Hispanic	63	68	not sig.
<b>Age</b>			
18-29	75	85	+10
30-49	70	73	not sig.
50-64	36	51	+15
65+	16	22	+6
<b>Education attainment</b>			
No high school diploma	45	51	not sig.
High school grad	49	53	not sig.
Some College	57	67	+10
College +	64	74	+10
<b>Household income</b>			
Less than \$30,000/yr	50	55	not sig.
\$30,000-\$49,999	52	60	not sig.
\$50,000-\$74,999	60	63	not sig.
\$75,000+	69	79	+10
<b>Urbanity</b>			
Urban	62	66	not sig.
Suburban	56	65	+9
Rural	44	50	not sig.

**Source:** May 2013 data from Pew Internet & American Life Project Spring Tracking Survey, April 17-May 19, 2013. N=2,076 cell phone owners ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on cell phone owners is +/- 2.4 percentage points. April 2012 data from Pew Internet Spring Tracking Survey, March 15-April 3, 2012. N=1,954 cell phone owners ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on cell phone owners is +/- 3.0 percentage points.

**Note:** Percentages marked with a superscript letter (e.g., <sup>a</sup>) indicate a statistically significant difference between that row and the row designated by that superscript letter, among categories of each demographic characteristic (e.g. age).

## 34% of cell internet users go online mostly using their phones

When asked which device they use most often to access the internet, one third (34%) of cell internet users say that they *mostly use their cell phone* rather than some other device such as a desktop or laptop computer (we refer to this group as “cell-mostly internet users”). Half (53%) of cell internet users say that they mostly go online from a device other than their cell phone, while 11% say that they use both their phone and some other device(s) equally.

As noted above, some 63% of cell owners use their phone to go online, so the “cell-mostly internet user” group represents 21% of the entire cell phone owner population.

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### Mobile internet access points

*the % of cell internet users vs. all cell owners who say they “mostly” access the internet on their phone*

	% of cell internet users who... (n=1,185)	% of all cell phone owners who... (n=2,076)
Go online mostly using cell phone	34%	21%
Go online mostly using some other device	53	34
Use cell phone and some other device equally to go online	11	7
Do not go online using a cell phone	n/a	37

**Source:** May 2013 data from Pew Internet & American Life Project Spring Tracking Survey, April 17-May 19, 2013. N=2,076 cell phone owners ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on cell phone owners is +/- 2.4 percentage points.

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The 34% of cell internet users who mostly use their phone to go online is similar to the 31% who did so in April 2012, but significantly larger than the 27% who did so the first time we asked this question in May 2011.

### Demographics of cell-mostly internet users

The Pew Research Center has been tracking the “cell mostly internet user” phenomenon since 2011, and over that time several demographic groups—young adults, non-whites, the less educated, and the less affluent—have said that they go online mostly using their cell phone at consistently high rates.<sup>1</sup> This remains true in 2013, as our data indicates:

- **Non-whites:** Among those who use their phone to go online, six in ten Hispanics and 43% of African-Americans are cell-mostly internet users, compared with 27% of whites.
- **Young adults:** Half of cell internet users ages 18-29 mostly use their cell phone to go online.
- **The less-educated:** Some 45% of cell internet users with a high school diploma or less mostly use their phone to go online, compared with 21% of those with a college degree.

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<sup>1</sup> In April 2012, we asked about ownership of a range of technology devices (cell phones, desktop and laptop computers, e-readers, and tablet computers). With the exception of young adults, the demographic groups listed here as especially likely to be cell-mostly internet users are also relatively likely to only own a cell phone (and not any other computing devices).

- **The less-affluent:** Similarly, 45% of cell internet users living in households with an annual income of less than \$30,000 mostly use their phone to go online, compared with 27% of those living in households with an annual income of \$75,000 or more.

## Demographics of cell-mostly internet users

Among cell internet users, the % who mostly use their phone to go online

		% who mostly go online using their cell phone
<b>All cell internet users (n=1,185)</b>		<b>34%</b>
a	Men (n=598)	34
b	Women (n=587)	34
<b>Race/ethnicity</b>		
a	White, Non-Hispanic (n=762)	27
b	Black, Non-Hispanic (n=158)	43 <sup>a</sup>
c	Hispanic (n=157)	60 <sup>ab</sup>
<b>Age</b>		
a	18-29 (n=336)	50 <sup>bcd</sup>
b	30-49 (n=405)	35 <sup>cd</sup>
c	50-64 (n=304)	14
d	65+ (n=109)	10
<b>Education attainment</b>		
a	Less than high school/High school grad (n=333)	45 <sup>bc</sup>
b	Some College (n=306)	34 <sup>c</sup>
c	College + (n=541)	21
<b>Household income</b>		
a	Less than \$30,000/yr (n=238)	45 <sup>cd</sup>
b	\$30,000-\$49,999 (n=175)	39 <sup>d</sup>
c	\$50,000-\$74,999 (n=171)	30
d	\$75,000+ (n=429)	27
<b>Urbanity</b>		
a	Urban (n=436)	33
b	Suburban (n=571)	35
c	Rural (n=176)	30

**Source:** Pew Internet & American Life Project Spring Tracking Survey, April 17-May 19, 2013. N=1,185 cell internet users ages 18+. Interviews were conducted in English and Spanish and on landline and cell phones. The margin of error for results based on cell internet users is +/- 3.3 percentage points.

**Note:** Percentages marked with a superscript letter (e.g., <sup>a</sup>) indicate a statistically significant difference between that row and the row designated by that superscript letter, among categories of each demographic characteristic (e.g. age).

# Survey Questions

## Spring 2013 Tracking Survey

Final Topline

5/21/2013

Data for April 17-May 19, 2013

Princeton Survey Research Associates International for  
the Pew Research Center's Internet & American Life Project

Sample: n=2,252 national adults, age 18 and older, including 1,127 cell phone interviews  
Interviewing dates: 04.17.2013 – 05.19.2013

Margin of error is plus or minus 2.3 percentage points for results based on Total [n=2,252]

Margin of error is plus or minus 2.5 percentage points for results based on all internet users [n=1,895]

Margin of error is plus or minus 2.4 percentage points for results based on all cell phone owners [n=2,076]

**Q10** Next... [IF REACHED ON A LANDLINE, READ: Please tell me if you happen to have the following items, or not.] Do you have... [INSERT ITEMS IN ORDER]?

	YES	NO	DON'T KNOW	REFUSED
a. A cell phone				
Current	91	9	0	*
December 2012	87	13	*	0
November 2012	85	15	0	*
Sept 2012	85	15	*	0
August 2012	89	10	0	*
April 2012	88	12	*	*
February 2012	88	12	0	*
December 2011	87	13	0	*
August 2011	84	15	*	*
May 2011	83	17	*	0
January 2011	84	16	*	*
December 2010	81	19	*	*
November 2010	82	18	0	*
September 2010	85	15	*	*
May 2010	82	18	*	0
January 2010	80	20	0	*
December 2009	83	17	0	*
September 2009	84	15	*	*
April 2009	85	15	*	*
Dec 2008	84	16	*	*
July 2008	82	18	*	--
May 2008	78	22	*	0
April 2008	78	22	*	--
January 2008	77	22	*	--
Dec 2007	75	25	*	--
Sept 2007	78	22	*	--

**Q11** Please tell me if you ever use your cell phone to do any of the following things. Do you

ever use your cell phone to [INSERT ITEMS; RANDOMIZE]?

Based on cell phone owners

	YES	NO	DON'T KNOW	REFUSED
a. Send or receive email				
Current [N=2,076]	52	47	*	0
Sept 2012 [N=2,581]	50	50	*	0
April 2012 [N=1,954]	44	56	*	*
August 2011 [N=1,948]	42	58	*	0
May 2011 [N=1,914]	38	62	0	*
December 2010 [N=1,982]	38	62	*	*
November 2010 [N=1,918]	34	66	0	*
September 2010 [N=2,485]	34	66	*	0
May 2010 [N=1,917]	34	66	0	0
January 2010 [N=1,891]	30	70	0	0
December 2009 [N=1,919]	29	70	*	*
September 2009 [N=1,868]	27	73	*	0
April 2009 [N=1,818]	25	75	*	0
December 2007 [N=1,704]	19	81	0	--
b. Access the internet				
Current	60	40	0	0
Sept 2012	56	44	0	0
April 2012	53	46	*	*
August 2011	48	52	*	0
May 2011	44	56	0	0
December 2010	42	58	*	*
November 2010	39	61	*	*
September 2010	39	61	*	0
May 2010	38	62	0	0
January 2010	34	66	0	0
December 2009	32	67	*	0
September 2009	29	71	*	0
April 2009	25	74	*	*

**Q12** Overall, when you use the internet, do you do that mostly using your cell phone or mostly using some other device like a desktop, laptop or tablet computer?

Based on those who use the internet or email on their cell phone

	<u>CURRENT</u>		<u>APRIL 2012</u>	<u>MAY 2011</u>
%	34	Mostly on cell phone	31	27
	53	Mostly on something else	60	62
	11	Both equally (VOL.)	7	10
	1	Depends (VOL.)	2	1
	*	Don't know	*	*
	*	Refused	*	*
	[n=1,185]		[n=929]	[n=746]

# Methods

This report is based on the findings of a survey on Americans' use of the Internet. The results in this report are based on data from telephone interviews conducted by Princeton Survey Research Associates International from April 17 to May 19, 2013, among a sample of 2,252 adults, age 18 and older.

Telephone interviews were conducted in English and Spanish by landline (1,125) and cell phone (1,127, including 571 without a landline phone). For results based on the total sample, one can say with 95% confidence that the error attributable to sampling is plus or minus 2.3 percentage points. For results based on Internet users (n=1,895), the margin of sampling error is plus or minus 2.5 percentage points. In addition to sampling error, question wording and practical difficulties in conducting telephone surveys may introduce some error or bias into the findings of opinion polls.

A combination of landline and cellular random digit dial (RDD) samples was used to represent all adults in the United States who have access to either a landline or cellular telephone. Both samples were provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications. Numbers for the landline sample were drawn with equal probabilities from active blocks (area code + exchange + two-digit block number) that contained three or more residential directory listings. The cellular sample was not list-assisted, but was drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers.

New sample was released daily and was kept in the field for at least five days. The sample was released in replicates, which are representative subsamples of the larger population. This ensures that complete call procedures were followed for the entire sample. At least 7 attempts were made to complete an interview at a sampled telephone number. The calls were staggered over times of day and days of the week to maximize the chances of making contact with a potential respondent. Each number received at least one daytime call in an attempt to find someone available. For the landline sample, interviewers asked to speak with the youngest adult male or female currently at home based on a random rotation. If no male/female was available, interviewers asked to speak with the youngest adult of the other gender. For the cellular sample, interviews were conducted with the person who answered the phone. Interviewers verified that the person was an adult and in a safe place before administering the survey. Cellular sample respondents were offered a post-paid cash incentive for their participation. All interviews completed on any given day were considered to be the final sample for that day.

Weighting is generally used in survey analysis to compensate for sample designs and patterns of non-response that might bias results. A two-stage weighting procedure was used to weight this dual-frame sample. The first-stage corrected for different probabilities of selection associated with the number of adults in each household and each respondent's telephone usage patterns. This weighting also adjusts for the overlapping landline and cell sample frames and the relative sizes of each frame and each sample.

The second stage of weighting balances sample demographics to population parameters. The sample is balanced to match national population parameters for sex, age, education, race, Hispanic origin, region (U.S. Census definitions), population density, and telephone usage. The Hispanic origin was split out based on nativity; U.S. born and non-U.S. born. The basic weighting parameters came from the US

Census Bureau’s 2011 American Community Survey data. The population density parameter was derived from Census 2010 data. The telephone usage parameter came from an analysis of the January-June 2012 National Health Interview Survey.

Following is the full disposition of all sampled telephone numbers:

<b>Sample Disposition</b>		
<u>Landline</u>	<u>Cell</u>	<u>-</u>
41,291	24,698	Total Numbers Dialed
1,755	411	Non-residential
1,516	88	Computer/Fax
12	----	Cell phone
24,344	9,674	Other not working
2,038	226	Additional projected not working
11,626	14,299	Working numbers
28.2%	57.9%	Working Rate
679	75	No Answer / Busy
3,442	3,668	Voice Mail
41	16	Other Non-Contact
7,464	10,540	Contacted numbers
64.2%	73.7%	Contact Rate
450	1,537	Callback
5,786	7,097	Refusal
1,228	1,906	Cooperating numbers
16.5%	18.1%	Cooperation Rate
45	68	Language Barrier
----	684	Child's cell phone
1,183	1,154	Eligible numbers
96.3%	60.5%	Eligibility Rate
58	27	Break-off
1,125	1,127	Completes
95.1%	97.7%	Completion Rate
10.0%	13.0%	Response Rate

The disposition reports all of the sampled telephone numbers ever dialed from the original telephone number samples. The response rate estimates the fraction of all eligible respondents in the sample that were ultimately interviewed. At PSRAI it is calculated by taking the product of three component rates:

- **Contact rate** – the proportion of working numbers where a request for interview was made
- **Cooperation rate** – the proportion of contacted numbers where a consent for interview was at least initially obtained, versus those refused

- **Completion rate** – the proportion of initially cooperating and eligible interviews that were completed

Thus the response rate for the landline sample was 10 percent. The response rate for the cellular sample was 13 percent.

Welcome to the Bank of America Trends in Consumer Mobility Report, a study that explores mobile trends and banking behaviors among consumers across the country.

For many, mobile phones are the cornerstone for communication—and increasingly—for transactions. As such, the report uncovers insights into consumers' daily use of and feelings toward mobile phones, including frequency, relevance and impact on day-to-day lives. The report also explores banking behaviors, seeking to explain the how, when and why consumers are using their mobile devices to manage their finances.

Mobile and digital will continue to evolve, which is why the report also looks toward the future of technology, gauging consumers' adoption of and comfort with new and emerging technologies.

At Bank of America, mobile is a way of life for our customers. In fact, this year we surpassed 15 million active mobile banking customers—a number that is growing by more than 200 thousand customers per month—and we recently introduced a new mobile app to meet the growing demands of our customers' mobile lives. As consumers continue to change the way they bank, we'll continue to be committed to strong digital offerings that help customers bank where and when they want.

## Methodology

Braun Research, Inc. (an independent market research company) conducted a nationally-representative, telephone survey on behalf of Bank of America between May 6-23, 2014. Braun surveyed 1,000 respondents throughout the U.S., comprised of adults 18+ with a current banking relationship (checking or savings) and who own a smartphone. The survey was conducted by phone to a dual frame landline and cell. In addition, 300 adults were also surveyed in eight target markets: California, Florida, Texas, Atlanta, Boston, Charlotte, Chicago and New York. The margin of error for the National quota (where n=1,000) is +/- 3.1 percent with a 95 percent confidence level; the margin of error for the oversampled markets (where n=300) is +/- 5.7 percent; the margin of error for the oversampled markets (where n=301-309) is +/- 5.6 percent; and the margin of error for the oversampled markets (where n=316) is +/- 5.5 percent, with each reported at a 95 percent confidence level.

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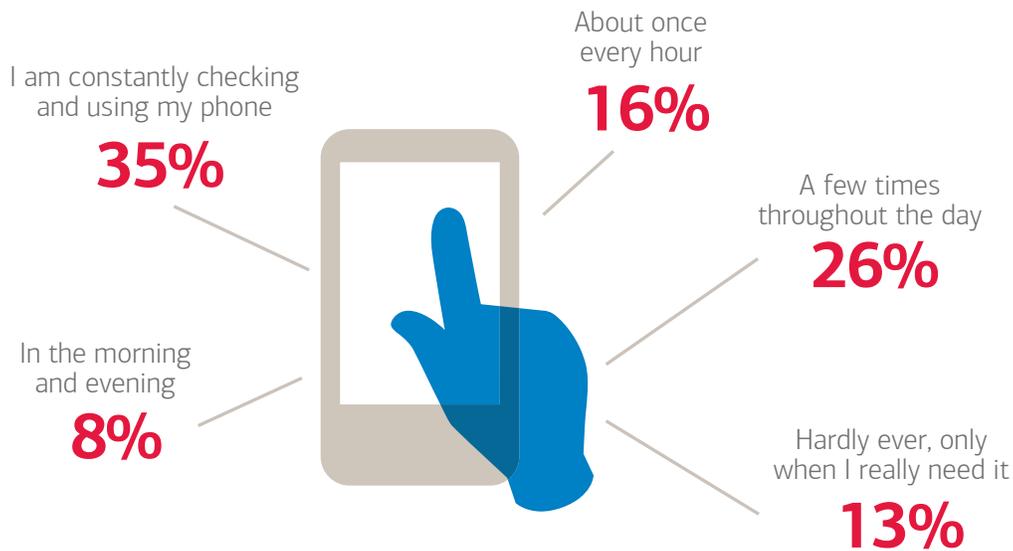
### 13

About Bank of America Digital Banking

## Americans are Constantly Connected to their Phones

### Compulsive checkers

A majority (85%) of respondents check their smartphone at least a few times a day; 35% say they check it constantly. Nearly half (47%) couldn't last more than one day without their phone.



### How long could you last without your phone?

**Less than one hour -**  
I'm a compulsive phone checker

13%

**24 hours -**  
I feel naked without it

34%

**About a week -**  
It'd be difficult, but I could do it

28%

**Indefinitely -**  
I hate the idea of 24/7 accessibility

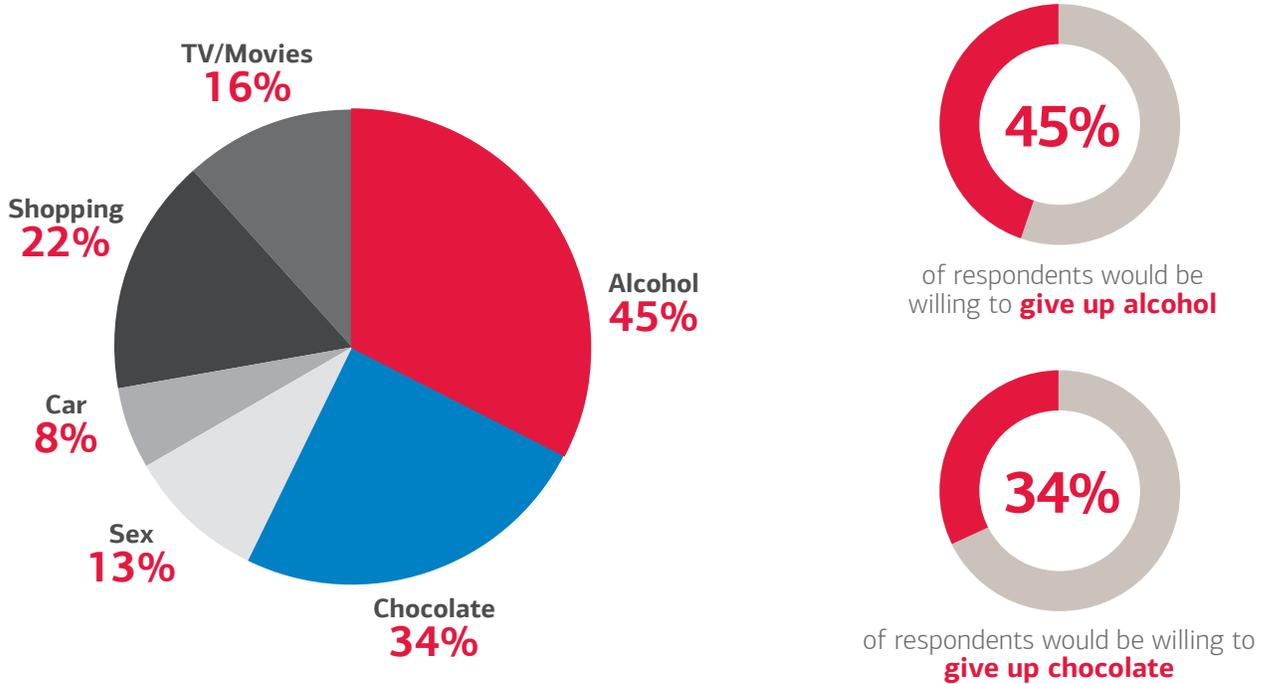
16%



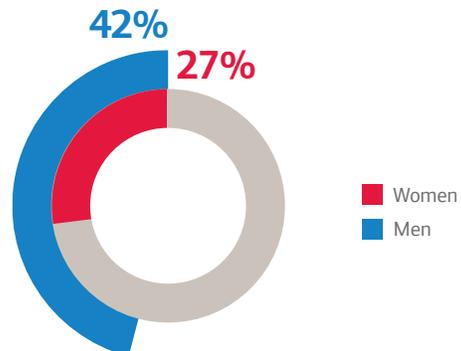
## Americans are Constantly Connected to their Phones

### Guilty pleasures

If their phone is unexpectedly taken away, nearly four in five (79%) respondents would be willing to give up alcohol or chocolate to get it back.



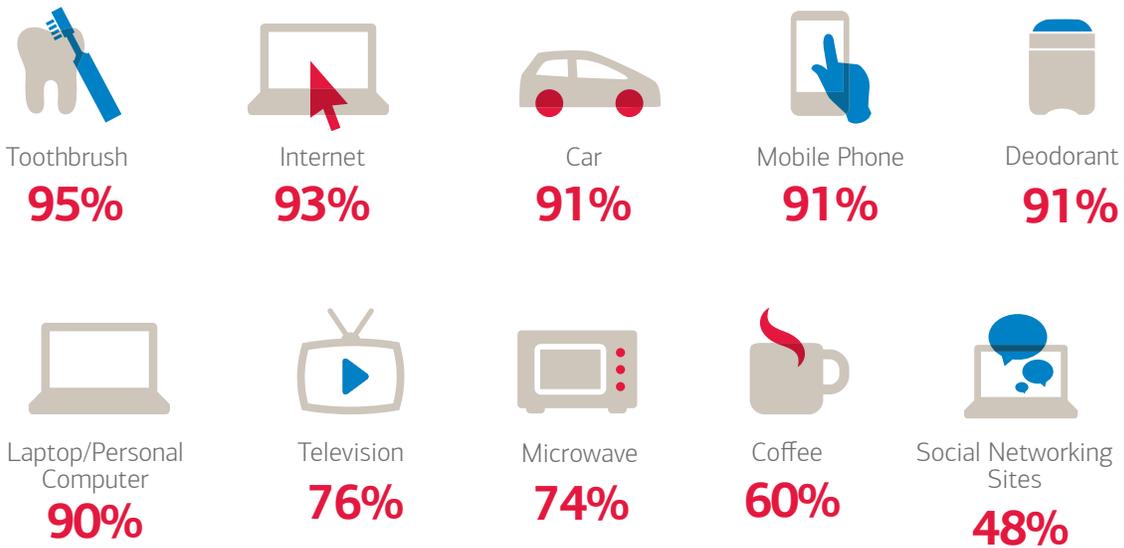
Women are less likely to **give up chocolate** than men



## Americans are Constantly Connected to their Phones

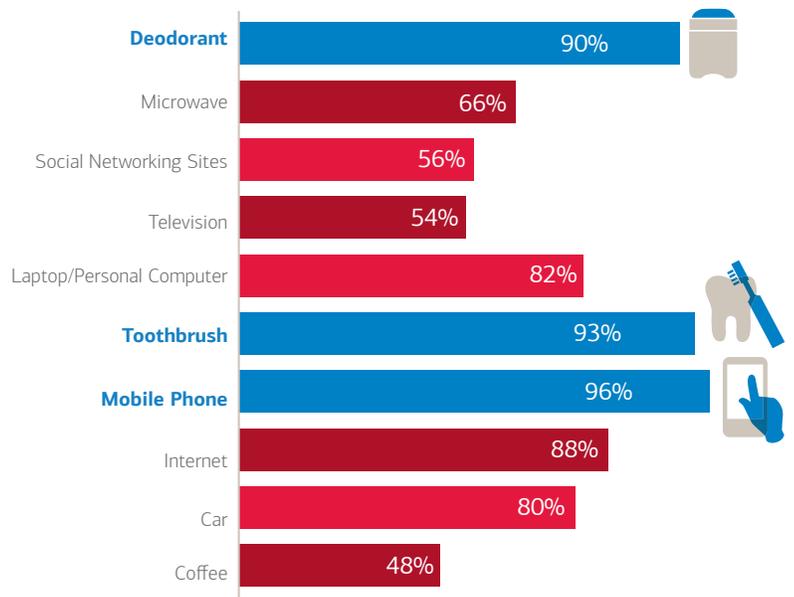
### An indispensable companion

When ranked by importance to daily life, mobile phones rank higher than TV and coffee for most. As it relates to daily hygiene, respondents said mobile phones are just as important as deodorant, but thankfully not as critical as the toothbrush!



### Lifeline

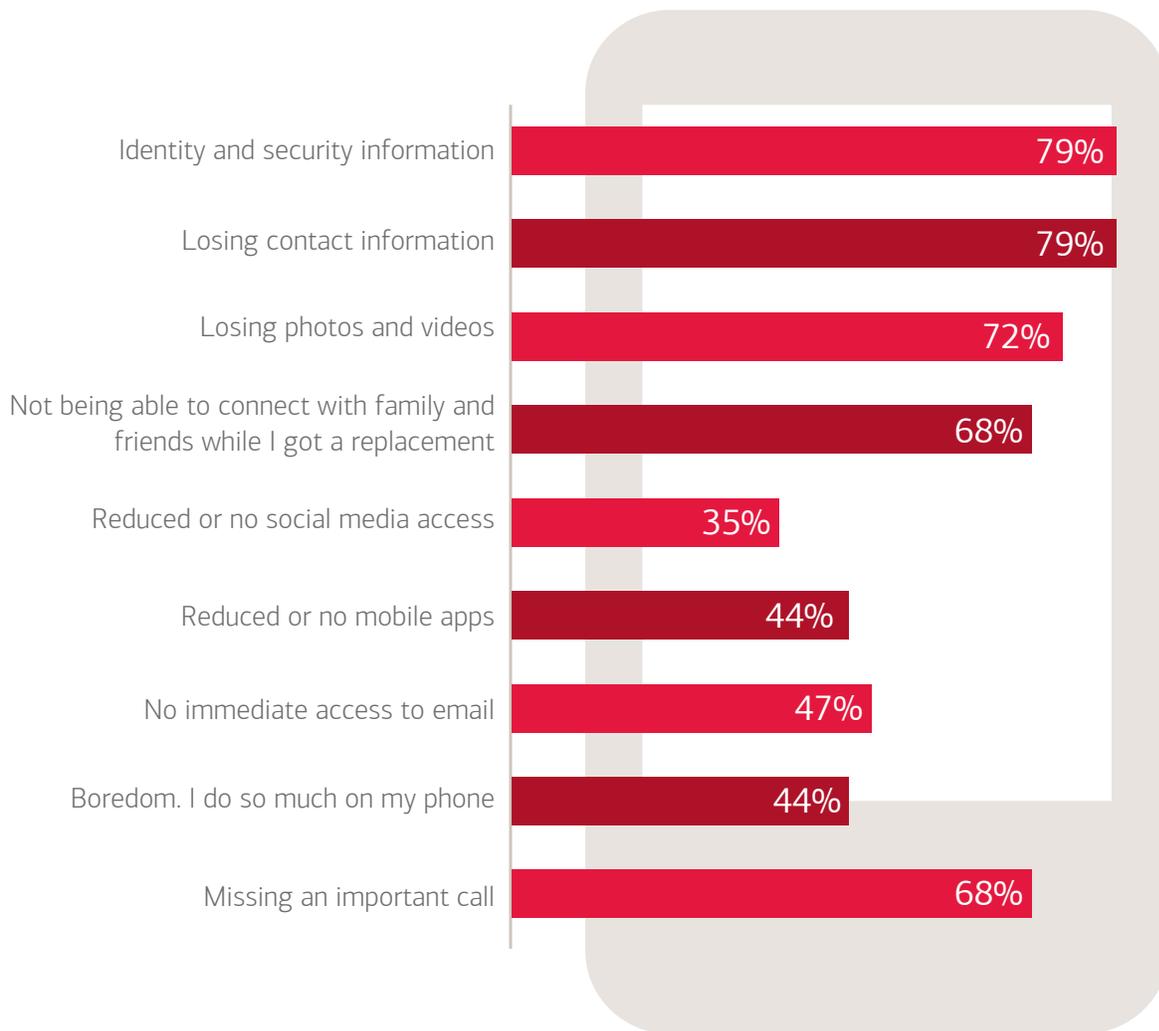
The youngest Millennials (ages 18-24) view their mobile phone as most important to their daily lives (96%)—even more than the Internet (88%), deodorant (90%) and their toothbrush (93%).



## Americans are Constantly Connected to their Phones

### Fear of disconnect

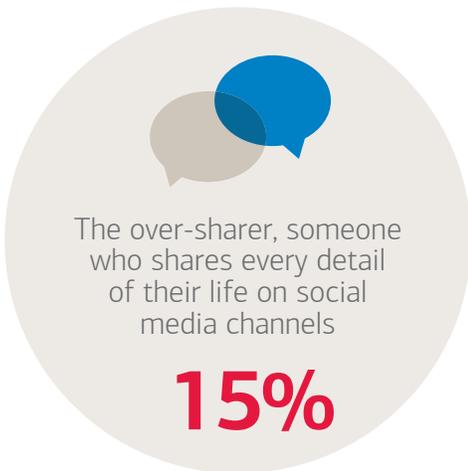
If lost or stolen, nearly seven in 10 respondents (68%) would be very or somewhat concerned over not being able to connect with family and friends or missing an important call while waiting on a replacement. Respondents would be just as concerned about losing contact details (79%) as they would over identity/security information (79%).



## Americans are Constantly Connected to their Phones

### Mobile manners

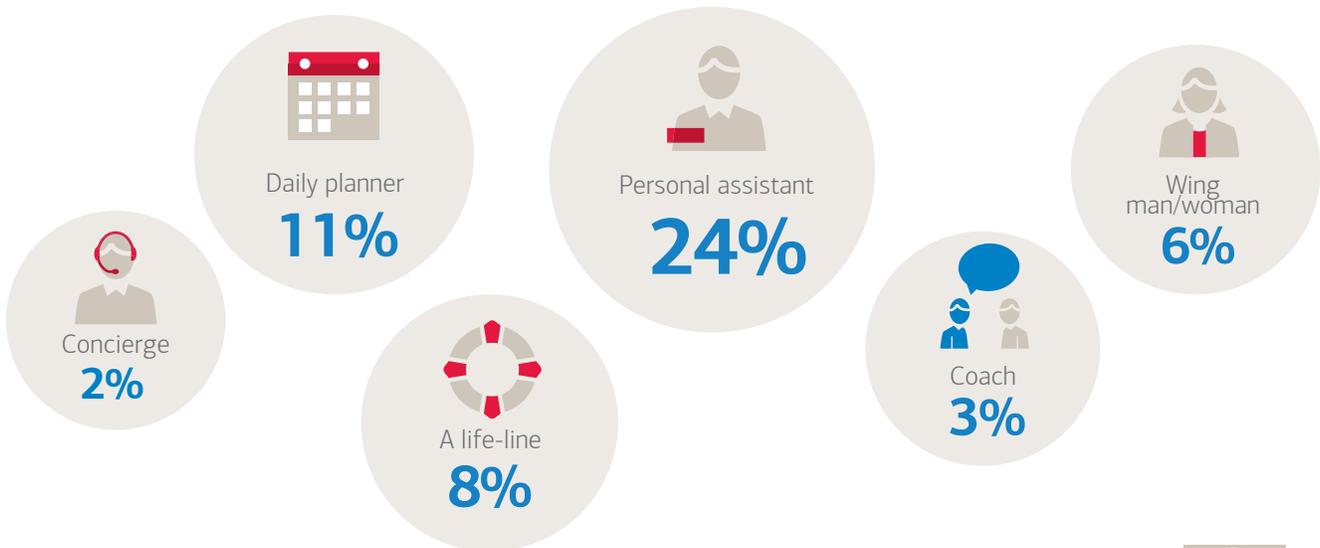
Somewhat surprisingly, only 7% of respondents find checking a mobile phone during meal times to be most annoying when asked about other people's mobile phone usage. Not surprisingly, checking a mobile phone while driving ranked highest at 38%.



## Americans are Constantly Connected to their Phones

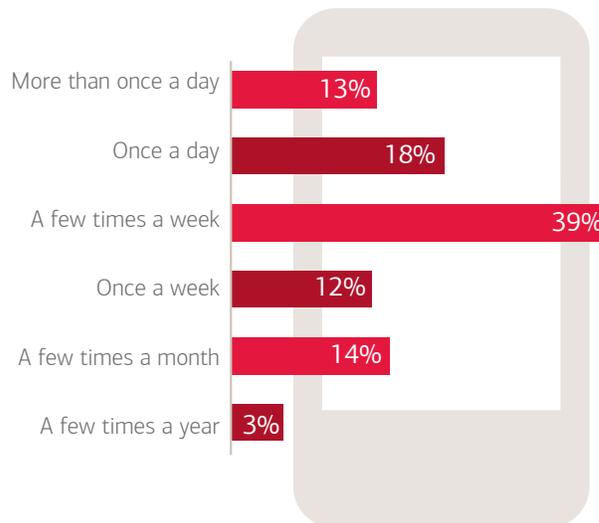
### Must-have personal assistant

When it comes to banking and finances, respondents are most likely to describe the role of their smartphone as a personal assistant (24%).



### Mobile banking mania

Consumers' need for constant connectivity extends to mobile banking. Of those using mobile banking apps, more than four in five (82%) access it once a week or more. Nearly a third (31%) access mobile banking at least once a day or more. Consumers use their mobile banking app most frequently to check their balance (81%), transfer funds between accounts (49%) and to pay bills (48%).



 Check their balance **81%**

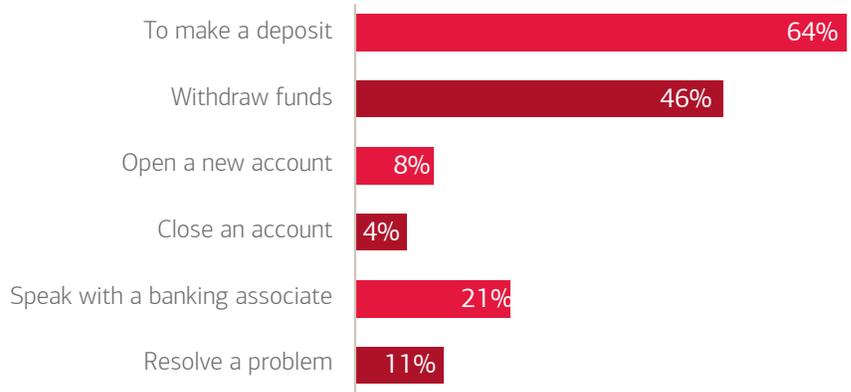
 Transfer funds between accounts **49%**

 To pay bills **48%**

## Tradition Meets **Technology**

### Banking behaviors are all over the map

The majority of respondents (84%) have visited a bank branch within the past six months, with more than six in 10 (64%) making a deposit. Nearly the same number of Millennials (ages 18-34) have visited a bank branch in the past six months (83%).

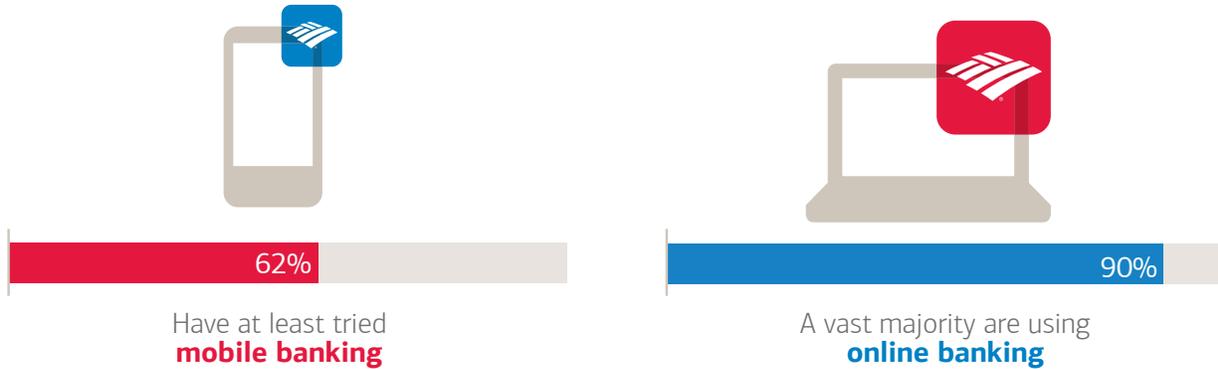


However, only about one-quarter of respondents (23%) complete the majority of their banking transactions at a bank branch. Nearly half (47%) use either mobile or online as their primary method of banking.



## Tradition Meets **Technology**

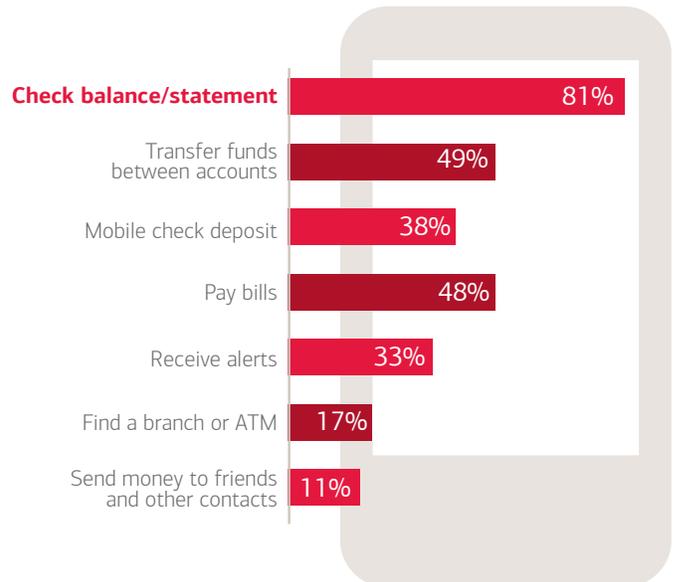
Almost two-thirds (62%) have at least tried mobile banking. A vast majority (90%) are using online banking.



Half of the respondents are currently using a mobile banking app. Here is a closer look at the many ways they're using it.

### Mobile multi-tasking

When using a mobile banking app, the most commonly accessed functions include checking account balances and statements (81%), transferring funds between accounts (49%), paying bills (48%) and mobile check deposit (38%). Nine out of 10 respondents (90%) access checking accounts via their mobile banking app.

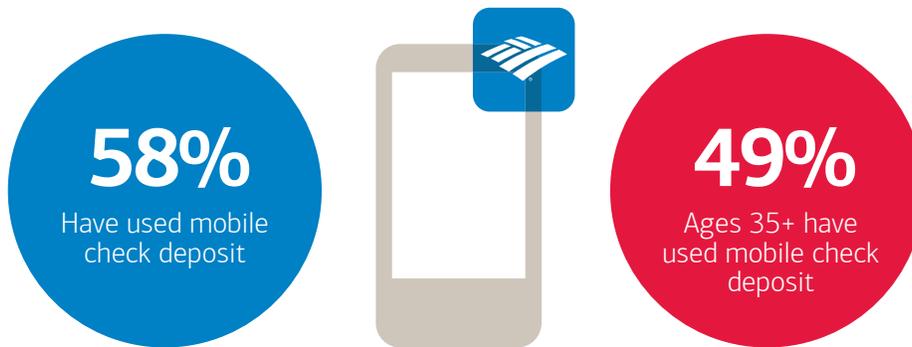


## Tradition Meets **Technology**

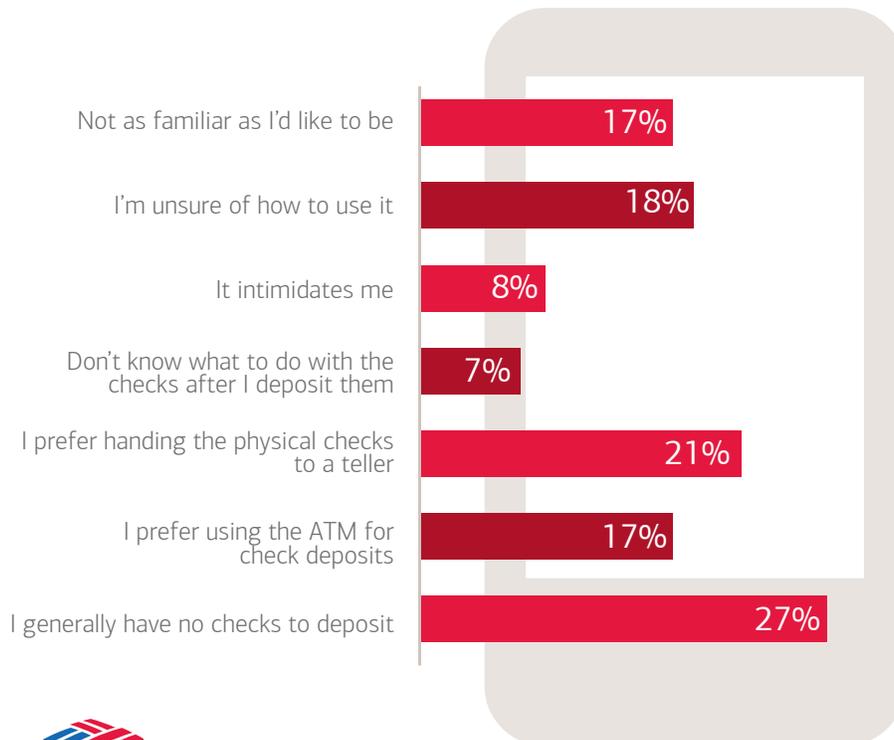
### There's an app for that

Nearly six in 10 (58%) respondents have used mobile check deposit. Of those ages 35+, almost half (49%) have used it.

#### Of respondents using a mobile banking app



Of those who have not used mobile check deposit, more than a third (35%) are either not as familiar as they'd like to be or unsure how to use it. More than one in five (21%) prefer physically handing checks to a teller; 27% report they just don't have any checks to deposit.

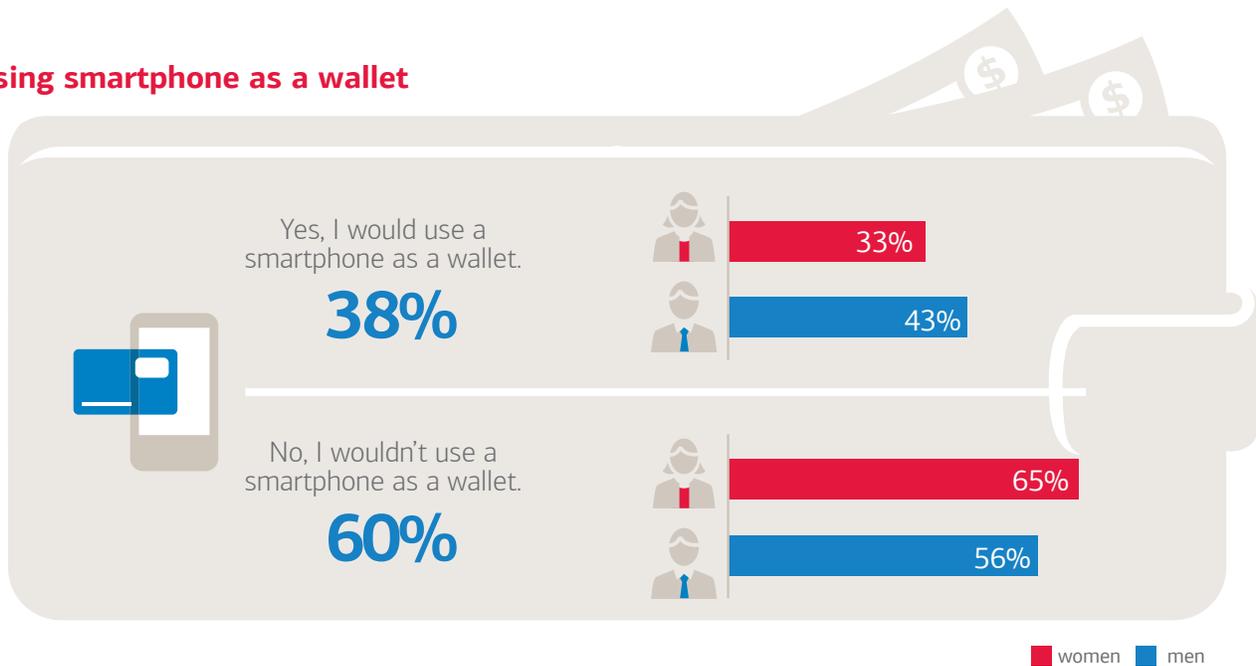


## Tradition Meets **Technology**

### Comfort level

Most respondents (60%) are not yet comfortable with the idea of using their smartphone as a wallet in the future, and men report a higher comfort level than women (43% vs. 33%).

### Using smartphone as a wallet



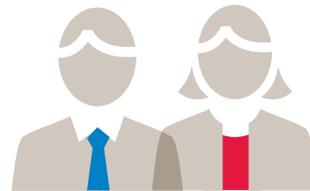
### Feeling skeptical

Nearly four in 10 respondents (38%) would not be comfortable using their phone to purchase something at checkout. Only 6% of respondents currently pay at the register with a mobile phone. Men are more likely than women to be comfortable using their smartphone to make a purchase at checkout (39% vs. 30%).



Not comfortable using smartphones to purchase at checkout

38%



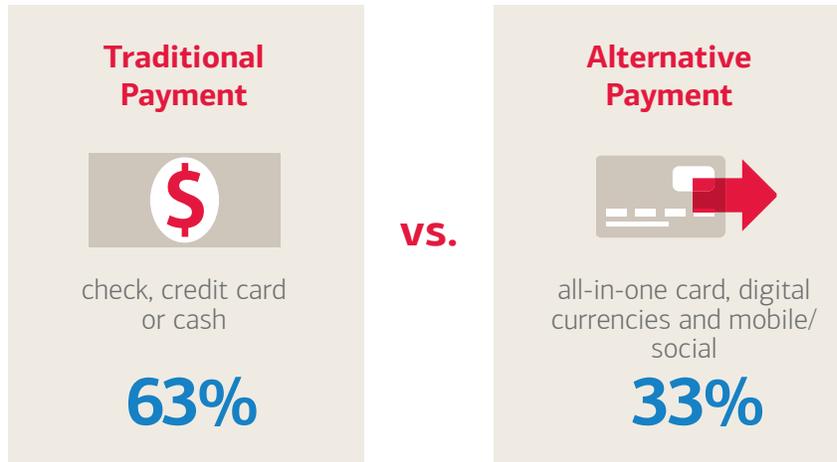
Men are more comfortable using smartphones to purchase at checkout

39%

## Tradition Meets **Technology**

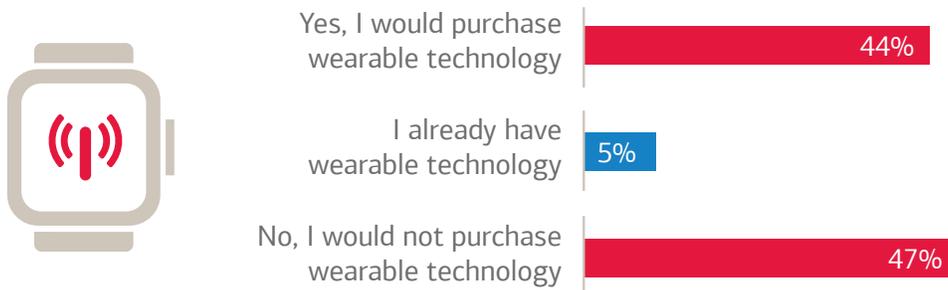
### Popular payments

When asked which payment method is most appealing, about six in 10 (63%) said traditional—check, credit card or cash. A third of respondents (33%) are partial to alternative payment methods, such as an all-in-one card, digital currencies and mobile/social.

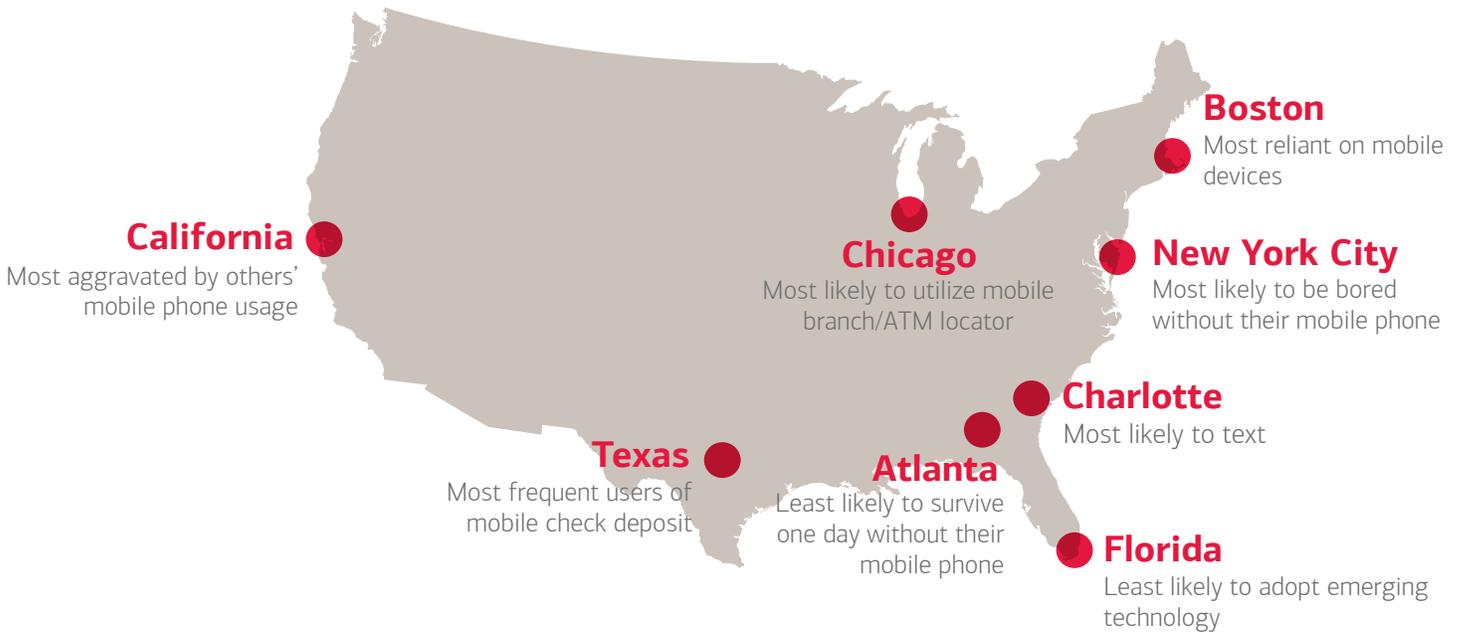


### Wearable tech

When asked if they would consider purchasing wearable technology, respondents are divided: 47% say no and 44% say yes. Only 5% have already purchased wearable technology, such as a smartwatch, wristband or eyewear.



## At a glance: Mobile use across the country



## Bank of America Digital Banking

Since 2007, Bank of America's Mobile Banking platform has been a key source of increased customer engagement and satisfaction with more than 15 million active users, and this number is growing by more than 200 thousand customers per month. Customers are using their mobile devices to log into their accounts over 165 million times per month, depositing more than 170 thousand checks via Mobile Check Deposit every day and making more than 4 million transfers per week between their accounts and to other people's accounts as well as to pay their bills. In addition, Bank of America has more than 30 million Online Banking customers who log into and manage their accounts in one place – 24 hours a day, seven days a week. Bank of America customers pay more than 45 million bills a month through online billpay.

The Braun Research survey results conducted on behalf of Bank of America and interpretations in this release are not intended, nor implied, to be a substitute for the professional advice received from a qualified accountant, attorney or financial advisor. Always seek the advice of an accountant, attorney or financial advisor with any questions you may have regarding the decisions you undertake as a result of reviewing the information contained herein. Nothing in this report should be construed as either advice or legal opinion.

# Telecommunications competition: the infrastructure-investment race<sup>1</sup>

Anna-Maria Kovacs, Ph.D., CFA<sup>2</sup>

October 8, 2013

## Key findings:

- U.S. communications traffic has almost completed the transition to Internet Protocol (IP). Legacy switched traffic amounts to less than 1% of IP traffic today and is likely to decrease to a small fraction of 1% by 2017. The regulatory framework, however, has not caught up to the marketplace reality.
- The development of multiple platforms which provide transport for IP has helped create a highly competitive communications ecosystem, which provides consumers with a plethora of choices.
- As a result, consumers no longer have to fit into a “one-size-fits-all” mold. Each consumer can pick and choose among different bundles of networks/devices/content-applications-services to find the best fit for that individual.
- Those choices are provided over various platforms that compete with each other on the basis of different technology capabilities and different economics. That makes the competition sustainable. It also makes the variety of choices possible.
- The greatest benefits of the *Telecommunications Act of 1996* have resulted from inter-platform competition, while attempts at artificially induced intra-platform competition have failed.
- The least-regulated platforms—Internet, cable, and wireless—are the most successful, because they have been free to innovate and to invest their capital efficiently. The most regulated—the incumbent telephone companies (ILECs)—have been forced to waste both capital and operating funds on obsolete networks, thus limiting their ability to upgrade their infrastructure.
- A team led by Robert C. Atkinson of CITI estimated that from 2006 through 2011, 53% of the capital investment made by the three largest ILECs was allocated to their legacy networks, while just 47% was spent on broadband infrastructure. Assuming that ratio is typical of the industry during those six years, and given that the ILEC industry spent \$154 billion in capex during those

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<sup>1</sup> This study was commissioned by the Internet Innovation Alliance. The views and opinions expressed in this study are solely those of the author.

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years, the ILECs spent \$81 billion on legacy networks, while just \$73 billion was spent on modern broadband infrastructure.

- The ILECs are losing circuit-switched voice and low-speed DSL subscribers. On the other hand, where they have deployed IP over fiber-based infrastructure, they are gaining Internet-access and video subscribers.
- To enhance competition and achieve the world-leading role in broadband-access that Congress and the Administration desire, the U.S. IP transition must be completed and the ILECs must be allowed to repurpose the capital that is currently deployed to support their obsolete circuit-switched networks into fiber-based broadband IP networks.

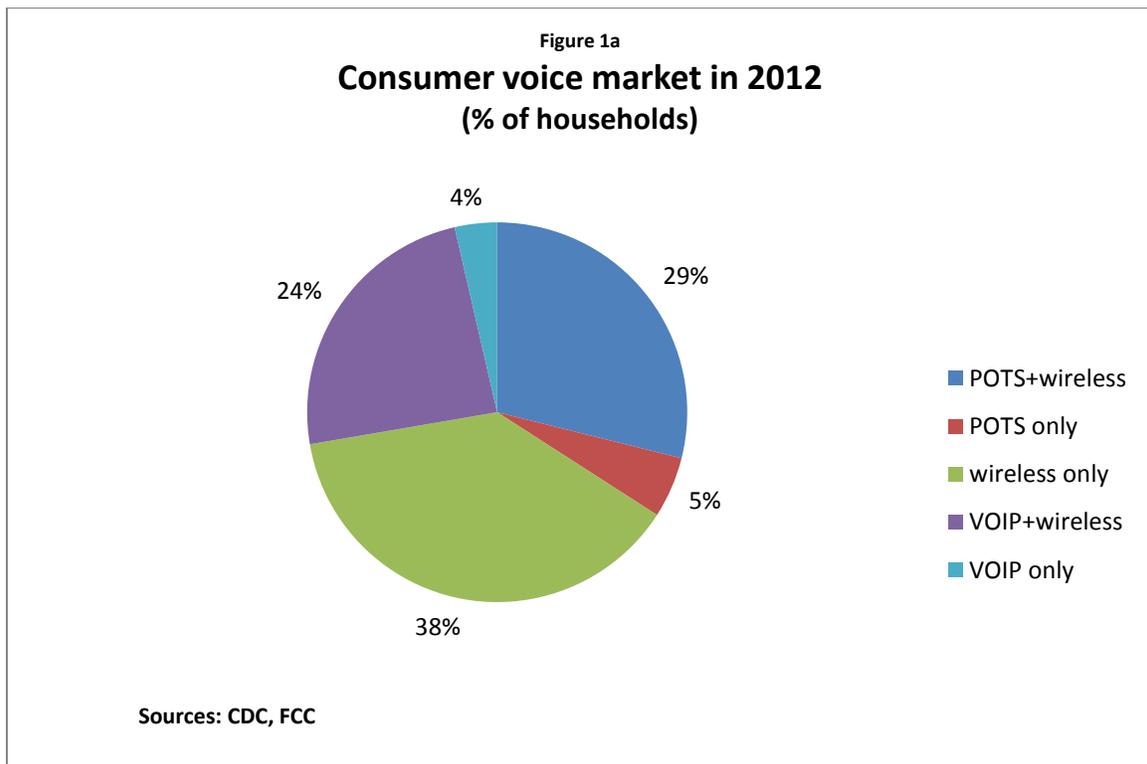
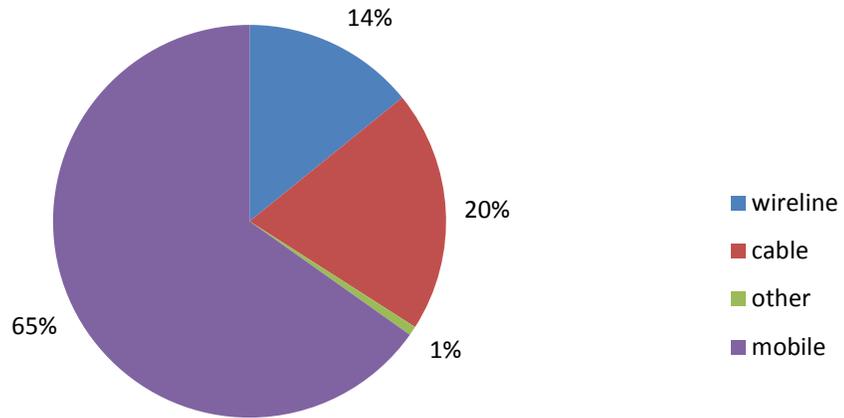
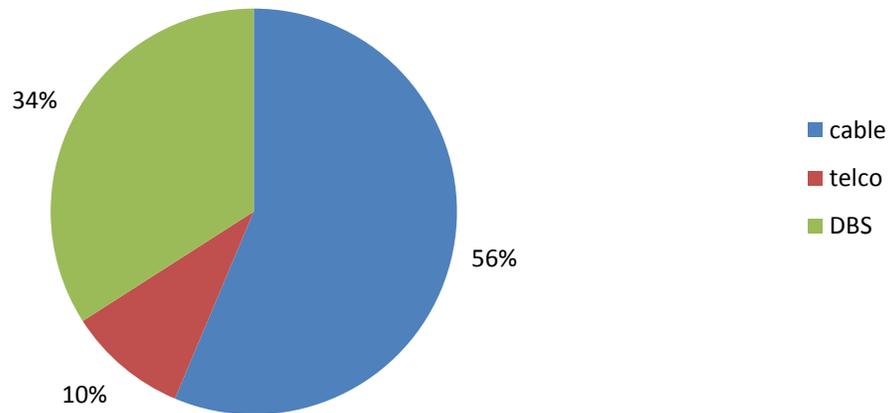


Figure 1b  
**Internet-access market in 2012**  
(% of connections)



Source: FCC

Figure 1c  
**MVPD market in 2012**  
(% of subscribers)



Sources: FCC, NCTA, J.P. Morgan

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## Executive summary

Traditional switched traffic today amounts to less than 1% of the amount of traffic that is transmitted over IP. The transition for data is essentially complete, and the transition for voice is well underway, as consumers abandon the POTS (plain-old-telephone-system) legacy network. They are migrating to VOIP (voice over Internet Protocol) and to wireless, which will become an all-IP infrastructure over the next few years. In other words, the networks' transition from circuit-switched to IP traffic is nearly complete.

However, the regulatory framework lags the marketplace reality. Subject to regulation at both the state and federal levels, even ILECs who receive relief from a regulation at one level may find that they cannot enjoy it because it is still backstopped at the other level. As a result, the ILECs (incumbent phone companies) remain subject to regulations that were formulated when they were monopolies with 100% market share and when their legacy POTS networks were the state of the art.

For example, ILECs have to operate according to standards that were relevant for POTS but may not be technically applicable to IP. They have to ask permission to discontinue the use of obsolete technologies, even when they have deployed new technologies with better capabilities. Although Congress, the Administration, the Federal Communications Commission (FCC), and most state regulators are eager to see the U.S. lead the world in broadband deployment, when ILECs attempt to replace legacy technologies with new they are often told that while they may deploy the new, they must also retain the old, whether it is actually in use or not. Capital is a scarce resource—what is expended on the old network can't be spent on the new.

The great lesson of the *Telecom Act of 1996* is that the most effective competition is between different technology platforms that bring different characteristics and economics to bear. The *Act* helped to promote competition by freeing the cable and telephone carriers to enter into each others' markets and by leaving satellite and wireless free to do so, as well. Its most successful progeny is the Internet, which it left completely unregulated.

Competition is, indeed, thriving among all of these infrastructures, and the result is the plethora of choices consumers enjoy. To ensure that ILECs can continue to provide innovative solutions for consumers and compete effectively against other platforms, they must be free to make the best use of their capital. That, in turn, means dedicating their capital to IP- and fiber-based broadband networks, rather than tying it up in obsolete copper-based circuit-switched networks.

At the end of 2012, the ILECs' share of the consumer voice, broadband-access, and video markets was 34%, 14%, and 10% respectively. It is time to stop treating the ILECs as monopolies that must be hobbled and start treating them as useful assets whose health is important to this nation's economy and global competitiveness.

Thus, if America's goal is to have a world-leading, competitive communications market that is responsive to consumers' needs and desires, the solution is not to hamstring those players that have been free to innovate, but to liberate those that have been hamstrung.

# Telecommunications competition: the infrastructure-investment race

## Discussion

### Consumers today have a plethora of choices

When the *Telecommunications Act of 1996 (Act)* was enacted, consumers had few choices. Communication meant a letter or a phone call (with a careful eye on the clock, if this was long-distance), or a telegram in dire emergency. Wireless phones were becoming popular, but largely as car-phones and generally for business. Video entertainment at home came from TV--over-the-air or via cable--with a limited number of channels, or from videos. Satellite had been around for several years via large dishes, but the more appealing DBS (direct broadcast satellite) was just beginning to gain popularity. The Internet was still in its infancy, and access was via dial-up modem.

Today, consumers enjoy a dazzling array of communications choices and they are exercising them with abandon. A college student checking in with her Mom in 1996 would have written a letter or made a quick long-distance call. Today, those options are still available, but the call would now be part of an all-distance plan on a wireline, wireless, or VOIP network, and the device might be a landline phone, or one of many types of cell phones or smartphones. The “call” might avoid the phone network altogether, and be carried computer to computer. In that case, it would most likely be a video chat, rather than simply a conversation. Alternately, the connection might be an email (with or without a video-clip), a text, a tweet, or an update to a social network site. Indeed, by the time that student makes a single contact, she has instantly weighed hundreds of permutations, selected among hundreds of choices: which one of dozens of possible applications, over which of several devices, over which of several networks will she use?

Similarly, entertainment options still include over-the-air TV or cable networks, but there are now literally hundreds of channels, and equally rich satellite packages are available as an alternative. The content can still be viewed on that big TV at home, or ported to a laptop, tablet, or other device the consumer prefers. For those who want what they want, when and how they want it, there are a range of variations on video-on-demand, including video-streaming from a variety of different sites, sent over different platforms, available on a host of devices. Games, played with partners around the globe, provide yet another option for fun, similarly accessible over various networks and devices.

This plethora of consumer choice is the result of innovation in all of the layers of the communications ecosystem—networks, devices, and content, services and applications. Innovation in each layer stimulates innovation in the others. The iPhone, iPad, and other smartphones and tablets, for example, would not have been such a huge success without a robust wireless infrastructure that allowed for broadband access to the Internet. Nor would they have been desired by consumers without attractive applications that could be accessed over these devices. But the sharp increase in

traffic that followed the introduction of these devices then stimulated the next network upgrades, first to HSPA+ or CDMA EV-DO and now to LTE.

### Consumers' choices rely on infrastructure investment

While innovation is needed at all levels of the ecosystem, the greatest financial investment is in the networks, the infrastructure on which all the rest relies. Traditional U.S. wireline, wireless, and cable network providers collectively invest upward of \$65 billion in capital expenditures every year to provide both the access networks and the backbones over which all those communications flow. The split has been roughly 40%/40%/20% between wireline, wireless, and cable. In the aggregate, these carriers have invested about \$1.2 trillion since 1996.

New networks have also sprung up to facilitate delivery of Internet traffic--content delivery networks (CDNs). Some, like Google's and Amazon's and Comcast's networks, are vertically integrated into companies that also operate at other levels of the ecosystem. Others, like Akamai's and Limelight's, are stand-alone publicly-held networks. CDNs' goal is to provide just that bit of competitive advantage a content or application provider seeks in delivery speed or assured quality by caching at multiple points close to edge access-networks. Cisco expects that CDNs will touch two-thirds of video traffic by 2017.<sup>3</sup> Because the Internet has become so video-centric, that means that they will touch the majority of all communications traffic in 2017, which they will then deliver to various access networks.

### Today's network-traffic is almost all IP

The overwhelming majority of communication now takes place in IP. Cisco VNI's study of U.S. IP traffic shows that consumer traffic constitutes most of IP traffic. In 2012, total U.S. IP traffic was 157 exabytes and that is expected to triple in the next five years, so that total U.S. IP traffic in 2017 will be 445 exabytes. Consumer U.S. IP traffic in 2012 was 136 exabytes and by 2017 is expected to increase to 387 exabytes, roughly 86% of total IP traffic in each year.<sup>4</sup> Most of this traffic is IP video, either over the open Internet or managed.<sup>5</sup> In 2012, IP video accounted for 120 exabytes of traffic and by 2017 it is expected to grow to 359 exabytes, i.e., to roughly 80% of all U.S. IP traffic.<sup>6</sup>

By contrast, we estimate that U.S. traditional switched traffic, which consists primarily of voice traffic, constituted less than 1 exabyte in 2012. We calculate the wireless voice traffic by converting the minutes reported by CTIA to bytes and make a similar calculation for wireline based on the 102 million

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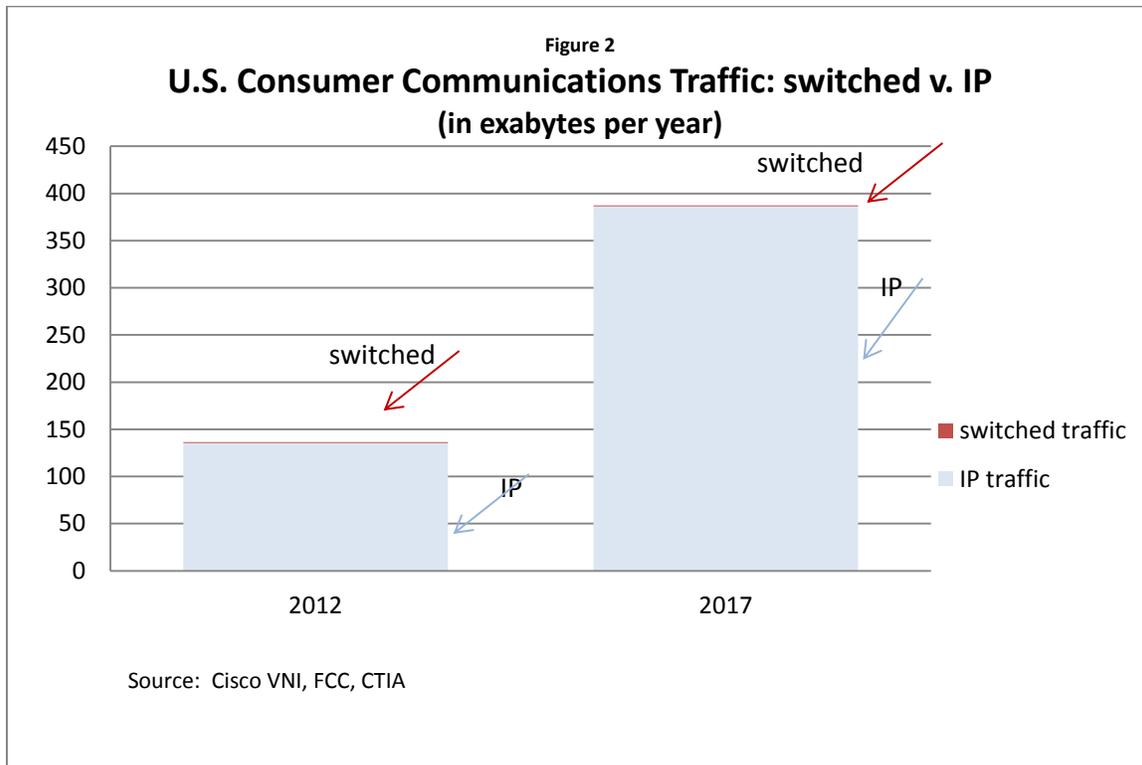
<sup>3</sup> Cisco VNI, *The Zettabyte Era—Trends and Analysis*, May 29, 2013, p. 2. The traffic will also, of course, be carried on the access networks to reach the ultimate consumer. What the CDNs replace or complement are the long-haul networks. (Hereafter referred to as Cisco VNI, *Zettabyte Era*.)

<sup>4</sup> Cisco VNI, U.S. Forecast Highlights and U.S. Consumer Highlights for 2012 and 2017.

<sup>5</sup> Cisco VNI, U.S. Forecast Highlights for 2012 and 2017.

<sup>6</sup> Cisco puts these figures into context by explaining that in 1992, global Internet traffic consumed 100 gigabytes per day. By 2012, it consumed 12,000 gigabytes per second. Cisco VNI, *Zettabyte Era*, table 1, p. 4. This does not include the portion of MVPD video that is run in broadcast rather than IP mode.

access lines reported by the FCC as of mid-2012.<sup>7</sup> In other words, even in 2012, there was less than 1% as much traditional circuit-switched traffic as there was IP traffic on U.S. networks.<sup>8</sup> By 2017, with continued growth in wired VOIP and most wireless voice transmitted in IP on voice-over-LTE networks (VOLTE), switched traffic will be a small fraction of 1%.



What has made the explosive growth of IP traffic possible is the fungibility of IP traffic—its ability to move seamlessly across various IP networks under an informal set of commercial agreements. Unlike the world of switched traffic, which is burdened with a complex set of regulated access charges within the U.S. and settlements outside the U.S., the IP world is unregulated. IP networks can spring up at will, they can reach commercial agreements about traffic exchange with each other without interference, and they allow the traffic to find the most efficient available route.

This unregulated system has worked extraordinarily efficiently and effectively across the U.S. and across the globe, with the supply of bandwidth meeting demand, however rapidly that demand has

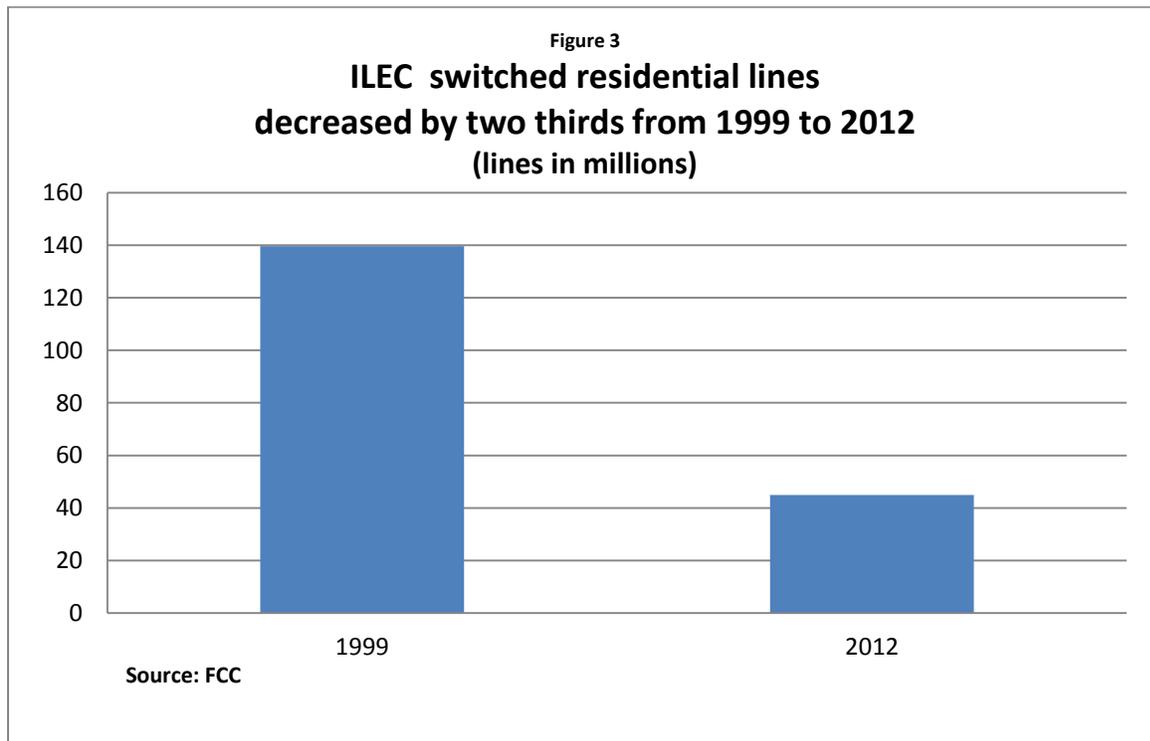
<sup>7</sup> CTIA, *Semi-Annual Wireless Industry Survey for Year-end 2012*, p. 8, and Federal Communications Commission, *Local Telephone Competition: Status as of June 2012*, June 2013, table 9, p. 20. CTIA reported 2.3 trillion minutes, counting each end of a call on the wireless network as a minute. We adjusted that down to 1.3 trillion actual rather than access minutes. The 102 million end-user switched access lines include both business and residential, both ILEC and non-ILEC. We assume 30 minutes of use per line per day on the switched lines, recognizing that's on the high side. The switched traffic would use 64 kbps which translates to 8 bytes. The wireless traffic is more compressed and would use roughly a third of that. (Hereafter referred to as CTIA, *Wireless Survey* and hereafter referred to as FCC, *Local Telephone Competition* as of ...)

<sup>8</sup> See also Michael Kende, *Voice Traffic Exchange in an IP World*, Analysis Mason, April 12, 2013, p. 24, for an estimate of U.S. voice traffic v. data traffic.

grown.<sup>9</sup> Indeed, Congress recognized the desirability of an unregulated Internet infrastructure with its resolution supporting the continuation of the current system of Internet governance and the Administration has fought for that principle in international negotiations.<sup>10</sup>

### Circuit-switched networks divert capital from IP-based broadband

IP is now overwhelmingly the communication protocol of the U.S. and of the world and it is transported on networks that are optimized for it. In contrast, switched traffic is a tiny and declining portion of U.S. traffic that requires, nevertheless, its own separate parallel networks. Because the switched-networks were optimized for a much higher volume of traffic than they now carry, they are increasingly inefficient and wasteful of both capital and operating funds.



As Figure 3 shows,<sup>11</sup> ILEC consumer switched access lines have decreased by two-thirds since 1999, the earliest period for which the FCC reports these numbers.<sup>12</sup> Since these networks have a high component of fixed cost, the cost per subscriber rises sharply as the number of subscribers falls.

<sup>9</sup> See Anna-Maria Kovacs, *Internet Peering and Transit*, April 4, 2012, posted by Broadband For America, for a discussion of the movement of unregulated Internet traffic.

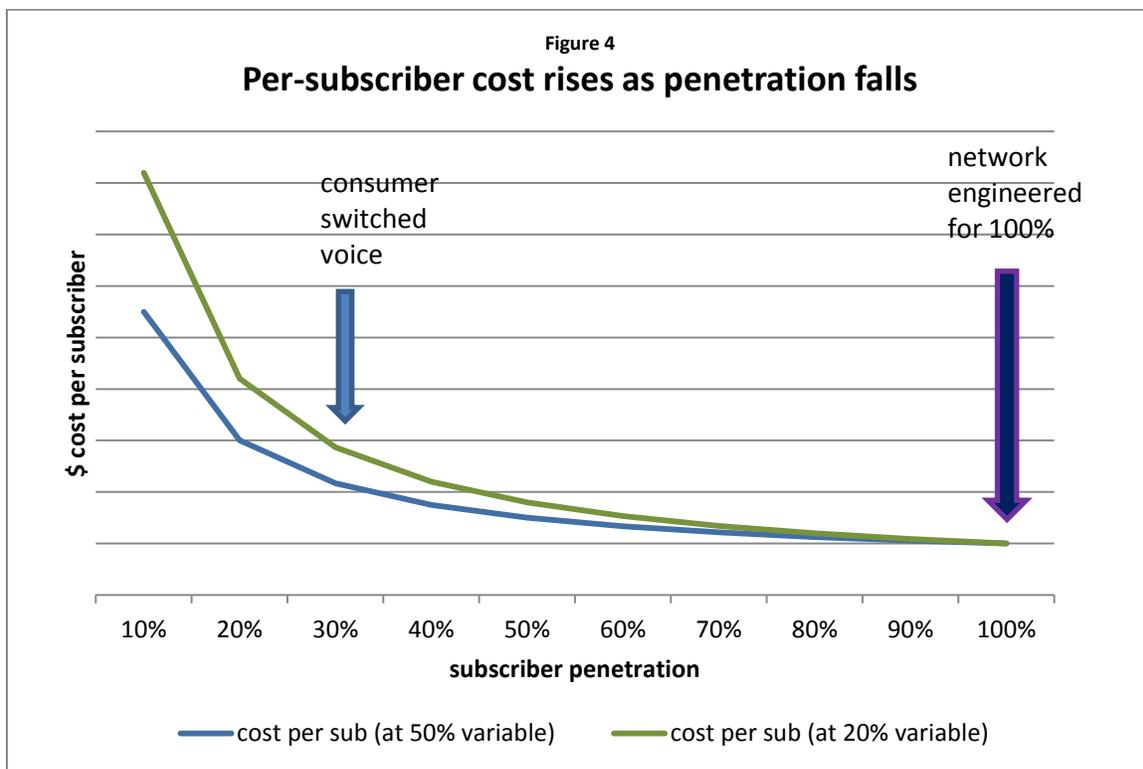
<sup>10</sup> S. Con. Res. 50, One Hundred Twelfth Congress of the United States of America at the second session, agreed to December 5, 2012.

<sup>11</sup> FCC, *Local Telephone Competition: Status as of June 2012*, figure 4, p. 5. *Local Telephone Competition Report: Status as of December 2008*, table 2, p. 13. (Hereafter referred to as FCC, *Local Competition* as of ...)

<sup>12</sup> Please note that before 2008, the FCC's reports did not split out VOIP lines from switched lines. For 1999, of course, that was not an issue.

As Figure 4 indicates, at penetration levels below 30%—the likely level of consumer lines by the end of 2013—the cost per remaining subscriber increases more and more sharply. Even if network operators are efficient and manage to make 50% of their cost variable, cost per subscriber at 30% penetration is more than twice what it was at 100% penetration. If only 20% of the cost is variable, then cost per subscriber is nearly tripled at 30% penetration. At 15% penetration, the level AT&T is approaching in some of its states, cost per subscriber quintuples for a network that has 20% variable cost and quadruples even for a network that has 50% variable cost.

Both capital investment and operating expense follow this curve, for the same reason. To serve any customer in a neighborhood, the basic network infrastructure must be built out to the entire neighborhood and it must all be maintained. It is only the drop—the line from the trunk running down the street into the customer’s premise—that can be avoided (or not maintained) for a non-subscriber. Similarly, in the context of circuit switching, the central office and the switches in it must be bought and maintained. As subscribers are lost, individual line cards or units may be removed, and ultimately some switches decommissioned, but much of the cost of the central offices remains.



A network engineered to serve 100% of a neighborhood will have terrible economics at 30% penetration, unless it can increase its revenue commensurately by either raising price or adding other services that require minimal variable cost but bring in high variable revenue. Caller-ID and similar

software based services, for example, served such a function in the circuit-switched world. In the IP world, adding IP-data or IP-voice to an IP-based video network can serve the function of adding revenues at minimal incremental cost, because the network is engineered for the highest volume service.

We have focused on 30% penetration, because the ILECs' consumer penetration is rapidly approaching that level for their legacy circuit-switched (POTS) service. However, consumer telephony prices are either regulated or derived from prices that were regulated assuming cost at 100% penetration. In many cases, they are disciplined by even lower prices based on the economics of other platforms. But the ILECs' profitability is only one issue. There is also an opportunity cost—legacy networks are eating up capital and operating funds that could be used to expand the ILECs' IP-broadband footprint.

### What do consumers really want?

While consumers have abandoned ILEC circuit-switched lines, they have adopted VOIP lines, primarily bundled with video and/or broadband over cable networks. CLEC switched lines have also declined and now serve fewer than 3% of households.<sup>13</sup> Of course, the major competitive force in the consumer voice market is wireless. By the end of 2012, 38.3% of households were wireless-only, up from 35.8% in mid-2012.<sup>14</sup> Unlike wireless Internet-access which has been transmitted in IP all along, wireless voice is just about to begin the move to IP with VOLTE. With the continued decline of circuit-switched consumer fixed-access lines and the conversion of wireless to IP, it is likely that by 2017 circuit-switched traffic will comprise far less than even the 1% of traffic it constitutes today.

As Figure 5 shows,<sup>15</sup> by the end of 2012 only 34% of households purchased traditional switched telephony service (POTS),<sup>16</sup> and only 5% of households relied on it exclusively. The other 29% combined it with wireless. 28% of households used VOIP service, and only 4% relied on it exclusively. Over 90% of households took wireless service, and 38% cut the cord altogether. Another 15.9% of households used wireless mostly.<sup>17</sup> By year-end 2013, it is likely that more than 60% of households will be wireless-only or wireless-mostly. More to the point in terms of cost, by the end of 2013, POTS' penetration is likely to be at or below 30% and still falling.

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<sup>13</sup> FCC, *Local Competition* as of June 2012, figure 4, p. 5.

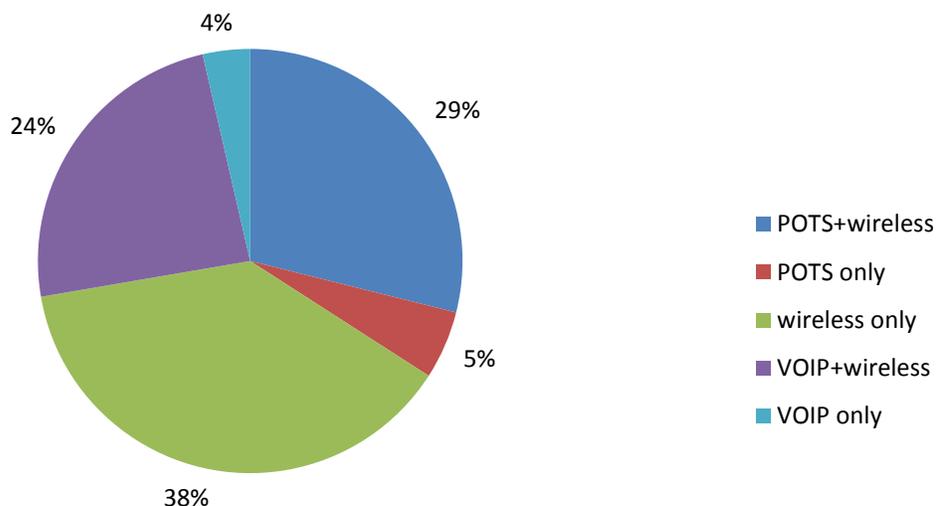
<sup>14</sup> S. J. Blumberg and J.V. Luke, Center for Disease Control and Prevention, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July-December 2012*, National Center for Health Statistics, released 6/2013, table 1. (Hereafter referred to as CDC, *Wireless Substitution*, released...)

<sup>15</sup> CDC, *Wireless Substitution*, released 6/2013, table 1, and FCC, *Local Competition* as of June 2012, figure 4, page 5, and linear projection from the FCC data.

<sup>16</sup> The POTS figure includes switched lines from both ILECs and CLECs.

<sup>17</sup> CDC, *Wireless Substitution*, released 6/2013, p. 4.

Figure 5  
**U.S. consumer voice market in 2012**  
 (% of households)



Sources: CDC, FCC

### Regulatory requirements lag consumer choices

Unlike the cable, wireless, competitive carrier, or CDN industries, the ILECs' operational and technology choices are restricted via state and federal regulations that were developed for legacy networks operating as monopolies.<sup>18</sup>

Although 95% of consumers no longer rely on their ILEC as their sole carrier, and we estimate that as of mid-2013 fewer than one third of households take traditional ILEC service at all, carrier-of-last-resort (COLR) rules require ILECs (and only ILECs) to keep their networks ready to serve all would-be-customers. Those rules, which still apply in most states and are backstopped at the federal level, assume that ILECs have deployed and are maintaining their networks as though they still provided service to almost 100% of households.<sup>19</sup>

There are also more specific restrictions. For example, ILECs have to ask permission to drop services that they offer, and that permission is not automatic, even when the service is obsolete and incompatible with the latest network technology. ILECs are also subject to various requirements and metrics that govern anything from service quality to copper-loop retirement. The regulations, which

<sup>18</sup> The FCC's *National Broadband Plan* issued in 2010 noted on p. 59: "Regulations require certain carriers to maintain POTS—a requirement that is not sustainable—and lead to investments in assets that could be stranded."

<sup>19</sup> Even when ILECs had a monopoly, they did not serve 100% of households, since about 2% tended not to take service.

are often very specific, were designed for a copper-based circuit-switched network rather than a fiber-fed IP-based network. Many are technologically inapplicable to broadband IP networks.

The combination of such service-discontinuation and service-quality regulations with COLR obligations has forced the ILECs to continue to spend capital and operating funds on the obsolete copper-based, circuit-switched legacy network that most consumers no longer desire. That leaves less capital available for the fiber-based IP network consumers do need and want. As Figure 4 above shows, maintaining a barely-used parallel network is very costly.

Some of the goals behind the ILEC regulations remain relevant: ensuring that communications-access is available to all, that traffic will flow smoothly, that anyone on the network can reach anyone else, that public safety is well served—these goals still have to be satisfied. However, their implementation has to be different for IP broadband networks which face competition, whose architecture is different from that of circuit-switched narrowband networks, and whose physical media have different characteristics and capabilities.

For example, ensuring ongoing access to communications, especially in emergency situations, is just as important today as it was in the past. But the old solution of relying on reverse-powering from the central office to deal with power outages is no longer useful in most cases. That solution does not work over the “lines” that consumers most desire. Fiber-to-the-premise, hybrid fiber-coax, and wireless connections are unable to provide reverse-powering. Yet, these are the links more than 60% of consumers have chosen as their primary means of communication. It is clear that regulators cannot—and should not—force consumers to reverse course. Instead, regulation must catch up to the technology choices consumers have made. Regulation must also acknowledge the reality that most consumers today rely on multiple infrastructures and thus, to a large extent, provide their own backup sources.<sup>20</sup>

This is not only important to the companies, it is vital to consumers. Regulators and consumer advocates who still cling to copper as the solution for power outages do nothing for the 60+% of consumers who have chosen to not have a POTS line in their home. And, of course, copper cannot provide service when the central office itself is put out of commission by flooding, or when the lines are cut by a storm.

Similarly, insisting on circuit-switching as a more secure form of communication than IP does nothing to protect the 99%-plus of communication traffic that is already being transmitted in IP. Cyber-security is vital, but it must be solved within the context of the IP ecosystem.

Consumers will be best protected if all resources are devoted to the networks that they have chosen to use, rather than being wasted on the networks most have abandoned and the rest are likely to abandon within a few years. Thus, ILECs need the same engineering freedom to evolve their networks as do their cable, wireless, and CDN siblings. They also need the same financial freedom to invest all

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<sup>20</sup> Of course, powering over copper lines also fails sometimes—the lines themselves can break or the central office can fail to generate power, e.g. during flooding.

of their capital in the network of the present and future, rather than being forced to devote much of it to the network of the past.

### Are consumer choices endangered?

It has been argued that the communications industry is becoming less competitive, and that cable is about to become a broadband monopoly.<sup>21</sup> That view assumes that the ILECs have lost so much wired-broadband share that they are on the path to extinction. It also assumes that wireless broadband cannot compete on speed and capacity with wired broadband. Those who hold this view argue that rather than liberating the ILECs from obsolete regulations that waste capital, regulators should impose similar regulations on the cable industry which has been largely unregulated.<sup>22</sup>

There are several problems with this approach. First, it is over-simplistic in its interpretation of the facts. While the ILECs are losing share in low-speed DSL, they are gaining where they have upgraded to high-speed broadband, in video as well as in Internet-access. Thus, the most effective way to constrain cable gains in the fixed-broadband market is to encourage ILEC upgrades. Unshackling the ILECs is more likely to benefit consumers than shackling the cable providers. Second, wireless broadband has become a powerful competitor in the broadband Internet-access market and it constrains both ILEC and cable providers.

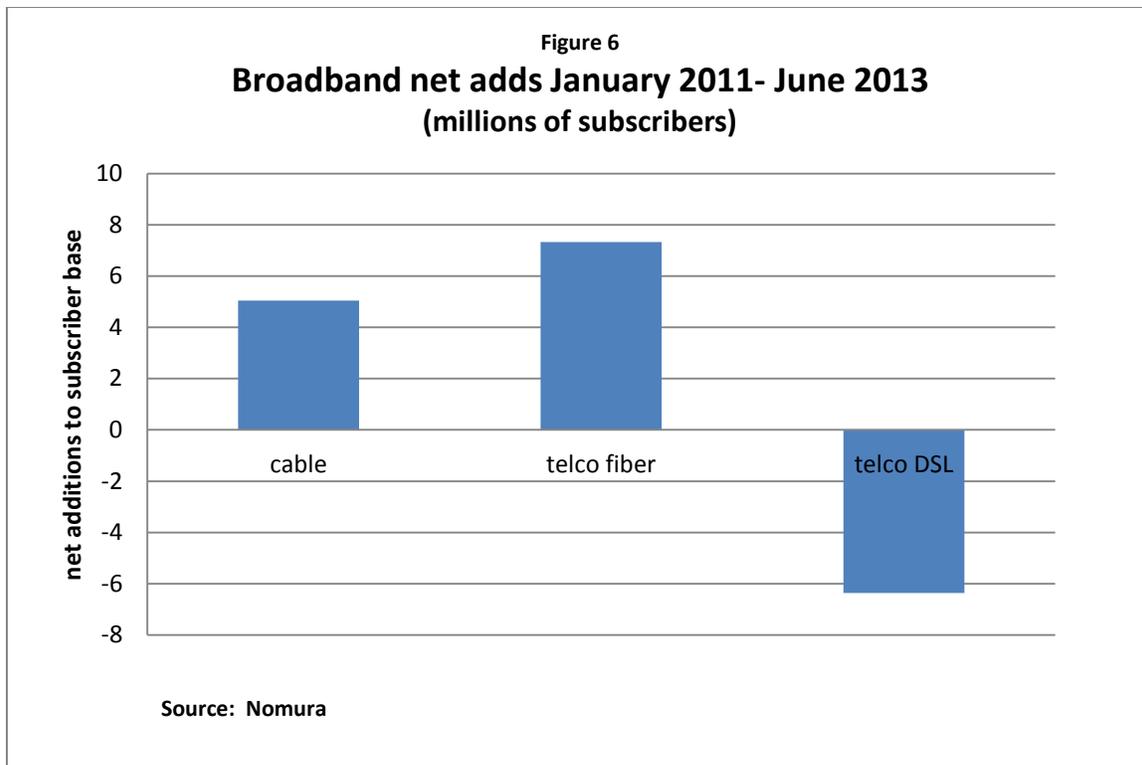
A Nomura report issued in July shows that where ILECs have upgraded their networks with fiber to the home or to nodes close to the home, the ILECs gained broadband-access share over cable broadband.<sup>23</sup> From January 2011 to June 2013, ILEC fiber (primarily FIOS and U-verse) gained 7.3 million subscribers, while cable broadband gained only 5 million. It is only where ILECs rely on low-speed DSL that they lose share against cable in the broadband market.

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<sup>21</sup> Susan P. Crawford, "The Looming Cable Monopoly," *Yale Law & Policy Review Inter Alia*, 29:34-29:40, 2010. That is also the premise of her recent book, *Captive Audience*, Yale University Press, 2013, although the book is devoted more specifically to the Comcast-NBCU merger.

<sup>22</sup> Cable is regulated to some extent on the video side, e.g. via must-carry and retransmission consent rules as well as local requirements for provision of PEG channels. There are also some local franchising regulations, e.g. build-out requirements.

<sup>23</sup> Mike McCormack CFA, "Watching Video Subscriber Trends in 2Q13," Nomura Equity Research: U.S. Cable and Satellite, July 16, 2013, figure 2, p. 2. (Hereafter referred to as McCormack, "2Q13," Nomura.)



But, as Figure 7 shows, even with the ILECs' loss of DSL subscribers, the cable industry's share of the residential wired-broadband market has remained remarkably stable, at roughly 57% to 59%.<sup>24</sup> It has been in that range for nearly six years now, since 2007, down from a peak of 66% in 2002.<sup>25</sup>

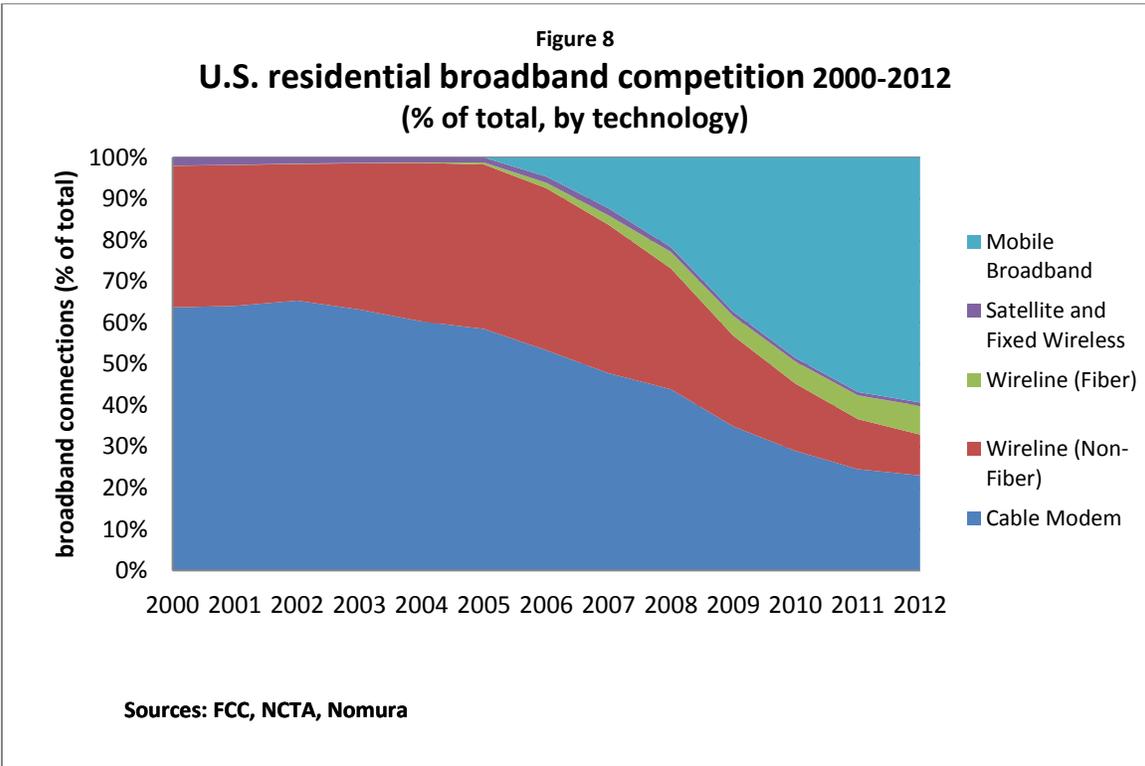
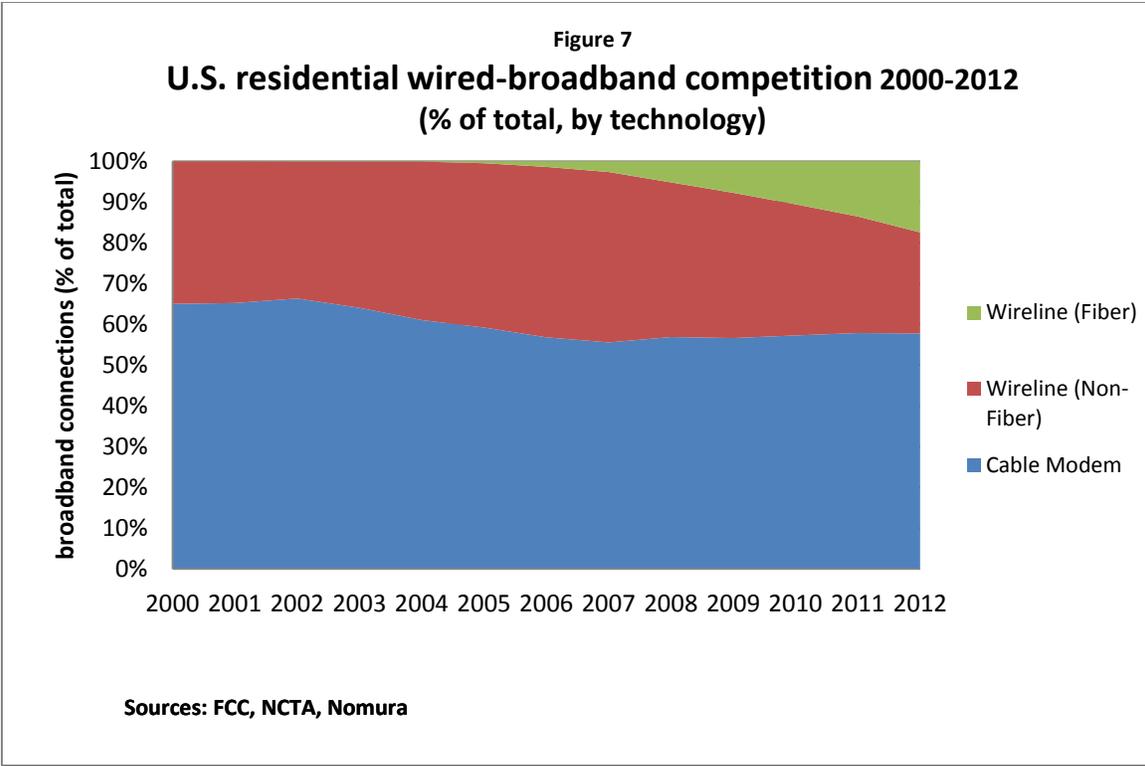
Of course, as Figure 8 shows, the greatest number of new broadband subscribers since 2005, and especially since the introduction of the iPhone in 2007, has been in mobile wireless. At the end of 2012, mobile broadband accounted for roughly 60% of U.S. residential broadband connections,<sup>26</sup> making cable's share of the U.S. residential broadband market only 23%, and falling. With LTE speeds now much higher than the fixed speeds consumers actually use, mobile wireless is both growing the broadband-access market and providing a competitive alternative for some consumers.<sup>27</sup>

<sup>24</sup> FCC, *Internet Access Services: Status as of December 2007*, table 3, and *Internet Access Services: Status as of June 2012*, table 6, (these reports are hereafter referred to as *Internet Access as of ...*), NCTA for December 2012 cable modem data, and linear projection for other year-end 2012 data. U-verse is included in fiber rather than in DSL.

<sup>25</sup> *Ibid.*

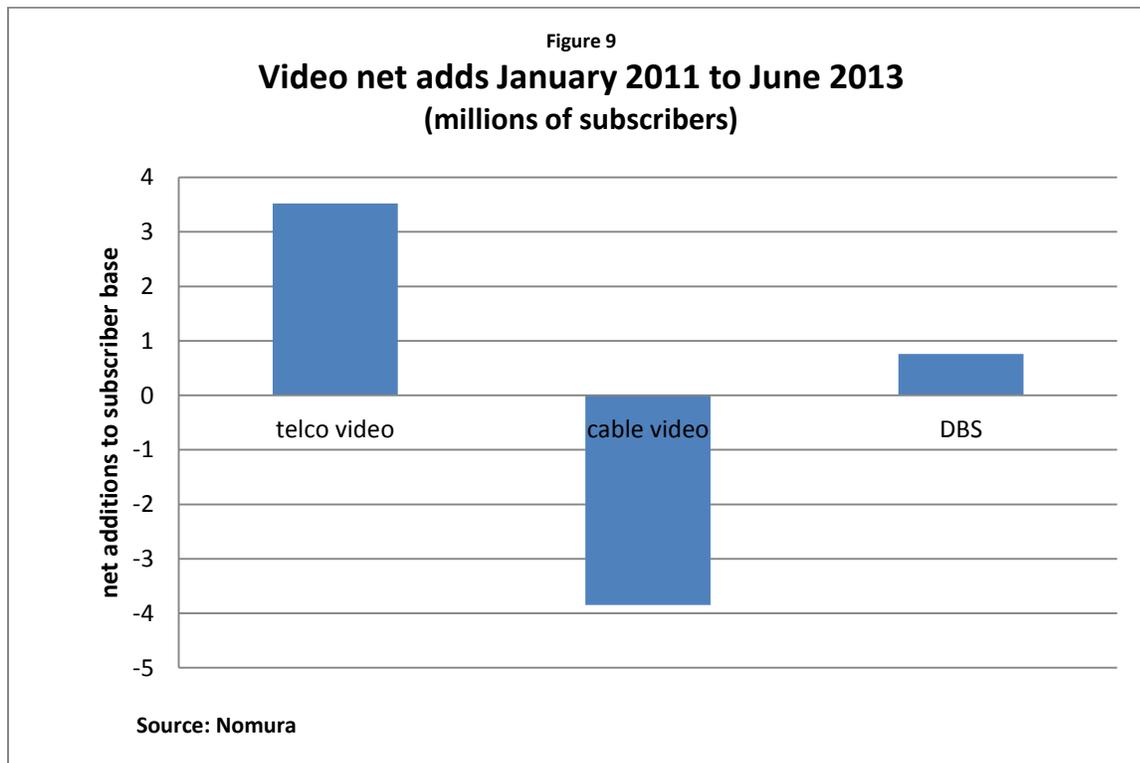
<sup>26</sup> *Ibid.*

<sup>27</sup> We discuss the impact of wireless broadband in detail on pages 37-41.



Cable is also constrained to some extent by ILECs' share gains in video. Nomura statistics show that since January 2011, cable has lost 3.8 million video subscribers, while the ILECs have gained 3.5 million

video subscribers, and DBS has gained 0.8 million.<sup>28</sup> Of the ILEC video gains, AT&T's U-verse had the majority at nearly 2 million, and FIOS captured 1.5 million. Indeed, an August 2013 report by Moffett Research expresses concern about the welfare of Cablevision, which is the cable incumbent that has the greatest overlap with FIOS.<sup>29</sup> There is also finally a perception that over-the-top (online) video will begin to impact MVPDs (multichannel video programming distributors). An Oppenheimer report in July predicted that consumers will start dropping pay-tv at the rate of 1% of households per year, and then ramping up gradually.<sup>30</sup>



That is not to say that the ILECs' prospects are entirely rosy. They are losing subscribers massively in the voice market<sup>31</sup> where they are providing a service most consumers no longer desire but which regulators force them to offer. As we discussed earlier, running a circuit-switched network at 30% penetration is very costly. That capital could be redeployed if the ILECs were allowed to switch over completely to an IP-based infrastructure on which voice, data, and video revenues could cover the shared cost of the IP infrastructure that supports all three services.

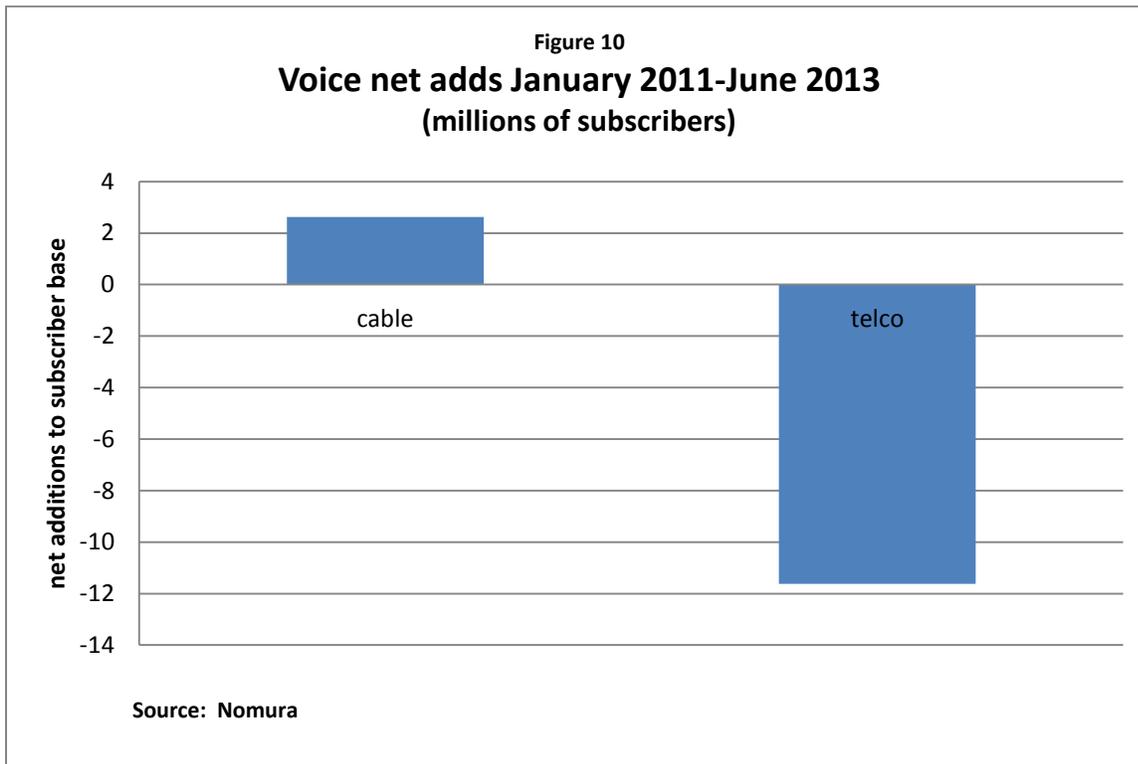
But even here, the ILECs' loss is only partly the cable industry's gain. Of the 11.6 million lines lost by the ILECs, only 2.6 million were picked up by cable VOIP. The rest went to wireless.

<sup>28</sup> McCormack, "2Q13," Nomura, figure 1, p. 2.

<sup>29</sup> Craig Moffett, "U.S. Telecom and U.S. Pay TV: The FIOS Effect," Moffett Research LLC, August 14, 2013, p. 1.

<sup>30</sup> Tim Horan, "2Q13 Preview," Oppenheimer Equity Research, July 16, 2013, p. 1.

<sup>31</sup> McCormack, "2Q13," Nomura, figure 3, p. 3.



These data negate the allegation that cable is about to become a monopoly. Even if the ILECs vanished, cable would still face competition from wireless and/or satellite in all the services cable offers—video, data, and voice. That means that cable would not be in a position to enjoy the economics of 100% penetration, and would not be able to reduce prices to reflect such economics.

We highlight this point because it is important to understand that regulators can't simply create a lower-cost cable bundle by turning cable into a fixed-access monopoly and then attempting to price-regulate it. For one thing, cable has never had a COLR obligation. While various localities have demanded that cable networks cover their entire franchise areas, cable has been able to select the areas in which it sought franchises. While cable passes most U.S. homes, it does not pass all of them.

Nor does cable have anything close to 100% penetration of all U.S. housing units.<sup>32</sup> Indeed, cable never was priced for 100% penetration, because it never reached anything close to that level. Cable video penetration of housing units peaked at about 68% in 1998 and was at about 42% in 2012. Cable-modem penetration of housing units in 2012 was about 38% and cable VOIP penetration was at about 20% of U.S. housing units.<sup>33</sup>

<sup>32</sup> Because of the way the FCC reports the data in its MVPD-competition reports, we use all U.S. housing units, rather than households, as "homes passed" to report penetration levels.

<sup>33</sup> FCC, *Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, Reports #7-#15 for housing units (these reports are hereafter referred to as FCC, *Video Competition* released ...), NCTA website for cable video subscribers, and FCC *Internet Access* as of June 2012 for cable-modem penetration.

Where cable does provide coverage, it faces competitive alternatives in addition to the ILECs. Satellite is cable's greatest video competitor. However, over-the-top-streaming, some of it over mobile wireless, is gaining a foothold. Some consumers rely entirely on mobile-wireless broadband and many use it along with fixed broadband.<sup>34</sup> Sandvine's latest *Global Internet Phenomena Report* shows that real-time entertainment accounts for about 47% of peak-time downstream traffic on North American mobile Internet-access networks.<sup>35</sup>

That trend is likely to increase as consumers migrate to higher mobile speed via LTE. NTIA's *U.S. Broadband Availability: June 2010-June 2012* indicated that 79% of Americans had access to mobile broadband speeds of 10 Mbps (megabits per second) or higher in mid-2012.<sup>36</sup> Now that Verizon's LTE deployment covers about 300 million Americans, that number is closer to 95%. With AT&T's LTE deployment reaching 270 million Americans by year-end-2013 and 300 million Americans by mid-2014, that number will be even higher, assuming the two networks do not overlap completely. And, of course, that means that at least 95% of Americans will have access to at least two competing mobile wireless broadband networks within a year. Once T-Mobile and Sprint complete their LTE buildout to the roughly 225 and 200 million Americans that they have, respectively, committed to cover, about 60%-70% of Americans will have access to between three and four LTE networks.

These alternatives, which are based on a totally different set of economics, should provide pricing discipline to both cable and ILEC broadband. DBS can cover millions of subscribers with a single satellite, and is thus the ultimate in fixed-cost economics. Its advantage, however, is that it can serve widely dispersed subscribers and thus spread that fixed cost over an enormous geographic area. Mobile wireless, on the other hand, adds capacity incrementally, via technology upgrades, spectrum acquisitions, cell-splitting, and densification. Indeed, the primary constraint that keeps mobile wireless broadband from becoming a competitor to fixed-broadband—one that is able to serve all consumers fully and simultaneously—is lack of spectrum. It does, however, provide a solution to most consumers some of the time, and to some consumers all of the time.

Bottom line, satellite and wireless alternatives would, thus, make it impossible to price cable as if it had 100% penetration even in the absence of ILEC broadband access. Having said that, it clearly is desirable to have the ILECs continue to provide a fixed-broadband alternative to cable. Fortunately, it appears likely that they will do so.

As Figure 7 above shows, the telcos retain nearly 40% of the fixed-broadband market. While they lose share in low-speed DSL, they gain it in fiber-fed broadband, so that their overall share remains essentially stable. In particular, U-verse not only refuses to wither away, it is the fastest growing fixed-broadband technology. Of the 7.5 million telco-broadband net adds in 2011-2013, 5.8 million

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<sup>34</sup> We have not dealt in this paper with over-the-top video as a competitor to MVPD options, because it is still sufficiently early in its development to be difficult to quantify.

<sup>35</sup> Sandvine, *Global Internet Phenomena*, 1H 2013, figure 3. On fixed networks it is 68%, per figure 1.

<sup>36</sup> National Telecommunications and Information Administration, *U.S. Broadband Availability: June 2010-June 2012*, May 2013, figure 4, p. 9.

were U-verse broadband net adds. That was 0.8 million more than cable gained—despite its larger footprint—and nearly four times as much as FIOS’ 1.5 million net adds.<sup>37</sup>

In response to the success of U-verse, AT&T has increased its investment, announcing that it would spend an additional \$6 billion to bring U-Verse to 8.5 million more customer locations over three years.<sup>38</sup> In total, its goal is to cover 57 million customer locations with U-verse and U-verse IPDSLAM by the end of 2015. AT&T is also investing to increase U-verse transmission speed, to 45 Mbps initially, with a goal of 100 Mbps. AT&T also announced that it would take fiber to an incremental 1 million business locations. Verizon is also still expanding FIOS, not adding new markets, but extending the fiber into additional locations that its fiber now passes.

Indeed, the ILECs are moving their focus away from legacy investment to broadband. *Broadband in America – 2d Edition*, a report prepared by a team led by Bob Atkinson of CITI in 2011, estimated that 53% of the capital investment (capex) made by the three largest ILECs, the Regional Bells (RBOCs), from 2006 through 2011 was spent on their legacy networks and only 47% was spent on broadband.<sup>39</sup>

The ILEC industry as a whole spent \$154 billion in capex during 2006 through 2011,<sup>40</sup> while the cable industry spent \$81 billion in capex over the same period.<sup>41</sup> Assuming the RBOCs’ spending on legacy infrastructure is characteristic of the ILEC industry as a whole, we estimate that the ILECs spent \$81 billion on legacy infrastructure during those six years, i.e. 53% of \$154 billion. In other words, the ILECs spent nearly twice as much capital investment as the cable companies, and all of that extra capital—and then some—can be accounted for by their spending on their legacy networks.

Having said that, the ratio has improved over time. In 2006, 69% of the ILEC capital was spent on legacy infrastructure and only 31% on broadband. By 2011, 42% was spent on the legacy networks and 58% on broadband.<sup>42</sup> That is, of course, still far too much capital devoted to plant that is already obsolete, but it is a significant improvement.

Capital expenditures represent only a small part of the picture. In 2012, the ILECs spent roughly \$21 billion in capex, and we estimate that about \$8 billion of that was spent on legacy infrastructure.<sup>43</sup> But the ILECs spent far more on operating their networks. In 2012, the ILECs spent roughly \$72 billion

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<sup>37</sup> McCormack, “2Q13,” Nomura, figure 2, p. 2.

<sup>38</sup> AT&T Analyst Conference 2012, November 7, 2012, slide presentation, slide 112.

<sup>39</sup> Robert C. Atkinson, Ivy E. Schultz, Travis Korte, and Timothy Krompinger, *Broadband in America – 2d Edition*, May 2011, table 5, p. 42. The authors note that the report is the authors’ rather than an official CITI publication, because CITI does not author or publish reports.

<sup>40</sup> Company financial reports for those that are publicly owned and estimates for the remainder.

<sup>41</sup> Industry statistics on NCTA website.

<sup>42</sup> Atkinson et al, table 5, p. 42. We are making the simplifying assumption that the RBOC legacy capex as % of total capex ratio is typical of the entire ILEC industry.

<sup>43</sup> Estimates of total capital and network operating expenditures based on companies’ public financials. Assumes 38% legacy, using a trendline based on the Atkinson data.

in cash network-operating expenses (net-opex) to run their networks.<sup>44</sup> This figure does not include the additional cash cost of SG&A (sales, general and administration) nor the additional non-cash D&A (depreciation and amortization). This is the annual cash cost of operating the networks themselves.

Two factors raise the ILECs' network-operation cost. One is the higher cost of operating legacy, rather than state-of-the-art plant. FTTH Council, for example, estimates that fiber-to-the-premise brings 20% savings in operating cost.<sup>45</sup> Another factor is network duplication, i.e., continuing to run a circuit-switched copper network alongside an upgraded IP-broadband network. In the first case, there is the cost of running an inefficient network. In the second case, there is the cost of running two networks—one efficient and one inefficient—in tandem.

Because various ILECs' networks are at different points on the upgrade path, it is difficult to quantify how much of that \$72 billion in annual network-operations cost is spent on inefficiency and duplication. But it is possible to at least attempt to size the issue. Given that half the capital spent in the 2006 through 2012 period was spent on legacy plant—and that far more than half the capex in the earlier period was spent on legacy plant—it is fair to assume that more than half the infrastructure in place today is legacy and less than optimally efficient. That implies that more than half of that \$72 billion, i.e. more than \$36 billion, is being spent to operate legacy plant.

Every percent of savings on operating expense that could be obtained by upgrading that legacy plant would provide an annual saving of roughly \$0.4 billion. A saving of 10% on the remaining legacy plant would free up roughly \$4 billion in cash operating expense. That saving would not only provide funds to be reinvested in further upgrading the networks, the potential for further savings would provide incentive to do so.

If the goal is a competitive wired-broadband infrastructure in the U.S., then the best solution is to free the ILECs from the financial drag of an obsolete—and at times duplicative--network. That would enable them to redeploy their capital into expansion of the fiber-based IP networks consumers clearly want and enhance their ability to compete with cable.

#### The Google-Fiber model v. the ILEC model

From a regulatory perspective, there cannot be a greater contrast than the treatment of the ILECs v. the treatment of Google, a new entrant to the broadband-access market which has begun to deploy a fiber network in Kansas City (KSC).

In Figure 11, we illustrate the economics of its capital investment, based on estimates provided by Dr. Kirjner of Bernstein Research<sup>46</sup> in a report that examines the economics of Google's Kansas City

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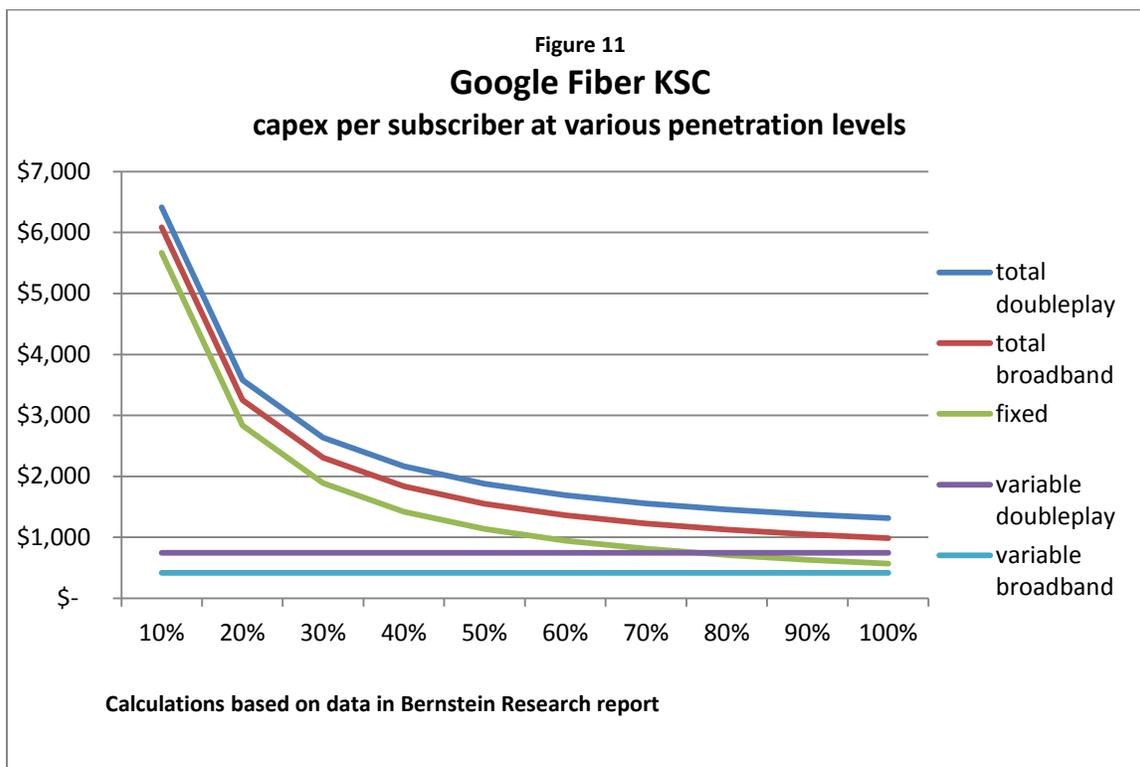
<sup>44</sup> Operating expenses on carriers' financials include cost of network operations (called cost of revenue or cost of services and products) as well as SG&A or D&A. Our net-opex numbers include only cash cost of network operations, not SG&A or D&A.

<sup>45</sup> Fiber to the Home Council Americas, *FTTH Progress in North America*, April 2, 2013, p. 10.

<sup>46</sup> Bernstein, *Google Fiber: A Good Shot at Being Profitable and at (Very) Slowly Boiling the Incumbent Frog*, 05-28-2013. The base case is on p. 9.

venture and concludes that it may become profitable. Dr. Kirjner runs a full financial model in his report, taking into account both operating as well as capital investment (capex), and running the model under various assumptions.

Our graphic is based only on the capex numbers in Dr. Kirjner’s base case, which may or may not ultimately prove to be correct.<sup>47</sup> Dr. Kirjner himself also provides a more conservative case. We seek only to explain why Google has designed its business model for KSC the way it has, not to attempt to



predict whether the venture will ultimately be profitable. As Dr. Kirjner explains and demonstrates in his models, that depends on the level of penetration Google reaches as well as the mix of its customers taking various services at various prices, with associated operating expenses.

In his report, Dr. Kirjner points out that the Google effort cannot be compared to FIOS for several reasons. On the cost side, one difference is that Google benefits from the technology and cost advances that have occurred since FIOS. In other words, FIOS drove the equipment industry’s learning curve, and Google and others who have followed FIOS can benefit from that. He also points out that Google is not using a unionized workforce, so that it has lower labor cost. It is not building in areas where the fiber has to be buried or placed in underground urban conduits. Google is also benefitting from the city’s facilitating its buildout to minimize delays and to provide access to rights-of-ways and poles.

<sup>47</sup> Doubleplay customers take both broadband and video, while broadband customers take only that service.

On the demand side, Dr. Kirjner points out that Google's product is somewhat different, in that it offers symmetrical 1 Gbps service, so that it provides not only faster downloading but much faster uploading. He expects more attractive interfaces and better service. He points to Google's partnership with the city and with community organizations. He expects that these factors will help drive higher penetration.

As Dr. Kirjner points out, Google has been able to choose the neighborhoods in which it is deploying, based on its pre-marketing, which has helped it to determine where it might achieve the penetration levels necessary for viability. Community groups in some cases conducted presubscription drives to reach the minimal subscription levels that Google required in order to deploy in a neighborhood.

All of the points that Dr. Kirjner makes matter, but—from our perspective—it is this last point that is most crucial. Unlike the ILECs, Google has no regulatory obligations. It chose not to provide interconnected VOIP precisely to ensure that regulators would not be able to touch it.<sup>48</sup> It is using this freedom to create a rational business plan—i.e., it has pre-marketed both to incite interest in its service and to determine where demand lies. It is deploying only to those neighborhoods that it believes will provide adequate penetration levels to bring its costs in line with its projected revenues.

Contrast that model with the ILEC broadband deployment model. Let us forget for the moment the extraordinary level of welcome with which KSC has greeted Google, and focus on the basics:

- Unlike the ILECs, Google is building a single network—it does not have to provide a duplicate copper-circuit-switched network. Indeed, it is allowed to avoid providing voice service even on this network.
- Unlike the ILECs, Google can pick its “fiberhoods.” It can choose the neighborhoods whose cost characteristics are inherently most appealing (overhead rather than underground wiring, for example) and where it has predetermined that there is adequate demand.
- Unlike the ILECs, Google does not have to stand ready to serve all housing units, occupied or not, interested in its service or not.

Clearly, Google's model was not created to provide universal service. It is easy for such a model to avoid serving poor neighborhoods and such a model inherently avoids serving high-cost neighborhoods, unless it can price higher for its service to cover its cost in those. It is certainly not a COLR model.

Yet, even though it avoids these expensive obligations and even with the advantage of having had FIOS take the worst pain out of the fiber-access learning curve, it is a very expensive model, as our graphic points out. As Figure 11 above shows, even at 40% penetration (the level Dr. Kirjner estimates FIOS has reached), the total capital cost invested in each Google double-play subscriber is nearly \$2200, or, alternately, in each broadband subscriber more than \$1800.

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<sup>48</sup> Alyson Raletz, “Google considers but drops plans to include phone service, too,” *Kansas City Business Journal*, December 4, 2012.

Whether or not Google's KSC venture turns out to be profitable is unlikely to matter much to Google's financial well-being.<sup>49</sup> Dr. Kirjner's base case indicates an estimate that Google will spend roughly \$127 million in capital over five years on the KSC project. That is not a negligible amount to most businesses, but it is minimal to Google, which had \$48 billion in cash on its balance sheet at year-end 2012 and generated about \$10 billion in net free cash flow.<sup>50</sup>

The carriers who provide America's broadband infrastructure invest more than 500 times Google's total KSC investment each year. Over the last decade, the ILEC networks have spent \$21-28 billion each year, cable networks have spent \$10-\$15 billion each year, and the wireless networks have spent \$19-\$26 billion each year for capital investments.

When such large amounts of private capital have to be raised, it matters that it not be wasted on obsolete plant. Yet, as the Atkinson study indicates, the ILECs spent more than half their capital expenditures during 2006 through 2011 on legacy plant, and that trend continues, albeit at a decreasing rate. ILECs also spend many billions of dollars each year in network-operating funds on legacy plant.

President Obama has set out a goal of \$5 billion to be spent to upgrade key institutions to gigabit speed. That has created a furious debate in Congress, between those who would like to see such an effort funded out of the Universal Service Fund (USF) and those who do not believe that is an appropriate source of funds. Perhaps, rather than raising the price of consumers' services via a higher USF levy to find \$5 billion for gigabit projects, regulators might simply phase out those rules that waste more than that amount in private capital and operating expenses each year. Freeing up those funds to be redirected by the ILECs to their broadband deployment would be a far more effective solution.

#### The *Telecom Act of 1996*, platform competition, and consumer choice

To understand how important the ability to innovate freely is in creating competition, one merely has to look at competition since the early 1990s, especially since the *1996 Act*. The most effective competition has come from technological evolution that enabled multiple platforms with different product-characteristics and economics to compete with each other. They, in turn, then forced each other into cycles of further innovation.

When the *Telecommunications Act of 1996* was enacted, there were hints of incipient competition in both the long-distance and video-distribution markets as a result of new technologies. Local

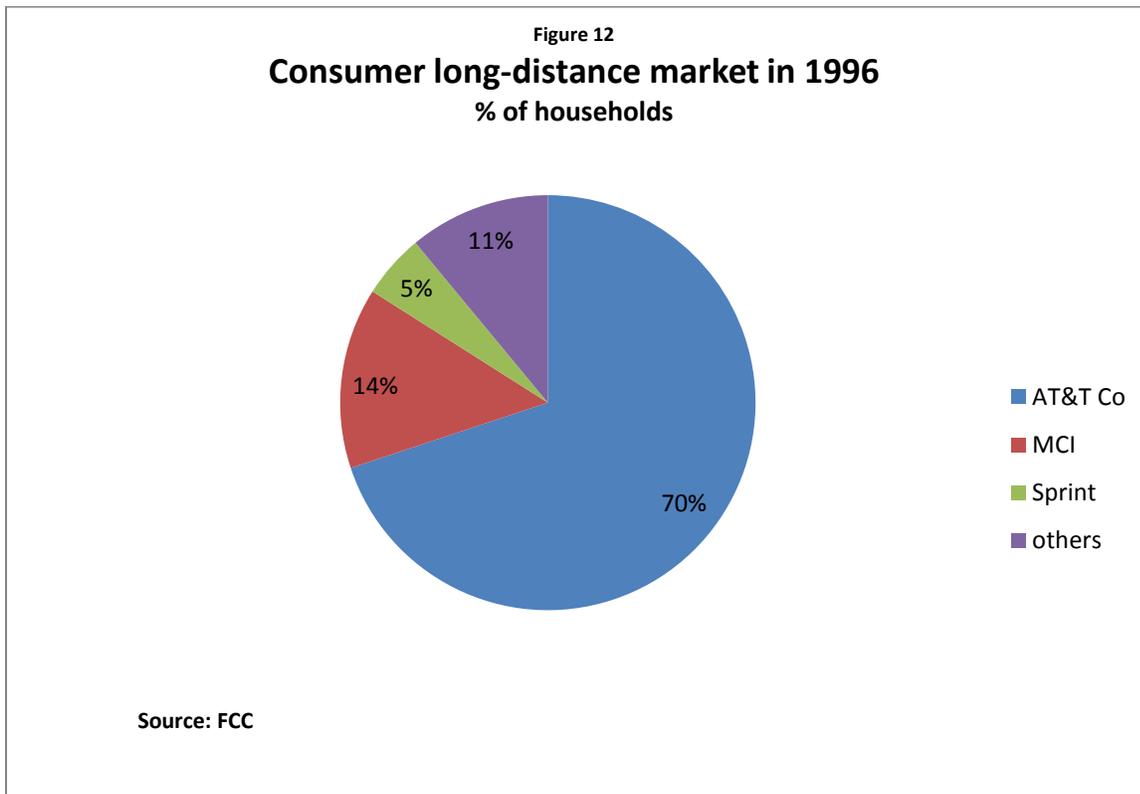
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<sup>49</sup> Google is also taking over an existing fiber network in Provo UT, where it will pay to upgrade the network, but will not reimburse the city for its original investment. Google has also reached an agreement to deploy in Austin TX. Matthew S. Schwartz, "Struggling Provo Municipal Network Gets Boost from Google, Mayor Says," *Communications Daily*, April 22, 2013, p. 4.

<sup>50</sup> Google Inc., financial release for Q4 2012. We are including marketable securities with cash. We are defining net free cash flow as net income plus depreciation and amortization minus capex. If we also added back non-cash compensation of \$2.7 billion, net free cash flow would be \$13 billion.

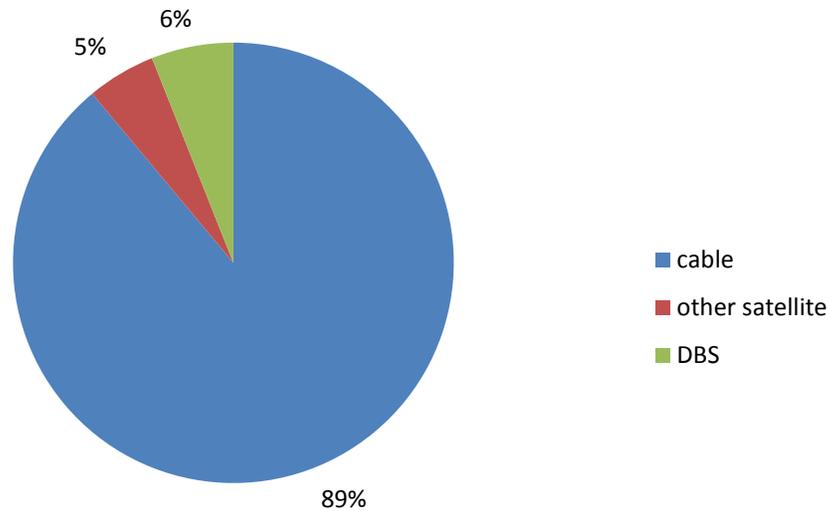
telephony was still essentially a monopoly. Although wireless was thriving, it was seen essentially as a purely mobile service.

The roots of long-distance competition had begun to take hold by 1996. Thanks to first microwave and then fiber technologies, the economics of long-distance communications had changed. Microwave made lower density routes economic, allowing competitors to enter the long-distance industry as early as the 1970s despite their initially low traffic. Fiber, by contrast, made it possible to carry far greater amounts of traffic than had been possible over copper. To some extent, it also had a variable cost component, in that carriers could light up individual fibers as needed and could upgrade capacity on lit fibers by changing out the electronics. Thus, new entrants could develop their customer and revenue base over microwave and change over to fiber once they had adequate demand. By the mid-1980's, MCI and Sprint had a foot-hold in the long-distance market, and Sprint was marketing the value of its fiber network with its classic "you can hear a pin drop" ads. By 1996, AT&T Corp.'s market share had fallen to 70%.<sup>51</sup>



<sup>51</sup> FCC, *Statistics of the Long Distance Telecommunications Industry*, May 2003, table 14, p. 28.

Figure 13  
**MVPD market in 1996: inklings of video competition**  
(% of subscribers)



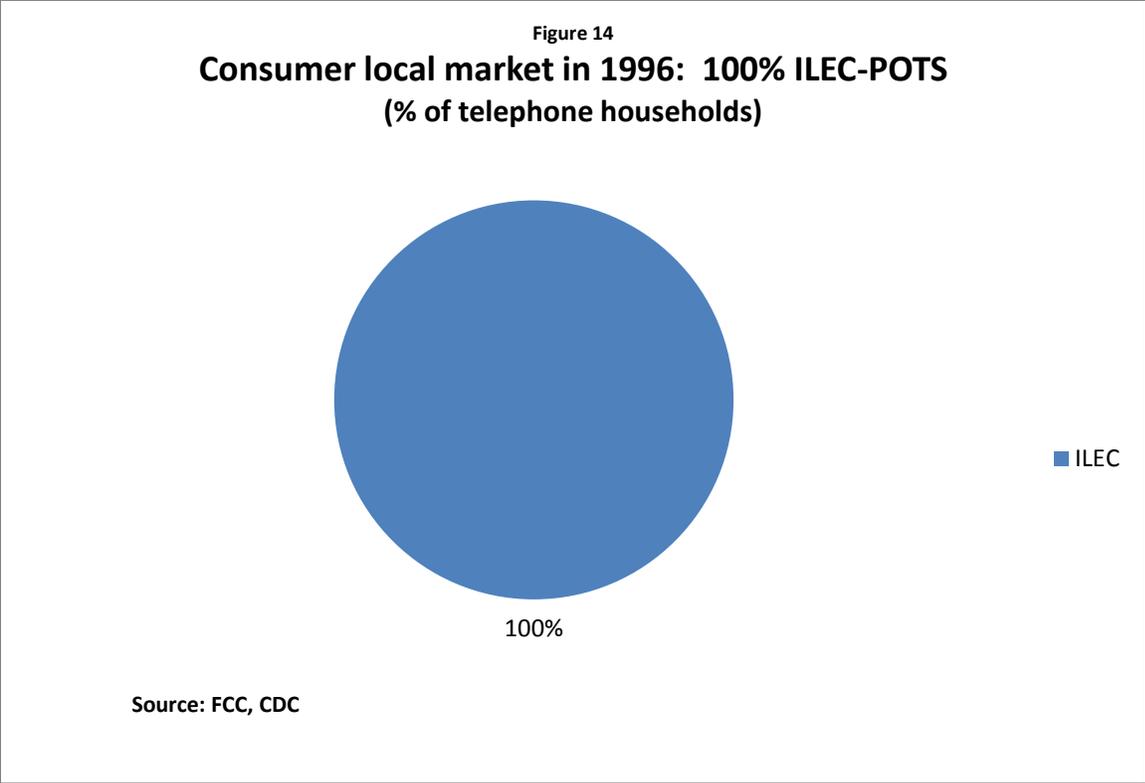
Source: FCC

The video entertainment business was also beginning to be transformed via new technology. By 1996, the cable industry had reason to take satellite competition seriously.<sup>52</sup> DBS acquired its first customers in 1993 and grew quickly. Unlike earlier satellite competition, which featured large and unsightly dishes that cluttered lawns and provided few channels, DBS offered many channels—DirecTV offered 175 and EchoStar 140—via an unobtrusively small dish.

Consumer local telephone markets, on the other hand, were still monopolies in 1996<sup>53</sup>. There had been some movement to introduce competition on the business side. But the consumer side, which was characterized by artificially low prices supported by subsidies from other services—created to encourage universal service—had little inherent appeal for competition.

<sup>52</sup> FCC, *5<sup>th</sup> Video Competition Report*, released December 23, 1998, table C-1.

<sup>53</sup> FCC, *Local Telephone Competition at the New Millennium*, as of December 31, 1999, released August 2000, table 6 shows that CLECs had 1% share of the local market, but those competitors targeted the business market.



The goal of the *Telecommunications Act of 1996*, which passed in this environment of technological transformation, was to increase competition in the communications markets. First and foremost, it attempted to do so by tearing down the artificial walls that had kept competitors out of the wireline telephony and cable markets. Those had been franchised monopolies and the *Act* now allowed entry into those markets. It left information services, into which the Internet falls, almost completely unregulated. It left wireless also largely unregulated.

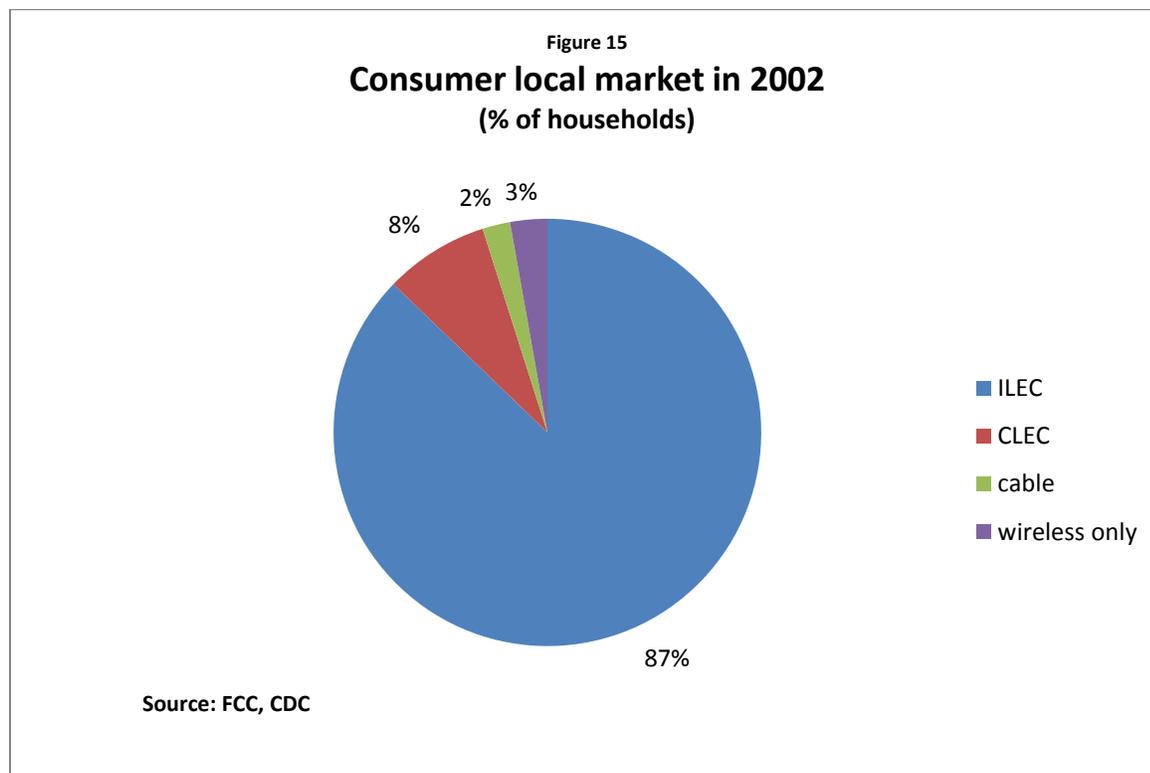
**The failure of mandated network sharing**

The *Act* took a much more proactive—and ultimately unsuccessful—approach to bringing competition into local telephony. By 1996, the long-distance market was open to competition, with MCI, Sprint, and others vying against AT&T Co.<sup>54</sup> But AT&T Co still retained 70% of the residential long-distance market in 1996.<sup>55</sup> On the local side, the RBOCs and other ILECs had monopolies. The *Act* opened all of the ILEC markets to competition, but the focus was on the RBOCs. To facilitate entry into the RBOCs’

<sup>54</sup> AT&T had originally been a nationwide network providing both local and long-distance service to most of the United States. It was broken up by a consent decree in 1984, and became primarily a provider of long-distance service, while its local operations were split among the seven Regional Bell Operating Companies (RBOCs). In December 2005, it merged with Southwestern Bell (SBC), one of those RBOCs, which had itself already merged with two others, Pacific Bell and Ameritech. We refer to AT&T during 1984-2005 period when it was a long-distance carrier that was in the process of entering local markets as AT&T Co., to differentiate it from the post-2005 AT&T which had merged with SBC. Their SEC filings are listed under AT&T Corp. and AT&T Inc. respectively.

<sup>55</sup> FCC, *Statistics of the Long Distance Telecommunications Industry*, May 2003, table 14, p 28, measured in share of households. AT&T had 63% of direct-dial InterLata minutes. (Hereafter referred to as FCC, *Long Distance*.)

markets, the Act required them to make their networks available to competitors at regulated prices, via resale and via unbundling. In return they would be allowed to enter the long-distance market, immediately out-of-Region and then in-Region once their local markets were deemed competitive.



Over the next several years, the FCC and states established rules and rates for resale and unbundling, and oversaw interconnection agreements. By the end of 2002, RBOC markets in 35 states covering 75% of RBOC access lines had been deemed sufficiently competitive to allow the RBOCs to enter long-distance, largely based on competition in the business markets.<sup>56</sup> On the consumer side of the local market, the picture was still fairly bleak, although the long-distance side had become much more competitive. By 2002, the competitors had gained only 10% share of the consumer local market. About 8% share went to CLECs via UNEP (unbundled network element platform), which in 2002 was the source of most residential competition. However, cable companies had begun to enter the market as well, taking roughly 2% share of the market.<sup>57</sup> Roughly 3% of households had cut the cord.<sup>58</sup>

The Act provided two sets of prices under which CLECs could lease the ILECs' networks. Resale was discounted by the amount of cost that the ILECs would avoid by not retailing service to their customers themselves. Resale discounts ranged at 10%-20% below retail in most states. Unbundling,

<sup>56</sup> FCC, *Long Distance*, 2003, table 12, p. 24.

<sup>57</sup> FCC, *Local Competition* as of December 2002, tables 2, 4, and 5.

<sup>58</sup> CDC, *Wireless Substitution* as of July-December 2006, released 5/14/2007.

which made the individual elements of the ILEC networks available to CLECs either separately or combined into UNEP, provided deeper discounts in many cases.

UNE (unbundled network element) prices were set by each state under the FCC's TELRIC (total element long run incremental cost) standard. UNEP allowed CLECs to lease the combined loop, switching and transport without having to provide any facilities of their own. UNE and UNEP rates varied from state to state, and within the states there were also several different loop rates, with the most urban areas having the lowest loop rates and the most rural having the highest. In November 2002, the national average UNEP rate was \$20.28, with a range of \$12.05 in Indiana to \$44.02 in West Virginia.<sup>59</sup>

The economics of UNEP were problematic to both ILECs and CLECs. For example for BellSouth, the average UNEP rate was \$23.10. According to the FCC's ARMIS database, which tracked average embedded network costs, BellSouth's cost per line was \$33.94. Its average consumer retail revenue per line was \$30.52. Thus, BellSouth was providing UNEP at a \$10.84 discount from its average embedded cost and at a \$7.42 discount from its average consumer retail price, which in turn was \$3.42 below its embedded cost. From the perspective of the CLECs, this looked like a line costing \$23.10 with a gross margin of \$7.42 below the \$30.52 retail price against which they had to compete. That \$7.42 had to cover their own cost of marketing, customer service, billing, etc. as well as any price discount they might offer against BellSouth. Needless to say, these economics were not favorable to either party. The consumer retail price AT&T Co. offered against BellSouth was \$30.29.

BellSouth was the most extreme case, because its average consumer retail price was the lowest among the RBOCs. UNEP discounts from retail at other RBOCs averaged from \$17.26 at Bell Atlantic to \$21.96 at Ameritech. AT&T Co.'s retail price in these cases was \$28.28 against a Bell Atlantic retail price of \$36.96 and at Ameritech \$28.40 against \$36.00. That left AT&T Co. with \$8.58 to cover its own costs in the Bell Atlantic case, and \$14.36 in the Ameritech case.

In all RBOC territories, UNEP rates were deeply discounted from the embedded costs defined in ARMIS. For example, the Ameritech ARMIS embedded cost was \$28.60. Obviously, the below-cost UNEP discounts were painful to the RBOCs, and they did not rush to welcome the CLECs. But UNEP prices generally did not provide enough margin for profitable operations for the CLECs either.

Bottom line, UNE-based competition failed in the consumer market, even though it provided CLECs with the opportunity to enter the local market at prices below the incumbents' own cost, because retail prices in the consumer market were kept artificially low by regulators to promote universal

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<sup>59</sup> Anna-Maria Kovacs, "The Status of 271 and UNE-Platform in the Regional Bells' Territories," Commerce Capital Markets, November 8, 2002, exhibit 1, p. 10. All of the UNE rates are from this paper, pages 10-22.

service. Simply put, there was not enough margin in consumer prices to sustain the CLECs.<sup>60</sup> The poor economics combined with regulatory uncertainty to ultimately doom UNEP.<sup>61</sup>

Indeed, while AT&T Co. also pursued regulatory avenues to attempt to obtain favorable UNE prices, its largest investment was in the acquisition of incumbent cable systems. It acquired TCI in 1999 and MediaOne in 2000. One of its goals was to run IP over these cable networks, as it explained in the 1998 AT&T Co. 10K in which it noted the pending TCI acquisition.<sup>62</sup> AT&T Co. sold its cable operations in 2002 to Comcast, which did become a provider of VOIP once that technology matured. Comcast also provided broadband Internet access, as AT&T Co. had done over its cable network.

#### Inter-platform competition succeeded

In contrast with the UNEP-dependent local telephony market, by 2002 competition was flourishing in the long-distance, video, and Internet-access markets which relied on inter-platform competition. Competition between technology platforms had two critical advantages. It could bring new capabilities and economics to bear. And it did not have all the uncertainties that accompany the regulatory process, in which rules can be litigated and, perhaps, overturned by courts, often after long delays.

On the long distance side competition had flourished, as much among the traditional IXCs as between the IXCs and the RBOCs. By 2002, AT&T Co.'s share had fallen to 37% of consumer households, from 70% in 1996.<sup>63</sup>

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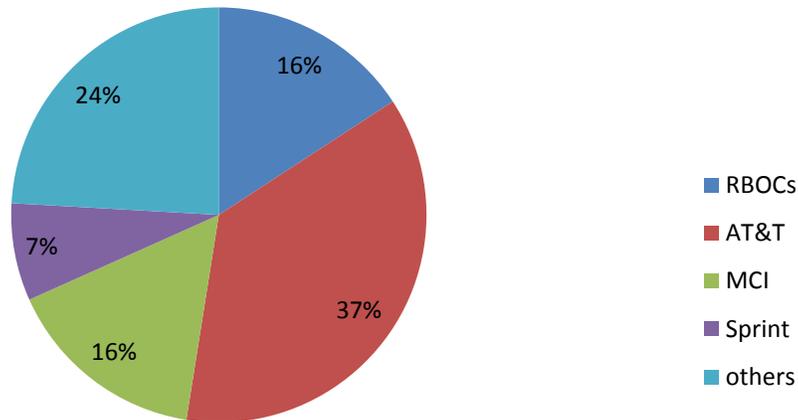
<sup>60</sup> The business market, where retail rates were kept artificially high to cross-subsidize the consumer market, was much more appealing. AT&T and WorldCom acquired TCG and MFS, respectively, to jump-start their entry into the business CLEC markets.

<sup>61</sup> The FCC's rules were litigated repeatedly from 1996-2006. UNEP was ultimately found by the D.C. Circuit to no longer be necessary in many markets and its phase-out began in 2005 with the Triennial Review Remand Order (TRRO), as we discuss below.

<sup>62</sup> TCI (including the @Home broadband service) was acquired by AT&T Co. in March 1999. AT&T Co.'s 1998 10K indicated that it would focus on providing service over its new cable plant as well as via a joint venture with Time Warner Cable, initially using circuit-switching but moving to IP beginning in 2000 (AT&T Corp. 10K for 1998, pp. 3,4,13). AT&T Co. acquired MediaOne in June 2000. AT&T Co. restructured in 2000 and the cable operations--now named AT&T Broadband--became one of its tracking stocks. AT&T Broadband was spun off and merged into Comcast in November 2002 (AT&T Corp 10K for 2002, p. 1).

<sup>63</sup> FCC, *Long Distance*, 2003, table 14, p. 28.

Figure 16  
**Consumer long-distance market in 2002**  
 (% of households)



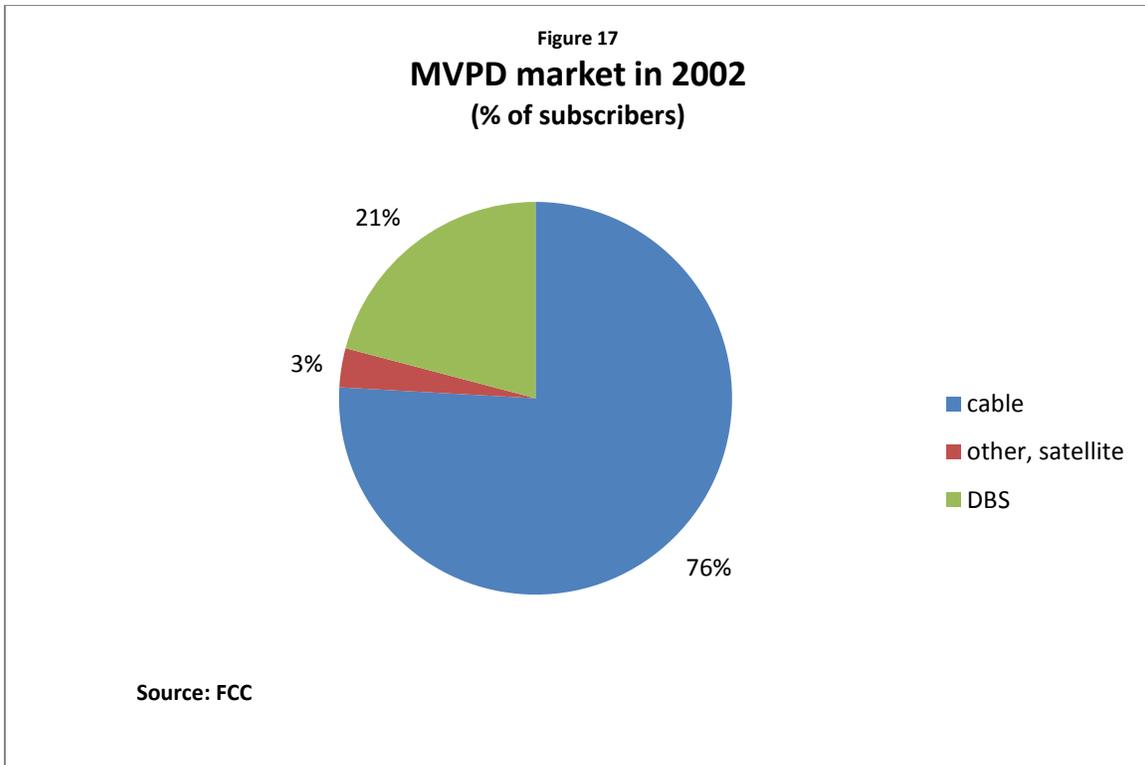
Source: FCC

The video market was also becoming more competitive by 2002, thanks to steady gains by DBS. While the phone companies were free to enter the market, they had made almost no inroads at this point as overbuilders. AT&T had, of course, entered as an incumbent, by buying out TCI and MediaOne in 1999 and 2000. DBS, however, was making an impact. Between 1996 and 2002, DBS had increased its market share from 6% to 21%.<sup>64</sup>

Cable systems paid attention to the energetic new competition and responded by installing fiber-to-the-node in their networks and upgrading their systems to digital, greatly increasing their own capacity. In 1996, 77% of cable systems, covering 98.2% of subscribers, had at least 30 channels and 16% had more than 54 channels. By 2001, cable systems averaged 170 or more channels.<sup>65</sup>

<sup>64</sup> FCC, *7<sup>th</sup> Video Competition*, released January 8, 2001, table C-1, p. 106 and *10<sup>th</sup> Video Competition*, released January 28, 2004, table B-1, p. 115.

<sup>65</sup> FCC, *5<sup>th</sup> Video Competition*, released December 23, 1998, pp. 11-13 and tables B-3 and B-4, and *10<sup>th</sup> Video Competition*, released January 28, 2004, table 3, p. 21.

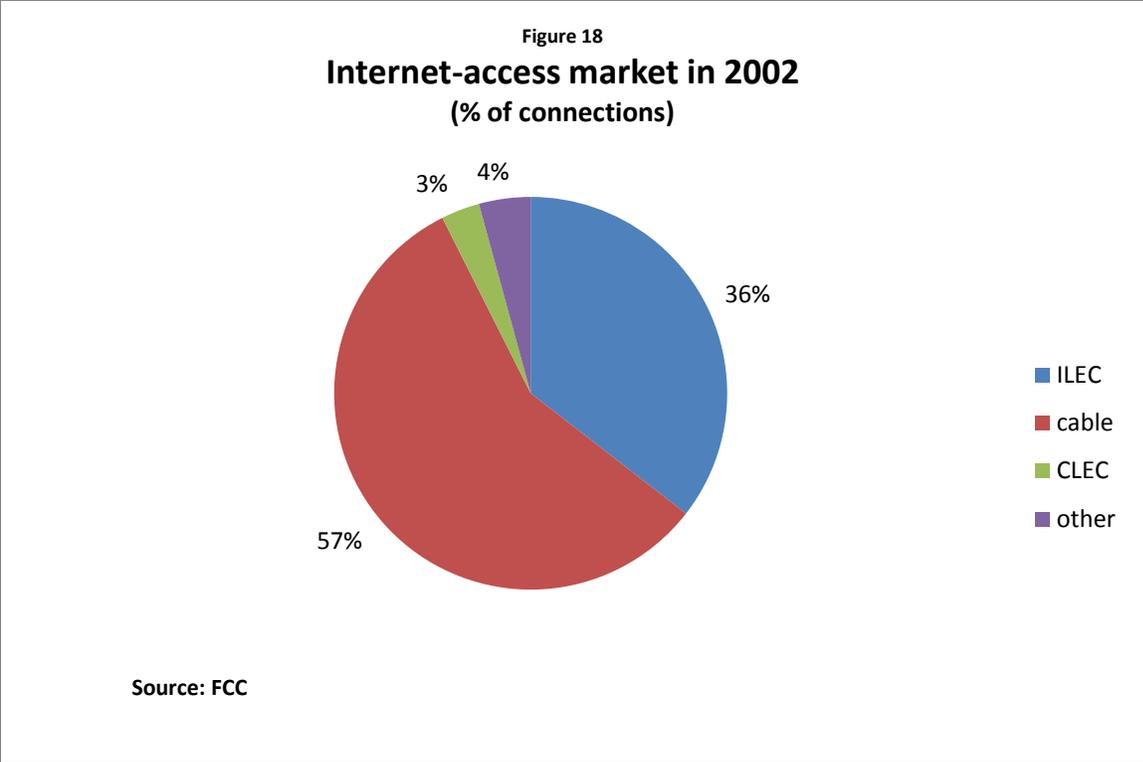


One of the incidental benefits of cable system upgrades was excess capacity, some of which could be used to provide Internet access. In 1997, the first roughly hundred thousand cable modems were installed. Responding, in turn, to the threat from the cable industry, phone companies began to deploy DSL (digital subscriber line) as their version of broadband Internet access. By the end of 1999, roughly 1.4 million cable modems and roughly 0.4 million DSL modems were installed.<sup>66</sup>

Indeed, the wired market that was by far the most competitive in 2002 was the new broadband Internet-access market. Cable had a head start, but the ILECs quickly entered the market. So did some CLECs, using unbundled copper loops as a whole or via the more-deeply-discounted line-sharing, but their share of the market was very low. By the end of 2002, the market was split 57/36 between the cable companies and ILECs, with CLECs and satellite also taking small shares.<sup>67</sup>

<sup>66</sup> FCC, *Internet Access* as of December 31, 2000, table 1.

<sup>67</sup> FCC *Internet Access* as of December 2002, table 5.



While competition in the Internet-access market was robust, subscribership levels were still low. There were only 20 million broadband Internet-access connections in 2002.<sup>68</sup>

The wireless market, in the meantime, had grown and become very competitive. It was also beginning to compete with wireline. Wireless subscribers had more than tripled between 1996 and 2002, from 44 million to 141 million.<sup>69</sup> Cell sites had nearly quintupled in that time and the industry had moved to CDMA and GSM, second generation technologies (2G) capable of data as well as voice transmission.<sup>70</sup> Price per minute had declined from \$0.38 in 1996 to \$0.11 in 2002.<sup>71</sup> All major carriers were offering all-distance plans with buckets of minutes, a concept AT&T Co. had introduced in 1998. In 2002, 95% of consumers had access to three or more wireless carriers and 83% had access to five or more.<sup>72</sup> The service was penetrating the consumer market to the point that by the first half of 2003, just under 3% of households had cut the cord and were wireless-only.<sup>73</sup> Wireless had begun to offer data as well as voice service.<sup>74</sup>

In December 2001, the FCC opened the Triennial Review to reconsider some of the rules the agency had made for opening the RBOC markets. The FCC issued the *Triennial Review Order (TRO)* in August

<sup>68</sup> FCC *Internet Access* as of December 2002, table 5. Broadband is defined as connections at a minimum of 200 kbps in at least one direction.

<sup>69</sup> CTIA, *Wireless Survey*.

<sup>70</sup> FCC, *8<sup>th</sup> Wireless Competition*, table 7.

<sup>71</sup> CTIA, *Wireless Survey*.

<sup>72</sup> FCC, *8<sup>th</sup> Wireless Competition*, table 5, p. D-9.

<sup>73</sup> CDC, *Wireless Substitution*, July-December 2006, released 5/14/2007, table 1.

<sup>74</sup> FCC, *8<sup>th</sup> Wireless Competition*, table 2, page E-3.

2003<sup>75</sup> and, after review by the U.S. Court of Appeals for the District of Columbia Circuit, the *Triennial Review Remand Order* (TRRO) in February 2005.<sup>76</sup> The new rules ultimately eliminated UNEP, eliminated unbundling of packetized switching, and largely eliminated unbundling of fiber and hybrid-fiber loops, while continuing to permit some unbundling of copper loops.

What had become apparent by 2003 was that the most successful competition was intermodal, i.e. competition between network platforms that was induced by technological evolution. In none of the markets in which competition was flourishing—long distance, cable, or wireless—were the incumbents forced to make their networks available to their competitors under the draconian terms that prevailed in the RBOC local markets.<sup>77</sup> Indeed, cable networks did not have to share or interconnect their networks at all.

By 2002, wireless had evolved tremendously, but was still a complement rather than competitor to landline telephony. However, cable had become a competitor. Cable, stimulated by DBS, had upgraded its video capacity enormously, and that upgrade had also enabled it to compete over its own platform very effectively for broadband Internet access. Voice competition over the cable platform via VOIP was now also beginning. This, in turn, had stimulated the phone companies to deploy DSL. However, to compete fully with cable in the broadband market and, ultimately, in the video market, the ILECs would need to deploy fiber much closer to the home. That would require enormous investment that could not be justified as long as the threat of unbundling the newly-built network remained.

The FCC's goal in 2003 was, as the Commission's goal had been since passage of the *Act*, to increase competition in all the communications markets. This FCC majority's belief was that the most sustainable competition would be facilities-based. The hope was that the RBOCs would invest in upgrading their networks if they did not have to lease them to competitors at regulated prices that amounted in many cases to marginal cost.<sup>78</sup> That would enable them to compete with cable in both the broadband and video markets. Thus, the new rules exempted fiber and hybrid-fiber loops from unbundling, as well as packet-switched facilities and services.<sup>79</sup>

The strategy was effective, although it came somewhat late in the day, relative to cable's broadband upgrades. By the end of 2005, Verizon was fully committed to FIOS, its fiber-to-the-home deployment, and announced that it had passed 3 million homes. Verizon ultimately decided to pass 18 million homes with FIOS, came close to that by 2010, and has now largely completed the buildout. The venture was expensive, but worthwhile. Like the other ILECs, Verizon is losing DSL customers. However, it continues to gain FIOS subscribers. The July 16<sup>th</sup> Nomura report referenced above in

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<sup>75</sup> The Order was voted on February 20<sup>th</sup> and issued on August 21, 2003. The NPRM had been initiated on December 12, 2001.

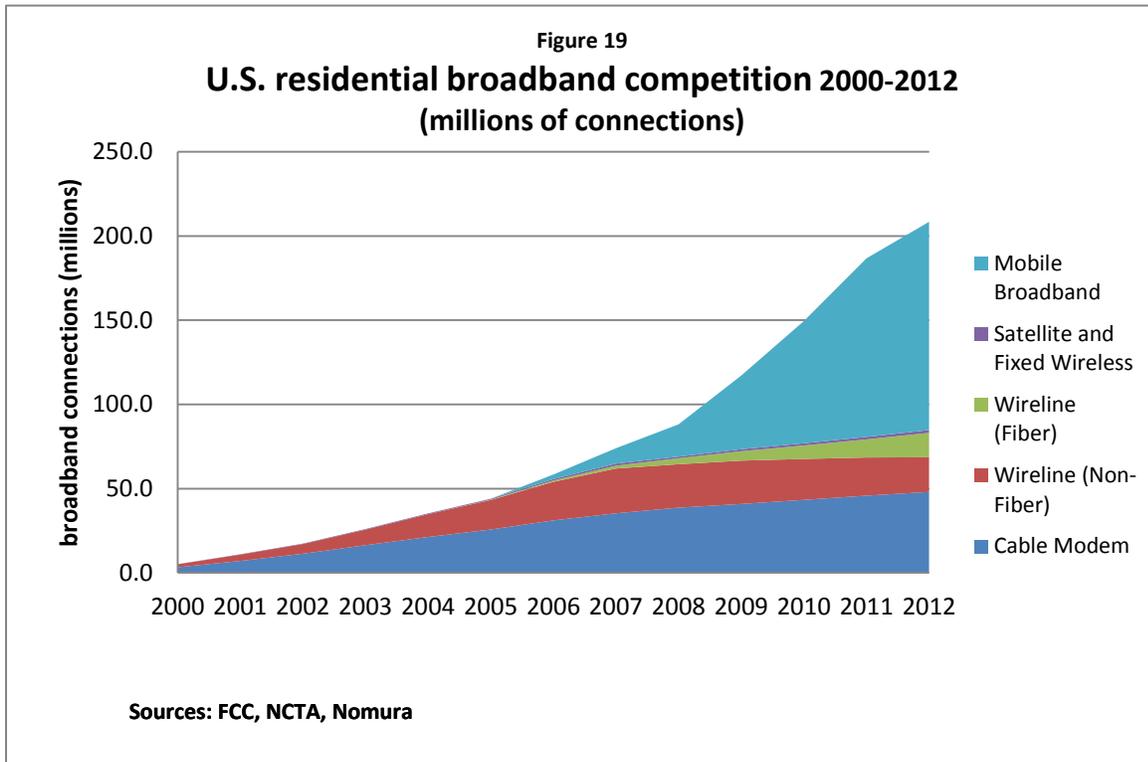
<sup>76</sup> Voted December 15, 2004, issued on February 4, 2005.

<sup>77</sup> Long distance and wireless had to interconnect and carry traffic for others.

<sup>78</sup> Rates were set by states and varied enormously from state to state, depending on their interpretation of the methodology the FCC had set, which was TELRIC (total element long-run incremental cost).

<sup>79</sup> FCC, News Release on February 20, 2003: *FCC Adopts New Rules for Network Unbundling Obligations of Incumbent Local Phone Carriers*, p 1.

relation to Figure 6<sup>80</sup> shows that in 2011-2013 Verizon added 1.5 million FIOS subscribers while it lost 1.1 million DSL subscribers. AT&T made its own commitment, to a fiber-to-the-node architecture it called U-verse. Like Verizon, AT&T continues to lose low-speed DSL customers but is gaining high-speed U-verse customers.<sup>81</sup> Nomura's figures show that AT&T gained 5.8 million U-verse subscribers and lost 5.2 million DSL subscribers during 2011-2013. AT&T has sharply accelerated the process of upgrading its DSL lines to U-verse as well as increasing the speed of the lines that are deployed.



Deutsche Bank's August 2nd report shows that Verizon and AT&T now both have low-30s% broadband penetration of homes passed with FIOS and U-verse. That is about equal to Charter's penetration and is gaining rapidly on Comcast and Time Warner Cable.<sup>82</sup> Morgan Stanley, on the other hand shows that FIOS' penetration is 40%.<sup>83</sup>

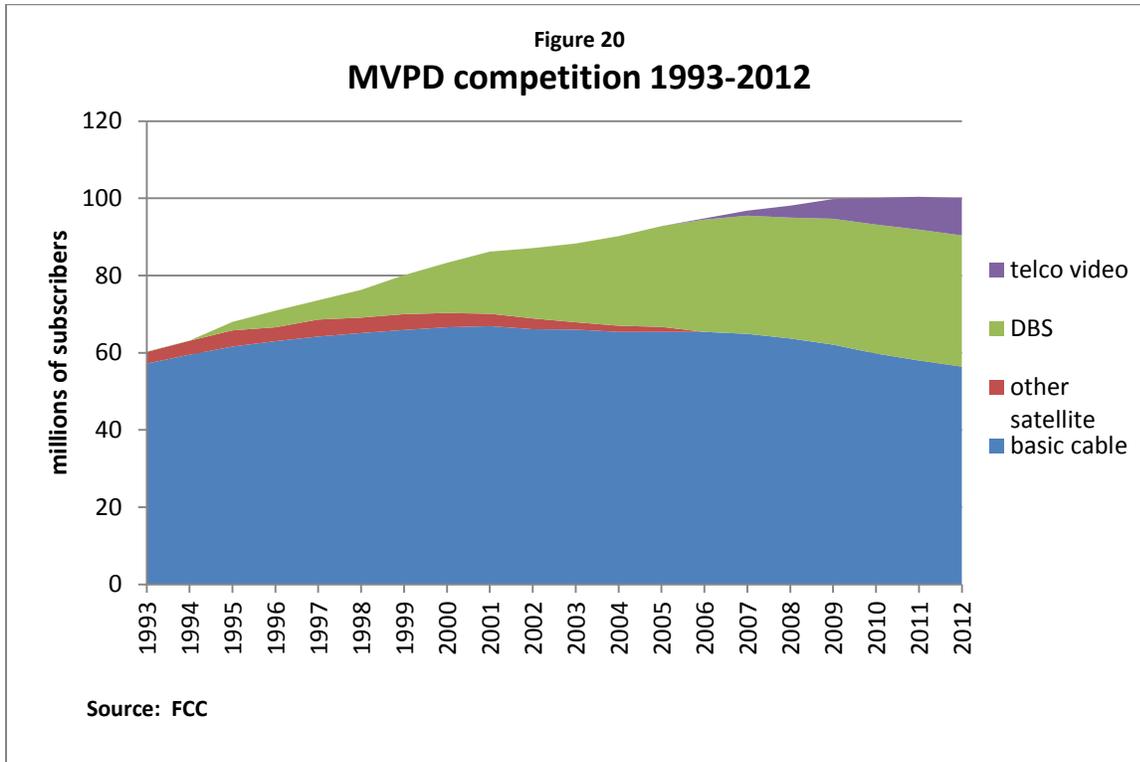
<sup>80</sup> McCormack, "2Q13," Nomura, figure 2.

<sup>81</sup> U-verse does not carry fiber all the way to the home, but to a neighborhood node.

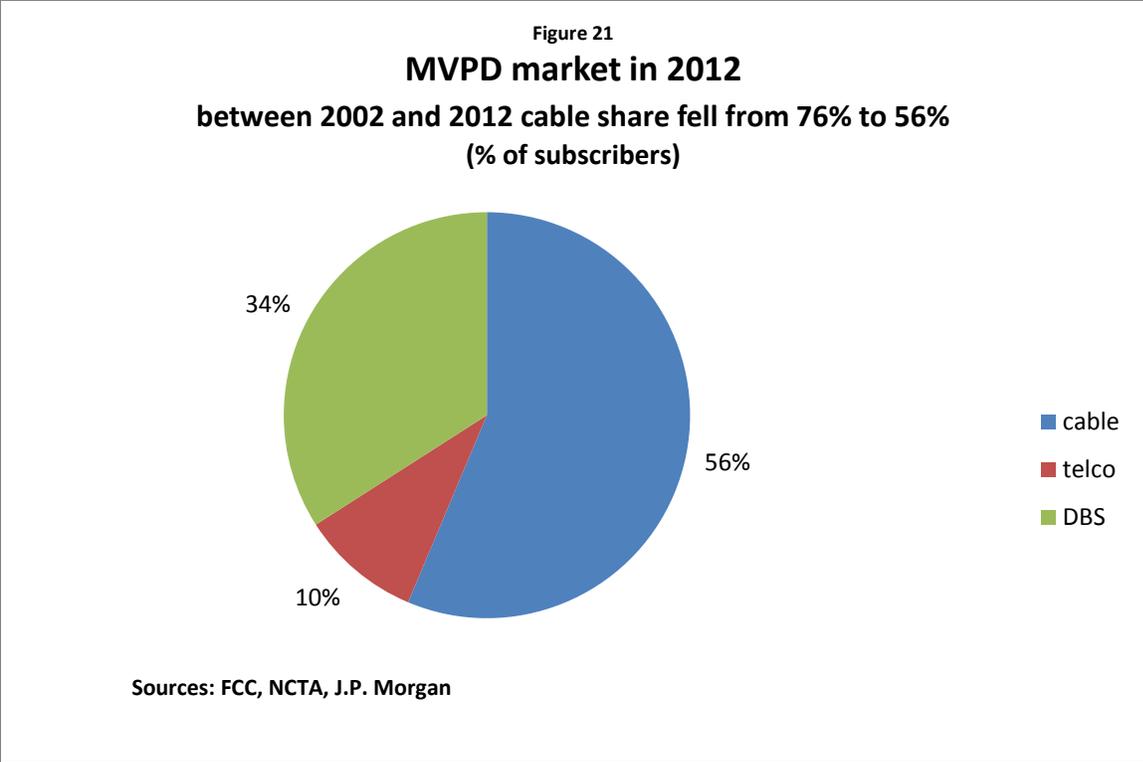
<sup>82</sup> Doug Mitchelson, *Time Warner Cable*, Deutsche Bank Market Research, August 2, 2013, figure 27.

<sup>83</sup> Simon Flannery, *Verizon Communications*, Morgan Stanley, July 19, 2013, exhibit 1, p. 5 (7.208 million subs out of 18.032 homes passed).

Post-Triennial, thanks to their network upgrades to FIOS and U-verse, respectively, Verizon and AT&T have also steadily gained video subscribers. By the end of 2012, they had 4.5 million and 4.7 million video subscribers, respectively.<sup>84</sup>



<sup>84</sup> Horan, *2Q 13 Preview*, Oppenheimer, July 16, 2013, exhibit 13, p. 17.



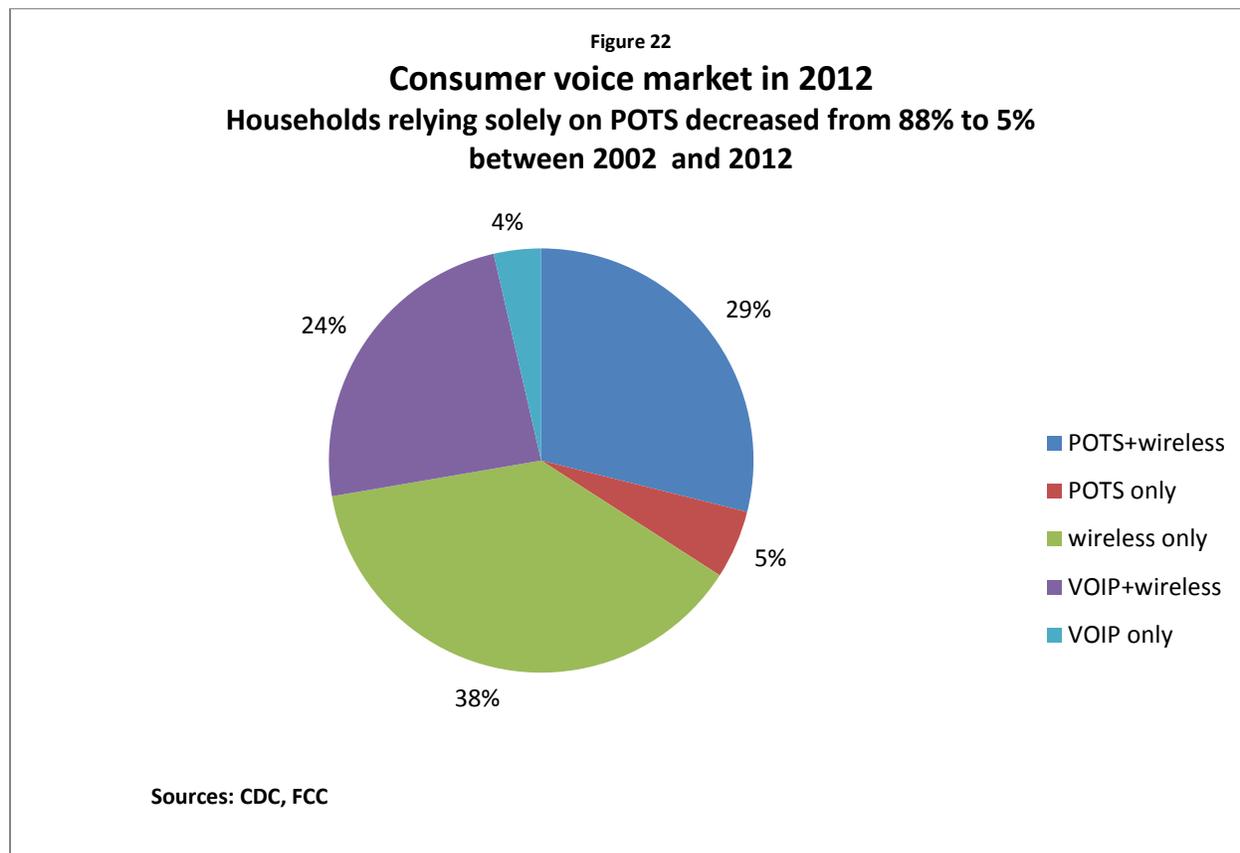
Cable, in turn, has responded aggressively. It has upgraded its network repeatedly to provide higher broadband speeds. It also entered the consumer voice market with a vengeance. As VOIP became operational, it provided cable systems with a technology they could deploy to provide voice service over their own networks. By the end of 2012, cable had nearly 27 million voice subscribers,<sup>85</sup> i.e. more than a quarter of the consumer landline voice market. Because it is able to provide discounted bundles that include broadband, video and voice, it has an advantage for a considerable segment of the consumer market against competitors that cannot match that offering. FIOS can do so across the board. In many markets, U-verse can also do so. DBS by itself cannot, and in markets where the ILECs cannot provide video, they have teamed up with DBS to offer a triple-play. Indeed, one question worth contemplating is whether DSL is losing share against cable merely because of its lower speed or because it cannot offer the same bundle of services all over a single connection.

Important as VOIP has become as a competitor in the consumer voice market, it is still exceeded by wireless. Wireless connections outnumbered consumer wired connections in 2012 by a factor of nearly four.<sup>86</sup> In early 2003, only about 3% of households had “cut the cord,” i.e., relied entirely on a wireless phone. By the end of 2012, that number had risen to more than 38%. By contrast, fewer than 10% of households rely on landline alone, i.e. have no wireless phone at all. About 60% of

<sup>85</sup> Industry statistics on NCTA website.

<sup>86</sup> FCC, *Local Competition* as of June 2012, table 18, p. 29 and table 10, p. 21.

households have both wireless and either POTS or VOIP, but roughly a quarter of those say they rely on “wireless mostly,” indicating that they are also ripe for cord-cutting.<sup>87</sup>

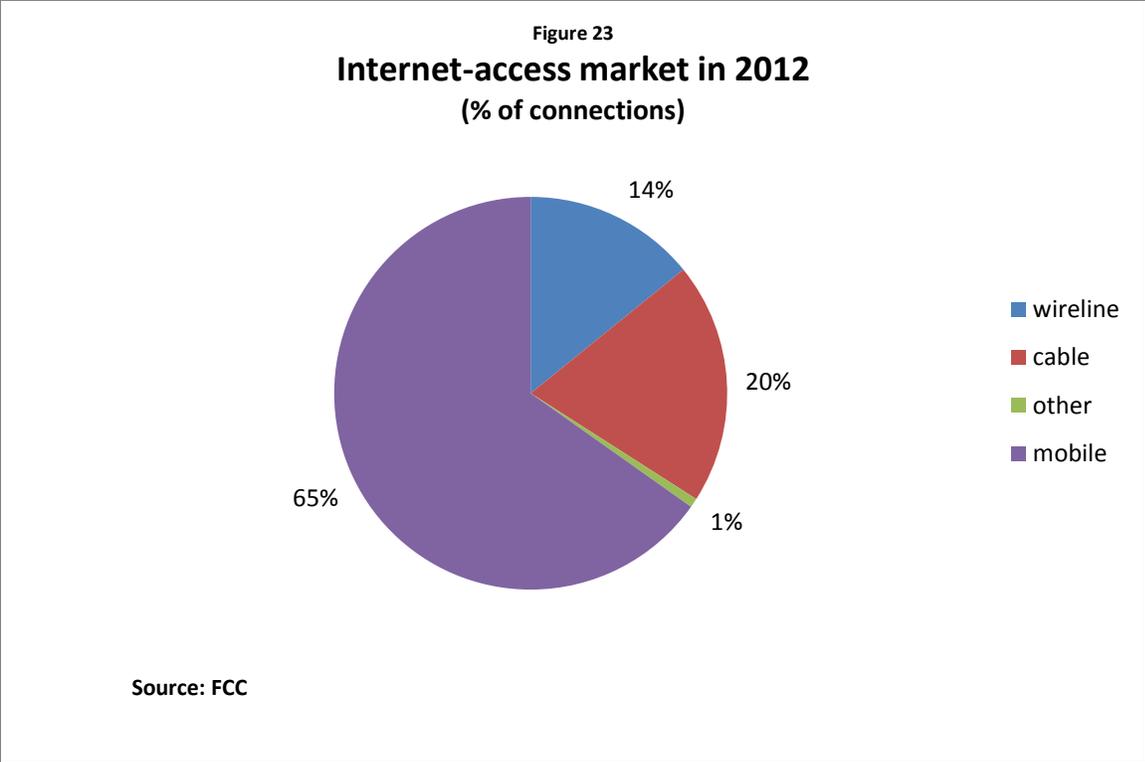


Wireless is not only a powerful force in the voice market, it has become a—and in some cases *the*--broadband connection to the Internet for many consumers. The first few mobile-broadband subscribers appeared in 2005,<sup>88</sup> but the trend accelerated greatly with the introduction of the iPhone in 2007, followed by Google’ entry with the Android operating system. By year end 2012, mobile wireless constituted 65% of broadband connections and 59% of residential broadband connections.<sup>89</sup>

<sup>87</sup> CDC, *Wireless Substitution*, released 6/2013, table 1.

<sup>88</sup> FCC, *Internet Access* as of December 31, 2005, table 1.

<sup>89</sup> FCC, *Internet Access* as of June 30, 2012, table 11 and as of December 31, 2011 table 6. Linear projection to year-end 2012 in both cases.



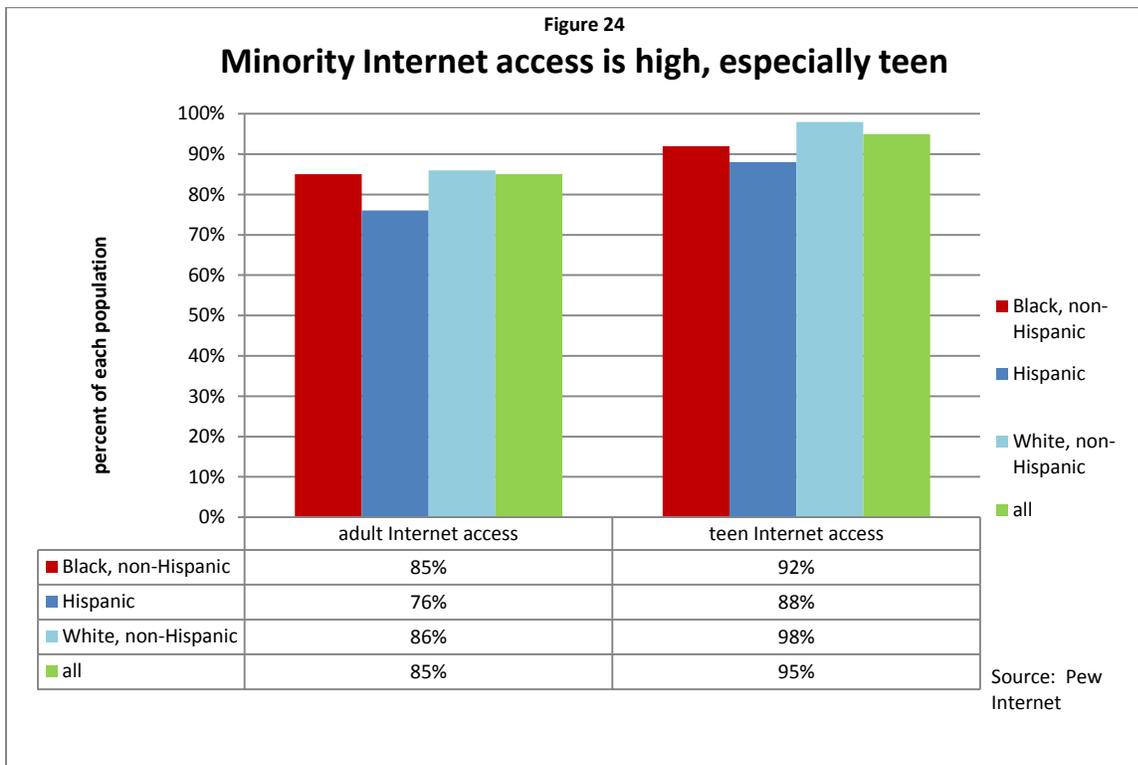
**Wireless broadband is particularly important in bringing Internet access to minority consumers. The most recent report from Pew Research shows that 70% of American adults have broadband Internet access at home.<sup>90</sup> And the number rises to 80% when smartphones are included in the mix.**

**The impact of smartphones is particularly important for minorities. Home broadband subscription is highest among non-Hispanic Whites, 74% of whom have home broadband. Among non-Hispanic Blacks, only 64% have home broadband and among Hispanics, only 53% have home broadband. However, once smartphones are added into the mix, Internet access becomes available to 80% of non-Hispanic Whites, 79% of non-Hispanic Blacks, and 75% of Hispanics. Wireless broadband is key as a form of Internet access to minorities. Among those who use a cellphone to access the Internet, 60% of Hispanics describe themselves as mostly going online using their cellphone, 43% of non-Hispanic Blacks do so, and only 27% of non-Hispanic Whites do so.<sup>91</sup> Indeed, smartphones increase Internet access for all groups, but have the least impact on those over age 65.**

<sup>90</sup> Kathryn Zickuhr and Aaron Smith, *Home Broadband 2013*, Pew Research Center's Internet & American Life Project, August 26, 2013, figure on p. 2 and table on p. 5. (Hereafter referred to as Pew.)

<sup>91</sup> Maeve Duggan and Aaron Smith, *Cell Internet Use 2013*, Pew, September 16, 2013, table on p. 9.

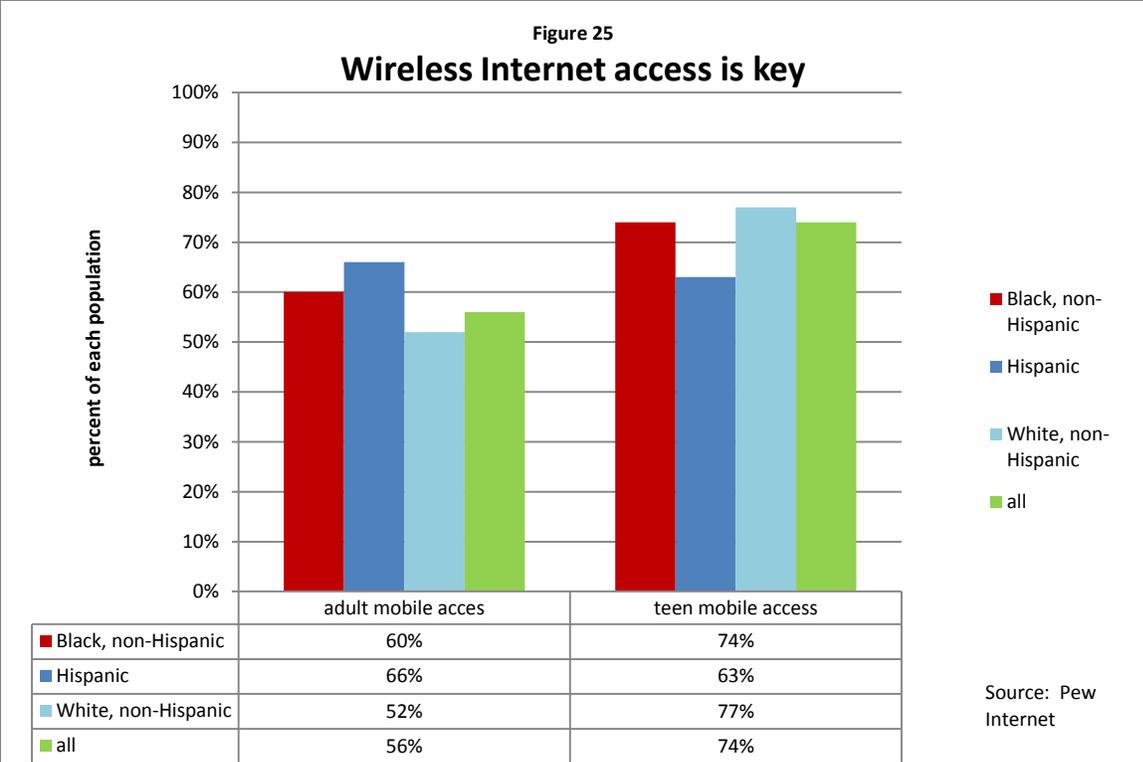
The *Home Broadband 2013* paper confirms earlier findings. Pew Research showed that 85% of adults<sup>92</sup> and 95% of teens<sup>93</sup> have Internet access of some type, including access away from home, with wireless serving as the only form of access for some.<sup>94</sup>



<sup>92</sup> Mary Madden, *Technology use by different income groups*, Pew, May 29, 2013, slide 4. See also Kathryn Zickuhr, *Who's not online and why*, Pew, September 25, 2013. The latter shows that of the 85% of American adults who go online, 9% do so away from home. The number is higher for non-Hispanic Blacks and for Hispanics, at 15% and 13%, respectively.

<sup>93</sup> Mary Madden, Amanda Lenhart, Maeve Duggan, Sandra Cortesi, and Urs Gasser, *Teens and Technology 2013*, Pew Research Center's Internet and American Life Project and the Berkman Center for Internet and Society, March 13, 2013, table on p. 4.

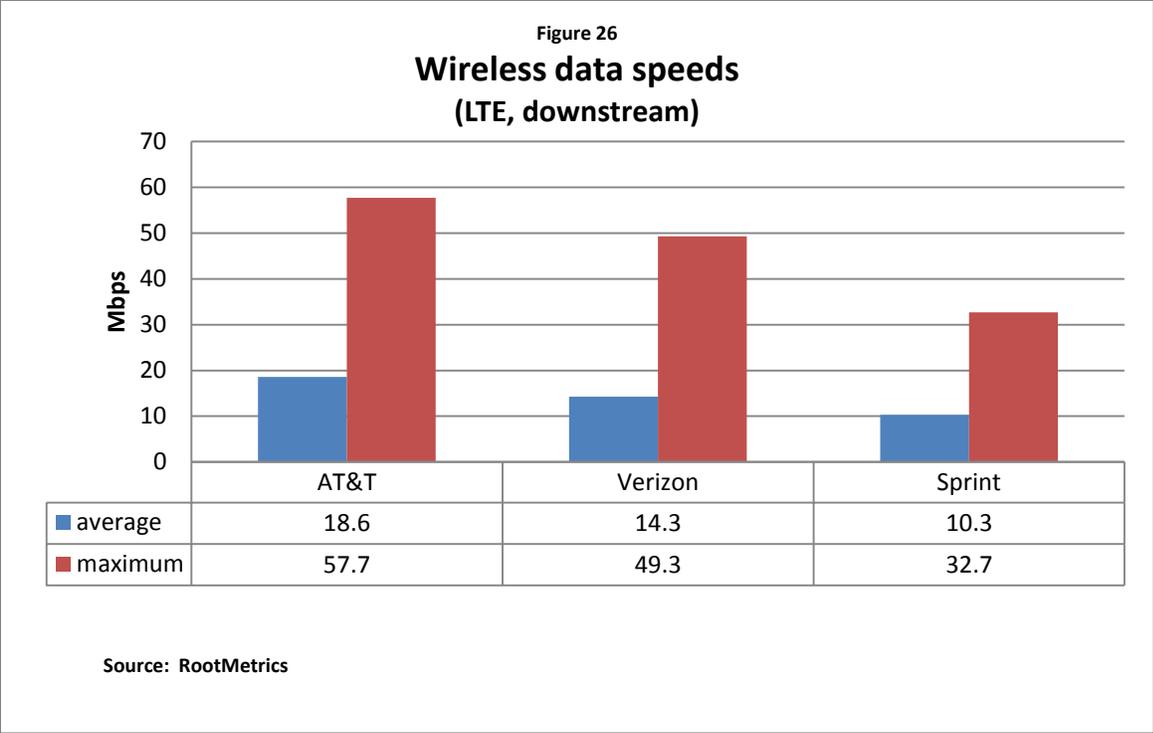
<sup>94</sup> Madden et al., *Teens and Technology 2013*, table on p. 4.



The reliance of so many consumers on wireless broadband makes it especially significant that all four national wireless networks are upgrading to LTE, an IP-based wireless technology that operates at very high speeds. RootMetrics tested the national carriers’ LTE performance in 77 cities in the second half of 2012. It found that AT&T had the highest average LTE download speed at 18.6 Mbps and 57.7 Mbps maximum speed. Verizon offered 14.3 Mbps average speed and 49.3 maximum speed. Sprint offered 10.3 Mbps average and 32.7 Mbps maximum speed. T-Mobile at that time did not offer LTE, but has since begun to deploy.<sup>95</sup> Verizon has completed its build-out, which is expected to reach 300 million Americans,<sup>96</sup> and AT&T will reach 270 million by the end of this year and 300 million by mid-2014. Both are still also investing heavily to densify their networks to increase capacity and speed. T-Mobile has expressed an intention of reaching 225 million Americans in 2013 and Sprint 200 million in 2014 with LTE.

<sup>95</sup>Patrick Linder, *Lightning-fast data speeds and expanding coverage: A 4G LTE performance review*, RootMetrics, March 11, 2013.

<sup>96</sup>VZ, T, TMUS, S second quarter 2013 analyst conference calls.



Given all the recent concern about the need for gigabit broadband access, an obvious question is why wireless broadband is so popular. Clearly, one answer is convenience—the smartphone or tablet is handily available when a fixed connection may not be. But the other answer relates to the actual speeds that applications make available to consumers.

Here Netflix’ August 2013 survey of the performance of its video streaming over various fixed-ISP is both shocking and enlightening. Netflix’ average speed over Google fiber was 3.6 Mbps—that’s megabit not gigabit—i.e. roughly one three-hundredth of Google fiber’s theoretical speed. The various cable platforms as well as FIOS and U-verse operated at about 2 Mbps. Netflix points out these speeds, which are well below the maximum capability of the platforms, is determined by Netflix’ own encoders, the capability of home WiFi (or other network), and of the devices used by the Netflix customers. In other words, speed experienced by the consumer is sufficiently degraded by so many factors unrelated to the access platform that the theoretical maximum speed of the access platform can become irrelevant as a competitive factor. Not only LTE, but even most DSL, can compete in the Netflix scenario. AT&T’s DSL came in a 1.4 Mbps on the Netflix test, a rate which can compete reasonably well against Google fiber’s 3.6 Mbps speed—although it would not be able to compete well against gigabit speed.<sup>97</sup>

The other question that often arises with regard to wireless broadband relates to usage. Because of spectrum constraints, wireless broadband capacity is more limited than fixed broadband capacity, as reflected in lower caps. Sandvine’s<sup>98</sup> survey for the first half of 2013 shows that median fixed network

<sup>97</sup> Netflix ISP Speed Index, August 2013.  
<sup>98</sup> Sandvine, *Global Internet Phenomena*, 1H 2013, table 1, figure 2, and table 2.

consumption in North America is 18 GB. Indeed, Sandvine points out that while the top 1% of Internet users consume 34% of the upstream capacity and 10% of the downstream capacity, the bottom 50% of Internet users consume only 6% of the total capacity. The heaviest upstream application is BitTorrent, i.e. filesharing, while the heaviest downstream applications are video streaming—Netflix and YouTube being the top two downstream applications.

Sandvine shows much lighter usage on the mobile broadband side. Median usage on mobile networks in North America is 58.7 MB, i.e. roughly one three-hundredth of the 18 GB average usage on fixed networks. But what is particularly interesting about this figure is that it is also much lower than the lowest data-allowances available on wireless data plans, which are either 300 MB or 500 MB.<sup>99</sup>

Like fixed networks, mobile networks have very skewed usage. In the mobile case, the top 1% of subscribers use about 20% of the network capacity, while the bottom 50% use about 1% of the capacity. Filesharing is not prevalent on mobile broadband, so the downstream and upstream usage patterns are more similar than they are on fixed networks, where BitTorrent is the top upstream application, by far.<sup>100</sup>

The bottom line from the Sandvine data is that for nearly half the users of fixed broadband Internet access, mobile wireless Internet access may well be competitive with fixed wireless access on usage. The Netflix survey and the RootMetrics data show that LTE may also be able to compete with fixed broadband networks on speed, because of the constraints that applications place on all networks' performance.

The explosively rapid adoption of tablets is one indicator that confirms users' willingness to rely on mobile wireless Internet access for more than just casual use. Mary Meeker's 2013 presentation<sup>101</sup> shows that the iPad is being adopted almost three times as fast as the iPhone was. Just three years after its introduction, the iPad has sold 140 million units across the globe.

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<sup>99</sup> Mean usage of 390 MB falls into that range. Sandvine, table 3.

<sup>100</sup> Sandvine, table 3, figure 4, and table 4.

<sup>101</sup> Mary Meeker and Liang Wu, *Internet Trends*, KPCB, May 29, 2013, slide 44.

## Summary

Thus, consumers today enjoy an extraordinarily rich communications environment. The new mother who could only communicate with her Mom in 1996 via carefully budgeted long-distance calls today can show off the baby or get advice not only via a call from her landline or cellphone, but can Skype, text, email, tweet, use Facebook, or connect via myriad other ways that combine voice, data and video seamlessly, generally over the Internet.

The Internet, barely mentioned in the *1996 Act*, has become the force that is transforming almost all aspects of life in 2013. Mostly for the better, but sometimes for the worse, it is ubiquitous. Education is rapidly moving online, both through degree programs and free MOOCs (massive online open courses). It is enhancing healthcare by enabling remote diagnostics, and even remote surgery, as well as better access by consumers to information about everything from symptoms to health-care providers. It is an integral part of every job search, with most employers posting jobs on-line and requiring applications and resumes on-line. It is a part of everyday life. Want to go shopping? Go online first to find the best deals and coupons. Want to go to dinner? Check menus, make reservations, and even pay on-line. Want to check on the baby? Access your webcam on-line.

What the Pew and Sandvine statistics show is that there is no longer “a consumer,” a homogeneous group that has one set of desires that regulators can try to force vendors to fulfill. Rather, consumers’ desires vary enormously and they benefit greatly from an environment in which multiple platforms with different technical capabilities and different economics can provide a variety of products and services. The regulatory requirements that were protective of consumers in the old monopoly, one-size-fits-all technologies, are likely to be very destructive in a multiplatform ecosystem capable of rapid innovation and rapid expansion of supply.

It is clear from the ILECs’ rapid share loss in their highly-regulated voice market that regulators’ views and consumers’ views of what consumers want is radically different. Consumers are rejecting the services and the standards regulators insist on. A regulatory framework which was effective in a “one-size-fits-all” world of few or no choices is no longer effective in a world of myriad choices.

There is no reason to believe that regulators would be any more successful in anticipating consumers’ rapidly changing desires in the broadband and video markets than they have been in the voice market. Instead, they are likely to introduce rigidity into an ecosystem that has thrived precisely because it has been flexible and responsive to its customers. Given the interdependence of other parts of the Internet ecosystem with the network infrastructure, that would not only harm innovation and growth at the core networks, but at the edge as well.

For example, IP infrastructure has accommodated rapid shifts in traffic among services and devices, both over time and between upstream and downstream. Peer-to-peer file-sharing dominates upstream IP traffic, but video dominates downstream.<sup>102</sup> Non-PC-based traffic is supplanting PC-

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<sup>102</sup> Sandvine, figure 1, p. 5.

based traffic. WiFi will soon overtake hard-wired delivery, and mobile is the fastest-growing albeit still far the smallest delivery medium.<sup>103</sup>

Thus far, the IP ecosystem has responded rapidly to these shifting trends. For example, consumers' desire to be untethered and mobile, which drives both WiFi and mobile wireless, has been accommodated at all levels. Networks have supplied the bandwidth to back up WiFi hotspots, wireless networks are migrating to LTE to accommodate rapid increases in mobile data, device manufacturers have provided increasingly portable devices ranging from super-lightweight notebooks to tablets, and content and application providers have found ways to port their products to these devices as well as invented new products. Inserting regulatory delay and rigidity into the network portion of this ecosystem would damage the device and application providers, as well as the network providers.

The lesson of the decade that followed the *1996 Act* is that *the most effective competition is competition between platforms that bring different economics and features to the market*. Today, consumers' requirements for voice, data, and video services are met over multiple platforms—cable, ILEC, wireless and satellite—that satisfy different needs at different times in a variety of ways.

All of these platforms are effective. The one that is considered the most endangered—the ILECs—competes successfully where the ILECs have upgraded their networks to IP over fiber-based broadband. Thus, it is important to free the ILECs' from regulations that force them to waste capital and operating funds on their legacy networks.

If the goal is to have a world-leading, competitive communications market that is responsive to consumers' needs and desires, the solution is not to hamstring those players that have been free to innovate, but to liberate those that have been hamstrung.

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<sup>103</sup> Cisco VNI, *Zettabyte Era*, p. 8.

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# National Health Statistics Reports

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## Wireless Substitution: State-level Estimates From the National Health Interview Survey, 2012

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### Abstract

**Objectives**—This report updates subnational estimates of the percentage of adults and children living in households that do not have a landline telephone but have at least one wireless telephone (i.e., wireless-only households). State-level estimates for 2012 are presented, along with estimates for selected U.S. counties and groups of counties, for other household telephone service use categories (e.g., those that had only landlines and those that had landlines yet received all or almost all calls on wireless telephones), and for one earlier 12-month period (July 2011–June 2012).

**Methods**—Small-area statistical modeling techniques were used to estimate the prevalence of adults and children living in households with various household telephone service types for 93 disjoint geographic areas that make up the United States. This modeling was based on 2007–2012 data from the National Health Interview Survey, 2006–2011 data from the American Community Survey, and auxiliary information on the number of listed telephone lines per capita in 2007–2012.

**Results**—The prevalence of wireless-only adults and children varied substantially across states. State-level estimates for 2012 ranged from 19.4% (New Jersey) to 52.3% (Idaho) of adults and from 20.6% (New Jersey) to 63.4% (Mississippi) of children.

**Keywords:** cell phones • telephone surveys • small domain estimation

### Introduction

The prevalence and use of wireless telephones (also known as cellular telephones, cell phones, or mobile phones) has changed substantially over the past decade. Today, an ever-increasing number of adults have chosen to use wireless telephones rather than landline telephones to make and receive

calls. As of the second half of 2012, nearly two in every five American households (38.2%) had only wireless telephones (1). The prevalence of such “wireless-only” households markedly exceeds the prevalence of households with only landline telephones (8.6%), as it has since 2009, and this difference is expected to grow.

The National Health Interview Survey (NHIS) is the most widely cited source for data on the ownership and use of wireless telephones. Every 6 months, the Centers for Disease Control and Prevention’s (CDC) National Center for Health Statistics (NCHS) releases a report with the most up-to-date estimates available from the federal government concerning the size and characteristics of the wireless-only population (1). That report, published as part of the NHIS Early Release Program (<http://www.cdc.gov/nchs/nhis/releases.htm>), presents both national and regional estimates.

Direct state-level estimates of this prevalence were not available previously from NHIS data because the NHIS sample size was insufficient for direct, reliable annual estimates for most states. However, in April 2011 NCHS released the results of statistically modeled estimates of the prevalence of wireless-only adults and children at the state level, using data from NHIS and the U.S. Census Bureau’s American Community Survey (ACS), along with auxiliary information on the number of listed telephone lines per capita (2). Those estimates for 12-month periods from January 2007 through June 2010 were the first multiyear state-level estimates of the size of this population



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available from the federal government. In October 2012, those estimates were updated through December 2011 (3).

In this report, the estimates are further updated through December 2012. Estimates are presented for adults and children living in wireless-only households, wireless-mostly households (defined as households that have landlines yet receive all or almost all calls on wireless telephones), dual-use households (which receive significant numbers of calls on both landlines and wireless telephones), landline-mostly households (which have wireless telephones yet receive all or almost all calls on landlines), and landline-only households.

## Methods

The methods employed to produce the estimates for this report were identical to those used for the estimates published in 2011 and 2012 (2,3). Small-area statistical modeling techniques were used to combine NHIS data collected within specific geographies (states and some counties) with auxiliary data that are representative of those geographies, to produce model-based estimates. Specifically, a combination of direct survey estimates from the 2007–2012 NHIS and the 2006–2011 ACS, and auxiliary information on the number of listed telephone lines per capita in 2007–2012, were used. The small-area model was used to derive estimates of the proportion of people who lived in households that were wireless-only, wireless-mostly, dual-use, landline-mostly, and landline-only for twelve 6-month periods: January–June and July–December in each year from 2007 through 2012.

### Selection of small areas

Estimates were derived separately for adults (aged 18 and over) and children (under age 18) for 93 nonoverlapping areas that make up the United States. Twenty-six of these areas were states and one was the District of Columbia; other areas consisted of selected counties, groups of counties, or

the balance of the state population excluding the selected counties. No areas crossed state lines, and every location in the United States was part of one (and only one) of the 93 areas. Areas considered for inclusion in this report were urban areas that receive federal Section 317 immunization grants, and other substate areas that are strata for CDC’s National Immunization Survey (4). Areas were selected based on the available survey sample sizes and the stability of the modeled estimates.

### Production of model-based estimates

For each telephone category, the 6-month estimates for all 93 small areas were modeled jointly. That is, all 6-month periods were modeled together in a single model rather than separately as 12 models (one for each 6-month period). Separate small-area models were fitted for each telephone service use category (e.g., wireless-only, dual-use) and by age group (adults or children). The model-based estimates for each telephone service use category, small area, and 6-month period were derived using a standard small-area modeling and estimation approach known as “empirical best linear unbiased prediction” (5–7). The model-based estimates were a weighted combination of three distinct sets of estimates: (a) the direct estimate from NHIS for the small area during the 6-month period of interest, (b) a synthetic estimate derived from a regression model involving ACS and auxiliary data for the small area during the 6-month period of interest, and (c) adjusted direct estimates from NHIS for the small area during all 6-month periods other than the 6-month period of interest. By using estimates from all twelve 6-month periods, the model-based estimate allows for “borrowing strength” across time. When these three distinct sets of estimates were combined, the weights associated with each set reflected the relative precision of each estimate.

Model-based estimates were produced for every small area and 6-month period, and consecutive

6-month estimates were combined to produce 12-month estimates. The small-area estimates for 12-month periods were obtained by averaging the two consecutive 6-month estimates. This helped to reduce the variability of the estimates. The 12-month small-area estimates for each telephone category were then adjusted to agree with the national direct estimates from NHIS for the corresponding telephone category and year. The 12-month estimates were further adjusted to agree with annual ACS estimates for the population without telephone service (landline or wireless) for each small area. For states with multiple small areas, 12-month state-level estimates were obtained by appropriately weighting the 12-month small-area estimates by population size.

Model-based estimates were produced for 2007–2012. Because the models now included full-year data from 2012, the estimates for 2007–2011 differed from the estimates previously reported (3) that were based on models that did not include data from 2012. The differences in the estimates for 2007–2011 were generally small (e.g., for the prevalence of wireless-only adults, mean =  $-0.01$ , interquartile range =  $0.5$ ). Therefore, the updated estimates for 2007–2011 are not presented here. Instead, this report includes estimates for July 2011–June 2012 and January–December 2012 only.

### Estimates for Adults and Children Living in Wireless-only Households

Results from the small-area modeling strategy showed great variation in the prevalence of adults living in wireless-only households across states. Estimates for 2012 ranged from a high of 52.3% in Idaho to a low of 19.4% in New Jersey (Table 1). Other states in which the prevalence of wireless-only adults was relatively high (exceeding 45%) were Mississippi (49.4%), Arkansas (49.0%), and Utah (46.6%). Several other states in the northeast joined New Jersey with prevalence rates below 25%, including

Connecticut (20.6%), Delaware (23.3%), New York (23.5%), Massachusetts (24.1%), and Rhode Island (24.9%).

Similarly, results showed great variation in the prevalence of wireless-only children across states, ranging from a high of 63.4% in Mississippi to a low of 20.6% in New Jersey (Table 1). Other states with a high prevalence of wireless-only children included Idaho (62.2%), Arkansas (59.8%), Missouri (55.2%), and South Carolina (54.5%). Other states with a low prevalence of wireless-only children included Vermont (24.5%), Connecticut (25.4%), Alaska (25.7%), and Massachusetts (26.7%).

## Estimates for Adults and Children Living in Households With Wireless Telephones

Table 2 presents modeled estimates for 2012 for the prevalence of adults living in households with various telephone service types, including but not limited to wireless-only status. Estimates are presented for adults living in wireless-mostly households, landline-mostly households, dual-use households, and landline-only households. These results can be used to obtain the prevalence of adults living in households with any wireless telephones (regardless of whether the wireless telephones are the only telephones). Estimates ranged from a high of 94.1% in Utah to a low of 80.8% in West Virginia. Two-thirds of the states (33 total) exceeded 90%, with Maryland (93.8%), New Hampshire (93.6%), Minnesota (93.6%), and Illinois (93.0%) joining Utah with the highest rates. Along with West Virginia, states with the lowest rates included New Mexico (81.1%) and North Dakota (82.6%).

Table 2 can also be used to examine the prevalence of adults living in households that receive all or almost all calls on wireless telephones, regardless of whether the households have landline telephones. Both wireless-only and wireless-mostly adults are in this group. Estimates of the prevalence of adults living in households where wireless telephones are the primary means of

receiving calls ranged from 64.1% in Arkansas to 39.4% in Connecticut. Thirty-two states had rates of primary wireless use exceeding 50%, with Texas (63.0%), Idaho (62.7%), and Mississippi (62.0%) joining Arkansas at the top end. Other states at the low end included Massachusetts (41.1%), New York (41.2%), West Virginia (41.3%), and Vermont (41.3%).

Table 3 presents modeled estimates for 2012 for the prevalence of children living in households with various telephone service types. The table can be used to calculate estimates for children similar to those for adults as described above.

## Implications of Findings

The increasing prevalence of wireless-only households has implications for random-digit-dial (RDD) telephone surveys. Historically, such surveys did not include wireless telephone numbers in their samples. Now, despite operational challenges (8), most major RDD telephone surveys include wireless telephone numbers (9,10). If they did not, the exclusion of households with only wireless telephones (along with the 2.1% of households that have no telephone service) could bias results (11).

Statistical challenges exist when samples of wireless-only households are combined with samples of landline households from RDD surveys. To ensure that each sample is appropriately represented in the final data set and appropriately weighted in the final analyses, reliable and current estimates of the prevalence of wireless-only households are needed (8). Moreover, if the persons interviewed on their wireless telephones are not screened to exclude those who also have landlines, reliable and current estimates of the prevalence of landline and wireless telephone service use may be required in order to address the probability that an individual could be in both samples (8).

This report presents survey researchers with the most up-to-date estimates available from the federal government concerning the prevalence

of landline and wireless telephone service use in each state. Telecommunications companies may also find these estimates useful for understanding changing conditions in state and local markets.

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**Table 1. Modeled estimates (with standard errors) of the percentage of persons living in wireless-only households, by selected geographic areas, age, and period: United States, 2011–2012**

Geographic area	Adults aged 18 and over		Children under age 18	
	July 2011– June 2012	January– December 2012	July 2011– June 2012	January– December 2012
	Percent (standard error)			
Alabama . . . . .	34.4 (1.9)	36.4 (2.0)	46.8 (3.1)	49.6 (3.2)
Jefferson County . . . . .	40.8 (2.7)	41.7 (2.8)	55.7 (4.4)	55.2 (4.4)
Rest of Alabama . . . . .	33.4 (2.1)	35.5 (2.3)	45.4 (3.5)	48.7 (3.7)
Alaska . . . . .	30.2 (2.8)	31.6 (2.7)	22.8 (3.8)	25.7 (3.7)
Arizona . . . . .	39.4 (1.8)	41.2 (1.9)	45.8 (2.6)	49.9 (2.7)
Maricopa County . . . . .	42.7 (2.4)	44.6 (2.6)	48.1 (3.5)	52.0 (3.7)
Rest of Arizona . . . . .	34.6 (2.6)	36.1 (2.7)	42.1 (3.8)	46.3 (3.9)
Arkansas . . . . .	45.7 (2.1)	49.0 (2.1)	56.6 (3.3)	59.8 (3.1)
California . . . . .	30.1 (0.7)	32.6 (0.8)	33.8 (1.1)	38.2 (1.2)
Alameda County . . . . .	31.4 (2.6)	34.2 (2.9)	34.3 (4.1)	37.0 (4.3)
Fresno County . . . . .	31.8 (2.8)	33.8 (2.9)	31.6 (3.7)	36.1 (3.6)
Los Angeles County . . . . .	30.2 (1.5)	31.7 (1.6)	33.7 (2.1)	36.7 (2.2)
Northern counties <sup>1</sup> . . . . .	27.0 (2.7)	30.5 (3.0)	32.0 (4.1)	38.2 (4.4)
San Bernardino County . . . . .	33.7 (2.5)	38.9 (2.7)	38.0 (3.5)	45.8 (3.9)
San Diego County . . . . .	23.5 (1.8)	26.6 (2.0)	23.1 (2.7)	29.5 (3.0)
Santa Clara County . . . . .	30.9 (2.4)	31.4 (2.5)	32.8 (3.6)	34.9 (3.7)
Rest of California . . . . .	30.8 (1.2)	33.6 (1.3)	35.4 (1.9)	40.0 (2.0)
Colorado . . . . .	39.9 (1.9)	41.7 (2.0)	42.2 (2.7)	45.1 (2.8)
City of Denver counties <sup>2</sup> . . . . .	35.2 (2.4)	37.8 (2.7)	41.7 (3.6)	46.3 (3.9)
Rest of Colorado . . . . .	42.9 (2.6)	44.3 (2.7)	42.6 (3.8)	44.2 (3.8)
Connecticut . . . . .	19.1 (1.7)	20.6 (1.7)	21.2 (2.4)	25.4 (2.6)
Delaware . . . . .	23.0 (2.1)	23.3 (1.9)	24.5 (3.5)	26.8 (3.3)
District of Columbia . . . . .	44.4 (2.9)	46.0 (2.6)	43.7 (4.9)	42.2 (4.4)
Florida . . . . .	37.1 (1.2)	39.7 (1.2)	45.6 (1.8)	49.2 (1.8)
Miami-Dade County . . . . .	36.6 (3.0)	37.6 (3.1)	48.8 (4.6)	53.2 (4.6)
Duval County . . . . .	43.5 (2.2)	44.4 (2.3)	52.8 (3.2)	54.2 (3.3)
Orange County . . . . .	43.9 (3.2)	46.5 (3.2)	49.1 (4.8)	51.4 (4.6)
Rest of Florida . . . . .	35.4 (1.5)	38.4 (1.5)	43.7 (2.3)	47.7 (2.3)
Georgia . . . . .	34.3 (1.6)	37.0 (1.7)	41.3 (2.4)	45.9 (2.4)
Fulton/DeKalb counties . . . . .	40.7 (2.9)	41.8 (3.0)	46.8 (4.5)	48.8 (4.4)
Rest of Georgia . . . . .	33.0 (1.8)	36.0 (1.9)	40.3 (2.7)	45.4 (2.7)
Hawaii . . . . .	29.2 (2.1)	31.6 (2.2)	38.8 (3.9)	43.8 (3.9)
Idaho . . . . .	49.7 (2.0)	52.3 (1.9)	58.3 (2.9)	62.2 (2.6)
Illinois . . . . .	35.2 (1.4)	38.0 (1.5)	39.7 (2.2)	42.4 (2.3)
Cook County . . . . .	39.7 (2.0)	42.2 (2.1)	41.1 (3.1)	42.3 (3.2)
Madison/St. Clair counties . . . . .	35.1 (3.5)	36.5 (3.6)	43.8 (5.7)	45.6 (5.5)
Rest of Illinois . . . . .	33.9 (1.8)	36.8 (2.0)	39.1 (2.7)	42.2 (2.9)
Indiana . . . . .	33.4 (1.6)	36.1 (1.8)	43.3 (2.7)	46.3 (2.9)
Lake County . . . . .	30.3 (2.8)	33.1 (3.0)	41.3 (5.0)	44.5 (5.2)
Marion County . . . . .	41.5 (3.3)	44.9 (3.3)	51.0 (5.1)	52.8 (4.7)
Rest of Indiana . . . . .	32.3 (2.0)	34.8 (2.2)	42.0 (3.2)	45.3 (3.5)
Iowa . . . . .	40.1 (2.0)	42.2 (2.1)	41.3 (3.2)	45.4 (3.2)
Kansas . . . . .	40.0 (1.8)	42.3 (1.9)	48.6 (2.8)	52.5 (2.7)
Johnson/Wyandotte counties . . . . .	31.1 (3.1)	35.0 (3.3)	33.7 (4.4)	41.5 (4.8)
Rest of Kansas . . . . .	42.9 (2.2)	44.8 (2.2)	53.8 (3.4)	56.4 (3.2)
Kentucky . . . . .	35.3 (2.2)	37.0 (2.2)	47.1 (3.2)	52.5 (3.2)
Louisiana . . . . .	34.0 (2.1)	36.2 (2.2)	42.8 (3.1)	45.1 (3.1)
Maine . . . . .	33.0 (2.4)	35.0 (2.3)	38.6 (3.6)	41.6 (3.3)
Maryland . . . . .	27.9 (1.5)	29.4 (1.6)	31.1 (2.3)	33.6 (2.4)
Baltimore City . . . . .	37.2 (3.1)	39.6 (3.2)	46.7 (5.0)	51.8 (5.3)
Prince George's County . . . . .	§	§	§	§
Rest of Maryland . . . . .	26.2 (1.9)	27.6 (2.0)	28.0 (2.8)	30.0 (3.0)
Massachusetts . . . . .	22.3 (1.5)	24.1 (1.6)	23.7 (2.4)	26.7 (2.7)
Suffolk County . . . . .	35.1 (3.4)	37.5 (3.6)	41.9 (6.4)	48.9 (6.8)
Rest of Massachusetts . . . . .	20.9 (1.6)	22.6 (1.7)	22.2 (2.6)	24.9 (2.8)
Michigan . . . . .	37.5 (1.6)	39.5 (1.7)	42.7 (2.5)	44.2 (2.6)
Wayne County . . . . .	43.5 (2.6)	46.6 (2.8)	54.5 (4.2)	59.6 (4.1)
Rest of Michigan . . . . .	37.0 (1.8)	39.0 (1.9)	41.7 (2.7)	42.9 (2.8)

See footnotes at end of table.

**Table 1. Modeled estimates (with standard errors) of the percentage of persons living in wireless-only households, by selected geographic areas, age, and period: United States, 2011–2012—Con.**

Geographic area	Adults aged 18 and over		Children under age 18	
	July 2011– June 2012	January– December 2012	July 2011– June 2012	January– December 2012
	Percent (standard error)			
Minnesota . . . . .	34.4 (1.6)	35.7 (1.7)	33.0 (2.5)	36.7 (2.6)
Twin Cities counties <sup>3</sup> . . . . .	35.6 (2.1)	36.7 (2.3)	33.7 (3.5)	37.0 (3.7)
Rest of Minnesota . . . . .	33.1 (2.3)	34.6 (2.5)	32.2 (3.4)	36.3 (3.7)
Mississippi . . . . .	45.6 (2.0)	49.4 (1.9)	59.0 (3.2)	63.4 (3.0)
Missouri . . . . .	38.1 (1.8)	41.4 (2.0)	49.8 (2.8)	55.2 (3.0)
St. Louis County/City . . . . .	34.2 (2.9)	38.1 (3.2)	32.4 (4.3)	39.2 (4.8)
Rest of Missouri . . . . .	39.3 (2.1)	42.4 (2.4)	54.5 (3.4)	59.4 (3.5)
Montana . . . . .	§	§	§	§
Nebraska . . . . .	37.4 (2.0)	37.5 (2.0)	40.5 (3.3)	43.7 (3.2)
Nevada . . . . .	36.0 (1.8)	38.9 (1.8)	37.9 (2.8)	41.7 (2.8)
Clark County . . . . .	37.2 (2.2)	40.7 (2.2)	36.3 (3.3)	40.6 (3.4)
Rest of Nevada . . . . .	33.1 (2.9)	34.4 (2.9)	42.2 (5.0)	44.6 (5.0)
New Hampshire . . . . .	25.4 (2.0)	26.7 (1.9)	29.3 (3.6)	30.3 (3.2)
New Jersey . . . . .	17.8 (1.3)	19.4 (1.4)	19.8 (2.1)	20.6 (2.2)
Essex County . . . . .	35.9 (3.4)	40.2 (3.7)	29.9 (4.4)	38.2 (5.0)
Rest of New Jersey . . . . .	17.2 (1.3)	18.8 (1.5)	19.4 (2.2)	19.9 (2.3)
New Mexico . . . . .	35.8 (2.0)	36.8 (2.0)	50.7 (3.3)	53.4 (3.3)
Southern counties <sup>4</sup> . . . . .	38.1 (2.8)	40.1 (3.0)	56.1 (4.4)	59.1 (4.6)
Rest of New Mexico . . . . .	35.0 (2.5)	35.6 (2.5)	48.6 (4.2)	51.2 (4.1)
New York . . . . .	21.4 (1.1)	23.5 (1.2)	23.2 (1.7)	26.8 (1.9)
City of New York counties <sup>5</sup> . . . . .	26.0 (1.5)	29.4 (1.6)	25.7 (2.4)	29.8 (2.7)
Rest of New York . . . . .	18.0 (1.5)	19.1 (1.6)	21.5 (2.3)	24.7 (2.6)
North Carolina . . . . .	34.3 (1.7)	34.7 (1.7)	46.3 (2.6)	47.1 (2.6)
North Dakota . . . . .	39.9 (1.8)	40.2 (1.7)	44.9 (3.5)	50.0 (3.2)
Ohio . . . . .	35.5 (1.3)	36.8 (1.4)	41.2 (2.2)	44.7 (2.4)
Cuyahoga County . . . . .	34.3 (2.9)	38.1 (3.2)	31.1 (4.0)	37.0 (4.2)
Franklin County . . . . .	40.9 (3.7)	41.8 (3.7)	43.9 (4.4)	43.1 (4.5)
Rest of Ohio . . . . .	34.9 (1.6)	35.9 (1.7)	42.2 (2.7)	46.0 (2.9)
Oklahoma . . . . .	37.1 (2.0)	39.0 (2.0)	46.1 (3.2)	50.9 (3.4)
Oregon . . . . .	37.2 (2.1)	36.8 (2.2)	38.6 (3.4)	41.5 (3.4)
Pennsylvania . . . . .	25.0 (1.2)	26.2 (1.3)	29.9 (2.1)	31.4 (2.1)
Allegheny County . . . . .	39.4 (3.2)	40.4 (3.4)	42.0 (5.2)	43.9 (5.4)
Philadelphia County . . . . .	33.5 (2.6)	37.8 (2.9)	40.8 (4.2)	46.8 (4.4)
Rest of Pennsylvania . . . . .	21.8 (1.4)	22.7 (1.6)	26.9 (2.5)	27.6 (2.5)
Rhode Island . . . . .	19.5 (1.7)	24.9 (1.8)	25.5 (3.4)	34.8 (3.4)
South Carolina . . . . .	37.0 (1.9)	39.0 (2.1)	48.3 (3.2)	54.5 (3.3)
South Dakota . . . . .	§	§	§	§
Tennessee . . . . .	35.9 (1.6)	37.8 (1.7)	47.3 (2.6)	52.3 (2.6)
Davidson County . . . . .	48.0 (3.5)	51.2 (3.6)	55.5 (5.2)	61.8 (5.4)
Shelby County . . . . .	43.2 (3.2)	46.2 (3.3)	49.4 (4.8)	54.1 (4.7)
Rest of Tennessee . . . . .	32.9 (2.0)	34.5 (2.1)	45.8 (3.2)	50.7 (3.3)
Texas . . . . .	42.6 (1.1)	44.5 (1.2)	51.9 (1.7)	54.2 (1.7)
Bexar County . . . . .	41.4 (2.3)	42.6 (2.5)	52.1 (3.6)	57.0 (3.9)
Dallas County . . . . .	55.0 (2.6)	56.5 (2.6)	63.0 (3.6)	65.9 (3.6)
El Paso County . . . . .	§	§	§	§
Harris County . . . . .	44.1 (2.0)	47.0 (2.1)	49.2 (2.8)	54.8 (2.9)
Rest of Texas . . . . .	40.9 (1.5)	42.9 (1.6)	50.4 (2.2)	52.0 (2.2)
Utah . . . . .	42.3 (2.0)	46.6 (1.9)	43.8 (2.8)	48.5 (2.6)
Vermont . . . . .	29.0 (2.1)	29.9 (1.9)	22.6 (3.5)	24.5 (3.2)
Virginia . . . . .	30.1 (1.8)	32.0 (1.9)	32.2 (2.5)	36.2 (2.7)
Washington . . . . .	37.3 (1.5)	39.4 (1.6)	37.5 (2.1)	41.8 (2.2)
Eastern counties <sup>6</sup> . . . . .	32.1 (2.2)	34.2 (2.4)	40.7 (3.6)	44.2 (3.7)
King County . . . . .	45.3 (2.8)	46.0 (2.9)	38.6 (4.0)	41.0 (4.0)
Rest of Washington . . . . .	34.6 (2.3)	37.6 (2.4)	35.4 (3.1)	41.1 (3.4)
West Virginia . . . . .	27.3 (2.4)	30.2 (2.4)	36.1 (3.6)	42.7 (3.6)
Wisconsin . . . . .	35.2 (1.8)	39.0 (2.0)	38.0 (2.8)	44.5 (3.0)
Milwaukee County . . . . .	§	§	§	§
Rest of Wisconsin . . . . .	32.9 (2.1)	36.6 (2.2)	34.8 (3.2)	41.0 (3.5)
Wyoming . . . . .	§	§	§	§

§ Model-based estimates for Maryland-Prince George's County, Montana, South Dakota, Texas-El Paso County, Wisconsin-Milwaukee County, and Wyoming are not reported because, for at least one telephone service use category, direct estimates from the National Health Information Survey were more than double or less than one-half the synthetic estimate. These differences between two components of the model-based estimates suggest that the direct estimates for these areas may be biased. Biased estimates violate a key model-based estimation assumption.

<sup>1</sup>Includes Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama, and Trinity.

<sup>2</sup>Includes Adams, Arapahoe, Denver, and Douglas.

<sup>3</sup>Includes Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington.

<sup>4</sup>Includes Catron, Chaves, Curry, De Baca, Dona Ana, Eddy, Grant, Hidalgo, Lea, Lincoln, Luna, Otero, Roosevelt, Sierra, and Socorro.

<sup>5</sup>Includes Bronx, Kings, New York, Queens, and Richmond.

<sup>6</sup>Includes Adams, Asotin, Benton, Chelan, Columbia, Douglas, Ferry, Franklin, Garfield, Grant, Kittitas, Klickitat, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman, and Yakima.

NOTE: Estimates were calculated by NORC at the University of Chicago.

SOURCES: CDC/NCHS, National Health Interview Survey, 2007–2012; U.S. Census Bureau, American Community Survey, 2006–2011; and infoUSA.com consumer database, 2007–2012.

**Table 2. Modeled estimates (with standard errors) of the percent distribution of household telephone status for adults aged 18 and over, by selected geographic areas: United States, 2012**

Geographic area	Wireless-only	Wireless-mostly	Dual-use	Landline-mostly	Landline-only	No telephone service <sup>1</sup>	Total
	Percent (standard error)						
Alabama . . . . .	36.4 (2.0)	16.0 (1.5)	21.6 (1.9)	16.3 (1.6)	7.8 (1.3)	2.0	100.0
Jefferson County . . . . .	41.7 (2.8)	17.6 (2.1)	20.7 (2.5)	12.1 (1.8)	6.5 (1.6)	1.5	100.0
Rest of Alabama . . . . .	35.5 (2.3)	15.7 (1.7)	21.7 (2.1)	17.0 (1.8)	8.0 (1.4)	2.0	100.0
Alaska . . . . .	31.6 (2.7)	17.7 (2.2)	30.3 (2.9)	12.2 (1.9)	6.6 (1.6)	1.6	100.0
Arizona . . . . .	41.2 (1.9)	16.4 (1.4)	18.8 (1.6)	10.7 (1.1)	10.8 (1.4)	2.1	100.0
Maricopa County . . . . .	44.6 (2.6)	17.1 (1.9)	18.8 (2.2)	6.0 (1.2)	11.8 (1.9)	1.8	100.0
Rest of Arizona . . . . .	36.1 (2.7)	15.5 (2.0)	18.9 (2.4)	17.6 (2.1)	9.4 (1.9)	2.6	100.0
Arkansas . . . . .	49.0 (2.1)	15.1 (1.5)	15.8 (1.6)	10.9 (1.3)	6.7 (1.1)	2.4	100.0
California . . . . .	32.6 (0.8)	21.5 (0.7)	25.6 (0.8)	11.3 (0.5)	7.4 (0.5)	1.5	100.0
Alameda County . . . . .	34.2 (2.9)	17.6 (2.3)	30.1 (3.1)	10.6 (1.8)	6.3 (1.7)	1.2	100.0
Fresno County . . . . .	33.8 (2.9)	9.6 (1.8)	32.1 (3.1)	10.8 (1.9)	12.3 (2.3)	1.3	100.0
Los Angeles County . . . . .	31.7 (1.6)	22.9 (1.4)	26.6 (1.5)	9.8 (1.0)	7.5 (0.9)	1.4	100.0
Northern counties <sup>2</sup> . . . . .	30.5 (3.0)	15.2 (2.3)	23.6 (3.1)	19.2 (2.5)	10.1 (2.3)	1.4	100.0
San Bernardino County . . . . .	38.9 (2.7)	22.5 (2.3)	23.6 (2.6)	9.8 (1.6)	*3.9 (1.2)	1.2	100.0
San Diego County . . . . .	26.6 (2.0)	21.1 (1.8)	32.0 (2.3)	9.4 (1.3)	8.3 (1.4)	2.6	100.0
Santa Clara County . . . . .	31.4 (2.5)	21.2 (2.2)	27.9 (2.7)	9.3 (1.6)	9.0 (1.8)	1.1	100.0
Rest of California . . . . .	33.6 (1.3)	22.1 (1.1)	23.3 (1.2)	12.5 (0.9)	7.1 (0.7)	1.4	100.0
Colorado . . . . .	41.7 (2.0)	16.9 (1.5)	20.9 (1.8)	11.9 (1.3)	6.7 (1.1)	1.8	100.0
City of Denver counties <sup>3</sup> . . . . .	37.8 (2.7)	19.0 (2.1)	23.5 (2.6)	12.0 (1.8)	6.1 (1.5)	1.7	100.0
Rest of Colorado . . . . .	44.3 (2.7)	15.6 (2.0)	19.3 (2.4)	11.8 (1.8)	7.1 (1.6)	1.9	100.0
Connecticut . . . . .	20.6 (1.7)	18.8 (1.6)	32.0 (2.1)	18.5 (1.6)	9.0 (1.3)	1.1	100.0
Delaware . . . . .	23.3 (1.9)	22.5 (1.9)	30.0 (2.2)	17.1 (1.7)	6.0 (1.1)	1.2	100.0
District of Columbia . . . . .	46.0 (2.6)	18.3 (2.1)	17.3 (2.1)	9.1 (1.5)	6.6 (1.4)	2.6	100.0
Florida . . . . .	39.7 (1.2)	17.2 (0.9)	22.6 (1.1)	11.5 (0.8)	6.5 (0.7)	2.5	100.0
Miami-Dade County . . . . .	37.6 (3.1)	13.0 (2.1)	27.8 (3.2)	11.9 (2.1)	7.1 (2.0)	2.6	100.0
Duval County . . . . .	44.4 (2.3)	18.8 (1.8)	19.9 (2.0)	6.4 (1.1)	6.5 (1.3)	4.0	100.0
Orange County . . . . .	46.5 (3.2)	22.2 (2.7)	18.7 (2.8)	6.2 (1.6)	*4.5 (1.6)	1.9	100.0
Rest of Florida . . . . .	38.4 (1.5)	16.7 (1.2)	23.1 (1.4)	12.9 (1.1)	6.6 (0.8)	2.3	100.0
Georgia . . . . .	37.0 (1.7)	22.8 (1.4)	20.2 (1.5)	11.0 (1.1)	6.4 (0.9)	2.6	100.0
Fulton/DeKalb counties . . . . .	41.8 (3.0)	21.6 (2.5)	21.3 (2.8)	9.0 (1.8)	*4.2 (1.4)	2.1	100.0
Rest of Georgia . . . . .	36.0 (1.9)	23.1 (1.7)	20.0 (1.7)	11.4 (1.3)	6.8 (1.1)	2.7	100.0
Hawaii . . . . .	31.6 (2.2)	19.6 (1.8)	28.9 (2.2)	11.6 (1.5)	6.5 (1.2)	1.7	100.0
Idaho . . . . .	52.3 (1.9)	10.4 (1.1)	17.5 (1.5)	12.3 (1.2)	4.9 (0.9)	2.7	100.0
Illinois . . . . .	38.0 (1.5)	17.5 (1.2)	24.3 (1.5)	13.2 (1.1)	5.5 (0.8)	1.6	100.0
Cook County . . . . .	42.2 (2.1)	14.9 (1.5)	24.2 (2.0)	10.4 (1.3)	6.3 (1.1)	2.0	100.0
Madison/St. Clair counties . . . . .	36.5 (3.6)	17.5 (2.8)	25.3 (3.7)	13.7 (2.5)	*5.4 (2.1)	1.6	100.0
Rest of Illinois . . . . .	36.8 (2.0)	18.2 (1.6)	24.3 (1.9)	14.0 (1.4)	5.2 (1.0)	1.4	100.0
Indiana . . . . .	36.1 (1.8)	15.4 (1.4)	20.9 (1.6)	15.5 (1.3)	9.5 (1.2)	2.7	100.0
Lake County . . . . .	33.1 (3.0)	15.1 (2.2)	23.5 (2.9)	16.8 (2.3)	10.1 (2.2)	1.4	100.0
Marion County . . . . .	44.9 (3.3)	8.8 (1.9)	16.5 (2.7)	16.8 (2.5)	9.0 (2.2)	3.9	100.0
Rest of Indiana . . . . .	34.8 (2.2)	16.6 (1.7)	21.4 (2.0)	15.1 (1.6)	9.5 (1.5)	2.6	100.0
Iowa . . . . .	42.2 (2.1)	18.4 (1.6)	19.4 (1.8)	11.9 (1.4)	5.7 (1.1)	2.3	100.0
Kansas . . . . .	42.3 (1.9)	13.5 (1.3)	23.2 (1.7)	11.0 (1.2)	8.3 (1.2)	1.7	100.0
Johnson/Wyandotte counties . . . . .	35.0 (3.3)	14.2 (2.4)	31.8 (3.5)	10.8 (2.1)	*6.6 (2.0)	1.7	100.0
Rest of Kansas . . . . .	44.8 (2.2)	13.3 (1.5)	20.3 (1.9)	11.0 (1.4)	8.8 (1.4)	1.7	100.0
Kentucky . . . . .	37.0 (2.2)	15.3 (1.7)	19.7 (2.0)	16.6 (1.7)	9.1 (1.5)	2.4	100.0
Louisiana . . . . .	36.2 (2.2)	16.5 (1.7)	26.4 (2.2)	11.9 (1.5)	7.1 (1.3)	1.9	100.0
Maine . . . . .	35.0 (2.3)	13.4 (1.6)	21.0 (2.1)	22.6 (2.0)	6.8 (1.3)	1.3	100.0
Maryland . . . . .	29.4 (1.6)	18.1 (1.4)	28.4 (1.7)	17.8 (1.4)	4.6 (0.8)	1.6	100.0
Baltimore City . . . . .	39.6 (3.2)	11.7 (2.1)	23.4 (3.1)	12.1 (2.2)	9.4 (2.3)	3.8	100.0
Prince George's County . . . . .	§	§	§	§	§	§	§
Rest of Maryland . . . . .	27.6 (2.0)	17.9 (1.7)	30.3 (2.2)	19.0 (1.8)	3.8 (1.0)	1.4	100.0
Massachusetts . . . . .	24.1 (1.6)	17.0 (1.4)	34.3 (2.0)	15.0 (1.4)	8.4 (1.2)	1.1	100.0
Suffolk County . . . . .	37.5 (3.6)	17.5 (2.8)	19.8 (3.4)	12.2 (2.5)	11.2 (2.8)	1.6	100.0
Rest of Massachusetts . . . . .	22.6 (1.7)	16.9 (1.6)	36.0 (2.1)	15.4 (1.5)	8.1 (1.2)	1.1	100.0
Michigan . . . . .	39.5 (1.7)	14.4 (1.2)	21.6 (1.6)	15.8 (1.3)	6.5 (1.0)	2.2	100.0
Wayne County . . . . .	46.6 (2.8)	16.9 (2.1)	16.8 (2.4)	9.4 (1.6)	5.8 (1.5)	4.6	100.0
Rest of Michigan . . . . .	39.0 (1.9)	14.2 (1.3)	21.9 (1.7)	16.3 (1.4)	6.6 (1.0)	2.1	100.0
Minnesota . . . . .	35.7 (1.7)	17.5 (1.3)	26.5 (1.7)	13.8 (1.2)	5.0 (0.9)	1.4	100.0
Twin Cities counties <sup>4</sup> . . . . .	36.7 (2.3)	18.3 (1.8)	27.9 (2.3)	12.5 (1.6)	3.2 (0.9)	1.3	100.0
Rest of Minnesota . . . . .	34.6 (2.5)	16.6 (1.9)	24.9 (2.5)	15.3 (1.9)	7.2 (1.5)	1.4	100.0

See footnotes at end of table.

**Table 2. Modeled estimates (with standard errors) of the percent distribution of household telephone status for adults aged 18 and over, by selected geographic areas: United States, 2012—Con.**

Geographic area	Wireless-only	Wireless-mostly	Dual-use	Landline-mostly	Landline-only	No telephone service <sup>1</sup>	Total
	Percent (standard error)						
Mississippi . . . . .	49.4 (1.9)	12.6 (1.3)	16.0 (1.5)	14.2 (1.3)	5.8 (1.0)	2.1	100.0
Missouri . . . . .	41.4 (2.0)	15.8 (1.4)	20.6 (1.7)	14.1 (1.4)	5.9 (1.0)	2.1	100.0
St. Louis County/City . . . . .	38.1 (3.2)	15.4 (2.3)	25.1 (3.2)	13.4 (2.2)	6.4 (1.9)	1.5	100.0
Rest of Missouri . . . . .	42.4 (2.4)	15.9 (1.7)	19.3 (2.0)	14.3 (1.7)	5.7 (1.2)	2.3	100.0
Montana . . . . .	§	§	§	§	§	§	§
Nebraska . . . . .	37.5 (2.0)	15.3 (1.5)	25.0 (1.9)	12.9 (1.4)	7.7 (1.2)	1.6	100.0
Nevada . . . . .	38.9 (1.8)	21.2 (1.5)	19.9 (1.6)	9.4 (1.0)	9.1 (1.2)	1.5	100.0
Clark County . . . . .	40.7 (2.2)	21.6 (1.9)	19.8 (1.9)	7.9 (1.2)	8.6 (1.4)	1.5	100.0
Rest of Nevada . . . . .	34.4 (2.9)	20.1 (2.4)	20.1 (2.6)	13.0 (2.0)	10.5 (2.1)	1.7	100.0
New Hampshire . . . . .	26.7 (1.9)	17.5 (1.6)	31.8 (2.1)	17.6 (1.6)	5.2 (1.0)	1.2	100.0
New Jersey . . . . .	19.4 (1.4)	25.7 (1.6)	31.1 (1.8)	15.2 (1.3)	6.9 (1.0)	1.6	100.0
Essex County . . . . .	40.2 (3.7)	14.8 (2.6)	30.9 (3.9)	*3.3 (1.3)	8.2 (2.4)	2.5	100.0
Rest of New Jersey . . . . .	18.8 (1.5)	26.0 (1.6)	31.1 (1.8)	15.5 (1.3)	6.9 (1.0)	1.6	100.0
New Mexico . . . . .	36.8 (2.0)	13.2 (1.4)	21.7 (1.9)	9.4 (1.2)	15.1 (1.7)	3.8	100.0
Southern counties <sup>5</sup> . . . . .	40.1 (3.0)	9.4 (1.7)	22.7 (2.8)	9.2 (1.8)	15.3 (2.5)	3.3	100.0
Rest of New Mexico . . . . .	35.6 (2.5)	14.6 (1.8)	21.4 (2.3)	9.4 (1.5)	15.1 (2.1)	4.0	100.0
New York . . . . .	23.5 (1.2)	17.7 (1.1)	30.9 (1.4)	16.5 (1.1)	9.4 (0.9)	2.0	100.0
City of New York counties <sup>6</sup> . . . . .	29.4 (1.6)	16.7 (1.3)	30.3 (1.7)	10.2 (1.1)	10.6 (1.2)	2.7	100.0
Rest of New York . . . . .	19.1 (1.6)	18.4 (1.6)	31.3 (2.0)	21.3 (1.7)	8.6 (1.3)	1.4	100.0
North Carolina . . . . .	34.7 (1.7)	12.7 (1.2)	26.2 (1.7)	17.2 (1.4)	7.6 (1.0)	1.7	100.0
North Dakota . . . . .	40.2 (1.7)	10.8 (1.1)	23.2 (1.5)	8.4 (1.0)	15.6 (1.3)	1.7	100.0
Ohio . . . . .	36.8 (1.4)	16.1 (1.1)	24.0 (1.3)	15.8 (1.1)	5.3 (0.7)	2.1	100.0
Cuyahoga County . . . . .	38.1 (3.2)	18.4 (2.5)	19.3 (2.9)	16.2 (2.4)	6.1 (1.8)	1.9	100.0
Franklin County . . . . .	41.8 (3.7)	17.1 (2.8)	25.4 (3.8)	10.7 (2.4)	†	2.4	100.0
Rest of Ohio . . . . .	35.9 (1.7)	15.6 (1.3)	24.4 (1.6)	16.4 (1.3)	5.5 (0.8)	2.1	100.0
Oklahoma . . . . .	39.0 (2.0)	19.2 (1.6)	21.2 (1.8)	11.3 (1.3)	7.6 (1.2)	1.8	100.0
Oregon . . . . .	36.8 (2.2)	16.1 (1.7)	19.7 (1.9)	16.4 (1.7)	9.2 (1.4)	1.8	100.0
Pennsylvania . . . . .	26.2 (1.3)	18.7 (1.2)	26.4 (1.4)	18.4 (1.2)	8.7 (0.9)	1.5	100.0
Allegheny County . . . . .	40.4 (3.4)	12.6 (2.3)	24.5 (3.3)	14.4 (2.4)	*6.8 (2.0)	1.4	100.0
Philadelphia County . . . . .	37.8 (2.9)	18.1 (2.2)	21.8 (2.7)	13.0 (2.0)	6.6 (1.7)	2.7	100.0
Rest of Pennsylvania . . . . .	22.7 (1.6)	19.5 (1.5)	27.4 (1.7)	19.7 (1.5)	9.3 (1.2)	1.4	100.0
Rhode Island . . . . .	24.9 (1.8)	22.0 (1.7)	28.5 (1.9)	15.9 (1.5)	6.9 (1.1)	1.7	100.0
South Carolina . . . . .	39.0 (2.1)	16.3 (1.5)	18.7 (1.8)	16.0 (1.5)	8.0 (1.2)	2.0	100.0
South Dakota . . . . .	§	§	§	§	§	§	§
Tennessee . . . . .	37.8 (1.7)	16.7 (1.3)	24.6 (1.7)	13.3 (1.2)	5.4 (0.9)	2.1	100.0
Davidson County . . . . .	51.2 (3.6)	16.5 (2.6)	16.1 (3.0)	10.4 (2.2)	*4.1 (1.7)	1.7	100.0
Shelby County . . . . .	46.2 (3.3)	17.9 (2.5)	19.7 (2.9)	8.7 (1.8)	*5.6 (1.8)	1.9	100.0
Rest of Tennessee . . . . .	34.5 (2.1)	16.5 (1.6)	26.7 (2.1)	14.6 (1.6)	5.6 (1.1)	2.2	100.0
Texas . . . . .	44.5 (1.2)	18.5 (0.9)	18.0 (1.0)	9.4 (0.7)	7.5 (0.6)	2.0	100.0
Bexar County . . . . .	42.6 (2.5)	16.1 (1.9)	17.7 (2.1)	5.8 (1.2)	16.0 (2.1)	1.7	100.0
Dallas County . . . . .	56.5 (2.6)	16.4 (1.9)	13.1 (1.9)	7.1 (1.3)	5.2 (1.3)	1.8	100.0
El Paso County . . . . .	§	§	§	§	§	§	§
Harris County . . . . .	47.0 (2.1)	20.7 (1.7)	16.4 (1.7)	9.7 (1.3)	3.7 (0.9)	2.5	100.0
Rest of Texas . . . . .	42.9 (1.6)	19.0 (1.2)	19.3 (1.3)	10.2 (1.0)	6.7 (0.8)	1.9	100.0
Utah . . . . .	46.6 (1.9)	15.2 (1.3)	22.1 (1.6)	10.2 (1.1)	4.1 (0.8)	1.8	100.0
Vermont . . . . .	29.9 (1.9)	11.5 (1.3)	23.9 (1.8)	22.4 (1.7)	11.1 (1.4)	1.2	100.0
Virginia . . . . .	32.0 (1.9)	22.1 (1.7)	24.0 (1.9)	14.6 (1.4)	5.3 (1.0)	1.9	100.0
Washington . . . . .	39.4 (1.6)	17.4 (1.2)	22.1 (1.5)	13.4 (1.1)	6.3 (0.9)	1.4	100.0
Eastern counties <sup>7</sup> . . . . .	34.2 (2.4)	19.4 (2.0)	22.8 (2.3)	15.8 (1.9)	6.2 (1.4)	1.7	100.0
King County . . . . .	46.0 (2.9)	16.9 (2.2)	21.0 (2.6)	9.8 (1.7)	*4.7 (1.4)	1.5	100.0
Rest of Washington . . . . .	37.6 (2.4)	16.7 (1.9)	22.5 (2.3)	14.6 (1.8)	7.4 (1.5)	1.2	100.0
West Virginia . . . . .	30.2 (2.4)	11.1 (1.6)	14.6 (1.9)	24.8 (2.2)	16.7 (2.1)	2.5	100.0
Wisconsin . . . . .	39.0 (2.0)	11.3 (1.3)	20.2 (1.7)	18.0 (1.6)	9.8 (1.3)	1.7	100.0
Milwaukee County . . . . .	§	§	§	§	§	§	§
Rest of Wisconsin . . . . .	36.6 (2.2)	11.9 (1.5)	20.3 (2.0)	19.5 (1.8)	10.1 (1.5)	1.5	100.0
Wyoming . . . . .	§	§	§	§	§	§	§

\* Estimate has a relative standard error greater than 30% and less than or equal to 50% and is considered unreliable.

§ Model-based estimates for Maryland-Prince George's County, Montana, South Dakota, Texas-El Paso County, Wisconsin-Milwaukee County, and Wyoming are not reported because, for at least one telephone service use category, direct estimates from the National Health Information Survey were more than double or less than one-half the synthetic estimate. These differences between two components of the model-based estimates suggest that the direct estimates for these areas may be biased. Biased estimates violate a key model-based estimation assumption.

† Estimate has a relative standard error greater than 50% and is not shown.

<sup>1</sup>The proportion of adults living in households with no telephone service was not modeled. Other proportions were adjusted so that this estimate agreed with the 2011 American Community Survey estimate for this proportion.

<sup>2</sup>Includes Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama, and Trinity.

<sup>3</sup>Includes Adams, Arapahoe, Denver, and Douglas.

<sup>4</sup>Includes Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington.

<sup>5</sup>Includes Catron, Chaves, Curry, De Baca, Dona Ana, Eddy, Grant, Hidalgo, Lea, Lincoln, Luna, Otero, Roosevelt, Sierra, and Socorro.

<sup>6</sup>Includes Bronx, Kings, New York, Queens, and Richmond.

<sup>7</sup>Includes Adams, Asotin, Benton, Chelan, Columbia, Douglas, Ferry, Franklin, Garfield, Grant, Kittitas, Klickitat, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman, and Yakima.

NOTE: Estimates were calculated by NORC at the University of Chicago.

SOURCES: CDC/NCHS, National Health Interview Survey, 2007–2012; U.S. Census Bureau, American Community Survey, 2006–2011; and infoUSA.com consumer database, 2007–2012.

**Table 3. Modeled estimates (with standard errors) of the percent distribution of household telephone status for children under age 18, by selected geographic areas: United States, 2012**

Geographic area	Wireless-only	Wireless-mostly	Dual-use	Landline-mostly	Landline-only	No telephone service <sup>1</sup>	Total
	Percent (standard error)						
Alabama . . . . .	49.6 (3.2)	19.8 (2.7)	18.5 (2.9)	6.6 (1.6)	*3.5 (1.5)	2.1	100.0
Jefferson County . . . . .	55.2 (4.4)	20.3 (3.7)	16.4 (3.7)	†	†	1.4	100.0
Rest of Alabama . . . . .	48.7 (3.7)	19.7 (3.1)	18.8 (3.3)	7.2 (1.9)	*3.5 (1.6)	2.2	100.0
Alaska . . . . .	25.7 (3.7)	27.6 (3.9)	30.6 (4.2)	10.1 (2.6)	*5.1 (2.1)	0.9	100.0
Arizona . . . . .	49.9 (2.7)	19.7 (2.3)	16.3 (2.3)	3.7 (0.9)	8.4 (1.9)	2.0	100.0
Maricopa County . . . . .	52.0 (3.7)	18.6 (3.0)	15.7 (3.0)	†	10.9 (2.8)	1.6	100.0
Rest of Arizona . . . . .	46.3 (3.9)	21.4 (3.5)	17.4 (3.4)	7.8 (2.0)	*4.2 (2.0)	2.8	100.0
Arkansas . . . . .	59.8 (3.1)	16.3 (2.5)	14.1 (2.5)	*4.1 (1.3)	*3.0 (1.3)	2.8	100.0
California . . . . .	38.2 (1.2)	22.9 (1.1)	24.1 (1.1)	7.4 (0.6)	6.0 (0.6)	1.4	100.0
Alameda County . . . . .	37.0 (4.3)	22.7 (4.0)	34.2 (4.9)	*4.9 (1.8)	†	0.7	100.0
Fresno County . . . . .	36.1 (3.6)	11.5 (2.5)	28.3 (3.8)	8.1 (2.1)	14.7 (3.3)	1.3	100.0
Los Angeles County . . . . .	36.7 (2.2)	24.4 (2.0)	23.5 (2.0)	7.2 (1.2)	6.5 (1.3)	1.6	100.0
Northern counties <sup>2</sup> . . . . .	38.2 (4.4)	18.3 (3.8)	25.8 (4.6)	8.6 (2.4)	*7.6 (3.1)	1.5	100.0
San Bernardino County . . . . .	45.8 (3.9)	22.9 (3.5)	19.8 (3.5)	6.9 (1.9)	*3.4 (1.7)	1.1	100.0
San Diego County . . . . .	29.5 (3.0)	23.4 (2.9)	28.4 (3.3)	8.2 (1.8)	8.2 (2.1)	2.3	100.0
Santa Clara County . . . . .	34.9 (3.7)	24.1 (3.5)	31.7 (4.1)	*3.9 (1.5)	*4.6 (2.0)	0.7	100.0
Rest of California . . . . .	40.0 (2.0)	22.9 (1.7)	22.2 (1.7)	7.9 (1.1)	5.6 (1.0)	1.3	100.0
Colorado . . . . .	45.1 (2.8)	21.1 (2.4)	23.7 (2.6)	6.1 (1.3)	*2.2 (1.0)	1.9	100.0
City of Denver counties <sup>3</sup> . . . . .	46.3 (3.9)	20.2 (3.3)	24.5 (3.7)	*5.5 (1.7)	†	1.4	100.0
Rest of Colorado . . . . .	44.2 (3.8)	21.7 (3.3)	23.1 (3.6)	6.5 (1.9)	†	2.2	100.0
Connecticut . . . . .	25.4 (2.6)	20.6 (2.5)	32.9 (3.0)	11.8 (1.9)	8.4 (1.9)	0.8	100.0
Delaware . . . . .	26.8 (3.3)	28.5 (3.5)	35.5 (3.9)	5.9 (1.8)	†	1.2	100.0
District of Columbia . . . . .	42.2 (4.4)	19.4 (3.7)	25.3 (4.0)	*3.8 (1.7)	*7.2 (2.6)	2.2	100.0
Florida . . . . .	49.2 (1.8)	21.1 (1.6)	21.4 (1.6)	2.6 (0.6)	2.7 (0.7)	3.1	100.0
Miami-Dade County . . . . .	53.2 (4.6)	18.3 (3.8)	21.1 (4.3)	†	†	2.9	100.0
Duval County . . . . .	54.2 (3.3)	18.6 (2.8)	18.6 (2.9)	*1.9 (0.9)	†	5.7	100.0
Orange County . . . . .	51.4 (4.6)	23.3 (4.2)	21.1 (4.4)	†	†	1.7	100.0
Rest of Florida . . . . .	47.7 (2.3)	21.5 (2.0)	22.0 (2.1)	3.0 (0.8)	3.0 (0.9)	2.7	100.0
Georgia . . . . .	45.9 (2.4)	24.6 (2.2)	18.7 (2.0)	3.9 (1.0)	3.8 (1.1)	3.0	100.0
Fulton/DeKalb counties . . . . .	48.8 (4.4)	25.1 (4.1)	22.8 (4.3)	†	†	2.1	100.0
Rest of Georgia . . . . .	45.4 (2.7)	24.5 (2.5)	18.0 (2.3)	4.5 (1.1)	4.4 (1.3)	3.2	100.0
Hawaii . . . . .	43.8 (3.9)	18.6 (3.2)	28.6 (3.9)	*3.7 (1.4)	*3.5 (1.7)	1.7	100.0
Idaho . . . . .	62.2 (2.6)	9.1 (1.6)	17.8 (2.2)	7.0 (1.4)	†	2.7	100.0
Illinois . . . . .	42.4 (2.3)	21.3 (2.0)	26.5 (2.2)	5.9 (1.1)	*2.3 (0.8)	1.6	100.0
Cook County . . . . .	42.3 (3.2)	16.2 (2.5)	32.4 (3.3)	*4.1 (1.3)	*2.5 (1.2)	2.4	100.0
Madison/St. Clair counties . . . . .	45.6 (5.5)	21.4 (4.7)	25.9 (5.6)	*5.8 (2.4)	†	1.2	100.0
Rest of Illinois . . . . .	42.2 (2.9)	22.7 (2.6)	25.0 (2.8)	6.4 (1.4)	*2.3 (1.0)	1.4	100.0
Indiana . . . . .	46.3 (2.9)	16.0 (2.2)	19.5 (2.5)	6.5 (1.4)	8.3 (1.9)	3.4	100.0
Lake County . . . . .	44.5 (5.2)	18.9 (4.2)	21.0 (4.8)	*5.5 (2.3)	*8.0 (3.6)	2.1	100.0
Marion County . . . . .	52.8 (4.7)	11.0 (3.1)	21.0 (4.3)	*5.2 (2.0)	*5.9 (2.8)	4.1	100.0
Rest of Indiana . . . . .	45.3 (3.5)	16.6 (2.8)	19.1 (3.1)	6.9 (1.7)	8.7 (2.4)	3.4	100.0
Iowa . . . . .	45.4 (3.2)	27.5 (3.0)	18.0 (2.7)	*3.3 (1.1)	*2.7 (1.2)	3.0	100.0
Kansas . . . . .	52.5 (2.7)	15.9 (2.1)	21.9 (2.4)	5.2 (1.2)	*3.2 (1.1)	1.4	100.0
Johnson/Wyandotte counties . . . . .	41.5 (4.8)	17.6 (3.9)	32.9 (5.2)	*5.0 (2.0)	†	1.1	100.0
Rest of Kansas . . . . .	56.4 (3.2)	15.3 (2.4)	18.0 (2.7)	5.3 (1.4)	*3.6 (1.4)	1.4	100.0
Kentucky . . . . .	52.5 (3.2)	16.2 (2.5)	14.6 (2.5)	9.4 (1.8)	*4.3 (1.5)	3.0	100.0
Louisiana . . . . .	45.1 (3.1)	21.5 (2.7)	24.4 (3.0)	4.8 (1.3)	†	2.2	100.0
Maine . . . . .	41.6 (3.3)	17.9 (2.7)	21.8 (3.0)	16.1 (2.5)	†	0.6	100.0
Maryland . . . . .	33.6 (2.4)	22.7 (2.3)	30.6 (2.7)	9.7 (1.6)	†	2.1	100.0
Baltimore City . . . . .	51.8 (5.3)	12.5 (3.6)	22.0 (4.9)	*6.7 (2.5)	†	5.4	100.0
Prince George's County . . . . .	§	§	§	§	§	§	§
Rest of Maryland . . . . .	30.0 (3.0)	23.3 (2.9)	32.8 (3.4)	10.6 (2.0)	†	1.9	100.0
Massachusetts . . . . .	26.7 (2.7)	22.3 (2.7)	37.9 (3.3)	8.6 (1.7)	*3.3 (1.3)	1.2	100.0
Suffolk County . . . . .	48.9 (6.8)	22.0 (5.8)	*20.2 (6.1)	†	†	2.8	100.0
Rest of Massachusetts . . . . .	24.9 (2.8)	22.3 (2.9)	39.4 (3.5)	8.9 (1.8)	*3.4 (1.4)	1.1	100.0
Michigan . . . . .	44.2 (2.6)	18.6 (2.2)	23.5 (2.5)	8.1 (1.5)	*3.2 (1.1)	2.3	100.0
Wayne County . . . . .	59.6 (4.1)	19.5 (3.7)	12.4 (3.4)	*2.8 (1.3)	†	3.5	100.0
Rest of Michigan . . . . .	42.9 (2.8)	18.6 (2.3)	24.5 (2.7)	8.6 (1.6)	*3.3 (1.2)	2.2	100.0
Minnesota . . . . .	36.7 (2.6)	22.5 (2.4)	30.0 (2.8)	8.3 (1.5)	†	1.2	100.0
Twin Cities counties <sup>4</sup> . . . . .	37.0 (3.7)	19.9 (3.2)	33.1 (4.0)	9.0 (2.1)	†	0.8	100.0
Rest of Minnesota . . . . .	36.3 (3.7)	25.7 (3.6)	26.1 (3.8)	7.4 (2.0)	†	1.5	100.0

See footnotes at end of table.

**Table 3. Modeled estimates (with standard errors) of the percent distribution of household telephone status for children under age 18, by selected geographic areas: United States, 2012—Con.**

Geographic area	Wireless-only	Wireless-mostly	Dual-use	Landline-mostly	Landline-only	No telephone service <sup>1</sup>	Total
	Percent (standard error)						
Mississippi . . . . .	63.4 (3.0)	15.4 (2.4)	11.3 (2.2)	5.5 (1.4)	*2.5 (1.1)	1.9	100.0
Missouri . . . . .	55.2 (3.0)	17.8 (2.4)	16.4 (2.4)	5.9 (1.4)	*2.3 (1.1)	2.5	100.0
St. Louis County/City . . . . .	39.2 (4.8)	22.9 (4.4)	28.6 (5.1)	*6.5 (2.3)	†	2.1	100.0
Rest of Missouri . . . . .	59.4 (3.5)	16.5 (2.8)	13.1 (2.6)	5.8 (1.6)	†	2.5	100.0
Montana . . . . .	§	§	§	§	§	§	§
Nebraska . . . . .	43.7 (3.2)	19.7 (2.7)	26.8 (3.2)	5.8 (1.5)	*2.4 (1.2)	1.6	100.0
Nevada . . . . .	41.7 (2.8)	27.2 (2.6)	20.8 (2.5)	4.0 (1.1)	*4.7 (1.4)	1.7	100.0
Clark County . . . . .	40.6 (3.4)	25.0 (3.1)	22.9 (3.1)	*4.0 (1.3)	*6.1 (1.9)	1.5	100.0
Rest of Nevada . . . . .	44.6 (5.0)	33.5 (4.8)	15.0 (3.9)	*3.9 (1.9)	†	2.2	100.0
New Hampshire . . . . .	30.3 (3.2)	23.4 (3.1)	32.7 (3.6)	9.8 (2.1)	†	1.2	100.0
New Jersey . . . . .	20.6 (2.2)	31.2 (2.7)	33.2 (2.9)	8.5 (1.6)	4.8 (1.4)	1.7	100.0
Essex County . . . . .	38.2 (5.0)	20.4 (4.3)	33.1 (5.5)	†	†	4.3	100.0
Rest of New Jersey . . . . .	19.9 (2.3)	31.6 (2.8)	33.2 (3.0)	8.8 (1.6)	*4.8 (1.5)	1.6	100.0
New Mexico . . . . .	53.4 (3.3)	15.2 (2.5)	18.7 (2.8)	*2.7 (1.1)	*5.1 (1.8)	4.8	100.0
Southern counties <sup>5</sup> . . . . .	59.1 (4.6)	10.4 (2.9)	20.7 (4.3)	†	†	4.5	100.0
Rest of New Mexico . . . . .	51.2 (4.1)	17.1 (3.2)	17.9 (3.5)	*3.4 (1.5)	*5.5 (2.3)	5.0	100.0
New York . . . . .	26.8 (1.9)	21.0 (1.8)	34.5 (2.2)	10.7 (1.3)	4.9 (1.1)	2.0	100.0
City of New York counties <sup>6</sup> . . . . .	29.8 (2.7)	20.3 (2.5)	34.7 (3.0)	7.3 (1.5)	5.3 (1.5)	2.7	100.0
Rest of New York . . . . .	24.7 (2.6)	21.6 (2.5)	34.3 (3.1)	13.1 (2.0)	*4.7 (1.4)	1.6	100.0
North Carolina . . . . .	47.1 (2.6)	17.8 (2.1)	23.2 (2.4)	6.9 (1.3)	*3.4 (1.1)	1.6	100.0
North Dakota . . . . .	50.0 (3.2)	16.3 (2.4)	25.2 (2.9)	†	6.8 (1.8)	1.5	100.0
Ohio . . . . .	44.7 (2.4)	18.1 (1.9)	22.8 (2.2)	8.5 (1.3)	*2.9 (1.0)	3.0	100.0
Cuyahoga County . . . . .	37.0 (4.2)	20.5 (3.8)	25.5 (4.4)	14.2 (3.0)	†	2.5	100.0
Franklin County . . . . .	43.1 (4.5)	19.7 (3.8)	28.5 (4.7)	*5.4 (2.0)	†	1.6	100.0
Rest of Ohio . . . . .	46.0 (2.9)	17.5 (2.3)	21.7 (2.6)	8.2 (1.6)	*3.4 (1.2)	3.2	100.0
Oklahoma . . . . .	50.9 (3.4)	24.8 (3.0)	15.1 (2.6)	*3.3 (1.2)	*4.6 (1.6)	1.3	100.0
Oregon . . . . .	41.5 (3.4)	21.4 (3.0)	22.3 (3.2)	7.2 (1.8)	*5.7 (1.9)	1.9	100.0
Pennsylvania . . . . .	31.4 (2.1)	24.6 (2.1)	29.9 (2.4)	8.5 (1.3)	3.6 (1.0)	2.1	100.0
Allegheny County . . . . .	43.9 (5.4)	21.7 (4.7)	28.6 (5.6)	*4.7 (2.2)	†	0.9	100.0
Philadelphia County . . . . .	46.8 (4.4)	17.1 (3.4)	22.3 (4.1)	8.5 (2.3)	†	2.7	100.0
Rest of Pennsylvania . . . . .	27.6 (2.5)	26.1 (2.6)	31.2 (2.8)	8.9 (1.6)	*4.1 (1.3)	2.2	100.0
Rhode Island . . . . .	34.8 (3.4)	27.9 (3.3)	25.4 (3.4)	6.5 (1.8)	*3.4 (1.5)	1.9	100.0
South Carolina . . . . .	54.5 (3.3)	19.0 (2.7)	16.2 (2.6)	5.8 (1.5)	*2.5 (1.2)	2.1	100.0
South Dakota . . . . .	§	§	§	§	§	§	§
Tennessee . . . . .	52.3 (2.6)	18.1 (2.1)	20.6 (2.4)	5.9 (1.3)	†	2.3	100.0
Davidson County . . . . .	61.8 (5.4)	17.6 (4.2)	17.5 (4.6)	†	†	2.1	100.0
Shelby County . . . . .	54.1 (4.7)	22.4 (4.2)	16.8 (4.0)	†	†	1.4	100.0
Rest of Tennessee . . . . .	50.7 (3.3)	17.2 (2.6)	21.8 (3.0)	7.2 (1.7)	†	2.5	100.0
Texas . . . . .	54.2 (1.7)	21.6 (1.5)	14.7 (1.3)	4.1 (0.7)	3.4 (0.7)	2.1	100.0
Bexar County . . . . .	57.0 (3.9)	18.4 (3.2)	16.4 (3.2)	†	*5.9 (2.2)	1.6	100.0
Dallas County . . . . .	65.9 (3.6)	17.6 (3.0)	10.7 (2.6)	*3.6 (1.4)	†	2.0	100.0
El Paso County . . . . .	§	§	§	§	§	§	§
Harris County . . . . .	54.8 (2.9)	22.6 (2.5)	13.5 (2.1)	4.7 (1.2)	*2.1 (1.0)	2.4	100.0
Rest of Texas . . . . .	52.0 (2.2)	22.8 (1.9)	15.3 (1.7)	4.6 (0.9)	3.4 (0.9)	1.9	100.0
Utah . . . . .	48.5 (2.6)	19.7 (2.1)	23.5 (2.3)	4.5 (1.0)	*1.9 (0.8)	1.9	100.0
Vermont . . . . .	24.5 (3.2)	13.5 (2.6)	32.8 (3.7)	20.7 (3.0)	8.2 (2.3)	0.2	100.0
Virginia . . . . .	36.2 (2.7)	24.3 (2.5)	27.6 (2.7)	6.9 (1.4)	*3.1 (1.1)	2.0	100.0
Washington . . . . .	41.8 (2.2)	20.6 (1.9)	23.9 (2.1)	7.8 (1.2)	4.6 (1.2)	1.3	100.0
Eastern counties <sup>7</sup> . . . . .	44.2 (3.7)	23.4 (3.3)	21.5 (3.4)	7.2 (1.9)	†	1.8	100.0
King County . . . . .	41.0 (4.0)	19.3 (3.5)	31.9 (4.4)	*4.7 (1.7)	†	1.4	100.0
Rest of Washington . . . . .	41.1 (3.4)	19.9 (3.0)	20.7 (3.2)	9.8 (2.0)	7.5 (2.2)	1.0	100.0
West Virginia . . . . .	42.7 (3.6)	11.9 (2.4)	13.9 (2.7)	18.6 (2.8)	10.0 (2.5)	2.9	100.0
Wisconsin . . . . .	44.5 (3.0)	17.4 (2.5)	24.3 (3.0)	8.6 (1.7)	*2.6 (1.2)	2.7	100.0
Milwaukee County . . . . .	§	§	§	§	§	§	§
Rest of Wisconsin . . . . .	41.0 (3.5)	18.5 (2.9)	25.6 (3.5)	9.9 (2.1)	†	2.5	100.0
Wyoming . . . . .	§	§	§	§	§	§	§

\* Estimate has a relative standard error greater than 30% and less than or equal to 50% and is considered unreliable.

† Estimate has a relative standard error greater than 50% and is not shown.

§ Model-based estimates for Maryland-Prince George's County, Montana, South Dakota, Texas-El Paso County, Wisconsin-Milwaukee County, and Wyoming are not reported because, for at least one telephone service use category, direct estimates from the National Health Information Survey were more than double or less than one-half the synthetic estimate. These differences between two components of the model-based estimates suggest that the direct estimates for these areas may be biased. Biased estimates violate a key model-based estimation assumption.

<sup>1</sup>The proportion of children living in households with no telephone service was not modeled. Other proportions were adjusted so that this estimate agreed with the 2011 American Community Survey estimate for this proportion.

<sup>2</sup>Includes Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Plumas, Shasta, Sierra, Siskiyou, Tehama, and Trinity.

<sup>3</sup>Includes Adams, Arapahoe, Denver, and Douglas.

<sup>4</sup>Includes Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington.

<sup>5</sup>Includes Catron, Chaves, Curry, De Baca, Dona Ana, Eddy, Grant, Hidalgo, Lea, Lincoln, Luna, Otero, Roosevelt, Sierra, and Socorro.

<sup>6</sup>Includes Bronx, Kings, New York, Queens, and Richmond.

<sup>7</sup>Includes Adams, Asotin, Benton, Chelan, Columbia, Douglas, Ferry, Franklin, Garfield, Grant, Kittitas, Klickitat, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, Whitman, and Yakima.

NOTE: Estimates were calculated by NORC at the University of Chicago.

SOURCES: CDC/NCHS, National Health Interview Survey, 2007–2012; U.S. Census Bureau, American Community Survey, 2006–2011; and infoUSA.com consumer database, 2007–2012.

## Technical Notes

### Survey data sources

The estimates presented in this report are based on National Health Interview Survey (NHIS) data collected from January 2007 through December 2012, and on American Community Survey (ACS) data collected from 2006 through 2011. NHIS is a multipurpose health survey conducted by the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS). ACS is a multi-purpose survey conducted by the U.S. Census Bureau to produce estimates of demographic, social, economic, and housing characteristics.

#### National Health Interview Survey

NHIS is a multistage probability household survey of a large sample of households drawn from the civilian noninstitutionalized household population of the United States. This face-to-face interview survey is administered by trained field representatives from the U.S. Census Bureau, under contract to NCHS. NHIS interviews are conducted continuously throughout the year to collect information that is used to assess progress toward meeting national health objectives. Survey content includes health status, health risk factors, health-related behaviors, health care access, and health care utilization. NHIS also includes questions about demographic and socioeconomic characteristics, household telephones, and whether anyone in the household has a wireless telephone.

The sample for NHIS is stratified by state, which allows NHIS data to be used in statistical models that produce state-level estimates. However, for most states the limited number of sampling strata and small sample sizes preclude reliable direct state-level estimates. Household telephone status information was obtained for 75,150 persons in 2007, for 73,749 persons in 2008, for 88,053 persons in 2009, for 89,620 persons in 2010, for 101,449 persons in 2011, and for 107,723 persons in 2012.

Fewer than 0.5% of persons with completed NHIS family-level interviews had missing data for household telephone status.

NHIS was used to derive direct estimates for each telephone service use category by age group (adults aged 18 and over or children under age 18), small area, and 6-month period. These estimates were the dependent variables in the statistical models. Also, NHIS was the source for the national estimates used for raking the model-based estimates for each telephone service use category by age group and year.

#### American Community Survey

ACS is a multistage probability survey that provides data on households and group quarters. In this report, a subset of the full ACS sample—the civilian noninstitutionalized population—is used to represent a population similar to that sampled for NHIS. Data are collected continuously through a combination of mailed, telephone, and face-to-face interviews. ACS is both nationally and state-representative and has included approximately 2 million housing units per year since 2006.

ACS data are released for calendar years rather than for 6-month periods. Moreover, 2012 ACS data will not be released until Fall 2013. Therefore, ACS data for 2006 were used in models for both 6-month periods of 2007 (i.e., January–June 2007 and July–December 2007). Similarly, ACS data for 2007 were used in models for both 6-month periods of 2008; data for 2008 were used in models for 2009; data for 2009 were used in models for 2010; data for 2010 were used in models for 2011; and data for 2011 were used in models for 2012. Moreover, ACS was the source for the proportion of adults or children living in households with any telephone service (landline or wireless). These ACS estimates were used as benchmarking totals when raking the model-based estimates.

#### Auxiliary data source

The numbers of listed telephone lines within each state for 2007–2012

were obtained from a consumer database compiled by infoUSA.com (Infogroup, Papillion, NE). This database is updated bimonthly with information from 37 sources, including postal delivery sequence files, National Change of Address lists, utility company records, and more than 4,000 white pages directories. These data were available for each calendar year rather than each 6-month period. Therefore, annual data on listed telephone lines were used in models for both 6-month periods of the selected calendar year. The count of listed telephone lines was divided by the number of civilian noninstitutionalized persons and, because these proportions were available at the state level only, the same state-specific proportion was used in the model for each small area in the state.

### Definitions

For each family contacted by NHIS, one adult family member is asked whether “you or anyone in your family has a working cellular telephone.” An NHIS family can be an individual or a group of two or more related persons living together in the same housing unit (a “household”). Thus, a family can consist of only one person, and more than one family can live in a household (including, for example, a household where there are multiple single-person families, as when unrelated roommates are living together).

To produce the statistics for this report, families are identified as “wireless families” if anyone in the family had a working cellular telephone at the time of interview. This person (or persons) could be a civilian adult, a member of the military, or a child. Households are identified as “wireless-only” if they include at least one wireless family and if there are no working landline telephones inside the household. To determine whether there was a working landline telephone inside the household, survey respondents were asked if there was “at least one phone inside your home that is currently working and is not a cell phone.”

Household telephone status (rather than family telephone status) is used

because most telephone surveys draw samples of households rather than families. Adults and children are identified as wireless-only if they live in a wireless-only household. Individual ownership or use of wireless telephones is not determined. A similar approach is used to identify adults and children living in landline-only households and in households with both landline and wireless telephones.

NHIS includes an additional question for persons living in families with both landline and wireless telephones. The respondent for the family is asked to consider all of the telephone calls the family receives and to report whether “all or almost all calls are received on cell phones, some are received on cell phones and some on regular telephones, or very few or none are received on cell phones.” This question permits the identification of persons living in “wireless-mostly” households (defined as households with both landline and cellular telephones in which all families receive all or almost all calls on cell phones) and “landline-mostly” households (defined as households with both landline and cellular telephones in which all families receive all or almost all calls on landline

telephones). “Dual-use” households are those with both landline and cellular telephones that are neither wireless-mostly nor landline-mostly. That is, they receive some calls on cell phones and some on landline telephones.

### Small-area model

Detailed descriptions of the small-area model and the derivation of the model-based estimates and standard errors are provided elsewhere (2). As noted above, the model-based estimates were a weighted combination of three distinct sets of estimates: (a) the direct estimate from NHIS for the small area during the 6-month period of interest, (b) a synthetic estimate derived from a regression model involving ACS and auxiliary data for the small area during the 6-month period of interest, and (c) adjusted direct estimates from NHIS for the small area during all 6-month periods other than the 6-month period of interest.

NHIS and ACS sampling weights adjust for the probability of selection of each household, and are adjusted for nonresponse. The results in this report are based on weighted estimates. *R* software (<http://www.r-project.org>) was used to derive the model-based

estimates and standard errors. Design effects were included in the models to account for the complex survey designs.

The approach used to create the model-based estimates can produce substantially biased prevalence estimates and unstable variance estimates when the direct estimate from NHIS is based on small sample sizes, when that sample is drawn from only a few geographic areas, and when those few geographic areas are not representative of the state or county of interest. To identify potentially problematic model-based estimates, the person-level prevalence ratio of the direct survey estimate to the synthetic regression-based estimate was examined for each telephone service use category and for each small area. Ratios were computed across all 6-month periods. If the ratios for any telephone service use category were greater than two or less than one-half, then all model-based estimates for that reporting area were suppressed from [Tables 1–3](#) in this report. This occurred for six small areas: Maryland-Prince George’s County, Montana, South Dakota, Texas-El Paso County, Wisconsin-Milwaukee County, and Wyoming. For these areas, the synthetic estimates derived from the regression model are presented in the [Table](#) below.

**Table. Synthetic regression-based estimates (with standard errors) of the percent distribution of household telephone status, by age, for selected geographic areas where model-based estimates are not reported: United States, 2012**

Age and geographic area	Wireless-only	Wireless-mostly	Dual-use	Landline-mostly	Landline-only	No telephone service <sup>1</sup>	Total
Adults aged 18 and over							
Percent (standard error)							
Maryland-Prince George’s County . . . . .	32.2 (5.7)	21.3 (4.3)	29.6 (6.0)	13.3 (3.6)	†	1.0	100.0
Montana . . . . .	39.9 (6.1)	16.9 (3.8)	17.7 (4.9)	14.7 (3.8)	†	2.4	100.0
South Dakota . . . . .	38.6 (5.9)	15.1 (3.6)	21.8 (5.1)	13.9 (3.7)	†	2.0	100.0
Texas-El Paso County . . . . .	43.8 (6.3)	14.3 (3.7)	23.2 (5.5)	†	†	3.8	100.0
Wisconsin-Milwaukee County . . . . .	44.1 (6.1)	13.7 (3.5)	20.8 (5.1)	*9.7 (3.2)	†	2.4	100.0
Wyoming . . . . .	39.3 (6.1)	15.7 (3.7)	19.8 (5.1)	13.3 (3.7)	†	2.1	100.0
Children under age 18							
Maryland-Prince George’s County . . . . .	35.6 (7.5)	24.8 (6.4)	31.2 (7.8)	†	†	1.0	100.0
Montana . . . . .	49.7 (8.1)	22.9 (6.2)	*15.6 (6.0)	†	†	2.5	100.0
South Dakota . . . . .	46.2 (7.7)	19.3 (5.6)	22.3 (6.5)	†	†	2.5	100.0
Texas-El Paso County . . . . .	55.9 (7.4)	*15.2 (5.0)	*17.7 (6.0)	†	†	5.2	100.0
Wisconsin-Milwaukee County . . . . .	51.5 (8.1)	*16.4 (5.4)	*21.1 (6.6)	†	†	3.4	100.0
Wyoming . . . . .	47.3 (8.0)	21.0 (5.9)	*17.9 (6.3)	†	†	1.7	100.0

† Estimate has a relative standard error greater than 50% and is not shown.

\* Estimate has a relative standard error greater than 30% and less than or equal to 50% and is considered unreliable.

<sup>1</sup>The proportion of persons living in households with no telephone service was not modeled. Other proportions were adjusted so that this estimate agreed with the 2011 American Community Survey estimate for this proportion.

NOTES: Model-based estimates for these six areas are not reported in the main-text tables because the direct National Health Interview Survey estimates (a component of the model-based estimates) may be biased. This table presents synthetic estimates (another component of the model-based estimates) for these areas. These synthetic estimates are the best available estimates for these areas but should be used with caution because they are generally less reliable than the model-based estimates reported for other geographic areas. Estimates were calculated by NORC at the University of Chicago.

SOURCES: U.S. Census Bureau, American Community Survey, 2006–2011; and infoUSA.com consumer database, 2007–2012.

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HEALTH & HUMAN SERVICES**

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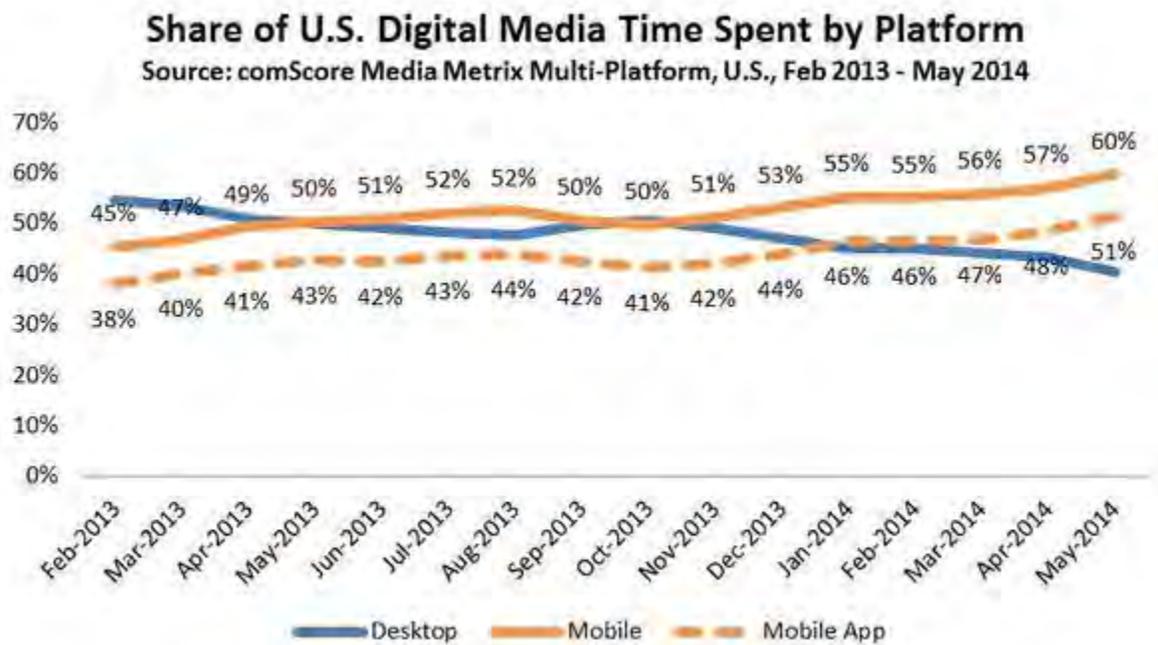
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## Major Mobile Milestones in May: Apps Now Drive Half of All Time Spent on Digital

By: [Andrew Lipsman](#)

May turned out to be a banner month for mobile as it delivered on some huge milestones which underscored just how impressive the medium's ascendance has been in the past few years. Mobile platforms – smartphones and tablets – combined to account for 60% of total digital media time spent, up from 50% a year ago. And perhaps more impressively, mobile apps accounted for more than half of all digital media time spent in May, coming in at 51%.



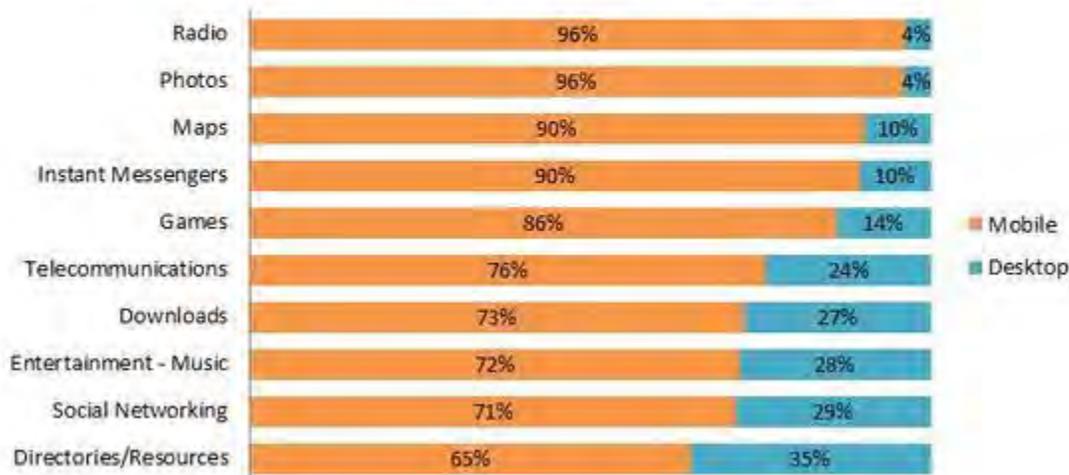
### Internet Radio Leads Categories Generating Majority of Activity from Mobile

While the mobile platform shift continues unabated, not every content category has experienced the shift at the same speed. An analysis of the leading content categories (based on those with at least 10 billion minutes of total engagement in May) showed which have seen the most pronounced shift to mobile. Amazingly, but perhaps not altogether unexpectedly, a couple of important categories have shifted almost exclusively to mobile. Digital Radio, led

by category leader Pandora now generates more than 96% of its total engagement from mobile devices. Meanwhile the Photos category, with key players such as Instagram and Flickr leading the way, also attracted 96% of its activity from mobile. Other categories getting at least 90% of their engagement from mobile include Maps (thanks to Google Maps, Apple Maps, and others) and Instant Messengers (led by Facebook Messenger, WhatsApp, Viber and others).

## Share of Time Spent by Platform Among Selected Leading Content Categories

Source: comScore Media Metrix Multi-Platform, U.S., May 2014



### Social Networking: Huge Category Experiencing Huge Shift to Mobile

While social networking does not rank at the very top of this list among the most mobile-skewing content categories, it is arguably the most important. The #1 category in terms of overall digital engagement accounting for 20% of total digital time spent, social networking now generates more than 70% of its activity on mobile. When considering the category's contribution to total digital ad spending, its rapid shift to mobile marks an important sign of the times for the internet economy.

Just how important is social networking to mobile? Consider the following stats:

- Total mobile engagement on social has grown 55% in the past year
- Social networking on mobile has accounted for 31% of all growth in total internet engagement in the past year
- Social is the home of the #1 mobile property, Facebook, which accounts for 24% of all mobile time spent. The primary Facebook app accounts for 18% on its own.

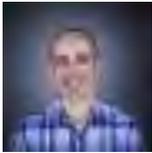
### What's Next in Mobile?

It's clear that mobile usage is a tidal wave that's completely transformed the way we consume digital content, particularly in just the past year or two. And we know that as eyeballs move to mobile, ad dollars will eventually have to follow suit. But this transition will be bumpy if the ad measurement and monetization infrastructure develops too slowly.

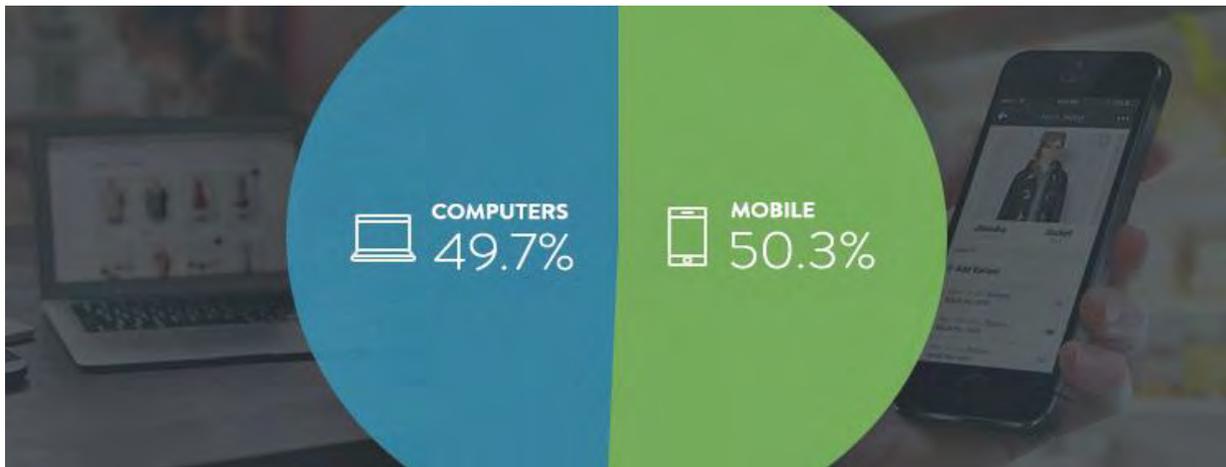
comScore understands the need for accurate measurement of mobile audiences and ads, which is why we've continued to break new ground with the introduction of [Mobile Metrix](#), [Media Metrix Multi-Platform](#), [vCE Mobile](#) and [vME Mobile](#). With mobile apps now accounting for more than half of digital media time spent, the need for advancements to help accelerate this transition has never been more urgent. In the coming weeks and months, we have several new innovations in store that will help media companies and advertisers improve the delivery and monetization of mobile ads, so stay tuned!

**Tags:** [Apps](#), [Engagement](#), [Facebook](#), [Mobile](#), [Social](#)

# Mobile Now Accounts for 50.3% of All Ecommerce Traffic



- by [Tobias Lütke](#)
- Posted in [Shopify Updates](#)
- August 26, 2014



Last week represented the first time in history that more people used mobile phones and tablets to visit online stores than using computers. Looking at data from over 100,000 ecommerce stores that use the Shopify platform, we saw 50.3% of traffic coming from mobile (40.3% from mobile phones, 10% from tablets) and just 49.7% from computers.

We have been watching and [talking](#) about the mobile commerce trend for years, but now there's no disputing it: mobile commerce is now the default way that people shop online.

The rise in mobile phone traffic to online stores is partly being fuelled by the overall trend of social-fuelled discovery becoming a major marketing channel. For example, while Facebook accounted for less than 5% of traffic to ecommerce sites on desktop, that number jumps to 7% when looking at mobile phones. In comparison, search based traffic from Google represented 18% of traffic from computers, but just 12% on mobile phones. This data seems to show that computers are being used to search for more commodity-type goods, while social media and mobile are used for more spontaneous, discovery-based purchases.

The rise in mobile shopping also brings about another fascinating trend, what we're calling "always-on shopping". Computer-based traffic to ecommerce sites traditionally peaked between Monday and Friday and trailed off during the weekend. Mobile traffic has somewhat opposite behaviour since shoppers use their phones most during the weekends. So when you combine mobile, tablet and computer traffic to ecommerce sites, you no longer find any discernable spikes when people are shopping online. In other words, shopping is no longer something people go and do anymore; it's something they are always doing.

## How Shopify pivoted to being mobile first

A few years ago we began tracking the rise of mobile shopping and drastically changed how we operate at Shopify. We acquired a mobile development company, released two major iOS applications ([Shopify Mobile](#) and [Shopify POS](#)), released a mobile phone optimized checkout and overhauled our storefront themes to be responsive. This September we will be launching a new fully-responsive checkout, more free responsive themes and the beta version of [Shopify Mobile for Android](#).

We also began to work closely with major mobile operating system providers to try to address a current shortcoming of mobile: conversion rate. While the majority of online store traffic now comes from mobile, the majority of purchases still happen using computers. This is because entering your credit card details and personal information on a small screen still causes a lot of friction. We believe this is a very solvable issue.

Similarly we also began to work closely with major social networks to bolster the trend of discovery-based shopping on mobile phones and tablets. We believe social is soon going to be a major traffic driver and the largest marketing opportunity for small to medium sized businesses that want to sell their products online.

Despite mobile commerce's insanely rapid adoption, I believe we're still in its infancy. And I'm looking forward to Shopify playing a big part in its future.

Tobi Lütke

Founder, CEO, Shopify

Sent from my iPhone



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Vice President – Federal  
Legislative Affairs

[Submitted by E-Mail to CommActUpdate@mail.house.gov](mailto:CommActUpdate@mail.house.gov)

September 19, 2014

Committee on Energy and Commerce  
U.S. House of Representatives  
2125 Rayburn House Office Building  
Washington, DC 20515

*Re: CenturyLink Response to Committee White Paper on Universal Service Policy and the Role of the Federal Communications Commission*

CenturyLink supports the Congressional efforts to undertake reform of the Communications Act in light of the significant technological and marketplace changes that have occurred since the 1996 Telecommunications Act was written. With the rapid and fundamental changes occurring in the communications marketplace, the legislative construct and the regulations stemming from that construct no longer effectively serve as structures that promote universal access to critical communications services. It is time to revisit and revise those structures in order to re-align the principles of universal access with today's and tomorrow's communications networks and services.

CenturyLink views that universal service should continue to remain a core objective of communications policy in this country. With respect to the five major components of the current Universal Service Fund (USF), namely the contribution mechanism and the four distribution programs, all warrant reform. As an overarching matter, universal service policies should be explicitly re-directed to support voice and broadband internet access services and the networks that enable those communications.

To most efficiently promote universal access to critical communication services in high-cost areas, the ideas of competition policy must be adjusted to account for the fact that the market, standing alone, will not provide the desired services. Historically, high-cost support mechanisms were created with monopoly utilities in mind and relied extensively on implicit subsidies. Those mechanisms no longer work, and legacy service obligations distort competition in other markets. Accordingly, the FCC is quite appropriately working to reform high-cost support in a Connect America Fund that can meet statutory goals without disrupting competition in other markets. In the future, this effort and Congressional policy may be better served with a revised statutory framework. For high-cost support, a guiding principle must be to ensure that there is at least a single provider who can provide the necessary services, where those services would not be provided in the absence of support. In addition, participation must be voluntary and service obligations must be clear, stable, and sufficiently supported.

The mechanism for contributing into the Universal Service Fund (USF) must be revamped in order to broaden the contribution base, simplify the contribution methodology and ensure that similar services share the same contribution obligations.

Promoting affordable communication services to low-income consumers should also remain an important component of universal access, but Congress should consider fundamentally reforming the Lifeline program so as to make it a free-standing program that is wholly voluntary for service providers and removes service providers from the administration of the program. Perhaps it would make sense to leverage some of the infrastructure developed to administer other forms of low-income support.

A separate program that focuses on the communication needs of schools and libraries remains important, especially with the manner in which communications technology advances are

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fundamentally altering education in this country. At the same time, administration of that program has become excessively complex and fraught with land-mines of non-compliance at every turn. Congress should examine or encourage the Federal Communications Commission to examine how to simplify E-rate administration while effectively protecting against waste, fraud, and abuse of the program.

Promoting access to communications for rural health care providers is also important, but the Rural Health Care Program has been historically under-utilized which strongly suggests the program needs to be reviewed and re-designed.

**1. How should Congress define the goals of the Universal Service Fund? Should Congress alter or eliminate any of the six statutory principles, codify either of the principles adopted by the FCC, or add any new principles in response to changes in technology and consumer behavior?**

The primary goal of the Universal Service Fund (USF) should be achieving the availability of sufficient communications, including voice and internet communications, throughout the country. The existing USF principles are generally sound, including those added by the FCC (competitive neutrality and support for networks that provide advanced services and voice services) and should be maintained. There are certain modifications to the principles that should be made to more directly address universal access to broadband services, but it is primarily the application of the principles in today's marketplace that needs to be modified.

The first three USF principles continue to make sense as guiding principles for universal service. Those principles are that (1) quality services should be available at just, reasonable, and affordable rates, (2) access to advanced telecommunications and information services should be provided in all regions of the nation, and (3) services and the rates at which those services are available to consumers in rural, insular and high-cost areas should be reasonably comparable to the

services and rates available to consumers in urban areas.<sup>1</sup> To best realize these principles, in light of advances in technology and a changed marketplace since the 1996 Telecommunications Act was written, Congress needs to recognize and adopt a fundamental shift in USF to directly support deployment and maintenance of networks providing broadband and voice services in high-cost areas.

To enable efficient use of USF support in high-cost areas that support should be limited to one provider for areas that would not otherwise have the supported services. USF support should not be used to overbuild existing networks that already provide to all customers in an area access to services at a sufficiently comparable level. At the same time, care must be taken to ensure that existing services are sufficient and available to all locations in an area, before that area is excluded from any USF support. While overbuilding of landline networks with other landline networks should be avoided, some overbuilding of inter-modal networks with USF support may be acceptable to sufficiently accomplish the goal of universal availability of the requisite communications services.

Additionally, universal service obligations should be tied directly to support actually received. Universal service obligations should not extend beyond areas for which universal support is received. There should be no eligible telecommunication carrier (ETC) obligations for a provider in any areas where the provider does not receive USF support. ETC service obligations should be co-extensive with USF support received.

Thus, Congress should establish requirements that automatically relieve an existing ETC of its ETC status and service obligations in an area where the carrier ceases to receive USF support. This is particularly important in the case of an ETC losing USF support because another provider is

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<sup>1</sup> 47 U.S.C. § 254 (b) (1-3).

an ETC receiving USF support in the area. Requiring a carrier to continue to provide voice services without USF support in high-cost areas where another carrier is receiving high cost support is competitively unfair and thus contradicts the existing universal service principle of competitive neutrality. In this situation, the solution that better aligns with the competitive neutrality principle and the need to use USF support efficiently is to remove the ETC service obligations with the loss of USF support. Congress cannot justifiably propagate a legislative construct where one provider must provide service in an area without support but another provider is only required to offer to provide service in the same area with support. Similarly, in areas where no provider is receiving USF support, Congress cannot rationally perpetuate an unfunded service obligation on any carrier, much less on only one carrier but not others serving the same area. Congress cannot justify such a discriminatory construct, and should require that ETC service obligations are automatically eliminated when USF support terminates.

The fourth principle regarding equitable contributions should be modified to allow for a broader contribution base. As currently written the principle speaks only to contributions by providers of “telecommunication services” and only providers of “telecommunications services” have a mandatory obligation to contribute into the fund.<sup>2</sup> Other providers of telecommunications “may be required to contribute.”<sup>3</sup> Rather than focus on the providers, Congress should broaden

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<sup>2</sup> 47 U.S.C. §254(b)(4) states the principle that “[a]ll providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service.” 47 U.S.C. §254(d) states that “[e]very telecommunications carrier that provides interstate telecommunications services shall contribute, on an equitable and nondiscriminatory basis, to the specific, predictable, and sufficient mechanisms established by the commission to preserve and advance universal service.”

<sup>3</sup> 47 U.S.C. §254(d) states that “[a]ny other provider of interstate telecommunications may be required to contribute to the preservation and advancement of universal service if the public interest so requires.”

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contribution requirements to effectively encompass all consumers of all types of communications services that are supported through USF programs. Additionally, both the narrow definition of and declining revenues for services subject to USF contributions have contributed to increases in the contribution factor necessary to fund USF. The current contribution factor of approximately 16 percent of the applicable interstate telecommunication revenues is a significant tax on those services. Where the technology used to provide similar services allows some services to avoid USF contributions, the assessment alone creates an unfair competitive advantage to the provider whose service is not assessed.

It is thus critical that Congress restructure USF contributions to ensure equitable and broad-based contributions that are easily applied and competitively neutral. Providers offering the same or similar communications services should be subject to the same contribution requirements. A simplified contribution mechanism that has fewer and broader groupings of assessable services subject to the same contribution treatment should promote competitively neutral contribution requirements.

The fifth principle regarding specific, predictable and sufficient federal and state mechanisms to preserve and advance universal service is also an important principle. Implicit in this principle is recognition that federal support alone is unlikely to be sufficient to meet USF goals. State participation and funding mechanisms are likely necessary to accomplish universal access in any given state. Additionally, specific and predictable mechanisms are important to enable providers to make effective use of USF support. Knowing the amount of support available for what areas and the service obligations associated with that support will enable providers to make rational business decisions in accepting and using that support. But if support obligations are unclear at the outset or are altered mid-stream, providers are less likely to take the support in the

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first instance or may be unable to meet modified support obligations. Either way, the goal of universal access is undermined.

It is also reasonable to maintain the sixth principle regarding access to advanced telecom services by schools, libraries and health care providers as a guiding principle for universal service. Both education and health care continue to be profoundly impacted by advances in communications technology, and it is important to take steps to enable those advances to be available to all schools, libraries and health care providers that wish to use those technological advances. But, how this universal service principle is applied in practice should be re-evaluated. The Rural Health Care Fund has been historically underutilized and the Schools and Libraries (E-rate) Program has become a highly complex process to successfully maneuver for schools, libraries and service providers alike, with a constant threat that a single failure to cross a “t” or dot an “i” could result in a finding that program funds must be returned. Or worse, there is the ongoing threat of False Claims Act litigation over use of E-rate funds based on purportedly incorrect application of ill-defined program requirements. Congress should make clear that because the United States Treasury is not implicated in the use of USF support – USF is derived solely from private contributions that do not include money from the US Treasury – that challenges to the use of USF support do not state a claim under the False Claims Act.<sup>4</sup>

The FCC-added principle of competitive neutrality has merit, but it has been mis-applied at times, resulting in less effective use of the USF. Application of the “competitive neutrality” principle in an area that cannot sustain a single unsubsidized provider cannot mean subsidizing multiple

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<sup>4</sup> See, e.g., *US ex rel. Shupe v. Cisco Sys.*, \_\_F.3d\_\_, 2014 WL 3057093 (5<sup>th</sup> Cir. 2014) (holding that the government failed to state a claim under the False Claims Act regarding alleged E-Rate Program violations where no federal funds were involved in the program and the Universal Service Administrative Company (USAC) which administers the program is not itself a government entity).

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providers in that area. Doing so only serves to increase the costs of universal access without actually moving any closer to accomplishing the goal of universal access. But, the principle of competitive neutrality remains important in the context of not distorting competition in other markets, generating equitable contributions to the USF, and in ensuring that funds are distributed without regard to the underlying communications technology once requisite funding criteria are met. The competitive neutrality principle should be carefully balanced with other principles to effectively accomplish universal access to the supported services.

Lastly, the Commission's more recently added principle – to provide support for networks that provide advanced services and voice service – simply reflects the new direction that USF should take to ensure universal access to today's essential communications services. It should be retained as a core universal service principle.

**2. Universal service was created to fund buildout in areas incapable of economically supporting network investment. How should our policies address the existence of multiple privately funded networks in many parts of the country that currently receive support?**

Where there are unsubsidized networks that are providing sufficient service to *all* consumers in an area, universal service support should not be necessary to ensure universal access to service. But, before removing support from an area, care should be taken to ensure that all consumers in the area have access to the equivalent services and at equivalent rates as USF-supported services from providers in the area other than the supported carrier. If this is not the case, and certain customers only have the requisite services from the supported carrier, then USF support should not be removed from the existing carrier. Universal service is critical not just for the buildout in areas incapable of economically supporting network investment, it remains critical for the operation, maintenance and technical improvements needed over the life of the network.

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For communications service providers, density matters. Many CenturyLink service areas average fewer than ten households per square mile, and are uneconomic to build or operate. Funding cannot be limited to the network build, but should also include the operation, maintenance and improvements for these networks.

**3. What is the appropriate role of states and state commissions with respect to universal service policy?**

The simple fact is that states and state commissions are closer to universal service issues in their respective states than the Commission is. Additionally, the current federal budget will not be sufficient to meet modified universal service goals. It will be necessary to have state involvement and state funds to help meet those goals. State and state commissions should be involved in developing their respective state universal service goals so long as those goals do not contradict or thwart federal universal service goals and principles.

**4. What is the appropriate role of the Federal-State Joint Board on Universal Service in a broadband, IP-enabled, largely interstate world? What is the appropriate role of related joint boards, such as the Federal-State Joint Board on Separations or the Federal-State Conference on Advanced Services?**

Federal and state collaboration is important for universal service issues and should be continued.

**5. The Universal Service Fund is one of several federal programs that support buildout of communications facilities. Are current programs at other federal agencies, like the National Telecommunications and Information Administration (which oversaw the Broadband Technology Opportunities Program) or the Rural Utility Service (which oversees lending programs and oversaw the Broadband Initiatives Program) necessary?**

It is certainly critical to have support for broadband deployment. And, different programs designed for different purposes may be complementary and appropriate. But, the programs should

be sufficiently coordinated so that the funding is not overlapping and not supporting excessive overbuilding of network providers, especially other subsidized providers.

Also, the programs need to be well-designed so that they are successful in deploying communication facilities and attracting customers to use those facilities. Programs that are hurriedly designed and implemented without sufficient forethought, clear, focused objectives, and processes well-tailored to those objectives are less likely to result in successful and efficient deployment and maintenance of communications networks.

In any event, whether other programs continue or cease to exist, the USF and particularly the support for deploying and maintaining communication networks in high-cost areas should continue. Support for high-cost areas remains critical as a cornerstone of promoting and maintaining universal access to communications in areas that would not otherwise receive those services.

**6. How can we ensure that the Universal Service Fund is sufficiently funded to meet its stated goals without growing the fund beyond fiscally responsible levels of spending?**

There are a variety of steps that Congress can take to implement the USF in a fiscally responsible manner while effectively advancing its universal service goals. First, it can expand the contribution base to distribute contributions more broadly. It can also cap the USF to inhibit excessive fluctuation of contribution obligations and to encourage more efficient and effective spending. It can put safeguards in place to minimize supporting unnecessary overbuilding such as limiting support to one provider – not multiple providers – in an area. Congress can take steps to require targeting of USF support to areas that warrant support and to an appropriate level of supported services. If supported service levels need to evolve, that should be done through pre-established standards for new, going forward universal service commitments.

Additionally, it should be recognized that USF goals cannot be accomplished immediately. It will take some time to responsibly meet those goals within a budget. But, it should also be recognized that it should not be federal support alone that accomplishes the national goal of universal service. State partnerships and state funding will be critical to successfully meeting universal access to essential communication services and that should be acknowledged and those partnerships and support should be encouraged.

**7. Are all of the funds and mechanisms of the current Universal Service Fund necessary in the modern communications marketplace?**

As described earlier, the USF needs a simplified contribution mechanism. It is also critical that the USF continue to have a mechanism for supporting networks where the market cannot sustain those networks. It is important that voice and broadband internet services be accessible to low-income consumers. But, the mechanism for supporting that accessibility for low-income customers may be better suited to a federal agency that is not the Commission and a program that is not universal service.

Generally, telecommunications companies are not well suited to and should not be required to be in the business of determining customer eligibility for Lifeline service. Social services agencies already review documentation to determine program eligibility. To also have telecommunications companies review similar documentation for Lifeline becomes a burden on the consumer, and may lead to lower participation rates in the Lifeline program. Telecommunications companies should not have to review customer documentation of welfare program participation or income documentation to determine whether a customer is eligible for a discount on their telephone service. Further, although the FCC has taken steps to address consumer privacy concerns – FCC regulations prohibit telecommunications providers from retaining the customer documentation they review to determine eligibility – CenturyLink remains concerned the requiring

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telecommunication carriers to handle customer documentation of qualifying program participation and income eligibility in the first place unnecessarily impinges on the privacy of consumers' personal information. Congress should consider having a different agency and program to promote affordability of communication services for low-income consumers.

Access to broadband internet services is also significantly impacting education in our schools and school systems. While some simplification of the E-rate program and its administration would be beneficial, overall it makes sense to keep that program within the scope of USF and under the umbrella of the Commission. Broadband internet access is also significantly changing how health care services can be provided and promoting availability of those services in rural areas is important. Even so, the USF Rural Healthcare Program is historically underutilized. Congress should evaluate whether there are alternative mechanisms to support broadband availability for healthcare in rural areas.

**8. In lieu of the current support mechanisms, could any of the programs be better managed or made more efficient by conversion to:**

**a. A state block grant program;**

CenturyLink is unsure whether state block grants would be a more effective vehicle for accomplishing universal service. The states may prioritize their goals for universal service differently; therefore, state block grants could mean widely varying universal service results across the states. In addition, states would likely adopt differing methodologies for administering programs, which would be inefficient for providers to manage. If a state block grant program were implemented, it would be important to provide clear guidance to the states as to how the support could be used so as to insure that federal universal service goals were effectively pursued and not thwarted.

**b. A consumer-focused voucher program;**

Administration of the Lifeline program is cumbersome, resource-intensive, and time-consuming for Lifeline providers. Telecommunications providers should not be determining whether a consumer qualifies for Lifeline credits. Congress should examine streamlining the program to remove eligibility determination obligations from Lifeline providers. A voucher program where an agency that typically works with low-income consumers could confirm eligibility for Lifeline, and then provide the vouchers allowing the consumer to purchase the voice and broadband internet services of their choice might be more effective than the current Lifeline program. Also, carrier obligations for the Lifeline program should be wholly separated from the high-cost program. In today's competitive market for voice services the Lifeline program should be a free-standing voluntary participation program like E-rate and the Rural Health Care programs. Linkage to high-cost support is not necessary; consumers have multiple choices for Lifeline service as many carriers have chosen to become Lifeline-only ETCs. There is no reason today to continue to compel carriers to provide Lifeline service.<sup>5</sup>

**c. A technology-neutral reverse auction; or,**

The Commission is reasonably investigating whether a technology-neutral reverse auction would be an effective mechanism for selecting a single supported provider for an area.

**d. Any other mechanism.**

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<sup>5</sup> See Letter from Mary Henze, AT&T, to Marlene Dortch, FCC, dated September 15, 2014 re Connect America Fund and Lifeline Reform, WC Docket Nos. 10-90 & 11-42 (providing sample data demonstrating that consumers strongly prefer wireless carriers over wireline carriers as their Lifeline providers and supporting the view that mandatory participation in the Lifeline Program in today's communications market is unnecessary).

The Commission is also reasonably investigating whether a contractual or procurement mechanism for disbursing support to providers serving high-cost areas would be another effective mechanism for distributing support to a single provider for a specific area.

**COMPTEL’s Response to Questions in House Energy and Commerce White Paper  
“Universal Service Policy and the Role of the Federal Communications Commission”**

COMPTEL, the leading industry association for competitive communications service providers, submits its response to the questions in the Committee on Energy and Commerce’s fifth white paper, which focuses on the nation’s universal service policy for communications services.<sup>1</sup> For more than 30 years, COMPTEL and its members have advocated for pro-competitive policies that will ensure all consumers benefit from the innovation and investment that robust competition brings to the communications marketplace.

COMPTEL’s membership has a diverse interest in the nation’s universal service policies. First, COMPTEL’s members are contributors to the Universal Service Fund (“USF”) and the members generally pass through those contributions to their customers as permitted by the Federal Communications Commission’s (“FCC”) rules.<sup>2</sup> Second, many of COMPTEL’s members provide services to customers that are partially subsidized by the USF. We have some members (or their affiliates) that serve rural areas and participate in the high-cost program. We have members that offer Lifeline service (both wireline and wireless) to low-income consumers. We also have members that provide E-rate services to schools and libraries, and members that provide services to rural healthcare facilities that receive support through the Rural Healthcare program.

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<sup>1</sup> “Universal Service Policy and the Role of the Federal Communications Commission,” House Energy & Commerce Committee, *available at* <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/20140822White%20Paper-USF.pdf> (rel. Aug. 22, 2014).

<sup>2</sup> 47 C.F.R. § 54.712.

Effective universal service policies are key to ensuring that *all* Americans, including residential, business, government, anchor institutions, rural, urban and low income—benefit from the world-class communications networks and services available in the U.S. When the value of a product increases with the number of consumers who purchase it, network effects arise. Telecommunications products and services become more valuable to an individual subscriber as the number of other people or websites he or she can reach using the products and services increases. As a result, the more consumers that are connected to and subscribe to telecommunications networks, the more valuable the networks become for all subscribers.

Since 2011, the FCC has significantly reformed each of the four programs supported by USF. In general, these reforms were designed to modernize the programs to better reflect the use and value of broadband services and ensure their availability in rural areas, to schools and libraries, and to rural healthcare facilities.

The FCC’s high-cost reforms, which were adopted on a bipartisan, unanimous basis in November 2011<sup>3</sup>, have the potential to deliver more fixed and mobile broadband networks and services in rural areas. In the *USF/ICC Transformation Order*, the FCC found that fixed and mobile broadband services have become “critical to our nation’s economic growth, global competitiveness, and civic life” and that the existing USF regime had to be reformed to ensure that all Americans would benefit from the availability of broadband networks.<sup>4</sup> The Commission adopted the Connect America Fund and Mobility Fund to promote the availability of fixed and mobile broadband networks, respectively. It also adopted the

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<sup>3</sup> See *In the Matter of Connect America Fund*, WC Docket Nos. 10-90 *et al*, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161, ¶ 5 (2011), *aff’d sub nom. In re FCC11-161*, 703 F.3d 1015 (10<sup>th</sup> Cir. 2014) (“*USF/ICC Transformation Order*”), available at [FCC-11-161A1.pdf](#).

<sup>4</sup> *Id.* at ¶ 3.

following goals for reform: (1) preserve and advance universal availability of voice service; (2) ensure universal availability of modern networks capable of providing voice and broadband service to homes, businesses, and community anchor institutions; (3) ensure universal availability of modern networks capable of providing advanced mobile voice and broadband service; (4) ensure that rates for broadband services and rates for voice services are reasonably comparable in all regions of the nation; and (5) minimize the universal service contribution burden on consumers and businesses.<sup>5</sup> The FCC's latest data show that approximately 19 million Americans still lack access to fixed broadband service at threshold speeds and that up to 150 million Americans are unserved by mobile wireless data services at threshold speeds, many of whom live in rural areas.<sup>6</sup>

Unfortunately, implementation of the high cost reforms has been slower than anticipated. COMPTTEL has advocated that the FCC should continue on a path toward implementing the reforms expeditiously, maintain its original goal of addressing unserved areas for both fixed and mobile networks and ensure ongoing operational support for such networks where there is not a business case to be made to offer service.<sup>7</sup> The availability of voice and broadband services to all Americans is critical to achieving the most value for all consumers.

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<sup>5</sup> *Id.* at ¶48.

<sup>6</sup> *In the Matter of 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*, GN Docket No. 11-121, Eighth Broadband Progress Report, FCC 12-90, at ¶¶1, 5, 90 (rel. Aug. 21, 2012), available at [FCC-12-90A1.pdf](#)

<sup>7</sup> Reply Comments filed by COMPTTEL in WC Docket Nos. 10-90, *et al.*, on September 8, 2014, available at [View \(24\)](#).

Just a few months ago, the FCC voted to modernize the E-rate program<sup>8</sup> to ensure better broadband connectivity within schools and libraries, and the FCC continues to consider additional changes in the program to improve broadband connectivity to schools and libraries. The availability of competitive choice in providers and in the provision of services has benefitted the E-rate program, and COMPTEL and its members have encouraged the Commission to maintain the competitive bidding requirements. The FCC's latest reform has introduced some limited exceptions to the competitive bidding process, and it remains to be seen whether the alleged benefits of these exceptions will outweigh the efficiencies that can be gained through competitive bidding, such as lower prices and more innovative services.

The FCC's reform in the Rural Healthcare Program adopted in late 2012<sup>9</sup> was based on lessons learned from its pilot program and is intended to promote the availability of rural healthcare networks to advance telemedicine and the availability of healthcare in rural areas. In addition, the Commission's Telecommunications Program continues to provide support for telecommunications and broadband services to qualifying rural healthcare facilities. COMPTEL supports the continuing availability of both programs to ensure healthcare providers can choose the best solution that will deliver quality services at affordable rates. COMPTEL also strongly supports the competitive bidding requirements in both programs.

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<sup>8</sup> *In the Matter of Modernizing the E-Rate Program for Schools and Libraries*, WC Docket No. 13-184, Report and Order and Further Notice of Proposed Rulemaking, FCC 14-99 (rel. July 23, 2014), available at [FCC-14-99A1.pdf](#).

<sup>9</sup> *In the Matter of Rural Health Care Support Mechanism*, WC Docket No. 02-60, Report and Order, FCC 12-150, (rel. Dec. 21, 2012), available at [FCC-12-150A1.pdf](#).

The Lifeline program currently provides a subsidy to make basic telephone service more affordable for low-income consumers. The FCC's 2012 reform<sup>10</sup> took significant steps to reduce the inefficiencies in the program and to ensure that both providers and customers are abiding by the program's rules. The FCC implemented a national Lifeline Accountability Database to eliminate duplicate claims for service, but has yet to create a database that service providers may access to verify a prospective customer's eligibility for service as contemplated by the 2012 reforms. The FCC should strengthen the Lifeline program and benefits to appropriately address the evolving communications needs of low-income consumers, complete its implementation of the Lifeline reforms adopted in early 2012, and complete and issue a report on its broadband pilot project to determine how best to meet the broadband communications needs of low-income consumers on a going forward basis.

All providers of telecommunications services are required to contribute to the USF to support these programs. The FCC has had pending since 2006 a proceeding to consider the possible reform of the USF's contribution regime.<sup>11</sup> Recently, the FCC adopted an Order that asks the Federal-State Joint Board on Universal Service ("Joint Board") to review the FCC's

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<sup>10</sup> *In re Lifeline and Link Up Reform and Modernization*, WC Docket No. 11-42, Report and Order and Further Notice of Proposed Rulemaking, FCC 12-11, (rel. Feb. 6, 2012), available at [FCC-12-11A1.pdf](#). Prior to the Report and Order, the FCC began taking steps in June 2011 to reduce the incidence of duplicate coverage, and its February 2012 Order continued to reform the program's rules to eliminate duplicate coverage.

<sup>11</sup> *In the matter of Universal Service Contribution Methodology*, WC Docket No. 06-122, Report and Order and Further Notice of Proposed Rulemaking, FCC 06-94, (rel. June 27, 2006), available at [FCC-06-94A1.pdf](#). In 2012, the Commission issued a Further Notice to refresh the record. *In the matter of Universal Service Contribution Methodology*, WC Docket No. 06-122, Further Notice of Proposed Rulemaking, FCC 12-46, (rel. April 30, 2012), available at [FCC-12-46A1.pdf](#).

contribution reform record and provide its recommendations for reform by April 7, 2015.<sup>12</sup> As the FCC moves to reform universal service funding, it is important that the contribution base be as broad as possible to include both telecommunications and broadband services, so that the USF will be more equitable for contributors and help lessen the growing burden on voice telecommunications providers and consumers.<sup>13</sup> As noted above, many of the reforms that have been adopted in the universal service programs have been based upon the goal of ensuring access to broadband networks and services and USF largely supports broadband. However, subscribers to broadband services do not currently contribute to USF. The full burden falls on subscribers to telecommunications services, which has created an inequitable situation. Telecommunications consumers who may not necessarily subscribe to broadband services are nonetheless required to support them through contributions to the USF.<sup>14</sup>

Moreover, it is important that universal service policies do not discourage competition, but certain FCC policies and rules have that effect. For example, competitors that purchase telecommunications inputs from incumbent carriers to provide broadband services are required to pay double digit universal service assessments on the price of the inputs, while incumbents who provide broadband services using their own facilities are not required to pay into the USF

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<sup>12</sup> *In the matter of Federal State Joint Board on Universal Service, Universal Service Contribution Methodology*, WC Docket Nos. 96-45 *et al.*, Order, FCC 14-116 (rel. Aug. 7, 2014), available at [FCC-14-116A1.pdf](#).

<sup>13</sup> Under the FCC's current rules, only telecommunications services – i.e., voice services – contribute to the Fund.

<sup>14</sup> For example, approximately 30 percent of Americans do not have broadband connections at home, whereas over 97 of American households have telephone service at home. See Broadband Technology Fact Sheet, available at <http://www.pewinternet.org/fact-sheets/broadband-technology-fact-sheet/>; National Health Interview Survey Early Release Program, Wireless Substitution: Early Release of Estimates, available at [Centers for Disease Control and Prevention](#).

on the telecommunications inputs used to provide broadband service. Both consumers and competitive providers of broadband service are at a disadvantage when competitive providers are required to pay universal service fees on leased telecommunications inputs of a broadband Internet access service, while incumbents do not have to pay universal service fees on these services at all. Accordingly, COMPTTEL has advocated that the FCC should revisit this issue expeditiously so that broadband competition is promoted.

1. How should Congress define the goals of the Universal Service Fund? Should Congress alter or eliminate any of the six statutory principles, codify either of the principles adopted by the FCC, or add any new principles in response to changes in technology and consumer behavior?

As discussed above, COMPTTEL supports an expansion of the contribution base to include both telecommunications and broadband services, given that the Fund largely supports the availability of broadband networks and services. Section 254(d) of the Communications Act, 47 U.S.C. § 254(d), provides that every telecommunications carrier that provides interstate telecommunications service shall contribute to the Universal Service Fund. This mandate is consistent with the fourth principle set forth in Section 254(b)(4), 47 U.S.C. § 254(b)(4), that all providers of telecommunications services should make an equitable and nondiscriminatory contribution to the preservation and advancement of universal service. Because the FCC has classified broadband Internet access services as information services, rather than telecommunications services, the FCC does not require broadband service providers to contribute to the Fund. In order to ensure that all telecommunications and information service providers bear an equitable share of the cost of preserving and advancing universal service, Congress should modify the fourth principle so that, at the very least, all providers of services that are supported by universal service funding are required to make an equitable and

nondiscriminatory contribution to the Universal Service Fund. Expanding the contribution base to include broadband, as well as telecommunications services, will alleviate some of the inequities that exist in the Fund today and hopefully avoid inequities in the future as the definition of supported service may be modified over time.<sup>15</sup>

The two non-statutory principles that have been adopted and implemented by the FCC – competitive neutrality and the use of universal service support for networks that provide advanced services as well as voice – should be codified and incorporated in the statute. Given the evolution of communications services and technology since the 1996 Telecommunications Act and the likelihood that communications services and technology will continue to evolve, COMPTTEL submits that it is also important for Congress to maintain the flexibility afforded the FCC and the Joint Board to add other universal service principles that are “necessary and appropriate for the protection of the public interest, convenience, and necessity and are consistent with the Act.” 47 U.S.C. § 254(b)(7).

2. Universal service was created to fund build-out in areas incapable of economically supporting network investment. How should our policies address the existence of multiple privately funded networks in many parts of the country that currently receive support?

High-cost universal service was created not only to fund wireline network build-outs in areas incapable of economically supporting network investment, but also to subsidize the continuing operating expenses of such networks. The statute specifies that one of the guiding principles on which the FCC should base its policies for the preservation and advancement of universal service is that consumers in all regions of the nation, including those in rural, insular and high-cost areas, should have access to telecommunications and information services that

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<sup>15</sup> Congress should also amend Section 254(d) to require contribution from broadband as well as voice telecommunications service providers.

are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas. 47 U.S.C. §254(b)(3). In today's marketplace, both fixed wireline service and mobile wireless service have become essential communications tools for consumers and Congress should ensure that universal service policies continue to promote the availability of both types of service, especially in high-cost and hard to serve rural areas.

A competitive choice of services and providers brings many benefits. The other three USF programs generally subsidize services (as compared to subsidizing network build-outs). Competitive providers are permitted to participate in these programs and bring tremendous value to the table. Competition in these programs helps drive prices down and improves service to participants, including schools, libraries, qualifying healthcare facilities, and low-income consumers. Lower prices and the availability of better services make these programs more efficient and effective, benefitting all those who receive support from the Fund, as well as those who contribute to the USF.

3. What is the appropriate role of states and state commissions with respect to universal service policy?

Affirmative actions by the states to promote universal service in their own geographic areas can lessen the burden on the federal program. Accordingly, states should be encouraged to promote universal service for advanced networks and services as well as voice services. The Federal – State Joint Board's work on universal service issues has contributed greatly to the formulation and development of the FCC's rules and policy objectives for universal service since the 1996 Act, and COMPTTEL believes that state input through the Joint Board process should continue. Many states have their own universal service programs and coordination between the federal and state programs to achieve shared objectives occurs

through the Joint Board process. Although the partnership between the federal government and state governments to promote universal service has largely been effective, there is still more work to be done to ensure that all consumers have access to basic and advanced services at just, reasonable and affordable rates. The Joint Board process has been and can in the future be used to help facilitate these positive results.

4. What is the appropriate role of the Federal-State Joint Board on Universal Service in a broadband, IP-enabled, largely interstate world? What is the appropriate role of related joint boards, such as the Federal-State Joint Board on Separations or the Federal-State Conference on Advanced Services?

As the Committee is aware, both the Federal-State Joint Board on Universal Service and the Federal-State Joint Board on Separations are required by statute. 47 U.S.C. §§ 254, 410. As discussed above, the Federal-State Joint Board on Universal Service has a continuing role to play in achieving the objective of access to basic and advanced telecommunications services at just, reasonable and affordable rates for all Americans.

The Joint Board on Separations makes recommendations to the FCC regarding the jurisdictional separation of common carrier property and expenses between interstate and intrastate operations. Incumbent local exchange carriers are generally required to separate property and costs by the jurisdiction of the services provided (interstate vs. intrastate) for purposes of rate regulation. Traditional wireline telephone service remains regulated in approximately half the states and as a result, the separations process remains relevant in those states. In determining the future of the Joint Board on Separations, the Committee should carefully evaluate the network, market and regulatory changes that have occurred in the last decade and a half and should consult with the FCC and the states on the ongoing need for the Joint Board on Separations.

In contrast to the Joint Boards, the Joint Conference was created by the FCC during Chairman William Kennard's tenure. It has recently been focused on raising the profile of and encouraging broadband best practices and adoption. Lowering barriers to broadband availability and encouraging adoption of broadband are both in the public interest and complement the statute's overall universal service goals.

5. The Universal Service Fund is one of several federal programs that support buildout of communications facilities. Are current programs at other federal agencies, like the National Telecommunications and Information Administration (which oversaw the Broadband Technology Opportunities Program) or the Rural Utility Service (which oversees lending programs and oversaw the Broadband Initiatives Program) necessary?

Both the Broadband Technology Opportunities Program ("BTOP") and the Broadband Initiatives Program ("BIP") were created by the American Recovery and Reinvestment Act of 2009 and provided one-time funding grants for the buildout of broadband networks in primarily unserved and underserved areas. As of the end of 2013, BTOP grantees built, upgraded or leased more than 112,000 miles of fiber and fixed wireline broadband connections,<sup>16</sup> and BIP awardees will provide broadband access to 2.8 million households, 364,000 businesses and 32,000 anchor institutions across more than 300,000 square miles in rural America,<sup>17</sup> thereby narrowing the digital divide. Because applications for BTOP and BIP funds are no longer being accepted, the question of whether they are necessary or not is moot.

The Rural Utility Service also provides grants and loans for funding the costs of construction, improvement and acquisition of facilities to provide broadband service to rural communities. Rural providers that rely on these grants and loans may otherwise not be able to

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<sup>16</sup> Remarks by Chief of Staff Glenn Reynolds at Building a Community Broadband Roadmap Workshop (September 14, 2014) available at [Remarks by Chief of Staff Reynolds at Building a Community Broadband Roadmap Workshop | BroadbandUSA - NTIA](#).

<sup>17</sup> About the Recovery Act BIP, available at [USDA Rural Development-UTP Broadband Initiatives Program Main](#).

afford to undertake the expense of upgrading their networks or extending their networks to provide broadband service to sparsely populated or other rural areas. The Rural Utility Service funding programs remain necessary to facilitate the delivery of broadband service to Americans living and working in rural communities.

6. How can we ensure that the Universal Service Fund is sufficiently funded to meet its stated goals without growing the fund beyond fiscally responsible levels of spending?

See response to Question 1. COMPTEL supports reasonable budgets to ensure that the USF meets its statutory and regulatory objectives, but also submits that policymakers must be sensitive to the financial burden imposed on consumers paying into the USF. Contribution reform must be undertaken by the FCC without further delay.

As noted in the introduction, contribution reform has been pending before the FCC since 2006 with no action. Since that time, the FCC has expanded the permissible uses of universal service funds to include the support of broadband Internet access service, but continues to exempt such services from contribution to the Universal Service Fund. As a result, the entire burden of subsidizing both telecommunications and information services falls on voice customers, whose interstate services are assessed at the rate of 16 percent.<sup>18</sup> The FCC must broaden the contribution base to include all of the services and technologies that people in the 21<sup>st</sup> century use to communicate. Doing so would substantially reduce the inequities in the current contribution system, as well as the assessment factor that carriers and customers are required to bear.

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<sup>18</sup> <http://www.fcc.gov/document/proposed-4th-quarter-usf-contribution-factor-161-percent>.

7. Are all of the funds and mechanisms of the current Universal Service Fund necessary in the modern communications marketplace?

Yes, as described in the introduction, each of the universal service programs has greatly contributed to ensuring that all Americans have access to telecommunications and advanced services and they continue to be necessary, perhaps even more so, in the modern communications marketplace. Each of the funds is targeted toward providing assistance to different audiences to ensure that (1) customers in high cost, rural areas have access to services comparable to those available in urban areas at comparable rates; low income customers have access to affordable telecommunications services; schools and libraries have access to the advanced services necessary to provide today's students with the educational advantages required to succeed in the 21<sup>st</sup> Century at affordable rates; and public and non-profit healthcare providers serving rural areas have access to the telecommunications services necessary to provide healthcare services at rates comparable to the rates charged in urban areas.

Rather than cutting back on or eliminating any of the funds, Congress may want to focus on directing the FCC to increase accountability in the distribution and use of universal service funds. The Universal Service Administration Company ("USAC"), acting at the direction of the FCC, collects universal service contributions from carriers and distributes the funds to eligible telecommunications carriers or schools, libraries and healthcare providers. In its Universal Service reform proceedings, the FCC has adopted requirements and procedures designed to curtail waste, fraud and abuse in the programs, but those requirements and procedures have not yet been fully implemented.

8. In lieu of the current support mechanisms, could any of the programs be better managed or made more efficient by conversion to:
  - a. A state block grant program;
  - b. A consumer-focused voucher program;
  - c. A technology-neutral reverse auction; or,
  - d. Any other mechanism.

As discussed above, each of the programs has undergone major reform in less than five years. Some of these reforms are still being implemented. An assessment of the effectiveness of the reforms should be undertaken prior to implementing sweeping legislative changes. Moreover, the cost for implementing and operating the programs under any new models should be carefully evaluated prior to adoption.

Thank you for the opportunity to comment.

Alan Hill  
SVP, Government Relations  
COMPTEL

C O U N C I L F O R



*Thomas A. Schatz*  
President

September 17, 2014

The Honorable Greg Walden  
Chairman  
Subcommittee on Communications and  
Technology  
Committee on Energy and Commerce  
U.S. House of Representatives  
2123 Rayburn House Office Building  
Washington, DC 20515

The Honorable Anna Eshoo  
Ranking Member  
Subcommittee on Communications and  
Technology  
Committee on Energy and Commerce  
U.S. House of Representatives  
2123 Rayburn House Office Building  
Washington, D.C. 20515

Dear Chairman Walden and Ranking Member Eshoo,

On behalf of the more than one million members and supporters of the Council for Citizens Against Government Waste (CCAGW), I appreciate the work the Committee has undertaken on updating the Communications Act of 1934, as well as the open dialogue you have created in providing an opportunity for all to participate in the discussion of what a modern communications law would encompass.

I would like to submit the following responses to the questions posed by the Committee in its most recent white paper on “Universal Service Policy and the Role of the Federal Communications Commission.” Should you have any questions, please feel free to contact either myself, or Deborah Collier, CAGW’s director of technology and telecommunications policy, at (202) 467-5300.

Sincerely,



Thomas A. Schatz  
President

Discussion and Questions:

- 1) How should Congress define the goals of the Universal Service Fund? Should Congress alter or eliminate any of the six statutory principles, codify either of the principles adopted by the FCC, or add any new principles in response to changes in technology and consumer behavior?**

Response:

The principle of universal service was originally set forth in the Communication Act of 1934, which provided that all Americans should have access to communications services. Following enactment of the Telecommunications Act of 1996, the Universal Service Fund (USF) was created in order to meet the Act's universal service goals. Additionally, the 1996 Act further refined the principles of universal service to include:

- Promotion of the availability of quality services at just, reasonable and affordable rates for all consumers;
- Increased nationwide access to advanced telecommunications services;
- Advancing the availability of such services to all consumers, including those in low income, rural, insular, and high cost areas, at rates that are reasonably comparable to those charged in urban areas;
- Increased access to telecommunications and advanced services in schools, libraries and rural health care facilities;
- Providing equitable and non-discriminatory contributions from all providers of telecommunications services to the fund supporting universal service programs.<sup>1</sup>

Universal service, however, does not constitute a human right: it merely provides access to services to which consumers may voluntarily subscribe. As noted by Vinton G. Cerf, one of the inventors of the Internet:

Improving the Internet is just one means, albeit an important one, by which to improve the human condition. It must be done with an appreciation for the civil and human rights that deserve protection – without pretending that access itself is such a right.<sup>2</sup>

CCAGW suggests the goals that are technology specific, such as “access to broadband capability,” should not be included in the definition of universal service. The principles should remain technology and vendor neutral. Today's

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<sup>1</sup> “Universal Service,” Federal Communications Commission, <http://www.fcc.gov/encyclopedia/universal-service>.

<sup>2</sup> Vinton G. Cerf, “Internet Access Is Not A Human Right,” *The New York Times*, January 4, 2012, [http://www.nytimes.com/2012/01/05/opinion/internet-access-is-not-a-human-right.html?\\_r=4&pagewanted=all&](http://www.nytimes.com/2012/01/05/opinion/internet-access-is-not-a-human-right.html?_r=4&pagewanted=all&).

broadband could be tomorrow's telegraph, and there is no telling what the next disruptive communications change will be or when it will occur.

**2) Universal service was created to fund build out in areas incapable of economically supporting network investment. How should our policies address the existence of multiple privately funded networks in many parts of the country that currently receive support?**

Response:

The goal of universal service is laudable. However, CCAGW is concerned about the past abuses of the USF resources and the inability of the Federal State Joint Board on Universal Service to ensure that the funding and grants have gone to regions of the country that truly lack adequate service, particularly those in extremely remote regions of the country. Congress should address confusion over the definitions of "unserved" and "underserved" populations in order to ensure that funding is not distributed to communities where service is already provided.

For example, on February 7, 2013, KUSA-Channel 9 News in Denver, Colorado reported on the administration of a Broadband Technology Opportunity Program (BTOP) grant in which money was used to build new fiber optic lines alongside those already in existence, directly competing with local telecommunications and broadband providers.<sup>3</sup> According to the report, the grant recipient, Eagle-Net, received a BTOP award of \$100.6 million to bring high speed broadband service to all the schools, libraries, and anchor institutions in underserved areas of Colorado.

On February 11, 2013, The New York Times reported that the earliest fiber optic connection turned on by Eagle-Net was in a Denver, Colorado suburb which already had fiber optic service running at 300 Mbps.<sup>4</sup> In September 2012, several members of the Colorado congressional delegation expressed their concern about Eagle-Net being involved in overbuild issues relating to their work in extending fiber optic lines to communities around the state.<sup>5</sup>

On February 20, 2013, the House Committee on Energy and Commerce held a hearing on the status of broadband spending under the stimulus.

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<sup>3</sup> "Stimulus Money Going to Waste in Colorado?" KUSA Channel 9 News, Denver, Colorado, February 7, 2013, <http://www.9news.com/video/2149863875001/50629281001/Stimulus-money-going-to-waste-in-Colorado->.

<sup>4</sup> Edward Wyatt, "Waste Is Seen in Program to Give Internet Access to Rural U.S.," *The New York Times*, February 11, 2013, [http://www.nytimes.com/2013/02/12/technology/waste-is-seen-in-program-to-give-internet-access-to-rural-us.html?pagewanted=1&\\_r=4&ref=technology](http://www.nytimes.com/2013/02/12/technology/waste-is-seen-in-program-to-give-internet-access-to-rural-us.html?pagewanted=1&_r=4&ref=technology).

<sup>5</sup> Letter to Lawrence E. Strickling, Assistant Secretary for Communications and Information, National Telecommunications & Information Agency," Congressmen Cory Gardner (R-Co.), Scott Tipton (R-Co.), Mike Coffman (R-Co.), and Doug Lamborn (R-Co.), September 17, 2012, <http://gardner.house.gov/sites/gardner.house.gov/files/EAGLE%20Net%20Colorado%20Letter.pdf>.

Witnesses stated that much of the stimulus broadband funding had produced overbuild leading to direct competition with incumbent private sector providers of broadband services.

While Connect North Georgia President Bruce Abraham lauded the economic benefits to northern Georgia stemming from the \$33 million broadband stimulus loan it received,<sup>6</sup> Vermont State President of FairPoint Communications Michael K. Smith described millions in federal dollars being used to overbuild projects throughout New England that “create a publicly financed competitor aimed at putting FairPoint and other private providers at a competitive disadvantage.”<sup>7</sup> In addition, Colorado Telecommunications Association Executive Vice President Peter Kirchhof raised concerns about the overbuild experienced in South Central Colorado, the Eastern Plains, and the Denver Metropolitan area by Eagle-Net Alliance using broadband stimulus funding.<sup>8</sup> Kirchhof called upon the committee to “strongly encourage Eagle-Net to negotiate in good faith with local providers to use existing local facilities and to avoid duplication of existing infrastructure. Eagle-Net should redeploy remaining funds to areas of the state (Western Slope) where it is badly needed.”<sup>9</sup>

Increased broadband connectivity is important, and many private sector companies have already stepped up and improved service for both wireline and wireless customers through their own capital investments. However, when taxpayer funds are used through either grant or loan programs, there should be increased accountability for where and how tax dollars are being spent in order to avoid wasteful spending and overbuild of existing infrastructure. Agency program administrators in charge of evaluating and processing federal grant requests should maintain and monitor the spending and progress of each project from start to finish through databases with measurable metrics in order to ensure the best use of taxpayer funds.

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<sup>6</sup> Bruce Abraham, “The North Georgia Network Brings Economic and Educational Progress to Rural North Georgia from Broadband Investment,” House Committee on Energy and Commerce, Subcommittee on Communications and Technology, February 27, 2013, <http://docs.house.gov/meetings/IF/IF16/20130227/100331/HHRG-113-IF16-Wstate-AbrahamB-20130227.pdf>.

<sup>7</sup> Michael K. Smith, “Testimony before the Subcommittee on Communications and Technology, ‘Is Broadband Stimulus Working?’” House Committee on Energy and Commerce, February 27, 2013, <https://docs.google.com/viewer?url=http%3A%2F%2Fdocs.house.gov%2Fmeetings%2FIF%2FIF16%2F20130227%2F100331%2FHHRG-113-IF16-Wstate-SmithM-20130227.pdf>.

<sup>8</sup> “Testimony of Mr. Peter Kirchhof, Executive Vice President, Colorado Telecommunications Association, Subcommittee on Communications and Technology,” House Committee on Energy and Commerce, February 27, 2013, <http://docs.house.gov/meetings/IF/IF16/20130227/100331/HHRG-113-IF16-Wstate-KirchhofP-20130227.pdf>.

<sup>9</sup> Ibid.

**3) What is the appropriate role of states and state commissions with respect to universal service policy?**

Response:

States are far better equipped to know and understand the needs of their communities than an administrative agency based in Washington, D.C. They understand and can anticipate the requirements for broadband services to unserved communities, whereas the FCC can only rely on data provided by applicants on whether their communities are truly unserved. Because of their proximity to the local communities, state governments can provide the best assessment as to whether or not rural communities are being provided the opportunities to improve their services.

**4) What is the appropriate role of the Federal-State Joint Board on Universal Service in a broadband, IP-enabled, largely interstate world? What is the appropriate role of related joint boards, such as the Federal-State Joint Board on Separations or the Federal-State Conference on Advanced Services?**

Response:

See response to question 2.

**5) The Universal Service Fund is one of several federal programs that support build out of communications facilities. Are current programs at other federal agencies, like the National Telecommunications and Information Administration (which oversaw the Broadband Technology Opportunities Program) or the Rural Utility Service (which oversees lending programs and oversaw the Broadband Initiatives Program) necessary?**

Response:

CCAGW has long been concerned about duplicative programs within the federal government. The formation of broadband programs across at least three different federal agencies is symptomatic of this problem. Without a centralized authority over these programs, coordination between the agencies can be difficult.

Among the programs that have done a poor job in managing federal dollars for communications services are the National Telecommunications and Information Administration's (NTIA) Broadband Technology Opportunities Program (BTOP), and the Department of Agriculture's Rural Utility Service (RUS), which oversaw the Broadband Initiatives Program (BIP). Both of these programs have led to wasteful spending and have jurisdictional conflicts with the

mission of the Federal Communications Commission; in particular, the FCC's Universal Service Fund, and its offshoot, the Connect America Plan.

The RUS grew out of the remnants of the Rural Electrification Administration (REA), which was created in the 1930s. The primary goal of the REA was to promote rural electrification to farmers and residents in out-of-the-way communities where the cost of providing electricity was considered too expensive for local utilities to bear alone.

By 1981, 98.7 percent of Americans had electricity and 95 percent had telephone service. Rather than declaring victory and shutting down the REA, the RUS was born, and its mandate was expanded to provide loans and grants for activities including telephone service to underserved areas of the country. That mission was further expanded in 2002 to provide broadband services to rural areas of the country unserved or underserved by existing service.

A September 2005 USDA Inspector General (IG) report noted:

RUS has not maintained its focus on rural communities without preexisting service. Although the language of the law specifies that these Federal loans and grants are for rural communities, RUS has codified and implemented a definition that cannot reliably distinguish between rural and suburban areas...Furthermore, we question whether the Government should be providing loans to competing rural providers when many small communities might be hard pressed to support even a single company. In these circumstances, RUS may be setting its own loans up to fail by encouraging competitive service; it may also be creating an uneven playing field for preexisting providers operating without Government assistance.<sup>10</sup>

In 2009, the USDA IG reported that RUS had not fully implemented corrective action in response to eight of the 14 recommendations from the 2005 report and continued to make loans to providers in areas with preexisting service, sometimes in close proximity to large urban areas.<sup>11</sup>

During the open comment period in late 2011 and early 2012 for the restructuring of the USF program, the RUS raised concerns to the FCC about the

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<sup>10</sup> "Audit Report: Rural Utilities Service Broadband Grant and Loan Programs," U.S. Department of Agriculture Office of Inspector General, Report No. 09601-4-Te, September 2005, <http://www.usda.gov/oig/webdocs/09601-04-TE.pdf>.

<sup>11</sup> "Audit Report: Rural Utilities Service Broadband Loan and Loan Guarantee Programs," U.S. Department of Agriculture Office of the Inspector General, Report No. 09601-8-Te, March 2009, <http://www.usda.gov/oig/webdocs/09601-8-TE.pdf>.

effect reforms might have on its program.<sup>12</sup> Positioning itself as an incentive lender, rather than a lender of last resort, RUS suggested that the reorganization could have consequences affecting the qualification of applicants for its loan program, because the RUS includes USF grants, intercarrier compensation, end user revenues, and other funding sources when examining the financial stability and creditworthiness of its loan applicants. A July 9, 2012, article in *Fierce Telecom* reiterated this position when it reported on concerns of the Rural Broadband Alliance that, with caps on payments to rural telecommunications providers, some loan recipients “might not be able to pay back their Rural Utilities Service (RUS) loans.”<sup>13</sup> This wasteful spending in federal broadband programs has the potential to allow double-dipping into multiple federal pots of money.<sup>14</sup>

Both the NTIA and RUS were allocated stimulus dollars designed to increase national broadband deployment. The RUS program received \$2.5 billion in stimulus funding for its Broadband Initiatives Program (BIP), and the NTIA received \$4.7 billion for its BTOP. From fiscal year (FY) 2002 to FY 2009, BIP’s funding averaged \$13 million annually, and the NTIA’s Public Safety Interoperable Communications Program, the predecessor to BTOP, received \$1 billion in its largest funding year, FY 2007. As noted previously, NTIA’s BTOP program created redundant services in Colorado, and the BIP program also duplicated broadband services in other states.

In March 2013, the USDA IG reported that “RUS funded BIP projects that sometimes overlapped preexisting RUS-subsidized providers and approved 10 projects, totaling over \$91 million, even though the proposed projects would not be completed within the 3-year timeframe RUS established and published.”<sup>15</sup> The IG “also found that the agency could have implemented the program so that it would have focused more exclusively on rural residents who do not already have access to broadband.”<sup>16</sup>

When government competes with the private sector, the taxpayers lose. Federal programs that allocate funding for communications services to unserved and underserved regions of the country should be consolidated in order to ensure duplication does not occur. Failure to eliminate the antiquated RUS or to

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<sup>12</sup> “Overview of Telecommunications and Broadband Loan and Grant Programs,” Rural Utilities Service, U.S. Department of Agriculture, 2011, <http://apps.fcc.gov/ecfs/document/view?id=7021699801>.

<sup>13</sup> Sean Buckley, “Rural Broadband Alliance: USF Reform Will Do More Harm than Good,” *Fierce Telecom*, July 9, 2012, <http://www.fiercetelecom.com/story/rural-broadband-alliance-usf-reform-will-do-more-harm-good/2012-07-09>.

<sup>14</sup> Joan Engebretson, “Does USF Reform Put RUS Loans at Risk of Default?” *Telecompetitor*, August 3, 2011, <http://www.telecompetitor.com/does-usf-reform-put-rus-loans-at-risk-of-default/>.

<sup>15</sup> “American Recovery and Reinvestment Act of 2009 – Broadband Initiatives Program – Pre-Approval Controls,” U.S. Department of Agriculture Office of the Inspector General, Audit Report 09703-0001-32, March 2013, <http://www.usda.gov/oig/webdocs/09703-0001-32.pdf>.

<sup>16</sup> *Ibid.*

prevent further expansion of the program results in taxpayers being stuck with this unnecessary, duplicative, and excessively expensive program into the foreseeable future. It is recommended that the broadband initiatives for the federal government be consolidated into one agency in order to reduce or eliminate waste, mismanagement, fraud, and abuse, along with greater oversight of these programs.

**6) How can we ensure that the Universal Service Fund is sufficiently funded to meet its stated goals without growing the fund beyond fiscally responsible levels of spending?**

Response:

The USF yields approximately \$8 billion annually.<sup>17</sup> There are four programs that receive USF funds: the Schools and Libraries program, also known as E-Rate; the High Cost program, which provides grants to build out telecommunications infrastructure in underserved or unserved areas of the country; the Rural Healthcare program, which provides telecommunications services, including broadband, to eligible health care providers; and the low-income support program, which includes the Lifeline and Link-Up programs. The Link-Up program provides a one-time discount of up to \$30 off either the initial installation fee for one traditional wireline phone service to the home or the activation fee for one wireless phone service. The Lifeline program discounts the basic monthly phone service up to \$10.00 per month for either a wireline phone or a wireless phone.<sup>18</sup>

The USF contribution factor is recalculated quarterly solely by the FCC to ensure that the USF fund will have enough capital to meet its program obligations, based on demand for each of the four programs supported by the USF. Between 2000 and 2012, the fees paid into the USF increased by 205 percent, from 5.7 percent to 17.4 percent of subscriber phone charges.

While the demand for the E-Rate program and the Rural Healthcare program have remained relatively stable, with only slight increases due to economic factors, the program demands of both the High Cost program and the Lifeline program have dramatically increased. In fact, the costs have nearly doubled in a 12 year period:

2000: \$1.9 billion for the High Cost program; 2012: \$4.15 billion.  
2000: \$1.6 billion for the E-Rate program; 2012: \$2.22 billion.

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<sup>17</sup> “Universal Service Monitoring Report,” Federal Communications Commission, CC Docket No. 98-202, Data Received Through October 2012, Prepared by Federal and State Staff for the Federal-State Joint Board on Universal Service in CC Docket No. 96-45, 2012, table 1.12, page 1-19, [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/DOC-319744A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-319744A1.pdf).

<sup>18</sup> “Universal Service Program for Low-Income Consumers,” Federal Communications Commission, September 12, 2013, [http://transition.fcc.gov/wcb/tapd/universal\\_service/lowincome.html](http://transition.fcc.gov/wcb/tapd/universal_service/lowincome.html).

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2000: less than \$50 million for the Rural Healthcare program; 2012: \$106 million.  
2000: \$500,000 for the Lifeline/Link-Up programs; 2012: \$2.19 billion.  
2000: \$4 billion, USF overall;<sup>19</sup> 2012: \$8.71 billion.<sup>20</sup>

Although 96.2 percent of Americans have the ability to access phone service, funding to companies that support the USF high-cost component grew from \$2.6 billion in 2001 to \$4.5 billion in 2011, despite the fact that wireless service is less costly and more efficient. Former FCC Chairman Genachowski stated on October 6, 2011, that the USF is wasteful and inefficient, paying some companies almost \$2,000 a month for a single home phone line.<sup>21</sup>

A large part of the reason for the significant increase in the contribution factor occurred in 2005, when the Lifeline program was expanded to allow telephone companies to provide discounted wireless service, including prepaid wireless phones, to certain eligible individuals in some states. In October 2010, the Government Accountability Office (GAO) published a report on the Lifeline and Link-Up programs that showed a significant increase in demand for the program from 2008 to 2009, attributable in part to the increased availability of discounted wireless service for eligible individuals.<sup>22</sup> From 2005 to 2008, payments ranged from between \$802 million to \$823 million annually. However, in 2009, these payments increased to approximately \$1 billion.<sup>23</sup>

Not only did the October 2010 GAO report detail a dramatic increase in the nationwide use of Lifeline services, but it also revealed multiple instances of fraud and abuse within the program. For example, some recipients were using Craigslist to advertise the sale of Lifeline-subsidized phones and service. In other instances, Lifeline beneficiaries violated the one phone line restriction of the program by signing up for service from multiple carriers. On June 29, 2011, the FCC published final rules to address the fraud and eligibility issues highlighted in the GAO report, codifying the restriction that an eligible low-income consumer could not receive more than one Lifeline-supported service at a

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<sup>19</sup> Donald B. Marron, Acting Director, Congressional Budget Office, "Potential Future Spending from the Universal Service Fund," Testimony before the Subcommittee on Telecommunications and the Internet, Committee on Energy and Commerce, U.S. House of Representatives, June 21, 2006, <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/73xx/doc7312/06-21-usf-testimony.pdf>.

<sup>20</sup> "FAQs about Universal Service and the USAC," Universal Service Administration Company, Q8, viewed September 5, 2013, <http://www.usac.org/about/about/universal-service/faqs.aspx>.

<sup>21</sup> Federal Communications Commission Chairman Julius Genachowski, "Connecting America: A Plan to Reform and Modernize the Universal Service Fund and Intercarrier Compensation System," Federal Communications Commission, October 6, 2011, <http://www.fcc.gov/document/genachowski-universal-service-fund-reform>.

<sup>22</sup> "Telecommunications: Improved Management Can Enhance FCC Decision Making for the Universal Service Fund Low-Income Program," U.S. Government Accountability Office, GAO-11-11, October 28, 2010, <http://www.gao.gov/assets/320/312708.pdf>.

<sup>23</sup> Ibid.

time and ordering that any subscriber receiving multiple benefits in violation of the rule must be removed from the program.<sup>24</sup>

On January 31, 2013, the FCC's Wireline Competition Bureau released its final report on the Lifeline program savings target for 2012, noting that the FCC's reforms resulted in \$213 million in savings to the USF compared to projected distributions to eligible carriers before implementation of the reforms.<sup>25</sup> The Wireline Competition Bureau anticipates additional savings to the USF in 2013 and later years as a result of the reforms implemented in 2012.<sup>26</sup> The FCC should continue its efforts to reduce fraud and abuse in the Lifeline program. In addition, better management of the E-rate program to improve efficiency and accountability is also warranted.

The telecommunications industry is one of the most heavily taxed sectors of the economy, and the cost burden of these taxes are passed on to consumers as fees found on their telecommunications bills. Taxpayers bear the burden of universal service for all, and yet once the goal is achieved, federal agencies find a way to move the goal post further down the field. With added metrics for universal service in the broadband sphere, the cost burden of the USF fee for taxpayers will only continue to rise, particularly with the expansion of broadband through the Connect America Fund.<sup>27</sup>

**7) Are all of the funds and mechanisms of the current Universal Service Fund necessary in the modern communications marketplace?**

Response:

Unfortunately for taxpayers, whenever a government program such as the USF or the RUS achieves success in its originally stated goals, the agency redefines the goals in order to continue taxing the American public. Such was the case when the RUS expanded its role to include the BIP for loan applicants

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<sup>24</sup> "Federal Communications Commission, Lifeline and Link-up Reform and Modernization, Federal-State Joint Board on Universal Service, Lifeline and Link-up, Final Rule," Federal Register, Volume 76, Number 125, Federal Communications Commission, June 29, 2011, <http://www.gpo.gov/fdsys/pkg/FR-2011-06-29/pdf/2011-16312.pdf>.

<sup>25</sup> "Wireline Competition Bureau Issues Final Report on Lifeline Program Savings Target," Federal Communications Commission, January 31, 2013, <http://www.fcc.gov/document/lifeline-year-end-savings-report-2012-savings-target-exceeded>.

<sup>26</sup> Ibid.

<sup>27</sup> "FCC Releases Connect America Fund Order, Reforms USF/ICC for Broadband," Federal Communications Commission, FCC 11-161, Connect America Fund WC Docket No. 10-90; A National Broadband Plan for Our Future GN Docket No. 09-51; Establishing Just and Reasonable Rates for Local Exchange Carriers WC Docket No. 07-135; High-Cost Universal Service Support WC Docket No. 05-337; Developing a Unified Intercarrier Compensation Regime CC Docket No. 01-92; Federal-State Joint Board on Universal Service CC Docket No. 96-45; Lifeline and Link-Up WC Docket No. 03-109; Universal Service Reform – Mobility Fund WT Docket No. 10-208, November 18, 2011, [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-11-161A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-161A1.pdf).

and when the FCC expanded its USF program to include broadband services through the Connect America Fund (CAF).

The original USF program defined universal service as telephone services for rural and underserved areas of the country, where the cost of providing these services was too high for communications companies to bear alone. In its November 28, 2011 order and report, the FCC adopted a new principle, one that provides “support for advanced services.” The addition of “advanced services” without a clear definition of what these services are will likely result in the continuation of the USF fee in perpetuity.<sup>28</sup>

The intent of the FCC’s reform efforts is to provide a response to the evolution and modernization of digital technology, as well as to address issues of waste within both the USF and ICC programs. With many companies hiring job applicants online, schools relying more frequently on web-based textbooks, and colleges and universities offering online courses, access to the Internet has become an important component in the nation’s economic and educational future. According to the FCC’s website, “Broadband has gone from being a luxury to a necessity for full participation in our economy and society – for all Americans.”<sup>29</sup> This statement raises the specter of government turning broadband into a new entitlement program at taxpayers’ expense.

The FCC anticipates that the CAF program will be able to connect 7 million unserved rural Americans to fixed broadband in six years and connect all 19 million unserved rural residents by 2020.<sup>30</sup> In 2012, the FCC launched Phase I of the program, distributing approximately \$115 million in public funding, coupled with private investments, to expand broadband infrastructure in rural areas across the country. Phase II of the plan will use a forward-looking broadband cost model and competitive bidding to support deployment of networks that will provide both voice and broadband service for the next five years. Without a concise and accurate definition of “underserved” to determine eligibility for federal assistance, funding could be distributed to regions that already have adequate services offered by the private sector, creating federally-funded overbuild projects.

The USF should be drawn down with the ultimate goal of elimination rather than expansion. Without the USF, the rigorous market-driven competition that is occurring in the telecommunications industry, particularly wireless, will address access and pricing problems. Unless the USF is terminated, the FCC can

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<sup>28</sup> “FCC Releases Connect America Fund Order, Reforms USF/ICC for Broadband,” FCC 11-161, Federal Communications Commission, November 18, 2011, [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-11-161A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-161A1.pdf).

<sup>29</sup> “Connect America Fund,” Federal Communications Commission, viewed June 7, 2013, <http://www.fcc.gov/encyclopedia/connecting-america>.

<sup>30</sup> “Connect America Fund (CAF) Phase I,” Federal Communications Commission, May 31, 2013, <http://www.fcc.gov/maps/connect-america-fund-caf-phase-i>.

## Council for Citizens Against Government Waste

further expand universal service, and continue this hidden and unnecessary tax and regulatory scheme.

**8) In lieu of the current support mechanisms, could any of the programs be better managed or made more efficient by conversion to:**

- a. A state block grant program;**
- b. A consumer-focused voucher program;**
- c. A technology-neutral reverse auction; or,**
- d. Any other mechanism.**

Response:

CCAGW would recommend option (a), a state block grant program, rather than the current system. State officials have a better understanding of the local needs in their communities than an administrative agency based in Washington, D.C. This would put dollars back into the local communities where they are needed, potentially saving taxpayer dollars through improved program oversight.

**CTIA – THE WIRELESS ASSOCIATION<sup>®</sup>**  
**RESPONSE TO HOUSE WHITE PAPER ON UNIVERSAL SERVICE POLICY**

CTIA – The Wireless Association<sup>®</sup> (“CTIA”) submits the following response to the White Paper released by the House Committee on Energy and Commerce (“Committee”) on August 22, 2014, as a part of its ongoing efforts to reform the Communications Act of 1934, as amended (the “Act”), requesting comment on universal service policy in light of modern communications technologies and appropriate federal and state roles in advancing the principles of universal service.<sup>1/</sup>

**I. INTRODUCTION AND SUMMARY**

CTIA continues to support the Committee’s efforts to update the Act generally<sup>2/</sup> and welcomes the Committee’s review of current universal service support mechanisms. As the White Paper observes, universal service support is based on six statutory principles along with two non-statutory universal service principles adopted by the Federal Communications Commission (“FCC”).<sup>3/</sup> While CTIA has consistently supported the important ideal that all Americans should have access to high-quality communications services at just and reasonable rates, these principles and their implementation merit review based on fundamental changes in

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<sup>1/</sup> See House Committee on Energy and Commerce, *Universal Service Policy and the Role of the Federal Communications Commission* (Aug. 22, 2014) (“White Paper”), available at <http://energycommerce.house.gov/CommActUpdate>.

<sup>2/</sup> See CTIA – The Wireless Association Response to House White Paper on Modernizing U.S. Spectrum Policy (filed Apr. 25, 2014) (“CTIA Spectrum Policy Comments”), available at [http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP2\\_Responses\\_14-25.pdf](http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP2_Responses_14-25.pdf); CTIA – The Wireless Association Response to House White Paper on Competition Policy (filed June 13, 2014) (“CTIA Competition Policy Comments”), available at [http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP3\\_Responses\\_22-42.pdf](http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP3_Responses_22-42.pdf); CTIA – The Wireless Association Response to House White Paper on Network Interconnection (filed Aug. 8, 2014) (“CTIA Interconnection Policy Comments”), available at [http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP4\\_Responses\\_1-22.pdf](http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP4_Responses_1-22.pdf).

<sup>3/</sup> White Paper at 1-2.

technology, how consumers receive communications services, and the way that communications networks are now structured. In particular, Congress should recognize that:

- In most cases and contrary to its original conception, there is now only an attenuated connection between the source and use of Universal Service Fund (“USF”) funds. While the programs that USF supports are valuable, they need not be funded through assessments on providers and customers of unrelated services. Instead, Congress should consider devoting general revenue funds appropriated through the federal government’s regular budgetary process to these programs.
- Regardless of the source of funds, disbursement of funds must be competitively and technologically neutral and recognize how consumers actually use communications services, including their increased reliance on wireless services.
- The concept of intrastate and interstate services is increasingly irrelevant. Communications services are national and international in nature. There should be a clear and consistent uniform federal policy for universal support, and state universal service programs should consequently be preempted as unnecessary.

## **II. CONGRESS SHOULD RE-EXAMINE HOW TO FUND SUPPORT FOR ACCOMPLISHING UNIVERSAL SERVICE GOALS**

The USF and the programs it supports were initially premised on the concept that it was sensible to assess a fee on telephone companies – and ultimately their customers – in primarily urban areas where service could be provided at relatively low cost, and use those funds to subsidize and make affordable telephone service provided in high-cost, primarily rural areas. That funding structure – imposing an assessment on wireline telephone companies in one area to help support wireline telephone companies in another area – may have made sense in a time when wireline telephones were essentially the only communications systems Americans used.

Technology and competition policy have changed that – consumers today receive communications services over a variety of platforms from a variety of providers. Consequently, support programs have evolved so that they are no longer designed to provide unserved and underserved areas with the same type of service funded by providers of services in more fully served areas.

As noted below, wireless carriers and their customers continue to contribute an increasing percentage of the overall pool of available USF funds.<sup>4/</sup> However, unlike the original conception of USF, those funds are not necessarily used to provide the same services in other areas. While the FCC has begun to address this discrepancy by, for example, allocating some USF monies for the creation of a Mobility Fund, the single largest expenditure from the USF continues to be the High-Cost Program that allocates up to \$4.5 billion each year primarily to support the offering of wireline services in high-cost areas.<sup>5/</sup>

USF supports a variety of other programs as well. Over \$2.3 billion of USF support is allocated to the E-rate program to support communications services in school learning environments.<sup>6/</sup> Over \$175 million in USF support is allocated to the Rural Health Care Program each year to support the provision of healthcare in rural areas.<sup>7/</sup> These programs are laudable, but stray from the basic concept on which universal service programs were founded – that

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<sup>4/</sup> See Federal Communications Commission, Universal Service Monitoring Report 2013, at Table 1.2 (2013) (“2013 USF Monitoring Report”), available at [http://transition.fcc.gov/Bureaus/Common\\_Carrier/Reports/FCC-State\\_Link/Monitor/2013\\_Monitoring\\_Report.pdf](http://transition.fcc.gov/Bureaus/Common_Carrier/Reports/FCC-State_Link/Monitor/2013_Monitoring_Report.pdf) (reporting the percentage of USF telecommunications revenue from wireless services as increasing from 25 percent of total collections in 2001 to nearly 43 percent of total collections in 2011, the most recent year for which data is reported).

<sup>5/</sup> See *Connect America Fund*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17663, ¶¶ 559-63 (2011) (“*USF Transformation Order*”) (budgeting up to \$4.5 billion each year through 2017 to support the High-Cost Fund).

<sup>6/</sup> See 2013 USF Monitoring Report at Table 1.9.

<sup>7/</sup> *Id.*

customers of one type of service should support the provision of that service to customers *of that same service* where it would not otherwise be economically rational.

USF support of a broad array of programs, including educational programs and health service programs has led to a broad expansion of funding requirements. FCC Commissioner Michael O’Rielly recently noted what he called a “disturbing trend” in USF spending that is expected to grow by 21 percent over the next 10 years to a total of approximately \$11 billion.<sup>8/</sup> As the size and scope of programs supported by USF continue to increase, wireless service customers will be required to shoulder ever-expanding levels of surcharges to fund a wide array of programs that have important, but indirect, public benefits.

Consequently, Congress should reassess how these programs are funded. It may be more appropriate to support those programs of general benefit to the public out of general revenue funds, where support levels can be determined annually through the federal budget process. Including USF-supported programs in the general revenue budgeting process will eliminate the current mismatch between the limited sources of USF funding and the broad social benefits the programs are intended to bring.

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<sup>8/</sup> Michael O’Rielly, *Disturbing Trend in USF Spending*, Official FCC Blog (July 7, 2014), available at <http://www.fcc.gov/blog/disturbing-trend-usf-spending>. The FCC recently implemented a number of reforms to the Lifeline program to reduce incidence of waste, fraud, and abuse in the program. *Lifeline and Link Up Reform and Modernization*, Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd. 6656, ¶¶ 179-299 (2012). CTIA supports these efforts and agrees that one way to control the increasing size of USF programs is to maintain the integrity of the programs through such efforts. See generally Reply Comments of CTIA – The Wireless Association®, CC Docket No. 02-6 (filed Apr. 8, 2013) (noting that CTIA “supports efforts to improve accountability and eliminate waste, fraud, and abuse in all of the universal service programs”). Congress should encourage the FCC to investigate additional means to eliminate waste, fraud and abuse.

### **III. SUPPORT FOR UNIVERSAL SERVICE PROGRAMS SHOULD BETTER REFLECT PRINCIPLES OF TECHNOLOGICAL NEUTRALITY AND CONSUMER PREFERENCES**

Regardless of how USF funds are generated, Congress must examine how they are disbursed. Instead of artificially favoring a particular technology, USF funds should be disbursed in a technologically neutral manner to support services that consumers actually want and need. In no instance is this concern more starkly demonstrated than with respect to the relative lack of USF support for wireless services.

Current USF-supported programs skew heavily toward support of wireline services. The USF High-Cost Program, supporting almost exclusively wireline services,<sup>9/</sup> is currently budgeted at up to \$4.5 billion per year.<sup>10/</sup> The CAF Phase II program, scheduled to launch in 2015, is budgeted at \$1.8 billion per year,<sup>11/</sup> with funding currently limited to incumbent wireline carriers that will be given a right of first refusal on the funding for the next five years.<sup>12/</sup> Even where a wireline incumbent might refuse the funding, opening up CAF support funding for distribution by reverse auction, the FCC's current standards for CAF broadband service are set at levels that would allow only wireline companies to bid.<sup>13/</sup> In contrast, the FCC has allocated only \$0.5

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<sup>9/</sup> The High-Cost Program has supported some competitive wireless voice services, but that support is being phased out. See *USF Transformation Order* ¶ 513; *Connect America Fund*, Report and Order, Declaratory Ruling, Order, Memorandum Opinion and Order, Seventh Order on Reconsideration, and Further Notice of Proposed Rulemaking, 29 FCC Rcd. 7051, ¶¶ 250-57 (2014) (discussing the delays in the phase down process until completion of CAF Phase II implementation).

<sup>10/</sup> See Note 5, *supra*.

<sup>11/</sup> See *USF Transformation Order* ¶ 158; *Connect America Fund*, Report and Order, 29 FCC Rcd. 3964, ¶ 169 (2014).

<sup>12/</sup> See *USF Transformation Order* ¶¶ 164-80.

<sup>13/</sup> See, e.g., Comments of CTIA – The Wireless Association®, WC Docket No. 10-90, at 2-4 (filed Aug. 8, 2014).

billion per year to support a Mobility Fund to provide mobile broadband to high-cost, rural areas – and even that level of funding may now be subject to reduction.<sup>14/</sup>

This concentration of USF monies to support wireline services is inconsistent with technological neutrality principles and demonstrated consumer preferences. By the end of 2015, Americans are expected to have more than 34 million mobile broadband devices,<sup>15/</sup> with one report suggesting that mobile data traffic will grow more than three times faster than fixed-network data traffic over the five-year period ending in 2017.<sup>16/</sup> As CTIA informed the Committee previously, at least one U.S. carrier has reported that its 4G LTE network covers 97 percent of the U.S. population,<sup>17/</sup> demonstrating that the U.S. is outperforming the E.U. market, which only offers 4G mobile broadband to 59 percent of its population.<sup>18/</sup> Video watching via wireless tablets and smartphones is widespread in the U.S.,<sup>19/</sup> and wireless broadband is widely

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<sup>14/</sup> See *id.* at 5-6.

<sup>15/</sup> See CTIA, *34 Million Americans Will Have Mobile Broadband Devices* (Apr. 22, 2014), available at <http://www.ctia.org/resource-library/facts-and-infographics/archive/34-million-americans-mobile-broadband-devices> (citing NPD Group, *Mobile Broadband Market Share & Forecast* (Apr. 2013), available at <http://www.connected-intelligence.com/our-research/connect/mobile-broadband-market-share-forecast/>).

<sup>16/</sup> Cisco Visual Networking Index, VNI Mobile Forecast Highlights 2012 – 2017, available at [http://www.cisco.com/web/solutions/sp/vni/vni\\_mobile\\_forecast\\_highlight/index.html](http://www.cisco.com/web/solutions/sp/vni/vni_mobile_forecast_highlight/index.html).

<sup>17/</sup> See CTIA Competition Policy Comments at 4; Verizon Press Release, *Verizon Caps Strong Record of Success in 2013 With Fourth Consecutive Quarter of Double-Digit Earnings Growth* (Jan. 21, 2014), available at <http://newscenter.verizon.com/corporate/news-articles/2014/01-21-verizon-reports-2013-4q-earnings/>.

<sup>18/</sup> See European Union Press Release, *The EU 2014 Digital Scoreboard: How Did You Fare?* (May 28, 2014), available at [http://europa.eu/rapid/press-release\\_IP-14-609\\_en.htm](http://europa.eu/rapid/press-release_IP-14-609_en.htm); see also Christopher S. Yoo, *U.S. vs. European Broadband Deployment: What Do the Data Say?* (June 2014), available at <https://www.law.upenn.edu/live/files/3352-us-vs-european-broadband-deployment> (“Some claim the European model of service-based competition, induced by stiff telephone-style regulation, outperforms the facilities-based competition practiced in the U.S. in promoting broadband. Data analyzed for this report reveals, however, that the U.S. led in many broadband metrics in 2011 and 2012.”).

<sup>19/</sup> See CTIA, *15 Percent of World’s Online Video Watching is Mobile* (Apr. 16, 2014), available at <http://www.ctia.org/resource-library/facts-and-infographics/archive/mobile-online-video-watching> (citing Business Insider Intelligence, *Mobile Video, New Platforms ad Genres 2013* (Jan. 2014)).

used for commerce, with an estimated 29 percent of online retail sales – \$114 billion – transacted on wireless smartphones and tablets.<sup>20/</sup> Combining all types of use (voice, data, and video), consumers now spend more minutes per day focused on their mobile smartphones than on their televisions.<sup>21/</sup>

Americans' use of mobile phones for voice services has also become ubiquitous. Consumers continue to “cut the cord,” relying on only wireless services to meet their communications needs. More than two in every five American homes – 41 percent – had only wireless telephones during the second half of 2013.<sup>22/</sup> The trend to wireless-only connectivity is especially true in low-income communities, where more than 56 percent of households report that they are wireless-only.<sup>23/</sup> Moreover, the FCC recently reported that nearly 93 percent of the total U.S. population has a choice of four or more wireless providers, more than 97 percent of consumers can choose from at least three providers, and almost 98 percent of all Americans have access to at least two mobile wireless broadband providers.<sup>24/</sup> The number of active mobile telephone subscriptions in the U.S. exceeded 305 million in 2013, a nearly 10 percent increase

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<sup>20/</sup> See CTIA, *mCommerce to Reach \$114 Billion in 2014* (May 15, 2014), available at <http://www.ctia.org/resource-library/facts-and-infographics/archive/mcommerce-114-billion> (citing Forrester, *U.S. Mobile Phone and Tablet Commerce Forecast, 2013 to 2018* (May 2014), available at <http://www.forrester.com/US+Mobile+Phone+And+Tablet+Commerce+Forecast+2013+To+2018/fulltext/-/E-RES115514?intcmp=blog:forlink>).

<sup>21/</sup> See Millward Brown, *AdReaction 2014*, <http://millwardbrown.com/adreaction/2014/#/main-content>.

<sup>22/</sup> See Centers for Disease Control, *Wireless Substitution: Early Release of Estimates from the National Health Interview Survey, July-December 2013*, at 1 (rel. July 8, 2014), available at <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201407.pdf> (“2014 National Health Interview Survey”).

<sup>23/</sup> See 2014 National Health Interview Survey at 6.

<sup>24/</sup> See CTIA Competition Policy Comments at 4; Reply Comments of CTIA–The Wireless Association, WT Docket No. 13-135, at 3 (filed July 25, 2013) (citing *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Sixteenth Report, 28 FCC Rcd. 3700, ¶ 2 (2013)).

since 2010. By contrast, wireline service from traditional telephone companies continues to decline, with subscriptions below 90 million in 2013 – less than one-third the number of wireless phones – representing a nearly 27 percent decrease since 2010.<sup>25/</sup>

Even focused USF programs like the E-rate program, designed to bring broadband services into the Nation’s classrooms, lean heavily to the support of wireline services, despite concrete examples of mobile broadband and mobile devices improving educational outcomes.<sup>26/</sup> CTIA recently told the FCC that “there is no basis to prioritize any particular broadband technology above another for E-rate support,”<sup>27/</sup> and urged the FCC to build on a successful educational experiment to implement a rule enabling educators to use E-rate funding to support mobile broadband for educational purposes off school premises.<sup>28/</sup>

The current distribution of USF funds is, therefore, out of step with consumer preferences and fails to live up to longstanding universal service principles of competitive and technological neutrality.<sup>29/</sup> As the Committee considers changes to universal service policies, it should recognize that universal service support must reflect the needs and desires of Americans who

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<sup>25/</sup> Federal Communications Commission, Local Telephone Competition: Status as of June 30, 2013, at Table 1 (June 2014), *available at* <http://transition.fcc.gov/wcb/iatd/recent.html>.

<sup>26/</sup> *See Comments* of CTIA – The Wireless Association®, WC Docket No. 13-184, at 4 (filed Sept. 16, 2013).

<sup>27/</sup> *Id.* at 8.

<sup>28/</sup> *Id.* at 8-9.

<sup>29/</sup> *See, e.g., Universal Service Contribution Methodology*, Further Notice of Proposed Rulemaking, 27 FCC Rcd. 5357, ¶ (2012) (“The Commission has been committed to competitive neutrality [in universal service programs] since it first implemented the 1996 Act.”); *Federal-State Joint Board on Universal Service*, Recommended Decision, 12 FCC Rcd. 87, ¶ 23 (1996) (“In recognizing the concept of technological neutrality, we are . . . merely stating that universal service support should not be biased toward any particular technologies.”). The principles of competitive and technological neutrality in the design and delivery of universal service programs, as adopted by the FCC, should be codified in the Act.

today express a preference for wireless broadband and voice services.<sup>30/</sup> Congress should therefore reaffirm competitive and technological neutrality as basic principles of universal service and express a desire that those principles be honored by programs that better reflect the technological choices of consumers.

#### **IV. UNIVERSAL SERVICE IS BEST ACCOMPLISHED WITH SIMPLIFIED FUNDING MECHANISMS AND WITHOUT DUPLICATIVE STATE INVOLVEMENT**

Communications networks continue to evolve at a rapid pace from legacy networks based on switched time division multiplexing (“TDM”) technology to networks based on the far more efficient Internet protocol (“IP”) technology. As all-IP networks become a reality, they will provide consumers with an expanded choice of communications services at faster speeds, with greater resilience and reliability. Wireless service providers are at the forefront of the transition to all-IP networks, investing approximately \$34 billion in upgrading and expanding their networks in 2013.<sup>31/</sup>

The nature of all-IP networks allows them to efficiently transmit data and voice communications over large areas, often using different pathways to do so depending upon which path is more efficient at the time. Unlike the legacy TDM networks, IP networks are not tied to wire centers and may use peering or interconnection points that serve networks in multiple states.

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<sup>30/</sup> The need for universal service support for wireless services is particularly acute in many Native American reservation areas, and wireless service is often the only feasible way to provide service to extremely rural areas where stringing cable for wireline service simply does not make economic sense. Of course, receipt of universal service funds is only part of the equation. Providers can only make services available in the absence of unreasonable impediments. For example, CTIA has also urged the FCC to eliminate burdensome tower citing regulations. *See* Comments of CTIA – The Wireless Association®, WT Docket No. 13-238, *et al.* (filed Feb. 3, 2014). Tribal governments should similarly be encouraged not to impose unreasonable conditions on providers wishing to serve Tribal lands.

<sup>31/</sup> *See* CTIA Spectrum Policy Comments at 1; CTIA Interconnection Policy Comments at 1; CTIA, *US Invests Four Times More in Networks* (Mar. 13, 2014), available at <http://www.ctia.org/resource-library/facts-and-infographics/archive/us-investment-networks>.

The efficiency of IP networks has driven the marginal or incremental cost of transiting a message or bit of data, even a long distance, down very close to zero, and most carriers, including almost all wireless carriers, reflect that fact by offering a single voice plan that includes both local and long distance calls. In fact, to many younger wireless phone users, the terms “local” or “long distance” in relation to their calls may simply be historical concepts like rotary dialing.

Because consumers view the 21<sup>st</sup> century communications marketplace on a national basis and technology supports that view, a modernized universal service support program should also be national in nature. However Congress determines to support access to this *national* communications network, there is no reason insert states into the structure through a Federal-State Joint Board, nor should it be necessary for states to maintain their own universal service funds. States’ ability to create state universal service programs under Section 254 of the Act should therefore be eliminated and preempted by the Act, just as other grants of authority to the states under the Act should be eliminated. Universal service in modern communications networks will work best with a clear, consistent, properly administered federal regulatory framework, uncomplicated by unnecessary, duplicative state efforts.

## **V. CONCLUSION**

CTIA continues to support the goal of ensuring that all Americans have quality communications service at just, reasonable and affordable rates. However, Congress should bring universal support programs closer to the purposes they were intended to serve. First, Congress should consider funding universal service from general revenue funds appropriated through the federal government’s regular budgetary process instead of from customers of services different than those supported by universal service funds. Second, Congress should generally reaffirm the principles of competitive and technological neutrality in the provision of

universal service support to ensure universal service programs that better reflect the technological choices of consumers and their increasing preference for wireless services. Third, federal universal service programs should be the sole mechanism to meet the communications needs of every American, with state universal service programs preempted as unnecessary.

September 19, 2014



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September 23, 2014

Hon. Fred Upton  
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2125 Rayburn House Office Building  
Washington, DC 20515

Hon. Greg Walden  
Chairman  
Communications and Technology Subcommittee  
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Re: Universal Service Policy and the Role of the FCC – Response to White Paper #5

Dear Chairman Upton and Chairman Walden,

Thank you for the opportunity to provide the following comments on behalf of The Evangelical Lutheran Good Samaritan Society (the “Society”) in connection with the white paper regarding the universal service policy and its role in advancing universal service.

As the Committee explores the laws and regulations governing the communications and technology sectors, and examines the universal service policy and its role in facilitating access to telecommunications services to consumers, the Society strongly believes in the importance of recognizing rural, not-for-profit skilled nursing facilities (“SNFs”) as an critical part of the healthcare continuum and spectrum. Further, the Society believes that it is critically important for providers providing long-term care in SNFs to utilize and advance the use of new technologies to better deliver healthcare services to their patients and – like other providers in the healthcare continuum – have access to affordable broadband connectivity.

It is the Society’s position that rural, not-for-profit skilled nursing facilities should explicitly be defined as Health Care Providers under 47 U.S.C. Sec. 254(h)(7)(b) and therefore eligible to participate in the FCC’s Health Care Connect program as a primary applications, due to the critical telecommunications needs of these rural healthcare facilities.



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## **Background on Evangelical Lutheran Good Samaritan Society (the “Society”)**

Headquartered in South Dakota, the Society is the largest not-for-profit provider of long term care and related services in the nation; operating more than 240 facilities in 24 states, and caring daily for the daily needs of more than 27,000 people nationwide. The Society provides skilled nursing care, assisted living, housing with services, senior affordable housing (HUD), specialty care units such as Alzheimer’s care, Home and Community Based Services, and adult day care services. For nearly a century, operations in rural populated states like South Dakota, North Dakota, Iowa, Kansas, Nebraska and Minnesota have enabled the Society to develop an expertise in providing care in rural settings.

The Society currently operates 168 SNFs, of which 122 (73%) are in the Universal Service Administrative Company (USAC)-defined rural areas. These SNFs play a critically important role in the delivery of care in rural and frontier areas of our country, and are significant and growing pioneers in telehealth services.

### **The Society as an Innovator**

The Society has been forward-thinking in the comprehensive provision of care for seniors, and has invested significantly in developing innovative services and technologies designed to improve the quality of care and lower the overall costs of care. For example:

- The Society has developed, implemented and is advancing eLongTermCare telehealth technology designed to connect patients in rural skilled nursing facilities to hospitals and their doctors without having to physically transport patients on a regular basis.
- The Society has also developed and is advancing the LivingWell@Home (LW@H) program, which offers a suite of technologies designed to help seniors live more independently and remain longer in the place they choose to call home. Use of this patient remote-sensing technology suite began in the Society’s assisted living and home care communities in July 2012. The LW@H program is designed to enhance care and service delivery through the use of sensor technology, telehealth and a central data monitoring system, all developed and managed by the Society.
- The Society has undertaken a pilot project that deploys tablet-style computers to patients in some of its facilities and provided training that enabled seniors to “connect” to family, caregivers, and doctors online. The intent of this program is to demonstrate how Internet usage by seniors can decrease depression and isolationism – a chronic problem among the elderly of this country that often leads to collateral physical and emotional healthcare concerns – and increase communication between senior patients, their family members and their communities.

- The Society has implemented an electronic point-of-care documentation system in many of its facilities, and has deployed electronic billing systems built to interact with payers and insurance providers.
- The Society is continuously working to improve its ability to utilize remote sensing technologies using telehealth technology in independent senior housing settings to transmit and convey clinical information to doctors and clinics, thereby producing more timely, convenient, cost effective and better quality outcomes for its patients.

Access to broadband connectivity at robust speeds and affordable prices is essential in the provision of the Society's wide range of services. If the Society is to continue to develop innovative technologies designed to lower costs and improve care for seniors in its long term care facilities like SNFs – particularly those in rural or frontier areas – focus must be given to the SNFs ability to obtain robust and affordable broadband connectivity.

### **Skilled Nursing Facilities Need Robust and Affordable Broadband Connectivity to Provide Vital Services to Senior Citizens in Rural America**

SNFs need access to advanced broadband connectivity in order to provide necessary healthcare related services to seniors. It is important to make clear that the need for broadband technology, telehealth and other advanced technologies are no different for a skilled nursing facility than those of an acute care setting (i.e. a hospital or urgent care clinic). The FCC itself recognized that "There is evidence that skilled nursing facilities are particularly well-suited to improve patient outcomes through greater use of broadband." (Report and Order in WC Docket No. 02-06, *In the Matter of Rural Health Care Support Mechanism*, Released December 12, 2012, FCC No. 12-150.) Yet, because SNFs fall somewhere between not-for-profit hospitals (47 U.S.C. Sec. 254(h)(7)(b)(v)) and rural health care clinics (47 U.S.C. Sec. 254(h)(7)(b)(vi)), SNFs lack access to the federal financial assistance that acute care settings and other healthcare providers have enjoyed, in part through the various programs under the federal Universal Service Fund (USF) program.

In spite of these obstacles – and without access to USF funding – the Society has advanced Electronic Medical Records (EMRs), telehealth and other technologies into its care system that allows facilities to connect with its brethren in the acute healthcare community. We do this for a simply, yet profound, reason: we believe it is critical and essential to work with providers of acute care services as we care for our elderly populations.

We believe these efforts are critical because in many rural communities, a skilled nursing facility is often the only healthcare provider available for 100 or more miles. With telehealth capabilities, for example, the Society can extend ambulatory and emergency health care services into rural communities.

However, advancing the Society's technology capabilities is becoming more and more difficult as the healthcare environment evolves in more complicated directions, and SNF providers operate with slim

and progressively decreasing operating margins. The cost of broadband connectivity is extraordinary in rural areas, and often the robust speeds necessary to advance the most state-of-the-art health technology services are out of reach to SNFs due to cost and availability. For example, in the 168 SNFs operated by the Society, the breakdown of the bandwidth currently installed is as follows:

- 98 sites have single T1 circuits which is 1.5Mb
- 52 sites have two T1 circuits which is 3.0Mb
- 16 sites have three T1 circuits which is 4.5Mb
- 2 sites have 5Mb ethernet circuits

The local access – which is the largest portion of the Society’s monthly technology costs – is based on mileage and therefore tends to be more expensive for the rural sites. The average access cost for rural locations is \$497 for each T1 circuit installed, compared with \$256 for urban sites. Therefore, rural sites cost \$240 more per month than urban locations. Obtaining more robust broadband connectivity (which is greatly needed) would result in an even greater price disparity between rural and urban prices.

Furthermore, it is important to note that upgrading circuits at the SNFs is an ongoing and constant concern and effort, which puts even further financial pressure on the rural sites. Indeed, SNFs require affordable, sustainable access to broadband if they are to continue to advance the use of technologies for other related and critical functions, such as remote training initiatives, maintenance and dissemination of electronic medical files, further the integration with online pharmacies, and enable rural healthcare providers and caregivers to obtain continuing education.

### **Conclusion**

Enabling SNFs to obtain robust and affordable broadband connectivity is critical. It will not only help lower overall healthcare costs; but also enhance the well-being of seniors by improving care, reducing hospital visits, and helping to keep them connected to their professional and family caregivers. Beyond the critical healthcare benefits described above, broadband access enhances the quality of life for seniors by enabling increased social interactions, limiting isolation concerns (particularly in rural areas), and providing economic benefits and access to healthcare-related services and information.

As the Committee continues its dialogue on modernizing the laws governing the technology sector and examines the universal service policy, the Society believes that it is vital that the critical needs of the rural, not-for-profit, long term care skilled nursing sector are included in these discussions. More specifically, the Society urges the Committee to specifically include rural, not-for-profit SNF and senior care providers as eligible Health Care Providers under Section 254 (h)(7)(B) of the Communications Act’s universal service provisions, thereby providing access to this important part of the healthcare continuum access to this vital rural healthcare program.

For further information, please contact Dan Holdhusen, [REDACTED]



**Response to Questions in the Fifth White Paper**

**"Universal Service Policy and  
the Role of the Federal Communications Commission"**

**by**

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Seth L. Cooper, Senior Fellow, The Free State Foundation**

**and**

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Glen O. Robinson, University of Virginia Law School  
James B. Speta, Northwestern University School of Law  
Christopher S. Yoo, University of Pennsylvania Law School**

**before the**

**Committee on Energy and Commerce, U.S. House of Representatives**

**September 19, 2014**

# **Response to Questions in the Fifth White Paper**

## **"Universal Service Policy and the Role of the Federal Communications Commission"**

by

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### **I. Introduction and Summary**

Once again, we commend the Committee for undertaking this effort to review and update the Communications Act. And we also commend the Committee for using the Fifth White Paper to focus on universal service reform. As the Committee correctly noted, “[t]he principle of universal service has been at the heart of federal and state telephone policy” nearly from its inception.<sup>1</sup> And rightfully so.

The universal service principle, which supports access to basic communications service for all Americans, is an important component of the social safety net. Keeping all members of society connected, regardless of income or social status, redounds to the benefit of those who can afford to pay as well as those who cannot afford to pay for access to the network. And, in so doing, this helps reduce America’s digital divide,

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\* While the signatories to this Response are in general agreement with the views expressed in these comments, their participation as signatories should not necessarily be taken as agreement on  
<sup>1</sup> “Universal Service Policy and the Role of the Federal Communications Commission” (“Fifth White Paper”), House Commerce Committee, at 1.

which, parenthetically, we observe is also narrowed by adoption of efficiency measures that reduce the costs of access for all.

But while universal service is a laudatory goal, its execution has often left much to be desired. In the nearly two decades since the system was overhauled in the Telecommunications Act of 1996, Universal Service Fund expenditures have doubled in size to \$8.3 billion annually.<sup>2</sup> Yet much of that new funding has been spent on projects that have little to do with the traditional goals of universal service. The Federal Communications Commission has admitted that the current system distorts investment and competition in myriad ways, while the Government Accountability Office pointedly has criticized the program's lack of oversight and accountability.

At the same time, advances in technology that have eroded legacy jurisdictional boundaries and service distinctions mean that the fund is drawing from a shrinking base of interstate and international telecommunications revenue. The increased USF payouts, coupled with the shrinking revenue base, has caused the USF "surcharge" paid by consumers to skyrocket from 3% in 1998 to 16.1% in the fourth quarter of 2014.<sup>3</sup> This 16.1% surcharge necessarily operates as a tax on all interstate and international calls. It is counterproductive to fund universal service by taxing the very same services the Commission seeks to promote.

To the Commission's credit, it has recently begun to reform the most troubling portions of the current Universal Service program, and it has begun to shift the program's focus from supporting ordinary telephone to supporting broadband service, recognizing

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<sup>2</sup> USAC 2013 Annual Report at 35, available at [http://usac.org/\\_res/documents/about/pdf/annual-reports/usac-annual-report-Interactive-Layout-2013.pdf](http://usac.org/_res/documents/about/pdf/annual-reports/usac-annual-report-Interactive-Layout-2013.pdf).

<sup>3</sup> See Michael O'Rielly, *Disturbing Trend in USF Spending*, Official FCC Blog, July 7, 2014, available at [http://usac.org/\\_res/documents/about/pdf/annual-reports/usac-annual-report-Interactive-Layout-2013.pdf](http://usac.org/_res/documents/about/pdf/annual-reports/usac-annual-report-Interactive-Layout-2013.pdf).

the importance of high-speed Internet access to modern society. But these reforms, while not insignificant, represent only the first steps in what should be a complete reform-minded overhaul of the program. As part of its Communications Act Update process, the Committee should refocus the Universal Service program on what ought to be its core mission: (1) assisting consumers who cannot afford broadband access, through market-based, consumer-empowering initiatives that befit an increasingly competitive broadband marketplace; and (2) supporting build-outs only in unserved areas and then only through economically efficient mechanisms such as reverse auctions (whereby firms bid the lowest rate that they will accept to supply narrowly targeted subsidy support.) In addition, any Lifeline program that is maintained for those who cannot otherwise afford service must also be operated in a way that incorporates means to prevent fraud and waste.

Moreover, the Commission should abandon the antiquated contribution mechanism currently in place, with the present USF surcharge set at a 16.1% tax on all interstate and international calls. Instead, it should avoid within sector distortions by funding subsidies through appropriations from the general treasury where they are subject to more intensive scrutiny. This approach would allow Congress to set a hard budgetary cap on expenditures for a definite period, which, in turn, will encourage the Commission to wring inefficiencies out of the system in order to live within the congressional funding restraints. It would also make today's hidden tax more transparent in a way that provides for greater accountability to Congress and taxpayers.

## **II. The Troubled Universal Service Program at a Crossroads**

The basic tenet of universal service – that the government should assist those who cannot afford basic access to the telecommunications network or those who live in

unserved areas – has been a cornerstone of telecommunications policy for nearly a century. In economic terms, this assistance is justified by network effects: the larger the number of people a network reaches, the more valuable that network is to each user. A public policy to maximize telecommunications subscribership levels benefits not only those who cannot otherwise afford access, but all other subscribers as well. Universal service also helps maximize the utility of the network for society as a whole, by improving civic participation levels, economic opportunities, and public safety.

Unfortunately, however, less than a quarter of the Universal Service Fund’s \$8.3 billion annually goes toward Lifeline and Link Up, the two programs that directly serve this laudable goal.<sup>4</sup> Over \$2.2 billion in 2013 went to E-Rate, a program that provides computers and broadband access to schools and libraries, which should be funded through ordinary education budgets, usually at the state and local level.<sup>5</sup> Congress, the GAO, and the Commission’s own Office of the Inspector General have criticized E-Rate for lax oversight and the potential for abuse, including purchasing wasted resources or resources far exceeding the beneficiary’s reasonable needs.

Even this \$2.2 billion is dwarfed by the \$4.2 billion—half of all USF contributions—spent on the Universal Service program’s High-Cost Fund, which directly subsidizes the operations of telephone companies in rural areas and other so-called “high-cost” markets.<sup>6</sup> Ostensibly, the High-Cost Fund is designed to defray the costs of wiring and serving customers in unconventional, expensive service areas. But in practice, the fund is a wasteful form of corporate welfare that distorts competition and inhibits cost reduction in those areas it claims to serve.

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<sup>4</sup> See 2013 Annual Report, *supra* note 2, at 35.

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

<sup>6</sup> *Id.*

The High-Cost Fund routinely subsidizes service in many areas where subsidies are unnecessary or harmful. Worse, it often has perverse distributional effects, by subsidizing wealthy rural consumers, who are never subject to means-testing, but who can easily afford to pay the full cost of access. For example, economist Thomas Hazlett notes that in 2005, residents in the Jackson Hole, Wyoming, service area received \$282 per subscriber in annual subsidies, even though their incomes and net worth were well above the national average.<sup>7</sup>

The High-Cost Fund also encourages inefficient investment, a fact the Commission has readily acknowledged. For rate-of-return carriers, which consume over \$2 billion annually in subsidies despite serving less than five percent of all telephone users, subsidies are calculated based upon the carrier's "embedded costs." Perversely, the higher the firm's costs, the more it will receive in subsidies. There are few mechanisms in place to prevent "gold plating," that is, the installation of equipment far more expensive than necessary to meet a community's needs, solely to increase the company's rate base. Until recently, there was also no cap on per-line support, which allowed Hawaii's Sandwich Isles Communications Company to receive over \$10,000 per line per year in subsidies between 2005 and 2010.<sup>8</sup> Similarly, Beaver Creek Telephone Company received over \$454,000 in 2008 to serve just 27 lines, which amounted to a cost of almost

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<sup>7</sup> Thomas Hazlett, "*Universal Service*" *Telephone Subsidies: What Does \$7 Billion Buy?* at 3 (2006).

<sup>8</sup> See <http://transition.fcc.gov/wcb/iatd/monitor.html>; Federal Communications Commission Response to United States House of Representatives Committee on Energy and Commerce Universal Service Fund Data Request of April 1, 2009.

\$17,000 per line.<sup>9</sup> Other companies receive thousands per line in annual subsidies, often in areas that wireless providers can serve at a fraction of the cost.<sup>10</sup>

Finally, the High-Cost Fund lacks sufficient oversight and accountability. And the government is the first to admit this shortcoming. The GAO released a scathing report in June 2008 entitled “FCC Needs to Improve Performance Management and Strengthen Oversight of the High-Cost Program.”<sup>11</sup> Indeed, the Commission’s own audits concluded that in 2006-07, the fund made “erroneous” payments totaling \$970 million, or almost 25 percent of all high-cost spending.<sup>12</sup> The assessment concluded that the fund was “at risk” under the Improper Payments Information Act of 2002, which labels any federal program risky if its error rate exceeds \$10 million or 2.5 percent of annual disbursements.

To its credit, the Commission has sought in recent years to reform various Universal Service programs while maintaining fidelity to its view of its statutory mandate. For example, its 2011 order placed a “firm budget” on the High-Cost Fund, holding HCF spending to the 2011 level of \$4.5 billion – though it falls short of the “hard cap” that many commenters recommended, as the Commission, unfortunately, has committed only to “an automatic review trigger” if annual claims against the fund threaten to exceed that amount.<sup>13</sup> The Commission also has capped the amount of annual

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<sup>9</sup> *Id.*

<sup>10</sup> See Hazlett, *supra* note 7, at 20 (noting that Nextel offered wireless service throughout the Sandwich Isles Communications Company service area, and that even satellite phone service can be less expensive than the per-line amounts paid to some carriers.)

<sup>11</sup> GAO 08-633, 2008 WLNR 13168534 (July 14, 2008).

<sup>12</sup> Office of Inspector General, Federal Communications Commission, *The High Cost Program Initial Statistical Analysis of Data from the 2007/2008 Compliance Attestation Examinations*, November 2008.

<sup>13</sup> See *Connect America Fund, Report and Order and Further Notice of Proposed Rulemaking*, FCC 11-161 (Nov. 18, 2011), at ¶ 563 (explaining that in the event that HCF demand exceeds \$4.5 billion in a year, the Wireline Bureau will “provide to the Commissioners a recommendation and specific action plan to immediately bring expenditures back to no more than \$4.5 billion.”).

assistance that a carrier may receive to \$3000 per line. But the handful of carriers that currently receive assistance above the capped amount may petition the Commission to waive the cap under standards that seem unclear and indefinite. These mild limitations are welcome first steps toward arresting the growth of a fund that has been spiraling out of control for nearly a decade. But they are half measures at best.

More monumentally, the Commission began reorienting the fund's focus from telephone service to broadband access. Price-cap carriers receiving High-Cost Fund assistance for voice telephony must also offer their customers fixed broadband service at specific speeds, while rate-of-return carriers must make such service available upon a customer's reasonable request. The Commission has also established a new Connect America Fund to bring broadband service to underserved areas. In 2012, it followed this initiative with a pilot program to test whether it is feasible to extend Lifeline support to include broadband access as well as traditional telephone service.

Importantly, the Commission's order also signaled a sea change in the agency's philosophy for administering the Universal Service program. The Commission has explicitly and repeatedly endorsed a "more incentive-based, market-driven approach" to distributing subsidies. For example, the 2011 order eliminates High-Cost subsidies to any carrier whose service area is already served by an unsubsidized provider. Any such aid distorts competition without furthering the goal of providing telecommunications services to those who do not have reasonable access. In areas where two or more subsidized providers are competing, assistance will be based on each carrier's costs rather than the arcane and wasteful "identical support rule" that paid new providers on the basis of the incumbent's legacy cost structure. And most significantly, the Commission has endorsed

reverse auctions as the ultimate mechanism to administer CAF subsidies so that providers will compete for subsidies by bidding to provide predetermined service throughout a defined service area at the lowest cost.

### **III. Pursuing More Fundamental Universal Service Reforms**

The Commission's recent reforms respond to two significant changes in the telecommunications marketplace. The first is the shift from monopoly to competition. The industry is no longer dominated by monolithic legacy telephone companies that agreed to serve everyone in a service area in exchange for state protection from competition. Today, over 99 percent of U.S. census tracts are served by two or more fixed broadband providers at the benchmark speed of 3 Mbps downstream and 768 kbps upstream, and that number remains at 82 percent even at the higher 10 Mbps/1.5 Mbps threshold. These numbers increase to 99 percent and 98 percent respectively if wireless broadband is included.<sup>14</sup> The Commission's endorsement of incentive-based, market-driven policies recognizes that the fund should capitalize on this shift by embracing competition to aid the unserved.

The second is the shift from circuit-switched voice telephony to IP-based broadband networks. The Commission is absolutely right that high-speed Internet access will be the primary telecommunications network of the future, with voice service representing one of many applications available to consumers. The Communications Act recognizes that universal service is an evolving level of telecommunications service, and high-speed Internet access is increasingly required to participate in modern economic and civic life.

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<sup>14</sup> See Federal Communications Commission, Internet Access Services: Status as of June 30, 2013, at 9 fig.5(a), 10 fig.5(b) (2014), *available at* [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-327829A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-327829A1.pdf).

Yet the Commission's efforts do not reflect the magnitude of reforms demanded by these fundamental industry shifts. The Commission seems content to focus on individual components of the universal service program by modifying existing programs used to support the old telephone industry to fit today's very different broadband market. This piecemeal approach squanders major opportunities presented by the migration to broadband by importing defective programs in the current system into a dynamic new marketplace. The correct mission is to design new and better subsidy programs that are tailored to meet the unique challenges that broadband presents.

The Commission's reforms are also hobbled by statutory language that has allowed the USF program to stray far from its core mandate of assisting those who genuinely cannot afford access to the network. The 1996 Act's extension of subsidies to high-cost carriers, libraries, schools, and rural health care facilities drove both the monumental growth in fund expenditures and the well-deserved complaints about waste and corruption in the fund's administration. In the process, it created a host of new recipients whose voices are shaping the reform debate. It is no surprise that the 2011 reforms adopted many elements of the so-called "ABC Plan," an earlier comprehensive proposal backed by a consortium of subsidy-receiving telephone companies. While it's rational that these companies would seek a voice in reform negotiations, their concern with preserving existing subsidies is ultimately in tension with efforts to achieve more fundamental change.

America's migration to broadband networks presents a once-in-a-generation opportunity to transform an outdated, mismanaged subsidy program. Congress should capitalize on this window of opportunity by adopting market-based initiatives with the

objective of assisting low-income persons who cannot afford basic broadband Internet access and ensuring that any subsidies directed to service providers are narrowly targeted only to unserved geographic areas and then are provided only in the most economically efficient manner. And support for low income persons should be provided directly to them, rather than to supporting carriers as their proxies in ways that distort broadband competition. Finally, these efforts should be undertaken in a financially responsible manner, minimizing costs and funding those costs in a way that does not overly burden broadband consumers and providers.

#### **A. Reinventing Lifeline**

On the subsidy side, we recommend that Congress maintain a reformed Lifeline subsidy program to assist eligible low-income persons. The Lifeline program might consist of a voucher program similar to a telecommunications version of the food stamp program, or a fund-provided broadband phone card. Eligibility should be determined by the means-testing currently undertaken for Lifeline eligibility: proof of income below an appropriate income level, or participation in one of many other means-testing programs such as Medicaid, food stamps, SSI, or the Section 8 Housing Program. States could adopt alternative eligibility criteria with Commission approval, which would help ensure the program is flexible enough to meet each state's unique needs.

The voucher would be designed to provide “basic broadband service” to eligible recipients. Numerous advocates have pushed the Commission to define broadband service in terms of minimum speeds—often defined as speeds sufficient to stream high-quality video. But the current universal service program does not fund video service, which we consider outside the core of basic social services to which all should have

access. To avoid this ambiguous mission creep, Congress should define “basic broadband service” by listing those essential services that the program should facilitate online, such as including emergency assistance,<sup>15</sup> voice service, access to government services and information, and perhaps basic e-commerce. The Commission should then define the minimum speed necessary for a broadband connection that provides reliable access to those services that Congress deems essential.

Like Lifeline today, the voucher would allow eligible consumers to purchase basic broadband service for a Commission-defined subsidized rate. Eligible consumers would receive a nontransferable voucher equal to the average market rate for basic broadband service in the service area, minus the subsidized rate. In service areas where one broadband provider has market power, the Commission could prevent price-gouging by limiting the voucher to an amount sufficient to assure a reasonable rate of return to a reasonably efficient provider in that service area.

But the voucher itself would be set at a fixed, portable amount that the consumer could take to any participating telecommunications provider. Any provider that accepts a voucher must agree to provide basic broadband service to voucher holders throughout the service area at no more than the subsidized rate plus the voucher amount. The consumer need not use the voucher to purchase basic broadband service; he or she could instead choose to apply the voucher to receive (presumably less expensive) voice-only service, or as a credit toward a suite of more advanced telecommunications services, if the provider makes these alternatives available to the public generally. This flexibility extends the

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<sup>15</sup> Many states currently impose high E911 surcharge fees on providers of Lifeline services. This seems counterproductive because one of the reasons for creating a Lifeline service is to help ensure that low-income persons have access to these services. And, in any event, it has been shown that these fees often bear little or no relationship to the cost of providing E911 or other forms of emergency assistance, but rather are imposed as general revenue-raising measures.

promise of at least voice access to those eligible households that cannot afford broadband even at the subsidized rate, without locking in voucher recipients to basic broadband if they are willing to pay for additional services.

Perhaps there are other ways to operate an efficient and effective Lifeline program. But a portable voucher structure gives purchasing power directly to low-income individuals, allowing them to participate in the telecommunications marketplace like any other consumer. And it allows the fund to benefit directly from competition among broadband providers. To attract recipients and avoid customer defection, providers must compete on price and service as they do in the marketplace generally. Moreover, because the voucher amount depends upon the average market price for broadband service, less efficient providers have economic incentives to improve their operations while hyper-efficient competitors are rewarded accordingly. Furthermore, the vouchers are technologically neutral: any provider willing to offer basic broadband service would be eligible to participate, regardless of the platform through which the customer is served.

### **B. Funding Buildouts**

Of course, vouchers do not help those areas of the country that are not yet wired for broadband service because extending the network would be cost-prohibitive without some subsidy. For these areas, Congress may wish to maintain the buildout assistance contemplated in the Commission's 2011 order for a limited transition period. Funding, however, should flow only to those areas not currently served by an unsubsidized broadband provider, and recipients should meet stringent buildout requirements and agree to provide service throughout the service area. This aid should be distributed through

reverse auctions, and the total amount should be subject to an annual cap that is reduced over time as the market fills in the existing gaps in our broadband network.

### **C. State Block Grants as an Alternative**

Obstacles to universal broadband service vary considerably by geography and are often informed by local knowledge. Given the variation in conditions, it may be wise for state regulators to take the lead going forward. Though universal service is a national goal with positive spillover effects that cross jurisdictions, Congress may consider using block grants to harness this state-level knowledge in pursuit of broader federal goals. Under this proposal, a state could choose to opt out of the federal program, and instead receive a block grant from the Commission equal to the estimated total payout of vouchers to residents of that state. The state would then be free to administer a state-level universal service fund with this money, funding end-users, high-cost carriers, equipment purchases, or whatever else it determines is necessary to overcome key stumbling blocks to furthering universal service in that state. The state's continued funding would be contingent upon its compliance with Commission-determined performance metrics (such as the state's broadband adoption rate) to assure that the state is spending its dollars in ways that help achieve the overall federal objective.

### **D. Eliminating High-Cost Fund and E-Rate**

The primary obstacle to these reforms, as with any broadband universal service proposal, is cost. Broadband access is more expensive than the voice service that the fund currently provides, so any attempt to subsidize broadband service necessarily would increase the size of the fund. But substantial savings may be obtained by phasing out those programs that do not directly serve the goal of bringing access to those who cannot

afford it. Thomas Hazlett notes that much of E-Rate's library and school funding probably replaces other sources of funding that would have provided the same services through other means. This is particularly true in wealthier E-Rate communities such as Beverly Hills, California, and Fairfax County, Virginia, where income is well above the national average.<sup>16</sup> But even setting aside this objection, broadband access is no more integral to a library or school's mission than textbooks or laboratories. The costs of this access should be incorporated into the institution's own budget to be paid the same way as its other expenses, so the local community can make an accurate assessment of whether it needs such service, and, if so, at what level or cost.

Similarly, Congress should commit the Commission to slowly but firmly phasing out the High-Cost Fund assistance given directly to carriers, by steadily decreasing the amount of annual subsidies available until the program is eliminated. This means that in areas with high annual operating costs, the cost of broadband access may rise, perhaps substantially, to reflect the true costs of service. But this is not necessarily a significant problem. Like E-Rate, High-Cost Fund support is not means-tested, so much of it flows to communities where few would drop off the network even if forced to pay full market rates. And the voucher program is targeted to local area rates, which will help mitigate the effect of the price increase on those who are genuinely at risk of cancelling service at an unsubsidized rate.

More fundamentally, the simple fact that a community's telecommunications costs are high is not, alone, a reason to subsidize the community as a whole. There are a wide range of goods integral to modern life whose costs vary dramatically by location—for example, housing, food, or gasoline. Yet few suggest that the higher cost of a two-

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<sup>16</sup> See Hazlett, *supra* note 7, at 51-52.

bedroom apartment in Manhattan compared to Houston means all Big Apple residents should receive a hefty federal housing subsidy. Similarly, the Universal Service program should not subsidize what is effectively a lifestyle choice by those who could afford broadband access in most areas but choose instead to live in a region with a high cost of service.

#### **IV. Implementing a New Contribution Regime**

Finally, Congress should abandon the fund's increasingly arcane contribution methodology. The existing contribution system relies on anachronistic distinctions between interstate and intrastate service and between telecommunications and information services. Yet both of these are largely irrelevant in the broadband age.<sup>17</sup> There is no reason to preserve a regime that induces consumers and carriers to adopt technology based in part on its regulatory classification rather than its intrinsic value. Moreover, it seems counterproductive to fund universal service by taxing the very services the Commission seeks to promote. As the Federal-State Joint Board noted, "larger USF contributions increase the risk that telecommunications services will become unaffordable for some, or even a substantial number, of consumers."<sup>18</sup> At 16 percent of every bill, the surcharge may already be retarding telecommunications use.

The simplest and most elegant solution to the contribution problem is simply to fund universal service through a line item in the federal budget like most other entitlement programs. Other proposed solutions, such as a tax on telephone numbers or IP addresses, while likely an improvement over the existing revenue-based regime, suffer

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<sup>17</sup> High-Cost Universal Service Support, Order on Remand and Report and Order and Further Notice of Proposed Rulemaking, 24 FCC Rcd 6475, 6656 (Nov. 5, 2008).

<sup>18</sup> High-Cost Universal Service Support, Federal-State Joint Board on Universal Service Recommended Decision, 22 FCC Rcd 20477, 20483 (Nov. 19, 2007).

from similar problems as the current methodology: they are underinclusive and encourage strategic behavior by consumers, while discouraging provision of the very services the program seeks to subsidize. Paying for universal service from the general treasury would improve the transparency of the program by vesting oversight in Congress or the Commission rather than the murky, semi-private Universal Service Administrative Company. It would also apply a hard budgetary cap to expenditures established for a defined period of time, requiring the Commission to wring inefficiencies out of the system in order to serve the public within congressional funding restraints. A primary objection to such a shift might be the public's distaste for new entitlement programs. But in reality this approach would not create a new entitlement; rather, it would simply make a hidden tax more transparent, in a way that provides for greater accountability to Congress and taxpayers.

September 19, 2014



September 19, 2014

**Delivered via Electronic Mail**

The Honorable Fred Upton  
Chairman  
Committee on Energy and Commerce  
2125 Rayburn House Office Building  
Washington, DC 20515

The Honorable Greg Walden  
Chairman  
Subcommittee on Communications and Technology  
2125 Rayburn House Office Building  
Washington, DC 20515

Dear Chairman Upton and Chairman Walden:

Founded in 1979 as a competitive long distance provider, General Communication, Inc. ("GCI") has grown through investment and technological innovation to become the largest communications provider in Alaska, offering most every communications service the Communications Act governs. Indeed, GCI's service offerings include mobile voice and data, residential and business Internet, cable television, broadcast television, and telemedicine and distance learning services, stretched over a service area that would stretch from Michigan to Mexico and from the coast of Southern California to the coast of Northern Florida. GCI's experience is a testament to the importance of the Universal Service Fund in reaching isolated, rural communities and leveraging that support to raise private capital to invest in infrastructure to serve unserved and underserved populations hundreds of miles from the nearest city.

In Remote Alaska, communications services allow residents to connect with family and friends, to engage in civic activity, to participate in the broader economy, and even more vitally, to receive basic healthcare and educational services which would otherwise be unavailable in their communities. Without the existing law's express commitment to and authorization of USF, current and future services to many areas of Alaska would not exist. As such, a continued strong commitment to the four separate but complementary and intertwined Universal Service programs must be at the center of your Committee's efforts to modernize the Communications Act.

GCI has invested over \$2 billion in Alaska since 1979, close to \$1 billion of that in the last decade. Universal service support helps to create a business case for sustainable network investment and service offerings where none exists independently. Significant private investment, alongside predictable universal service support, has helped deploy critical wireless and broadband services to locations throughout Alaska beyond what could be done with either

private investment or universal service support alone. In many areas of Alaska, however, communications services still lag those available in the Lower 48. Many communities lack any mobile service whatsoever, not to mention state-of-the-art 4G LTE service, and others remain dependent on satellite Internet service. Continued universal service support remains necessary to overcome and prevent further widening of that digital divide.

### **Alaska's Unique Challenges**

As the Committee is well aware, Alaska is a uniquely high-cost area within which to provide any communications services, whether traditional telephony or broadband, fixed or mobile. Much of Remote Alaska lacks even the basic infrastructure critical to most telecommunications deployment, such as a road system or an intertied power grid. Moreover, the small residential populations in much of Remote Alaska cannot, by themselves, sustain demand for telecommunications services sufficient to support the construction, operation, maintenance, and upgrade of networks. Alaska's overall population density is the lowest in the nation – 1.2 persons per square mile,<sup>1</sup> compared to 103.8 in the Lower 48<sup>2</sup> – and densities are substantially lower still in Remote Alaska. In Remote Alaska, (outside of Anchorage, Fairbanks, Juneau), the populations are half as dense, only 0.6 persons per square mile.<sup>3</sup> Alaska's urban populations are small compared to rest of the country,<sup>4</sup> and even Alaska's regional centers have year-round populations of only a few thousand people.<sup>5</sup> Many of the villages in rural Alaska are extremely tiny—with only a few hundred year-round residents each.

More than 200 rural Alaska communities are accessible only by airplane, boat, or snow machine.

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<sup>1</sup> See United States Census 2010, Resident Population Data, Population Density, *at* <http://2010.census.gov/2010census/data/apportionment-dens-text.php> (last visited Jan. 17, 2012).

<sup>2</sup> See United States Census, Population Density for States and Puerto Rico, July 1, 2009, *at* <http://www.census.gov/popest/gallery/maps/popdens-2009.html> (last visited January 17, 2012).

<sup>3</sup> U.S. Census Bureau, State & County Quick Facts, Alaska (Dec. 23, 2011), *at* <http://quickfacts.census.gov/qfd/states/02000.html> (Population and land area figures for Anchorage, Fairbanks and Juneau are available under the City search tab at the top of the website. It is thus possible to subtract the total land area and population of these three cities from the statewide totals, and divide the remaining population by the remaining land mass, to arrive at a figure of approximately 0.6 persons per square mile in Remote Alaska).

<sup>4</sup> For instance, Anchorage has only 291,826 residents, Fairbanks has only 31,535 residents, and Juneau has only 31,275 residents. See State of Alaska, Alaska Community Database Custom Data Queries, *at* [http://www.commerce.state.ak.us/dca/commdb/CF\\_CUSTM.htm](http://www.commerce.state.ak.us/dca/commdb/CF_CUSTM.htm) (last visited Jan. 17, 2012).

<sup>5</sup> Barrow and Nome, for example, have only 4,212 and 3,598 residents, respectively. See State of Alaska, Alaska Community Database Custom Data Queries, *at* [http://www.commerce.state.ak.us/dca/commdb/CF\\_CUSTM.htm](http://www.commerce.state.ak.us/dca/commdb/CF_CUSTM.htm) (last visited Jan. 17, 2012).

In these off-road areas, there is no extensive power grid. Outside of the Alaska Railbelt, a narrow corridor running from Homer in the south to Fairbanks in the north, power is not distributed through an intertied grid. Rather, each community generates its own power, primarily through the use of diesel generators, often costing up to \$10 per gallon for fuel.<sup>6</sup> Recently, utilities have begun adding wind turbines to the diesel systems, but these have generally slowed price increases rather than providing price reductions. There are a small number of communities in rural Alaska that use hydroelectric or other renewable resources, but they are atypical. As a result, power in these isolated areas can be extremely expensive. Many of these rural communities pay more than 50 cents per kWh,<sup>7</sup> more than five times the national average for commercial retail electricity, with some paying between 60 and 90 cents per kWh for residential service.<sup>8</sup> These realities impact communications infrastructure, as well. For some middle-mile facilities that are not close to any established communities, GCI must install its own diesel generators and fly in diesel fuel twice per year, requiring 18 helicopter trips per refueling.

Alaska also faces unique difficulties in ensuring the delivery of the diesel fuel necessary to generate electricity, often facing extraordinary costs. For instance, after not receiving its scheduled delivery of fuel in November of 2011, the city of Nome—one of Alaska’s regional hub communities—was forced to rely on a Russian tanker escorted by a Coast Guard icebreaker to bring 1.3 million gallons of emergency gasoline and diesel through the frozen icepack of Norton Sound.<sup>9</sup> Without this delivery, Nome—and its surrounding villages—likely would have run out of these critical supplies before March, the earliest that another barge could be brought in. The alternative would have been very expensive air shipments of diesel fuel. Citizens, businesses, and telecommunications providers in the Lower 48 do not have to confront such obstacles.

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<sup>6</sup> See Will Swagel, *Lowering the Cost of Rural Energy, Investments in Sustainability Save Millions*, Alaska Business Monthly, (Sept. 3, 2014), at <http://www.akbizmag.com/Alaska-Business-Monthly/September-2014/Lowering-the-Cost-of-Rural-Energy/>.

<sup>7</sup> See Alaska Village Electric Cooperative, *Table of Small Commercial Rates*, (effective as of Oct. 4, 2013) at <http://www.avec.org/downloads/Small%20Commercial%20Rates.pdf> and <http://avec.securesites.net/customer-service.php> (see Table of Small Commercial Rates).

<sup>8</sup> See *Average Retail Price of Electricity to Ultimate Customers by End-Use Sector, by State, Year-to-Date through September 2014 and 2013*, Table 5.3, U.S. Energy Information Administration (last visited Sept. 18, 2014), at <http://www.eia.gov/electricity/data.cfm#sales> (under Sales (consumption), revenue, prices and customers).

<sup>9</sup> See, e.g., William Yardley, *A New Race of Mercy to Nome, This Time Without Sled Dogs*, N.Y. Times, (Jan. 9, 2012), at [http://www.nytimes.com/2012/01/10/us/icebreaker-slowly-carves-path-for-tanker-to-bring-emergency-fuel-to-alaska.html?\\_r=2&nl=todaysheadlines&emc=th23](http://www.nytimes.com/2012/01/10/us/icebreaker-slowly-carves-path-for-tanker-to-bring-emergency-fuel-to-alaska.html?_r=2&nl=todaysheadlines&emc=th23); see also Rachel D’Oro, *Harsh winter causing fuel shortages in Alaska*, Washington Times (Jan. 14, 2012), at <http://www.washingtontimes.com/news/2012/jan/14/harsh-winter-causing-fuel-shortages-alaska/>.

It is Alaska's unique combination of extremely high costs and sparse population over enormous land areas that make universal service so vital in the effort to build and maintain communications infrastructure and services. If the concept of universal service means anything, it means supporting communications services to our most isolated citizens. Many of these rural communities are home to majority Alaska Native populations, with an unemployment rate that can be several times higher than the national average. The benefits of a reliable and stable USF program will allow these communities to participate in a 21<sup>st</sup> century economy. Thus, any changes to the Act that do not account for these realities have the potential to seriously disrupt or destroy the benefits of modern communications in Alaska.

### **High Cost**

It is well documented that the communications world is going mobile. High-cost USF support makes it possible for GCI to bring modern mobile voice and data service to the most remote areas of the country. Thanks to high-cost support for wireless deployment in Remote Alaska, the resident whose snow machine—*i.e.*, a snowmobile, which is an important mode of transport in rural Alaska where there are no roads—broke down miles from his Alaska Native village was able to phone for help rather than risking the long hike back home in subzero temperatures, and the woman who had survived a devastating plane crash was able to reach rescuers and guide them to the wreckage to aid injured survivors. These are but two examples demonstrating the safety benefits of wireless services for rural communities.

High-cost support not only facilitates deployment of new facilities, it is also important in maintaining and operating those facilities in often challenging conditions. Indeed, the Brattle Group has estimated that the incremental net cost to achieve mobile data speeds of just 768 kbps downstream and 256 kbps upstream for all Alaska communities would be \$260 million per year. The expected revenues from the state's small populations would not come close to meeting that cost. Without stable, predictable high-cost support, it will be nearly impossible to make the private investment necessary to expand mobile broadband services even to that basic level.

Support must be targeted judiciously and logically, however, and it should be guided by other principles central to good communications policy. Competitive neutrality is one such core principle. Wherever possible, subsidies should not distort or subvert competitive forces already in place. For instance, the FCC's reforms of the High-Cost program are moving toward a system where only areas without an unsubsidized competitor are eligible for support. GCI supports that concept, which Congress should embed in the statute, *i.e.*, where market forces alone will not ensure the construction of adequate infrastructure, high-cost USF support is appropriate and necessary, but where competition is possible without government subsidy, it must be allowed to thrive.

By the same token, the statute and regulations should not choose technologies on behalf of consumers but rather should let consumers, through the market, decide for themselves. For many years, distant regional centers like Bethel, Nome, and Kotzebue were forced to depend on satellite backhaul for voice and data services. In addition to enormous replacement costs, satellite is hampered by limited bandwidth and high latency, making it a challenging middle-mile

platform for modern applications such as IP video or videoconferencing. Building fiber to all of these locations, often across National and State Parks and wildlife refuges, would be logistically, technologically, and economically impractical. As a result, GCI has turned to microwave technology to innovate terrestrial middle-mile broadband services in Alaska by building the TERRA network. Initiated in 2011, TERRA now delivers terrestrial (*i.e.*, non-satellite) broadband services to more than 70 communities, bringing the benefits of enhanced economic opportunity, public participation, and improvements to health, education, public safety and government services. TERRA utilizes fiber extensions where appropriate and microwave repeaters to connect parts of Alaska previously dependent on satellite middle-mile to the fiber backbone at true, low-latency broadband speeds for the first time. In 2012, GCI turned up the first phase of TERRA to connect Southwest Alaska to the fiber backbone in Anchorage. Last year, GCI extended the service in Nome, and will turn up in Kotzebue, north of the Arctic Circle, by the end of 2014. TERRA has brought true broadband to parts of Alaska where it was unthinkable only a few years ago, and it is in large part thanks to the ability to use new or different technologies to innovate. Had the laws or regulations disfavored the use of USF funds for microwave-supported services and insisted on fiber back-haul, Bethel and Nome would still lack broadband access. Likewise, should other innovations enable new or even replacement technologies, the opportunity for these advancements should flourish, as well.

TERRA also illustrates how seemingly disparate support mechanisms can amplify one another for the good of consumers. In addition to USF support administered by the FCC and privately raised capital, GCI also turned to loans and the one-time Broadband Initiatives Program grant opportunity from the Agriculture Department's Rural Utilities Service. These funding sources allowed GCI to build out the TERRA network at a much faster pace than would have been possible otherwise.

### **E-Rate and Rural Health Care**

The E-Rate and Rural Health Care programs have fundamentally transformed rural Alaskan schools and medical facilities, and this undeniable success should inform your efforts to update the Communications Act. E-Rate and RHC are responsible for lowering the cost of broadband connectivity to an affordable price range for rural Alaskan school districts and health care providers. Without it, these schools and clinics would lose access to broadband Internet service and, more importantly, telemedicine and distance learning.

Among the most expensive aspects of broadband service in remote areas is vital long-haul, middle-mile transport from the communities in which schools and clinics are located, to the regional hub in which the district office and regional hospitals are headquartered, and from there to a fiber-based traffic aggregation site (usually Anchorage). E-Rate and RHC help to support the cost of the hundreds or thousands of miles of transport necessary to connect villages in rural Alaska to fiber facilities in Anchorage – sometimes over distances greater than that from Washington, DC to Minneapolis – and then via undersea fiber optic cables to Tier 1 Internet POPs in Washington State and Oregon.

Over time, GCI has leveraged E-Rate and RHC support to make significant private infrastructure investments in areas that would not be able to support demand for such infrastructure without anchor institutions like a school or hospital. Once deployed, the infrastructure is available for the benefit of all residents and businesses in the communities, creating stronger and more diverse local economies. As a result, the cost of broadband service in Alaska has significantly decreased, while the average amount of bandwidth made available per school and healthcare facility has skyrocketed. A survey of bandwidth prices in Alaska's rural schools, for instance, demonstrates that the average price per Mbps has dropped by at least fifty percent over 8 years, while the average bandwidth per school has more than quadrupled.

Even with such successes, more must be done to close the broadband gap faced by rural schools and medical facilities. Despite the reduced prices and increased bandwidth, Alaska still lags the Lower 48 on both metrics. Many schools, for instance, still do not meet the State Educational Technology Directors Association (SETDA) 2014-2015 recommendation of 100 kbps per student. Any update of the Act should focus E-Rate and RHC support on connecting those communities that would otherwise remain underserved and isolated, and not to areas where patients and students not only would benefit from at least some level of internet access without support, but that also have in-person access to specialized medical professionals and teachers. The cost of broadband connectivity in rural areas is significantly higher than in urban areas (due in large part to middle-mile transport costs), and without some safeguard mechanism, rural schools could be disproportionality harmed by any proposal to fund internal connections in suburban and urban schools and healthcare facilities without first funding these critical transport links. In fact, while many rural schools and clinics are struggling to simply connect to the Internet, many urban facilities already have broadband connectivity, often from a number of different competitive providers. Transferring support to internal connections in already-connected schools in more populated areas at the expense of basic connections for rural schools would leave these least-connected schools, in remote, rural locations, even further behind urban schools than they already are. The hardest services to fund – those most needing recurring support – are high-bandwidth transport from a community to the Internet backbone, and transport within the community to a school or clinic.

The same is true for the Rural Healthcare program. Most towns and villages in rural Alaska lack hospitals and are served by basic clinics without resident physicians. Thanks to RHC support for health care providers in Alaska, GCI has built broadband connections to many of these areas, allowing telemedicine to transform patient care in newly connected communities. Prior to the advent of telemedicine services, a patient with chest pain fearing a heart attack might have been airlifted hundreds of miles from the local health clinic to the nearest hospital only to be told that they were suffering from bad heartburn. Now, through telemedicine, a doctor can assess that patient through video conferencing and electronic test results, with the help of the community health aide, to assess that patient and obviate the need for an expensive medevac flight. This type of service is available only through RHC funding, which remains necessary to maintain these gains and extend the benefits of telehealth to more communities. As health insurance premiums and healthcare costs more broadly remain in the news, the cost savings from the more-efficient delivery of care—on top of the lives saved—make this program one that Congress should continue to support.

## **Lifeline**

As a provider of Lifeline services to many low-income subscribers, GCI can attest to the massive success the program has achieved in terms of phone penetration in Alaska. GCI strongly encourages the Committee to maintain the current level of Lifeline support available to its low-income subscribers, but would welcome a transition of the program to a consumer-focused voucher system, removing communications providers from the role of social services providers and leaving the role to the experienced governmental agencies already charged with administering the various social service programs that account for the bulk of Lifeline eligibility.

Despite its challenges, the core of the Lifeline program has been a success. Data compiled by the FCC show that in 1994, when Alaska began providing Lifeline support, more than a quarter of low-income Alaska households had no telephone service.<sup>10</sup> In 2009, the penetration rate for this segment of the population had grown to 91.9 percent.<sup>11</sup> The program has a similar record of increased subscribership slightly farther up the low-income ladder. Among households with annual income of less than \$41,464 (2009 dollars), only 82.2 percent subscribed to telephone service in 1994, but by 2009 the penetration rate had reached 92.2 percent.<sup>12</sup> Reducing the amount of support would directly increase the cost of service to low-income consumers, with the predictable impact of again widening the gap in communications access for this vulnerable segment of our country.

Moreover, reducing support now would undermine low-income consumers' decisive move away from landlines to mobile telephony, and the sound, practical reasons for that move. Breaking telephony's tether to structures makes communications more flexible and much more valuable. A mobile phone provides 911 service where consumers are, not just where they live. It gives the homeless and others in unstable living arrangements the ability to maintain contact with family, friends, and potential employers. The public safety benefits are particularly important in Alaska, where extreme weather and the vast distances that separate population centers make mobile communications a potential lifesaver. But wireless telephony costs more than wired service, and reducing the Lifeline subsidy would relegate more of the low-income population to a limited, wireline-only system, widening rather than closing their communications gap with the rest of America.

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<sup>10</sup> See *Telephone Penetration by Income by State* at 11, Federal Communications Commission (May 2010), at <http://hraunfoss.fcc.gov/edocs/public/attachmatchIDOC-297986A1.pdf>. Low-income is defined here as less than \$20,732 in 2009 dollars, which is even less than the Federal Poverty Guidelines for a family of three. The FCC data measure income in 1984 dollars. \$10,000 in 1984 dollars equates to \$20,732 in 2009 dollars.

<sup>11</sup> *Id.* at 12.

<sup>12</sup> *Id.* at 11-12.

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Universal Service has been a bedrock principle supporting the statutory regime since the first Communications Act was passed in 1934 and reconfirmed with the enactment of the 1996 Act, and it must remain in any successor regime. The various Universal Service programs – E-Rate for schools and libraries, Rural Health Care for telemedicine, Lifeline for low-income citizens, and High-Cost Support for areas where building infrastructure is especially expensive – work with one another and private investment to ensure all Americans can enjoy the benefits of modern communications services, even in the most remote, difficult-to-serve settings. It is vital that targeted Universal Service remains a core principle now and into the future.

Respectfully,



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House Energy and Commerce Committee  
Subcommittee on Communications and Technology

Modernizing the Communications Act

COMMENTS OF GILA RIVER TELECOMMUNICATIONS, INC.

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## Introduction:

Gila River Telecommunications, Inc. (“GRTI”), a telecommunications carrier wholly-owned and operated by the Gila River Indian Community (“GRIC”), appreciates this opportunity to offer the Committee its perspective on the critical importance of universal service. As one of a too small group of tribally-owned telecommunications companies, we believe that our history of bringing communications services to a sparsely-populated, economically challenged population can be informative in considering reforms to the universal service provisions of the Telecommunications Act of 1996 (the “Act”). As we explain in detail below, and as the Committee has heard in other comments, while the technology used to communicate has changed, the goal of universal service must not. In fact, given the increasing importance and opportunity presented by connectivity, the need for a robust universal service program remains critically important.

Broadband access drives economic growth, stimulates job creation, and increases the educational success of children. It is required to apply for jobs with 80 percent of Fortune 500 companies. Unfortunately, tribal lands have historically been underserved areas and where broadband is concerned the trend is bearing out once more. According to data gathered for the National Broadband Map, only 54.7 percent of residents of tribal lands have broadband access. That is compared with 93.4 percent nationwide for the most basic level of service.<sup>1</sup> In terms of adoption, approximately 26 percent of those with access on tribal lands subscribe, compared to over 40 percent for basic broadband speeds.<sup>2</sup>

The current universal service provision of the Act identifies six principles of universal service that remain relevant to promoting deployment and adoption of broadband. As the Committee noted in its white paper those principles include the need to provide quality service at reasonable rates that are comparable between urban and rural areas; access to advanced telecommunications and information services throughout the country and to all consumers; and access to advanced services to schools, libraries and rural health care facilities. In addition, the statute provides that all providers of telecommunications services should contribute to the Universal Service Fund and that support to recipients should be specific, predictable, and sufficient to advance universal service. The Federal Communications Commission (“FCC”) has added to that list competitive neutrality and the need to direct funding to the next evolution of communications networks – broadband. Those principles are enduring because they speak to the need to ensure equitable access to evolving communications services, which despite changes in

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<sup>1</sup> Tribal lands have historically been underserved areas where only 54.7 percent of residents have broadband access compared to 93.4 percent nationwide. The Commission has defined broadband as a download speed greater than or equal to 3 mbps and an upload speed greater than or equal to 768 kbps. According to the National Broadband Map data, of the 1,004,329 residents living on tribal land, approximately 454,962 residents do not have access to broadband. The Commission has proposed raising the broadband definition to a download speed greater than or equal to 10 mbps, which only 48.2 percent of tribal land residents have compared to 91.5 percent nationwide.

<sup>2</sup> See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Dkt. No. 11-121, *Report*, 27 FCC Rcd 6656, 6704, Table 20 (2012) (Eighth Broadband Progress Report).

technology, remain at the core of what we as a country should continue to strive for. It is in that spirit that we offer the following replies to the Committee's specific comments.

## Responses:

**Question 1:** How should Congress define the goals of the Universal Service Fund? Should Congress alter or eliminate any of the six statutory principles, codify either of the principles adopted by the FCC, or add any new principles in response to changes in technology and consumer behavior?

Answer: The current principles capture the goal of ensuring equitable access for all Americans to communications services and the understanding that achieving that goal is a shared commitment. We urge the Committee to retain the six principles of universal service with modifications that should help the FCC better target support to historically unserved areas and to discrete population groups that are unable to afford broadband.

*Promote deployment on tribal lands.* GRTI encourages the Committee to take this opportunity to codify a principle that focuses on promoting broadband deployment on tribal lands. As noted above, broadband service on tribal lands lags well behind the rest of the United States. Revisions to the statute must address this gap and codification of a principle that requires the FCC to consider how its universal service policies will promote deployment of broadband on tribal lands would help focus the FCC on this need.<sup>3</sup>

*Promote affordability of broadband.* Deployment is a component of bringing broadband to all Americans. Adoption, however, is also vital. Throughout the history of communications law there has been a policy of ensuring that the phrase "access to all Americans" meant more than a wire running in front of someone's house – it meant that the service riding over the wire was affordable for anyone who wanted to subscribe. Section 254(b)(1) upholds this ideal in codifying the simple principle that "quality services should be available at just, reasonable and affordable rates."<sup>4</sup> GRTI has learned firsthand through its participation in the FCC's Lifeline Program the real barrier affordability poses to adoption of communications services. GRTI's community of service has a poverty rate of over 45 percent, which means that the telephone Lifeline program administered by the FCC is truly a lifeline for many of our residents.<sup>5</sup> In fact, almost 70 percent of our subscribers qualify for the telephone Lifeline program and likely would not have service but for the support the program provides.

We also observed the impact of cost on connectivity through our participation in the FCC's Broadband Lifeline Pilot Program. Prior to the pilot, GRTI had a broadband adoption rate

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<sup>3</sup> Deployment must also recognize that there is an ongoing cost to these facilities and merely putting plant in the ground does not fix the broadband problem. Maintenance is needed and the Commission must adopt policies that ensure maintenance costs are covered through a combination of universal service support and "just, reasonable and affordable rates." See 47 U.S.C. 254(b)(1).

<sup>4</sup> 47 U.S.C. §254(b)(1).

<sup>5</sup> Census data show that poverty overall amongst American Indian and Alaska Natives is approximately 27 percent, the highest of all ethnic groups. See *Poverty Rates for Selected Detailed Races and Hispanic Groups by State and Place: 2007-2011*, available at <http://www.census.gov/prod/2013pubs/acsbr11-17.pdf>.

of approximately 36 percent. During the Pilot program, that number increased to almost 55 percent, a 19 percent increase.<sup>6</sup> Nationally, however, adoption of broadband on tribal lands is approximately 26 percent compared to over 40 percent for basic broadband speeds.<sup>7</sup> Congress should build on the existing principle of affordability contained in the Act and adopt a principle that encourages the FCC to expand Lifeline to include broadband and to work with tribal governments, states and others to develop new initiatives to address the affordability of communications services.

*Innovation Opportunities in Universal Service.* As currently structured, universal service is designed with a lag built in for upgrading communications services in rural and tribal areas of the country.<sup>8</sup> It should not be that way. American entrepreneurs and innovators are located throughout the country, including rural and tribal areas. The businesses and jobs they create are critical to the continuing existence of those communities and delaying deployment hinders that opportunity.

GRTI understands the critical importance of controlling costs and has been a cost-conscious provider of communications service to its community. Universal service should not be designed to encourage the deployment of the last generation of technology, but should be more forward-looking by designing the support mechanisms to take advantage of cost savings from deployment of more efficient networks. For example, under the existing universal service high-cost program, carriers with legacy equipment receive more funding, which creates a disincentive to deploy new technologies capable of advanced services. Allowing for innovation through pilots or other funding mechanisms could go a long way towards making advanced networks and services available to tribal and rural areas of the country in a more comparable timeframe as their urban counterparts. Codification of such a principle would be useful in prompting action by the FCC.

*Clarify support for broadband.* Finally, it should be made clear by the Committee that universal service support includes broadband and is within the scope of facilities and services the FCC can support on a stand-alone basis through the universal service mechanisms.<sup>9</sup> Under the current principles of section 254(b), Congress directed the FCC to ensure “access to advanced telecommunications and information services in all regions of the Nation.”<sup>10</sup> While the principle

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<sup>6</sup> Funds for the Pilot Program participation were limited, so GRTI was not able to offer services to all that would have qualified in the community.

<sup>7</sup> See Eighth Broadband Progress Report at 6704, Table 20.

<sup>8</sup> Universal service requires the FCC to consider the extent to which supported services “have, through the operation of market choices by customers, been subscribed to by a substantial majority of residential customers.” 47 U.S.C. § 254(c)(1)(B).

<sup>9</sup> This is a clarification of the existing authority that the FCC has exercised to ensure that broadband facilities are supported through universal service funding. See *Connect America Fund*, WC Docket No. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663 (2011), paras. 60-73, available at [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-11-161A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-11-161A1.pdf). As more consumers look to voice as an application that runs over the broadband facility, continued coupling of support with voice service no longer reflects how consumers purchase communications services and Congress should consider urging the FCC to provide support for stand-alone broadband service.

<sup>10</sup> 47 U.S.C. § 254(b)(2).

is clear about Congress's intent to promote broadband deployment through universal service support, the definition of universal service as codified in section 254(c)(1) is less clear. That section defines universal service in the first sentence as "an evolving level of telecommunications services that the Commission shall establish periodically." It then goes on to state that the Commission's determination be based on "advances in telecommunications and information technologies and service."<sup>11</sup> Altering the phrase "telecommunications service" to "telecommunications and information services" in the sentence would go a long way towards clarifying that broadband is included in universal service.<sup>12</sup>

**Question 2:** Universal service was created to fund buildout in areas incapable of economically supporting network investment. How should our policies address the existence of multiple privately funded networks in many parts of the country that currently receive support?

Answer: Buildout is a critical part of what universal service is designed to promote. Universal service is also designed to promote adoption by ensuring affordability of rates for services and to promote Internet access in schools and libraries as well as access to telehealth and telemedicine for rural clinics.<sup>13</sup> Universal service is broad in its scope and, historically, policies have relied on a group of providers that understood that breadth and accepted full responsibility for promoting the goals. Those providers continue to be the only providers in the country willing to ensure the full set of universal service goals are met.

Under the current Act, section 214(e) is a screen to determine how willing a provider of communications services is to bring its services to *all* the residences and businesses in a community.<sup>14</sup> Recognizing the need to target limited universal service support, section 214 requires a finding that it is in the public interest to designate more than one provider in an area served by a rural telephone company.<sup>15</sup> Conditioning universal service support on agreeing to fulfill the universal service goals remains a viable framework.<sup>16</sup> This bargain not only requires that providers designated as eligible telecommunications carriers offer all universal services throughout their service territory, but it also prohibits the provider from denying access to service to any home or business in its service territory.

To the extent privately funded networks have been built in "rural" areas, they are often in the towns of the rural communities. As the Committee is aware, ending support for the carrier of last resort in the towns they serve as part of their service area, ultimately raises the price of

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<sup>11</sup> 47 U.S.C. § 254(c)(1).

<sup>12</sup> In White Paper 1, the Committee asked whether the distinction between information and telecommunications services continues to serve a purpose. See *Modernizing the Communications Act*, Question 5, <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/20140108WhitePaper.pdf>. To the extent the Committee determines that it does not, this is one place where the Committee would need to "rationalize" the two in a way that does not remove the ability of the FCC to promote the deployment and adoption of broadband through universal service mechanisms.

<sup>13</sup> 47 U.S.C. § 254(b), (h)(2).

<sup>14</sup> The Act requires that the designated provider offer all universal service supported services throughout its service area, which for rural telephone companies is their study area. See 47 U.S.C. 214(e)(5).

<sup>15</sup> 47 U.S.C. § 214(e)(2).

<sup>16</sup> 47 U.S.C. § 214(e)(1)(A).

serving the less populated areas surrounding the town. This “donut hole” effect does nothing to advance the goals of universal service and given the increased support levels necessary to serve the remaining lines, it is speculative as to whether it actually cuts universal service spending. While we believe tying funding to the presence of a privately funded network is the wrong policy outcome, from a statutory drafting perspective we believe that leaving the existing flexibility in the statute to allow the FCC to determine how best to address the presence of privately funded networks is the more prudent course. An overly prescriptive statutory provision in this area has the real possibility of creating unintended consequences that once codified would be hard to reverse.<sup>17</sup>

**Question 3:** What is the appropriate role of states and state commissions with respect to universal service policy?

Answer: States and state commissions have an ongoing role to play in universal service policy as they are closest to the residential consumers, businesses, schools, libraries, and hospitals that universal service is meant to help.<sup>18</sup> Tribal governments, like states, also deserve to play a role in crafting universal service policy. As GRTI urged in its comments to the first white paper, we believe that any re-write effort must codify formal recognition of tribal sovereignty and formalize tribal consultation.<sup>19</sup>

One example of where consultation was codified in the law is FirstNet. Under section 6206(c)(2) of the Middle Class Tax Relief and Job Creation Act of 2012, Congress directed FirstNet to consult with tribal jurisdictions in developing and planning the public safety network.<sup>20</sup> That consultation ensured that FirstNet reached out to tribal interests and learned early in the process of their perspectives.

In the last few years, the FCC has reinvigorated its outreach to tribal governments and providers serving tribal lands. In 2010, it stood up the Office of Native Affairs and Policy.<sup>21</sup> That Office has been instrumental in reaching out to tribal interests and formalizing a role for them in the FCC’s decision making process. For example, the Native Nations Broadband Task Force is a group of tribal leaders from across the country that convenes to discuss pending proceedings before the Commission and offers those leaders a forum in which to express their

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<sup>17</sup> See Comments of the Rural Associations (filed in response to the FCC Connect America Fund proceeding WC Docket 10-90), pp. 41-55, available at <http://apps.fcc.gov/ecfs/document/view?id=7521757308> (Aug. 8, 2014).

<sup>18</sup> As noted above, we believe that states and tribal governments could be very helpful in working with the FCC to craft innovative policies to promote deployment and adoption.

<sup>19</sup> Comments to Modernizing the Communications Act, Gila River Telecommunications, Inc., at 2-4, available at [http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP1\\_Responses\\_41-60.pdf](http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/WP1_Responses_41-60.pdf).

<sup>20</sup> See Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6206, 125 Stat. 156 (2012) (Spectrum Act).

<sup>21</sup> See Engaging with Tribal Nations, <http://www.fcc.gov/native>.

ideas and concerns.<sup>22</sup> While these efforts are very encouraging, we believe that codification of tribal consultation is the best way to ensure that the recent efforts remain permanent.

With regards to sovereignty, however, the FirstNet approach missed the mark. Under section 6302(e), Congress left to the Governor of each state the decision on whether to participate in the FirstNet network, which meant that tribal governments and their determination of what happens on their lands was taken from them and given to the state government in which their lands are located for a final determination. As we stated in our response to the first white paper, codification of tribal sovereignty in the Communications Act ensures that tribal governments are given an opportunity to determine how policies of the FCC affect their lands and communities. An example of where this lack of sovereignty has played out in recent communications policy debates is in the context of E-rate funding. As noted in the FCC E-rate Modernization proceeding (WC Docket No. 13-184), only 34 percent of tribal libraries receive funding through the program. One of the barriers to such funding is the need for a certification from the state library administrative agency.<sup>23</sup> Ceding this fundamental determination to a state administrative agency instead of allowing the tribal government to make such a determination has led to delay and denial of a substantive right to tribal government. A re-write of the Communications Act must address this issue.

**Question 4:** What is the appropriate role of the Federal-State Joint Board on Universal Service in a broadband, IP-enabled, largely interstate world? What is the appropriate role of related joint boards, such as the Federal-State Joint Board on Separations or the Federal-State Conference on Advanced Services?

Answer: Coordination to effectuate broadband deployment and adoption should remain a joint effort between the tribal governments, states and the FCC for the reasons stated in the previous response. In updating the statute, there should be a seat on the Joint Board for tribal interests. In the 111<sup>th</sup> Congress, then Representative Jay Inslee sponsored bipartisan legislation to make such a change.<sup>24</sup> To the extent Congress determines that the Federal-State Joint Boards should remain, we urge inclusion of a provision that would provide tribal interests representation on those boards.

**Question 5:** The Universal Service Fund is one of several federal programs that support buildout of communications facilities. Are current programs at other federal agencies, like the National Telecommunications and Information Administration (which oversaw the Broadband Technology Opportunities Program) or the Rural Utility Service (which oversees lending programs and oversaw the Broadband Initiatives Program) necessary?

Answer: In 1988 when GRTI took over the exchange serving the Gila River Indian Community, loans from the RUS were critical to our fledgling business. The exchange we acquired from U.S.

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<sup>22</sup> See FCC Seeks Nominations for Tribal Government Representatives to Serve on the FCC-Native Nations Broadband Task Force, available at [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-14-342A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-14-342A1.pdf).

<sup>23</sup> See Comments from Navajo Nation Telecommunications Regulatory Commission, at 9-14, available at <http://apps.fcc.gov/ecfs/document/view?id=7520944056>.

<sup>24</sup> H.R. 6530, available at <http://thomas.loc.gov/cgi-bin/query/z?c111:H.R.6530>.

West had not been updated in quite some time and after years of refusal to upgrade facilities or expand service throughout the community, we faced the task of bringing communications services to a community where fewer than 20% of households had phone service. For the first 15 years of GRTI's existence, RUS loans provided a much needed infusion of capital and but for the RUS programs, GRTI would have been a failed venture. In exchange for low interest RUS loans and universal service support, GRTI was able to not only increase telephone penetration rate from the abysmal 20 percent it adopted from its predecessor to over 85 percent today, but it was able to build a robust network throughout the community and is able to guarantee anyone living on the reservation access to communications services. This would not have been the case had this seed money not been available.

The broadband (and basic telecommunications) gap still exists throughout tribal lands, and access to a mixture of universal service support and low-interest RUS loans and grants remain essential to addressing that gap.

Additionally, Congress should consider the creation of a tribal-specific broadband fund that is separate and apart from universal service and is focused on promoting deployment and adoption on tribal lands.<sup>25</sup> As stated above, lack of access to broadband and income remain significant barriers to adoption and this sort of targeted funding would be helpful in addressing the persistent communications services gap on tribal lands.

Finally, as for the BTOP and BIP programs, they were one-time infusions of capital that sought to promote broadband deployment and adoption in areas that may not have otherwise received broadband or at least received it within a timely fashion.<sup>26</sup> Such efforts can play an important role in achieving the broadband policy objectives of Congress, and should Congress determine that such a stimulus would be beneficial, GRTI stands ready to assist in crafting a targeted program.

**Question 6:** How can we ensure that the Universal Service Fund is sufficiently funded to meet its stated goals without growing the fund beyond fiscally responsible levels of spending?

Answer: Funding at sufficient and fiscally responsible levels is best achieved by establishing clear objectives for the providers that are charged with achieving the goals of universal service. It may seem like a small proposition, but as an entity that has been working to bring universal service to its community for the last 25 years, GRTI believes that understanding what is being asked of it helps it make prudent decisions in where to invest the universal service dollars it is entrusted with. In fact, when the FCC was looking at the question of sufficiency in reforming the high cost mechanisms in 2011, GRTI opened its books for the FCC to help inform the Commission's understanding of the costs associated with deployment of broadband on sparsely-

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<sup>25</sup> National Broadband Plan, Recommendation 8.18, available at <http://transition.fcc.gov/national-broadband-plan/national-broadband-plan.pdf>.

<sup>26</sup> See Broadband Technology Opportunities Program (BTOP) Quarterly Program Status Report, National Telecommunications and Information Administration, available at [http://www.ntia.doc.gov/files/ntia/publications/ntia\\_bttop\\_20th\\_qtrly\\_report.pdf](http://www.ntia.doc.gov/files/ntia/publications/ntia_bttop_20th_qtrly_report.pdf) (May 2014); Broadband Initiative Program Quarterly Report, U.S. Dept. of Agriculture Rural Utilities Service, available at [http://www.rurdev.usda.gov/Reports/RUS\\_BIPStatus\\_Report\\_Q2\\_2014.pdf](http://www.rurdev.usda.gov/Reports/RUS_BIPStatus_Report_Q2_2014.pdf) (June 2014)

populated tribal lands. That information was used by the FCC to develop the tribal coefficient, which became part of those reforms.

We believe that in the first instance it is the provider's responsibility to put in place controls that ensure spending of universal service dollars is done in accordance with the universal service rules. That, of course, means that clear rules must be in place, and a fact-based, decision making process conducted by the FCC is the best way to achieve clear rules and a Fund that is sufficient and fiscally responsible.

In terms of contributions, as the Fund has transitioned to include support for broadband networks, we agree with the broad range of parties that have urged the FCC to expand the contribution base to include broadband and other services.<sup>27</sup> The goal of Congress and the FCC must be to create a funding stream that has a few key characteristics. First, it should continue to be based on revenues as that is the least regressive and most auditable basis for collection. Second, it should be clear as to what is assessed to minimize arbitrage opportunities and to ensure compliance is administratively easy. Third, it should be competitively neutral so as not to create competitive advantage. A contribution mechanism crafted with these goals would help promote funding stability and coupled with a financially-responsible spending plan, we would go a long way to renewing the promise of universal service.

**Question 7:** Are all of the funds and mechanisms of the current Universal Service Fund necessary in the modern communications marketplace?

Answer: As currently drafted, section 254 sets forth broad policy objectives and outlines the specific areas for funding: high-cost, schools and libraries, rural healthcare facilities, and low income consumers. That list covers the goal of deployment to citizens at their homes and in the key anchor institutions in their communities. It also provides for assistance to those low-income families that would not otherwise be able to afford access. We urge the Committee to keep these funding mechanisms and to make clear that expansion of the Lifeline program to cover broadband is needed. Congresswoman Matsui has legislation pending before Congress that would clarify that the FCC should enact such an expansion.<sup>28</sup> As stated elsewhere in these comments, expansion of this program to cover broadband is essential, particularly given the importance of broadband to furthering education, finding work, obtaining better health care, and participating in society.

**Question 8:** In lieu of the current support mechanisms, could any of the programs be better managed or made more efficient by conversion to:

- A state block grant program;
- A consumer-focused voucher program;
- A technology-neutral reverse auction; or,

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<sup>27</sup> See Comments of Rural Associations, Universal Service Contribution Methodology, WC Docket 06-122, at 3-7, available at <http://apps.fcc.gov/ecfs/document/view?id=7021996873> (2012) (noting that large incumbents such as AT&T, competitive providers represented by COMPTTEL, consumer groups such as NASUCA and AARP all support expansion of the contribution base to shore up an eroding funding base).

<sup>28</sup> H.R. 1685, available at <http://thomas.loc.gov/cgi-bin/query/z?c113:H.R.1685>.

- Any other mechanism.

Answer: State block grants, portable vouchers, and reverse auctions may be areas worth exploring for discrete uses, but they do not present a solid foundation on which to base overall USF policy. In Question 6, the Committee asked about ensuring sufficiency, which is a part of the fifth principle of universal service support under the current statute. Along with sufficiency, the current statute also states that universal service support should be specific and predictable. Vouchers, block grants, and reverse auctions may raise concerns regarding those principles and while they may be useful in discrete applications, Lifeline for example is essentially a voucher program, as an overall strategy to promote deployment and adoption they raise real concerns that would hinder investment by providers.

**Conclusion:**

We appreciate this opportunity to share our views on the Committee's specific questions regarding reforms to the universal service mechanism. As a provider of communications services to a community that but for universal service in its many forms would likely not have access, we look forward to further engaging with the Committee as it explores these and other issues. As the Committee considers updating the Communications Act to reflect this generation's commitment to universal service, we trust that the principle will be reaffirmed and we will continue to strive to be a nation that strives to ensure access to all Americans.<sup>29</sup>

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<sup>29</sup> 47 U.S.C. § 151.



September 19, 2014

The Honorable Fred Upton  
2183 Rayburn House Office Building  
Washington, DC 20515

The Honorable Greg Walden  
2182 Rayburn House Office Building  
Washington, DC 20515

Re: Communications Act Rewrite; Universal Service Policy and the Role of the Federal  
Communications Commission

Dear Chairman Upton and Chairman Walden:

Hughes Network Systems, LLC (Hughes), a U.S.-based company and a wholly-owned subsidiary of EchoStar Corporation, welcomes the opportunity to respond to House of Representatives Committee on Science and Technology's recent White Paper on universal service policy and the role of the Federal Communications Commission (FCC).<sup>1</sup> It is important that Congress consider the technological changes that have occurred that can help reshape the nation's universal service policy, ensuring that high quality broadband service is available even in the most rural portions of the country, and, over the long term, result in substantial cost savings.

As detailed below, the availability of high throughput satellite service in the United States ensures that many U.S. consumers in rural America can **today** receive advanced broadband services at reasonable rates without the need for government funding.<sup>2</sup> Today, a significant portion of the United States is served by at least two providers of satellite broadband services.<sup>3</sup> As discussed below, Congress should consider limiting universal service funding in rural areas where satellite broadband service is available. If Congress eliminated high-cost funding for areas where satellite broadband service is available today, the amount of funding required for Universal Service would be reduced by approximately \$4 billion a year.<sup>4</sup>

### **High Throughput Satellites Bring Advanced Broadband Services to All Americans Today**

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<sup>1</sup> See Universal Service Policy and the Role of the Federal Communications Commission.

<sup>2</sup> Hughes is not addressing in its comments the issues of supporting low-income consumers.

<sup>3</sup> Hughes alone provides satellite broadband services to approximately one million active users, many in the most rural and remote areas of the country, without the need for additional funding. No matter what action the Congress takes on Universal Service reform, at a minimum, such reform should be technology neutral and enable customers to choose which technology best meets their requirements.

<sup>4</sup> See *infra* n 14.

Hughes is the global leader in providing broadband satellite networks and services for enterprises, governments, small businesses, and consumers. Having pioneered the very small aperture terminal (“VSAT”), Hughes is the world’s leading provider of enterprise VSAT services and has built on this expertise to bring high speed satellite broadband service to consumers and small businesses across the United States. Hughes currently provides satellite Internet service utilizing its Jupiter 1 (EchoStar XVII) and SPACEWAY 3 satellites with speeds up to 15 Mbps/2 Mbps.<sup>5</sup> Hughes also is planning to launch a new high-throughput satellite in 2016 which will increase its network capacity.<sup>6</sup>

Since the inception of its satellite broadband service, Hughes has been providing a variety of important internet-based services to U.S. subscribers, especially those living or working in rural communities, or in areas with limited terrestrial broadband build-out.<sup>7</sup> Furthermore, these services are invaluable during emergencies when the terrestrial infrastructure becomes unavailable. For example, in the aftermath of Hurricane Sandy, Hughes provided Internet and voice services to the affected communities when terrestrial and wireless networks failed or were unreliable.<sup>8</sup>

Utilizing Hughes’ satellite broadband services, customers have the ability to browse the Internet at high speeds, send and receive emails, view and upload photos, stream audio, share and communicate on social networking sites, stream video from websites like Blockbuster On Demand, Netflix and Hulu, use video conferencing and voice services, and engage in distance learning, telecommuting, and telehealth activities.

Utilizing Hughes’ SPACEWAY 3 and JUPITER-1 (EchoStar XVII) and capacity on other satellites, Hughes offers service throughout all 50 states, Washington, DC and Puerto Rico.<sup>9</sup> Service plans are available with

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<sup>5</sup> EchoStar Corporation, Quarterly Report, Form 10-Q at 40 (Aug. 7, 2014) (“[S]ubscribers include subscriptions with HughesNet services, through retail, wholesale and small/medium enterprise service channels.”); HughesNet, <http://www.hughesnet.com/index.cfm?page=Plans-Pricing> (last visited Aug. 22, 2014).

<sup>6</sup> Hughes plans to launch and bring into use the Jupiter 2 (EchoStar XIX) satellite. The satellite “will have more than 150 Gbps throughput – 50 percent greater capacity than the Jupiter 1/EchoStar 17 satellite launched [in July of 2012] – with a next-generation architecture having more than 120 spot beams, providing high quality Internet coverage across the U.S.” Jeffrey Hill, *Hughes Drops Big News at SATELLITE 2013 with SSL Jupiter 2 Deal*, *Satellite Today*, Mar. 21, 2013, <http://www.satellitetoday.com/telecom/2013/03/21/hughes-drops-big-news-at-satellite-2013-with-ssl-jupiter-2-deal/>.

<sup>7</sup> See Press Release, HughesNet, Nov. 12, 2012, *Rapid Start for HughesNet Gen4 Satellite Internet Service in First 30 Days of Operation*, (quoting a customer “for anyone who lives in a remote area with no available DSL or cable service, the new HughesNet Gen4 Internet service is the only way to go.”); Press Release, HughesNet, Apr. 28, 2010, *Satellite Internet Access Helps Build Community; Keeps Rural Americans Connected to the World*; Press Release, HughesNet, Jan. 25, 2010, *Hughes Surpasses Major Milestone, 500,000 Subscribers to HughesNet High-Speed Satellite Internet Access Service* (“HughesNet Internet access at the local library has enabled the town’s 100 residents to take distance learning classes, conduct research, and shop online, giving them access to stores that are a four-hour car ride away.”).

<sup>8</sup> Press Release, Hughes, Jun. 3, 2013, *Hughes Announces New Emergency Networking Solutions for Hurricane Season*.

<sup>9</sup> Service is not available in parts of Alaska.

data rates up to 15 Mbps download and 2 Mbps upload to consumers living east of the Mississippi and along the west coast. For those customers residing elsewhere, service plans of 5 Mbps download and 1 Mbps upload are available. With the launch of the JUPITER 2 (EchoStar XIX) satellite in late 2016, Hughes will more than double its available capacity, and will be able to offer service plans with data rates of up to 15 Mbps to users throughout the continental United States.

In addition to Hughes, ViaSat, under the brand Exede, also provides satellite broadband throughout the country at speeds of 12 Mbps download and 3 Mbps upload.<sup>10</sup> Like Hughes, ViaSat also plans to launch a new satellite that will provide increased coverage and capacity.<sup>11</sup>

**Satellite Broadband Meets the Core Principles of Universal Service.** The White Paper recognizes the core role that universal service plays in the United States.<sup>12</sup> The provision of satellite broadband services to U.S. consumers fulfills the intent of many of these principles. First, satellite broadband today is available in nearly all areas of the United States, virtually no matter how rural or remote a location a consumer is. Further, this service, as discussed above, is available at just, reasonable and affordable rates – rates that are comparable to terrestrial broadband services. Today, satellite broadband service providers provide high-speed data services at speeds of upwards 15 Mbps and also offer high quality voice services. In the near future, Hughes and its competitors are planning to offer higher speed services.

#### **Satellite Broadband Service Can Reduce the Costs of the Universal Service Fund Dramatically**

As the White Paper recognizes, today the Universal Service Fund distributes upwards of \$8 billion each year for a number of programs, including the high-cost program. In 2013, disbursements to the high-cost program totaled \$4.17 billion.<sup>13</sup> Significant cost savings can be achieved by cutting funding for the rural portions of the high-cost program and allowing existing technologies and service providers to fulfill this critical need. Indeed, cutting high-cost support in areas covered by Hughes would reduce disbursements by approximately \$4 billion.<sup>14</sup>

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<sup>10</sup> Exede Internet, About Exede, <http://www.exede.com/what-is-exede> (last visited Aug. 28, 2014).

<sup>11</sup> Peter B. de Selding, *ViaSat-2's 'First of its Kind' Design Will Enable Broad Geographic Reach*, Space News, May 17, 2013, <http://www.spacenews.com/article/satellite-telecom/35369viasat-2s-first-of-its-kind-design-will-enable-broad-geographic-reach>.

<sup>12</sup> See Universal Service Policy and the Role of the Federal Communications Commission at 1-2.

<sup>13</sup> USAC, About USAC, Universal Service, <http://www.usac.org/about/about/universal-service/faqs.aspx> (last visited Sept. 15, 2014).

<sup>14</sup> The average high-cost disbursement per year from 2009 to 2013 was \$4.18 billion. See 2013 USAC Annual Report at 7. The average high-cost disbursement reported from 2009 to 2013 in American Samoa, Guam, U.S. Virgin Islands Northern Mariana Islands and Alaska was approximately \$220 million. See 2013 Universal Service Monitoring Report at Table 1.13, 2012 Universal Service Monitoring Report at Table 1.13, 2011 Universal Service Monitoring Report at Table 1.12, 2010 Universal Service Monitoring Report at Table 1.12, 2009 Universal Service Monitoring Report at Table 1.12.

Today, throughout the virtually all of the United States satellite broadband services are available as discussed above.<sup>15</sup> With the addition of new planned satellites by Hughes and ViaSat, capacity is also increasing. Accordingly, there is significant capacity for growing broadband demands in the areas where satellite is best situated for use. By limiting broadband support to areas where there are no available broadband services, the U.S. government can save billions of dollars a year collectively for U.S. tax payers.

Hughes appreciates the opportunity to comment on this important White Paper. We are happy to to answer any questions you may have or provide additional information.



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<sup>15</sup> Only in some U.S. territories and parts of Alaska would high-cost support still possibly be needed because those areas are not covered by satellite broadband.