

THE NATIONAL BROADBAND PLAN:
**Unanswered Questions
and Next Steps**



The Federal Communications Commission's National Broadband Plan takes a first step toward a larger reshaping of the policy framework governing broadband networks. The Plan embraces the idea that broadband Internet access is no longer simply an entertainment service. Rather, it is rapidly becoming critical infrastructure for the 21st century. As described in the National Broadband Plan, "broadband is a foundation for economic growth, job creation, global competitiveness and a better way of life."¹ Expanding access and adoption to near-universal levels will be instrumental in ensuring that all citizens can benefit from the economic, social, and civic opportunities afforded by connectivity. We cannot, and should not, continue to tolerate major discrepancies in affordability and speed among communities across the country. And, improving America's broadband infrastructure to world-class standards will encourage investment, create jobs, and increase our global competitiveness across the information economy.

Recognizing broadband as critical infrastructure brings new responsibilities and new challenges for policymakers. The National Broadband Plan is a good first step, but much work remains. In many instances, the Plan poses difficult questions without offering definitive answers. In order to answer these questions and achieve its goals, the Commission must analyze each issue comprehensively and confront myriad vexing political and policy issues not addressed in the Plan.

The work of the National Broadband Plan began in earnest the day *after* its publication. Here we review several of the most important issues presented in the Plan: goals and benchmarks, competition, universal service, adoption, spectrum, infrastructure, transparency, data collection and analysis, and jurisdiction. Our purpose in this short issue brief is three-fold:

- 1) Highlight the problems with the current state of broadband deployment and adoption in the United States and compare the goals set in the Plan with those of other industrialized countries.
- 2) Summarize and evaluate the Plan's recommendations, with a particular emphasis on whether the Plan's recommendations will enable the Commission to meet its goals.
- 3) Recommend next steps for new policy and call attention to the work that remains if we are to bridge the digital divide at home and abroad.

GOALS AND BENCHMARKS

The broadband market in America suffers from two critical failures: high prices and low speeds. These are domestic problems—we have major digital divides in rural and urban America in both affordability and quality of service. But they are also international problems—we are falling behind our global competitors in the quality, affordability, and adoption of our broadband networks. These market failures are not sustainable: Not only must we ensure that all Americans have similar services at reasonable prices, we must quickly close the gap between the United States and the world's leading broadband nations.

The issue

Many of our global competitors have already met universal broadband access goals or expect to meet them by the end of 2010. They have also set ambitious goals for the future. The following table illustrates the achievements and goals of some of these other nations, as compared to the goals set by the United States:²

Country	Adoption Benchmark	Speed Benchmark	Timeline
Taiwan	99%	10 Mbps	2006
Japan	90%	30Mbps	2008
South Korea	99%	1Mbps	2008
	95%	50Mbps	2013
Germany	Universal	1 Mbps	2010
	75%	50Mbps	2014
Sweden	Universal	2Mbps	2010
	90%	100Mbps	2020
Denmark	Universal	2Mbps	2010
United Kingdom	Universal	2Mbps	2012
Finland	Universal	100Mbps	2015
United States	Universal	4Mbps	2020
	75%	100Mbps	2020

Dates in the past represent achievements. Dates in the future represent goals.

The United States, once a leader in broadband penetration, has slipped behind and is currently ranked 15th by the OECD behind France, Sweden, Canada, and a dozen other countries.³ The OECD ranks the United States 19th in terms of average advertised download speeds.⁴ The problems are not limited to speed and adoption. Affordability is also a major differentiator with other countries where prices are far less for better broadband connections than we have in the United States.⁵

Recommendations in the Plan

The National Broadband Plan recognizes these challenges and sets goals to try to meet them. The Plan proposes two goals for broadband access to be reached by 2020: a “universalization target of 4 Mbps [megabits per second] download and 1 Mbps upload,” as well as a goal that “100 million U.S. homes should have affordable access to actual download speeds of at least 100 Mbps and actual upload speeds of at least 50 Mbps.”⁶

Recommended next steps

When compared to the goals of other nations, the Plan’s goals are quite modest. Virtually all the countries listed above have already met universal broadband access goals or expect to reach them by the end of 2012. Some of their universalization target speeds are at or below the standard set by the FCC, but they will achieve those speeds many years ahead of the United States. Additionally, some of these nations have set a 100Mbps universalization target, but the Plan suggests that as few as 75% of Americans will have access to those speeds by 2020.

The Commission must reach for bold targets to remain competitive. Even if we reach the targets set by the Plan, the United States will remain substantially behind many other countries unless it raises universalization goals. The difference in the Plan’s universalization and high-speed targets will result in a wide domestic digital divide: The goal of 100 Mbps access for 100 million households by 2020 would cover an estimated 75% of the population, meaning that some rural and low-income communities could be

served by speeds that are 96% slower than their more urban or affluent counterparts.⁷ We recommend that the Commission take appropriate steps in the implementation of the Plan to adjust its speeds goals as the state of global competition evolves.

What is at stake?

The Commission has recognized that in just a few years, a large part of the country will exhibit near-monopoly conditions in the market for speeds faster than 8-10 Mbps. Cable companies are making the leap to higher capacity connections across the country. But outside of the Verizon FiOS footprint on the eastern seaboard, the telephone companies are not following suit. These conditions could prompt skyrocketing prices in areas with cable-modem monopolies on next generation broadband. Additionally, major speed gaps could open in between areas where cable is deployed and areas where no network operator has upgraded.

Both the lowest common denominator and the high level speed goals may well need to be adjusted in light of potential competition abroad and persistent disparities at home. The Commission should be mindful of affordability concerns to ensure that the broadband providers are not pricing consumers out of the market and off the network. The themes of speed and affordability cut through our analysis of the major areas of policy change proposed by the National Broadband Plan.

COMPETITION

An effective competition policy is essential to meeting the Plan's goals. The Plan's discrete proposals represent encouraging, incremental action, but those proposals alone will not create meaningful competition in the broadband market. The FCC should promptly issue NPRMs in the specific areas of competition policy identified in the Plan, including set-top box reform, data roaming, and special access. The FCC should also evaluate all other tools at its disposal that could help address the demonstrated market problems of wired broadband going forward. Given the gravity of the problem, every option should be on the table.

The issue

Since the passage of the Telecommunications Act of 1996, the FCC has tried to promote competition in the communications markets. However, with respect to broadband services, these efforts have failed. As the Plan notes, 96 percent of households have access to two or fewer wired broadband services providers and the situation will only grow worse as demand for higher speeds grows.⁸ As Commissioner Clyburn noted, by 2012, likely only 15 percent of households will have a choice of even two providers offering competitive world-class broadband service.⁹

Mobile broadband services offer a slightly better outlook. These services do not substitute for wired broadband, but their mobility adds substantial value for consumers. However, as we have demonstrated in the past, the mobile market faces its own severe obstacles to effective competition.¹⁰ In particular, the Commission's loophole exempting data services from roaming rules dramatically limits the ability of small and regional wireless carriers to offer competitive mobile broadband service offerings. Recent deregulation of pricing rules for special access and middle mile services has also had a negative impact, greatly raising the costs of doing business for all but the two largest wireless carriers.

Aside from network services, other areas of the ecosystem also face competition problems. In 1996, Congress directed the Commission to create a competitive retail market in set-top boxes, devices used to connect multichannel video sources to consumer televisions;¹¹ well over a decade later, that statutory obligation has not yet been fulfilled. Future set-top boxes will increase the ability of consumers to view both multichannel video content and Internet content on the same screen, so the harms resulting from a lack of competition in this market stand to substantially impact broadband adoption.

Recommendations in the Plan

In the Plan, the Commission provides clear data to identify and establish many of the fundamental market problems for wired broadband network services. Although the Plan steers away from any strong conclusions, it showed that 96% of all households have two or fewer providers for wired broadband service, firmly establishing the “duopoly” problem. The Plan emphasizes the need for the FCC to collect better data on, and perform better analysis of, market conditions, including regional HHIs. The Plan calls on the FCC to evaluate the current rules and market conditions for special access services, and ensure that the rates charged are just and reasonable, as the Communications Act requires. The Plan makes substantial strides in other competition policy issues as well. The Plan determines that Commission rules on set-top boxes had failed and called for substantial reform. The Plan also directs the Commission to move forward with its open proceeding on data roaming for mobile broadband services.

Recommended next steps

All of these recommendations, if carried forward by the Commission, will provide competition policy reform. But the Commission avoids serious discussion of any potential solutions to the most glaring competition policy problems present in the broadband industry. Additional spectrum and ancillary reform will not enable the creation of a class of mobile broadband services that can offer performance competitive with fiber-optic services or DOCSIS 3.0 cable systems. The Plan’s commendable steps toward transparency and analysis of the duopoly problems presented by wired broadband services *must* be followed by a serious evaluation by the Commission of possible policy reform to create more competition.

The Commission should move immediately to issue a set of NPRMs on the specific competition recommendations in the Plan: resolving the short term problems with CableCARD and creating long-term rules to require gateway set-top box devices; strengthening oversight of special access services to ensure just and reasonable rates as required by the Communications Act; and requiring data roaming for mobile broadband services.

The Commission should also investigate any and all potential reforms to fix the established duopoly problem with wired broadband and the all-too-common monopoly problem of high-performance broadband. The Commission should reconsider the conclusions contained in a recent report it commissioned from the Berkman Center for Internet and Society, which summarized the successful strategies of other leading nations.¹² If the Commission is committed to facilitating competition and driving down prices, it must at least consider the narrowly and geographically targeted application of unbundling and open access policies. As the Berkman Center study demonstrates, these policies have proven successful in other countries and markets. They cannot be taken off the table simply because of political opposition from incumbent carriers; rather, a commitment to transparency and data-driven policymaking requires a full evaluation of all potential options.

What is at stake?

In the current market for broadband services, consumers have few or no meaningful choices. And, as the Plan makes clear, the future of high-performance broadband services appears destined to be a duopoly or monopoly. Such a future would greatly impede many, or most, of America’s broadband goals. As Commissioner Clyburn put it:

The Commission must stand ready to act where competition is lacking and be willing to use all available tools to protect consumers and to inject meaningful competition into the marketplace. Only then will consumers benefit from affordable prices, high-quality service, and innovative applications and services that improve the quality of their lives.¹³

UNIVERSAL SERVICE REFORM

Congress requested that the FCC produce a plan that ensured that “all people of the United States have access to broadband capability.”¹⁴ To this end, the National Broadband Plan proposes to transition the existing Universal Service High Cost Fund to a Connect America Fund. We commend the Commission for taking significant steps toward bringing broadband service to all Americans but conclude that it has a tough road ahead: The Commission’s implementation of its recommendations must 1) reform the inefficiencies of the old system; (2) plan for future-proof deployment; and (3) navigate complex legal and political thickets.

The issue

The communications industry is characterized by economies of density, scale, and scope. Communications networks infrastructure often is more expensive to deploy and maintain in geographically sparse rural areas, but such deployments will reap greater returns if they are carried out on a larger scale and if the networks are capable of offering multiple types of services. In the Telecommunications Act of 1996, Congress directed the FCC to establish a subsidy system to ensure that consumers in all regions of the nation have access to basic telephone service and also directed the Commission to modernize the program to account for advances in communications technologies.

While the Universal Service High Cost Fund has been very successful in promoting the universal availability of basic telephone service, the Commission has yet to follow through on calls to modernize the fund by expanding support to rural broadband networks. Also, critics note that the current High Cost Fund is structured in a manner that has led to explosive growth in the overall size of the fund (tripling over the last decade) without any corresponding accountability regarding the actual need and impact of existing subsidies. Adding broadband to the existing fund will add further weight to an already strained and potentially unsustainable subsidy system.

Recommendations in the Plan

The Plan indicates that there are seven million U.S. housing units that have yet to see broadband deployment,¹⁵ and calculates that providing access to 6.75 million of these units will require approximately \$11 billion in subsidies over a 10-year period. The Plan concludes that about half of the unserved housing units will only require initial capital deployment cost subsidies, while the remaining areas will require both capital and ongoing cost support. To fund the extension of broadband to these areas, the Plan establishes the Connect America Fund (CAF), and establishes a transition plan to move the legacy telephony subsidy system to an all-broadband support system over a 10-year period. During this 10-year period, the CAF will fund deployment and ongoing support to unserved areas, funded via a reallocation of USF monies away from mobile wireless telephony carriers¹⁶, as well as by reducing certain payments to small rural phone companies¹⁷ and larger phone companies.¹⁸ Through this reallocation process, the Plan estimates it will free up \$15.5 billion, \$4 billion of which will be used to fund deployment of 3G mobile networks in the few states that lag the national deployment level, with the remaining \$11.5 billion allocated to the CAF.

Recommended next steps

The Plan sets out a plausible vision for transitioning the old USF to a new broadband-centric universal service system. However, the transition plan still leaves in place many of the more problematic aspects of the existing subsidy system, including the lack of a determination of where subsidies are actually needed in order to keep rates and service quality reasonably comparable to rates and quality in urban areas. Notably, the transition plan maintains the existing regulatory support structure, where carriers are reimbursed based on their total network cost minus any regulated revenues. This support structure fails to recognize that the high revenue earning potential of *existing* rural broadband networks may lessen the need for ongoing subsidy support. The transition plan is also vague as to what quality of networks will be supported, but it appears the calculations are largely based on the cost to upgrade or extend existing infrastructure to offer the 4Mbps/1Mbps standard of service. While this option may require fewer

expenditures in the short-term, it raises concerns whether these networks will be scalable to reach future universalization goals. The Plan's cost estimates also explicitly exclude planned 4G deployments, which the Plan states will cover five of the seven million unserved housing units. While we have doubts about the likelihood of such deployments, they should be factored into the transition plan.

The Commission should also evaluate potential legal issues that may confound its ambitions. For example, the Plan envisions a complete elimination of all support for competitive eligible telecommunications carriers (CETCs), which may be inconsistent with section 214(e) of the Communications Act. The Plan also fails to address how the Commission will administer the non-rural carrier High Cost Model program during the 10-year transition, an issue that is pending before the United States Court of Appeals for the Tenth Circuit. Most importantly, though the Plan states that any type of broadband provider will be eligible for CAF support, the current designation of broadband Internet access as an information service may leave the program in legal limbo, or at the very least, may constrain participation in the program to traditional common carriers.

To address these issues, the USF transition NPRM needs to confront these unanswered questions and contemplate alternate transition paths offered to the Commission during the 2006-2008 proceedings on this issue, in addition to the one offered in the National Broadband Plan.

What is at stake?

There is little doubt that the benefits of transitioning the USF to a broadband infrastructure-based system far outweigh the costs. Nor is there any doubt that ensuring universal access to advanced communications technologies will improve the lives of all Americans. The goal of the NPRM must be the replacement of the existing subsidy system with one that is efficient, rational, and consistent with the law. This will be no easy task; less ambitious plans offered during the last Commission created a political firestorm and failed to garner widespread support. Turning this vision of USF modernization into reality will require both analytical rigor and political courage.

INCREASING ADOPTION RATES AMONG LOW-INCOME CONSUMERS

The National Broadband Plan cites cost as the biggest barrier to adoption, particularly among low-income consumers. To address this barrier, the Plan proposes expanding the existing low-income universal service program to include broadband services and recommends that the Commission auction spectrum with an obligation on the license holder to provide free or low-cost broadband Internet access service. Subsidies will play an important role in increasing adoption rates among low-income communities, but they must be managed in a way that maximizes federal resources. Separately, the FCC should also recognize that subsidies alone will never completely close the digital divide. The Commission must pursue subsidies alongside proposals to promote more effective market competition.

The issue

While low-income consumers use cell phones and subscribe to pay television at nearly the same rates as their more affluent counterparts, they lag significantly in broadband adoption.¹⁹ For nearly three decades, the FCC has overseen universal service programs designed to increase adoption of basic telephone service in low-income households. The Lifeline program provides a small subsidy for the monthly cost of local toll service, while the Linkup program helps lower the cost of service installation. With broadband Internet access quickly becoming an essential communications technology for effective community, economic, and civic engagement, these subsidy programs could provide an ideal vehicle for increasing broadband adoption among low-income consumers.

Recommendations in the Plan

The Plan recommends that the Commission and states clarify that the low-income telephone

subsidy can be used to purchase service bundles that include broadband in addition to basic telephony service. The Plan also recommends that the Commission expand the existing low-income telephone subsidy to cover the monthly cost of broadband Internet access and potentially the cost of access devices and customer premise equipment. The Plan recommends this subsidy expansion first be explored through the use of pilot programs. However, the Plan does not estimate the potential financial needs of this subsidy program, nor how the already strained USF might be expanded to fund additional programs.

The Plan also suggests creating a completely free service or very low-cost service to reach any remaining non-adopters. In particular, the Plan suggests that the Commission “develop rules for one or more spectrum bands requiring licensees to provide a free or very low-cost broadband service tier.”²⁰

Recommended next steps

While the FCC should extend the low-income subsidy to include broadband, the program’s specific design will ultimately determine how effective and costly the subsidy will be. The current telephone subsidy reduces the cost of a rate-regulated basic service, ensuring that the subsidy is not used to unjustly enrich carriers. Broadband Internet access is not price-regulated, and the contribution margins earned on these services are often in excess of 80 percent.²¹ Further, the Commission should consider regulating the margins companies may reap in connection with these programs. If not, those profits will come at the expense of maximizing the impact of the subsidies on low-income communities. The Plan does not address this critical issue of subsidies for services whose rates are unconstrained.

While the idea of a nationwide free or very low-cost wireless service is very appealing, the Plan provides little detail on the specifics of its proposal. During the pre-release public relations campaign, the Commission was quick to state that this proposal, unlike a 2008 proposal from M2Z to offer 768kbps downstream, would result in speeds that “are real broadband.”²² Yet the Plan fails to identify what spectrum could possibly be auctioned with these requirements, and fails to estimate the likelihood that any company would be willing to pay for the privilege of offering free “real broadband” services. As the Plan recognizes, in order for the proposal to succeed, the consumer devices that access the spectrum must also be inexpensive. This limitation, in turn, will require that the service be offered over an existing ubiquitous standard like WiFi. The Commission needs to quickly identify possible spectrum bands that are technically capable of offering service at the proposed quality level, and then seek participation from potential providers.

What is at stake?

The Commission must work on increasing both *access to* and *adoption of* broadband. Ultimately, affordability will be the key to narrowing the digital divide and increasing economic opportunities in low-income communities. Bridging the digital divide will require policies that drive down prices and expand the availability of broadband services. The Commission must design these subsidies in a manner that maximizes participation and minimizes waste.

SPECTRUM

Adequate and appropriate allocations of spectrum for mobile broadband are essential. The Plan proposes making 500 MHz of spectrum available for broadband, including a substantial amount in the most valuable frequencies, on a timetable of 5-10 years. It also emphasizes transparency in allocation and use of spectrum and other rule changes to promote efficient utilization, and the Plan recommends further work on spectrum sharing models and the allocation of a contiguous nationwide band for unlicensed use. But the majority of the Plan emphasizes spectrum auctions and exclusive licenses without providing policy solutions to encourage competition in the mobile industry and expand unlicensed use.²³ Reallocating spectrum with exclusive licenses to incumbent mobile providers will not offer maximum benefits to consumers. Rather, the Commission must act to promote competition and innovative spectrum sharing.

The issue

Spectrum is the “oxygen” for mobile broadband, the capacity for both licensed and unlicensed wireless services. Because spectrum is used for a broad range of purposes, including television broadcasting and national defense, spectrum allocations for mobile broadband are fundamentally limited, and large chunks of prime spectrum can fetch billions of dollars when auctioned.²⁴ Although many of the problems currently exhibited in the wireless industry arise from other technical and market issues,²⁵ current spectrum resources available for mobile broadband, absent substantial increases in spectrum efficiency and a complete transformation of usage models, will not meet future broadband bandwidth demand.

Access to spectrum remains a formidable barrier to entry for new providers, services, and technologies. Much of the National Broadband Plan’s focus on spectrum is on increasing available spectrum for mobile broadband use, as a means to increase the performance and coverage of existing mobile providers, in hopes that these can improve competition in the entire broadband market.

Two obstacles stand in the way. The first is logistical – making more spectrum available means taking it away from someone – and the Plan acknowledges the difficulty of this step, and (perhaps imperfectly) identifies mechanisms to deal with it. The second is market-driven. Auctioning spectrum alone will not automatically create an effective and competitive mobile market, and will not ensure optimal use of spectrum resources. Proper Commission action following the Plan can reduce barriers to entry, growth, and competition through increased unlicensed use and other mechanisms.

Recommendations in the Plan

The Plan seeks to make 500 megahertz (MHz) newly available for broadband use within the next 10 years, of which 300 MHz between 225 MHz and 3.7 gigahertz (GHz) should be made newly available for mobile use within five years.²⁶ The Plan includes several policy recommendations to accomplish this goal, including measures to study spectrum utilization in detail, improving the effectiveness of secondary markets policies and rules to promote access to unused and underutilized spectrum. To promote greater transparency in spectrum allocation and use, the Commission proposes (and has since launched) a “beta” spectrum dashboard to allow for “user-friendly access to information regarding spectrum bands and licenses, including those that may be suitable for wireless broadband deployment” that have previously been held in separate silos at the Commission.²⁷

To free up spectrum resources currently in use, the Plan proposes implementing incentive auctions in which incumbent licensees, including TV broadcasters, may relinquish spectrum to other parties or to the FCC in exchange for compensation from the auction proceeds.²⁸ Through incentive auctions, existing TV broadcasters would have the option to voluntarily share a 6 MHz channel with two or more broadcasters, or voluntarily go off the air; the Plan seeks to free 120 MHz of spectrum through these auctions. The FCC also proposes other methods, including spectrum fees, that may improve efficiency in the TV band and free spectrum for reallocation.

Although the vast majority of the Plan is focused on a “clear and auction” strategy, it provides a few opportunities to facilitate innovative spectrum access models. The Plan recommends the allocation of a contiguous nationwide band for unlicensed use, to enable greater access to services such as Wi-Fi. It also recommends that the FCC expeditiously conclude the TV white spaces proceeding, in which the Commission opened up vacant TV channels for use by wireless devices. The Plan further recommends allowing opportunistic radios to operate on testbed spectrum currently held by the FCC, and to initiate a new proceeding that examines ways to extend the geo-location database concept, currently being implemented in the TV bands, to additional spectrum bands.

Recommended next steps

As the Plan relies in part on mobile broadband to spur competition in the broadband market, the FCC should make the promotion of competition central in future spectrum allocations. Spectrum auctions do not by themselves promote competition, as evidenced by the most recent 700 MHz auction, in which Verizon and AT&T, already the two most dominant wireless providers, won the most valuable licenses.²⁹ When auctioning spectrum the Commission must take proactive efforts to promote competition, for example by reinstating spectrum caps or tighter screens, and ensure that companies do not warehouse newly acquired spectrum, by imposing and enforcing buildout requirements.

Despite acknowledging that “42 percent of all iPhone traffic was transported over Wi-Fi networks rather than over a carriers’ own networks,” the Plan marginalizes Wi-Fi and unlicensed as complementary to commercial broadband networks, and provides little details regarding its timelines for increasing unlicensed access and other innovative license exempt models such as opportunistic and shared access.³⁰ Unlicensed Wi-Fi not only serves as a preferred network access technology for smartphone users, but also is utilized by thousands of Wireless Internet Service Providers (WISPs) to provide broadband service in rural areas, and by municipal/community wireless networks to provide service in urban communities. In addition, cognitive or smart radios that dynamically utilize spectrum offer the potential to revolutionize wireless networks and devices, allowing for faster and smarter networks and dramatically more efficient use of spectrum. The Plan touches upon these possibilities, but in the final details, the recommendations fall short.

The Commission must make unlicensed use a more central part of its spectrum policy. The Commission should develop a clear timeline for allocating a new contiguous, unlicensed band, and should specify where it expects the spectrum to come from, and how much of the 300 MHz between 225 MHz and 3.7 GHz will be allocated for unlicensed use. In particular, access to lower frequency spectrum below 800 MHz is important for better indoor coverage and better range. The Commission should also take proactive efforts to create spaces for cognitive radio devices to operate in the real world, to enable these technologies to develop and grow.

Additionally, the Commission must protect the viability of white space devices to utilize vacant channels in the TV bands as it pursues efforts to auction the spectrum. The Commission must protect unlicensed access in major metropolitan areas, and should expand the TV band database to other bands in order to ensure a national market for the new technology. The FCC should also provide a streamlined process for innovators to obtain experimental licenses to operate on spectrum currently held by the FCC.

What is at stake?

Mobile broadband serves as a huge economic growth engine as well as a source of tremendous social, cultural, and democratic value. Spectrum resources are finite, and new technologies allow for more efficient and useful allocations, raising the bar for the potential benefits of proper Commission spectrum policy – a bar that will only be reached if the Commission is willing, when necessary, to go against the interests of incumbent spectrum holders, whether television broadcasters or mobile broadband incumbents. The Plan focuses on mobile broadband as a primary means to effectuate competition in broadband services and the success of the Plan may well depend on the ability of the Commission to quickly create and allocate additional spectrum for mobile broadband. However, if new spectrum allocations only serve to enrich the market share and dominance of the two largest mobile broadband providers, then broadband prices are likely to remain high; service performance will remain low; and growth and innovation will be stymied.

INFRASTRUCTURE

Deployment of broadband networks will require that providers have access to conduits, ducts, poles, and rights-of-way over public and private lands. The Plan’s recommendations make important steps toward streamlining the process of obtaining access to these facilities, but the FCC should consider more aggressive policies as it implements the Plan.

The issue

The cost to access conduits, ducts, poles and rights-of-way represents a significant driver of the overall cost of deploying a broadband network. According to the Plan, the expense of obtaining permits and leasing pole attachments and rights-of-way can amount to 20 percent of the cost of fiber-optic deployment.³¹ Federal, state, and local policies play an important role in determining these access costs: they can assure that all providers are granted fair, reasonable, and affordable access to necessary infrastructure. Rational policies in this area, in turn, will decrease deployment costs for existing and new providers and improve competition in broadband.

Recommendations in the Plan

The Plan provides several recommendations in this area. First, the Plan recommends that the FCC establish rental rates for pole attachments that are as low and close to uniform as possible and implement several other policy changes to make the pole attachment process easier and more efficient. In particular, the Plan suggests that the Commission improve the collection and availability of information regarding the location and availability of poles, ducts, conduits and rights-of-way. The Plan also recommends that Congress consider amending Section 224 of the Communications Act of 1934 to establish a harmonized access policy for all poles, ducts, conduits and rights-of-way.

Second, to lower the cost of buried fiber deployments along public rights of way – which can account for almost three-quarters of the total cost of fiber deployment,³² the Plan recommends that the U.S. Department of Transportation (DOT) make federal financing of highway, road, and bridge projects contingent on states and localities allowing joint deployment of conduits by qualified parties. The Plan also recommends that Congress consider enacting “dig once” legislation applying to all future federally funded projects along rights-of-way (including sewers, power transmission facilities, rail, pipelines, bridges, tunnels and roads).

Recommended next steps

The Commission should swiftly enact the proposed reforms to reduce build-out costs, but it should also consider various other proposals not addressed by the National Broadband Plan. First, the Commission should examine access to ducts and conduits at privately owned facilities. For example, Japan has actively promoted open access to both public and privately owned conduits and ducts as way to increase greater network build-out and spur increased facilities based competition.³³ In addition, in developing best-practices for local governments or seeking to harmonize public rights of way policies, this FCC should not repeat the mistakes of franchise reform and should ensure that local governments can continue to set appropriate policies for their communities. Lastly, the FCC, Congress and DOT should consider more systematic efforts to install conduit and fundamental broadband infrastructure along public rights of way, including allocating additional highway funds to install broadband conduit and high-capacity fiber-optic cable along federally funded highway construction and resurfacing projects.³⁴ Running a strand of fiber through an existing conduit is 3–4 times as cheap as constructing a new aerial build,³⁵ and conduit adds less than 1 percent to highway construction costs.³⁶

What is at stake?

Nations that have raced ahead of the United States in broadband deployment and adoption have proactively implemented policies to integrate broadband into their infrastructure plans. Incorporating these successful strategies into U.S. policy will be essential, as the Commission plans to rely predominantly on facilities-based broadband competition to achieve the goals outlined in the Plan. Sound infrastructure policy will be integral to reducing the costs of deployment and increasing competition.

TRANSPARENCY

Consumers deserve to know what they're getting when they purchase broadband Internet access service. The Plan's recommendations in this area provide much-needed, long-overdue reforms. In implementing these recommendations, the Commission should strive to provide as much information as possible to the consumer.

The issue

As the Commission explained in its *Customer Information and Disclosure Truth-in-Billing and Billing Format IP-Enabled Services* proceeding, "to choose a service, [consumers] need to be able to compare and contrast service plans offered by different providers and assess the full costs of each option."³⁷ In the current environment, consumers cannot accurately compare the two key elements of various plans: speed and price. Providers often provide an "up-to" speed, rather than an average speed, and the Commission notes that "actual download speed experienced . . . is approximately 40-50 percent of the advertised 'up to' speed" and can often be even lower.³⁸

Recommendations in the Plan

The Plan recommends an NPRM to determine what information should be disclosed about a broadband service offering. The Plan explains that these should combine "simple clear data that a 'reasonable consumer' can understand" with greater detail for "tech-savvy customers, software developers and entrepreneurs," and suggests that this approach could be implemented in a simple presentation on "page 1" with a detailed description on "page 2."³⁹ The Plan also acknowledges that speed, price, and overall performance contribute to consumer decision-making. Examples range from a disclosure listing maximum speed, average speed, applications that can be used, and a 5-star rating aggregating uptime, latency, and jitter, to a simple five-star "Broadband Quality Index." The Plan also suggests support or development of a third-party decision-making tool.

Recommended next steps

In addition to issuing this NPRM in a timely fashion, the Commission should increase the amount of information that is disclosed to consumers. Consumers need data on four critical aspects of their service: cost of the service, technical capabilities, terms of the service, and the limitations of the service. But it is not enough to aggregate independent information into a star rating. Consumers should have every opportunity to truly understand their broadband service: if the Commission requires providers to offer information regarding latency and up-time, consumer comprehension will follow. Further, any disclosure must include terms of service, including but not limited to information regarding the monitoring, blocking, delaying, or capping of a consumer's access to the Internet.

What is at stake?

As the FCC explains in the *Second Truth-in-Billing Order*, "the proper functioning of competitive markets is predicated on consumers having access to accurate, meaningful information in a format that they can understand."⁴⁰ Consumers have limited or no access to a wide range of service aspects, including typical service prices, usage limits and fees, actual performance and imposed limitations, and other contract terms. A partial disclosure, or a disclosure that aggregates important facets of an offering that differently affect functionality, such as jitter and up-time, will not sufficiently provide consumers with information about a service offering. The FCC must expeditiously introduce disclosure requirements that allow consumers to make informed decisions about broadband service.

DATA COLLECTION AND ANALYSIS

Comprehensive data gathering and sound data analysis will be critical to implementing each of the Plan's substantive proposals. We urge the Commission to quickly codify the Plan's data collection recommendations.

The issue

Collecting accurate, detailed, and comprehensive data on high-speed Internet access is fundamental to fulfilling the agency's mandate to ensure timely deployment of affordable advanced services. Unfortunately, broadband data collection has long been the Achilles' heel of the FCC. For example, the FCC's historic practice of collection broadband data at the ZIP-code level offered no meaningful insight into the level of local deployment or competition. The FCC compounded these flaws by unnecessarily restricting access to the data.

In June 2008, the FCC improved its data collection practices by requiring that providers submit subscribership information at the census tract level and in more granular speeds tiers.⁴¹ This rich data set has yet to be fully analyzed: The FCC's industry analysis division released a report with the new data with only minimal new analyses,⁴² and the Plan includes only limited additional analyses.⁴³

Recommendations in the Plan

The Plan's recommendations emphasize collecting and analyzing granular information on availability, subscribership, speed, and price. For example, the Plan advises the FCC to begin collecting broadband availability information "at the census block level, by provider, technology and offered speed."⁴⁴ The Plan also recommends collecting a variety of metrics related to broadband pricing, including analyses to identify switching costs and possible red-lining. Many of these initiatives should be conducted in connection with parallel proceedings focused on consumer transparency. Finally, the Plan recommends that the FCC "should have a general policy of making the data it collects available to the public."⁴⁵

Recommended next steps

The National Broadband Plan recommends vast improvements over the current broadband data collection practices of the Commission. The Plan also represents a considerable and welcome shift toward making broadband data publicly available again.⁴⁶ The FCC should follow through on these recommendations in an expedited fashion. The FCC should also act to collect information that will allow the agency to monitor the state of broadband infrastructure in the United States, with a particular focus on the crucial middle-mile transport links.⁴⁷ The agency should make its data and analyses widely available, restoring the traditional presumption to share data wherever possible. In circumstances where competitive considerations preclude wide dissemination of the data, the FCC should institute procedures that enable outside researchers to access confidential data. Many of these initiatives should be conducted in connection with parallel proceedings focused on consumer transparency.

What is at stake?

Comprehensive and accurate data lays the foundation for reasoned policymaking, and this FCC has repeatedly emphasized its commitment to a data-driven, transparent policymaking process. As this FCC begins a litany of rulemakings to modernize the agency's rules for an IP-based communications world, these data will provide the analysis necessary to put the FCC's policies on sound footing. Extensive broadband data collection and analysis are essential to maintaining the agency's expertise. Sharing those data and analyses ensures that the public can participate fully in the policymaking process. Both steps are critical to realizing the Plan's ambitious goals.

JURISDICTION

The National Broadband Plan briefly discusses the source of the FCC's authority to adopt the specific policies it proposes. Resolving this one legal issue will be critical to the Plan's success or failure. We conclude that the FCC should promptly notice a proceeding to resolve fully and holistically the jurisdictional questions raised by the Plan.

The issue

Historically, the FCC regulated broadband transmission as a "telecommunications service" subject to the statutory requirements set forth by Title II of the Communications Act.⁴⁸ Facilities-based carriers that provided "enhanced" or "information" services—remote computer applications that allow subscribers to access, modify, or interact with information—were required to offer on a stand-alone basis the underlying transmission function known as a "basic" service.⁴⁹

Beginning in 2002, the FCC adopted a series of orders classifying broadband Internet access services as information services subject to the FCC's general jurisdiction under Title I of the Communications Act.⁵⁰ Title II of the Act authorizes the FCC to impose various substantive requirements and obligations on carriers subject to its provisions.⁵¹ If the FCC finds that imposing these obligations on providers does not comport with the public interest, it may also forbear from such regulation.⁵² Regulation under Title I is limited to enacting policies that are "reasonably ancillary to the effective performance of the Commission's various [statutorily prescribed] responsibilities."⁵³ In order to regulate under Title I, the Commission must cite authority elsewhere in the Communications Act that gives a specific mandate to impose policies on Title I services, which can be more challenging than relying on the direct authority granted by Title II.

Recommendations in the Plan

In the Plan, the Commission recognized that it had yet to fully answer questions regarding the proper legal framework for the implementation of the Plan.⁵⁴ The Plan outlines the two options available to the Commission: (1) implementing the Plan under its ancillary authority or (2) reclassifying broadband providers under Title II and implementing the Plan under its Title II authority. The Commission indicated that it would "consider [the] question[]" as it moves forward to implement the Plan," but did not elaborate further on how and when it would do so.⁵⁵

Recommended next steps

The Commission should promptly issue a Notice of Inquiry considering only the issue of whether to classify the transmission component of broadband Internet access as a telecommunications service. This necessary next step will commence the process of fully airing and resolving questions related to the Commission's authority to implement the Plan and will allow the FCC to deal with jurisdictional questions holistically, rather than tackling the question repeatedly as it seeks to implement each of its policy proposals.

What is at stake?

The National Broadband Plan to ensure that every American has affordable access to robust broadband service will only succeed if it has the authority to enact pro-consumer, pro-competitive policies. Various parties have raised questions regarding whether the current regulatory framework — i.e., regulation under Title I — provides the FCC sufficient authority to reform universal service, enact truth-in-billing and disclosure policies, protect consumers' privacy, promote access to the Internet for Americans with disabilities, and require wireless data roaming.⁵⁶ Each of these proposals identified in the Plan will be a key lever in achieving the Plan's objectives. Both during and after the Plan's implementation, consumers need a "cop on the beat" to protect their interests.

The FCC must clarify its statutory authority to implement the National Broadband Plan and should answer questions regarding authority first, as these questions could derail many of the Plan's specific policy objectives. Failing to definitively resolve this question could lead to years of litigation as each specific proposal is challenged on grounds that the FCC lacks the power to implement it. This litigation will, in turn, hinder the Plan's rollout.

Every American deserves affordable access to robust broadband service. If the Commission is to close the digital divides at home and internationally, the FCC can and must clarify its authority to help America reach its goals.

ENDNOTES

¹ Federal Communications Commission, *Connecting America: The National Broadband Plan* xi (2010), available at <http://download.broadband.gov/plan/national-broadband-plan.pdf> (“*National Broadband Plan*”).

² See Taiwan National Information and Communication Initiative, 12th Committee Meeting (Translated), available at http://www.nici.nat.gov.tw/content/application/nici/workgroup/guest-cnt-browse.php?cnt_id=89; Ministry of Internal Affairs and Communications, White Paper 1 (translated) (2005), available at <http://www.soumu.go.jp/johotsusintokei/whitepaper/ja/h17/pdf/H3030000.pdf>; Ministry of Internal Affairs and Communications, *National Broadband Deployment Report* (translated) (2008), available at http://www.soumu.go.jp/main_sosiki/joho_tsusin/broadband/broadbandstrategy/seibi.pdf; *National Broadband Plan*, *supra* note 1, at 156 n.4; Federal Ministry of Economics and Technology, *The Federal Governments Broadband Strategy* 5, 7 (2009), available at <http://www.bmwi.de/English/Redaktion/Pdf/broadband-strategy,property=pdf,bereich=bmwi,sprache=en,rwb=true.pdf>; Government Offices of Sweden, *Broadband Strategy for Sweden* 14 (2009), available at <http://www.sweden.gov.se/content/1/c6/13/49/80/112394be.pdf>; Ministry of Information Technology and Research, Denmark, *From Hardware to Content: Strategy for Fast, Cheap and Secure Internet to all of Denmark* (2001), available at <http://en.vtu.dk/files/publications/2001/from-hardware-to-content-strategy-for-fast-cheap-and-secure/html/indhold.htm>; Department for Culture, Media and Sport and Department for Business, Innovation and Skills, *Digital Britain Final Report* 12 (2009), available at <http://www.culture.gov.uk/images/publications/digitalbritain-finalreport-jun09.pdf>; Ministry of Transport and Communications, Finland, *Making Broadband Available to Everyone* 16 (2008), available at http://www.lvm.fi/c/document_library/get_file?folderId=57092&name=DLFE-4311.pdf&title=Making%20broadband%20available%20to%20everyone.%20The%20national%20plan%20of%20action%20o%20improve%20the%20infrastructure%20of%20the%20information%20society%20; *National Broadband Plan*, *supra* note 1 at 9, 135. According to 2008 U.S. Census Bureau projections, the population is expected to be 341,387,000 in 2020. Persons per household is based on 2000 census. <http://www.census.gov/population/www/projections/files/nation/summary/np2008-t1.xls> and <http://quickfacts.census.gov/qfd/states/00000.html>. George S. Masnick and Eric S. Belsky from the Joint Center for Housing Studies Harvard University project 135,689,381 total households in 2020 in their report titled *Revised Interim Joint Center Household Projections Based Upon 1.2 Million Annual Net Immigrants* (2006), available at http://www.jchs.harvard.edu/publications/markets/n06-1_masnick.pdf.

³ Organization for Economic Co-operation and Development, Four year time series data, penetration (June 2009), available at <http://www.oecd.org/dataoecd/22/12/39574779.xls>.

⁴ Organization for Economic Co-operation and Development, Average advertised download speeds (Sept. 2008), available at <http://www.oecd.org/dataoecd/10/53/39575086.xls>.

⁵ See e.g., Posting of John Timmer to Ars Technica, <http://arstechnica.com/> (Jan. 14, 2010, 6:26 AM); Posting of Saul Hansell to New York Times Bits Blog, <http://bits.blogs.nytimes.com> (Apr. 3, 2009, 5:01 PM).

⁶ *National Broadband Plan*, *supra* note 1 at 9, 135.

⁷ According to 2008 U.S. Census Bureau projections, the population is expected to be 341,387,000 in 2020. Persons per household is based on 2000 census. <http://www.census.gov/population/www/projections/files/nation/summary/np2008-t1.xls> and <http://quickfacts.census.gov/qfd/states/00000.html>. George S. Masnick and Eric S. Belsky from the Joint Center for Housing Studies Harvard University project 135,689,381 total households in 2020 in their report titled *Revised Interim Joint Center Household Projections Based Upon 1.2 Million Annual Net Immigrants* (2006), available at http://www.jchs.harvard.edu/publications/markets/n06-1_masnick.pdf.

⁸ *National Broadband Plan*, *supra* note 1, at 37.

⁹ Statement of Commissioner Mignon L. Clyburn, *A National Broadband Plan for Our Future*, GN Docket No. 09-51 (Mar. 16, 2010) (“*Clyburn Broadband Statement*”) (“We need to keep our eye on the ball here because evidence in the Plan suggests that by 2012 only 15% of households will have the ‘luxury’ of two providers offering the highest speeds of broadband service (up to 50 megabits per second). Seventy-five percent of households will have only one provider offering the highest speed. And the remainder of households will not have the highest speeds offered to them at all.”).

¹⁰ See, e.g., Comments of Consumer Federation of America, Consumers Union, Free Press, Media Access Project, New America Foundation, and Public Knowledge, *Implementation of Section 6002 of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless Including Commercial Mobile Services*, WT Docket No. 09-66 (2009).

¹¹ 47 U.S.C. § 549.

¹² Yochai Benkler et al., *Next Generation Connectivity: A Review of Broadband Internet Transitions and Policy From Around the World* (Berkman Center for Internet and Society 2010).

¹³ *Clyburn Broadband Statement*.

¹⁴ American Recovery and Reinvestment Act, Pub. L. No. 111-5, 123 Stat. 115, § 6001(k)(2) (2009).

¹⁵ This figure, like many others in the Plan, is based on a forthcoming FCC study called “The Broadband Availability Gap.” We are skeptical that 95 percent of the nation’s housing units are located in areas where 4Mbps downstream /1Mbps upstream (actual speeds) services are actually available. While cable modem services may be available to 95 percent of the nation’s housing units, and are theoretically capable of providing speeds exceeding this threshold, limitations in infrastructure and backhaul transport impact operators’ ability to offer such level of service, particularly on the upstream portion.

¹⁶ The Plan envisions freeing up \$3.9 billion by 2020 from zeroing out High Cost Fund payments to Sprint and Verizon Wireless (pursuant to prior commitments) and freeing up an additional \$5.8 billion by 2020 by phasing out all support for so-called Competitive Eligible Telecommunications Carriers, who are for the most part wireless providers offering services in areas also served by a wireline telephone company.

¹⁷ The Plan envisions capping payments to rural rate of return carriers from the Interstate Common Line Support fund, which is designed to ensure these carriers earn their 11.25 percent rate of return. This effectively makes these carriers move to price cap regulation, and is estimated to free up an additional \$1.8 billion by 2020.

¹⁸ The Plan predicts freeing up \$4 billion by 2020 through the elimination of the Interstate Access Support program, which was originally designed to offset the impact to price cap carriers stemming from the Commission’s mandated phasing down of the per minute interstate access rates paid to these carriers for terminating interstate long-distance calls.

¹⁹ Free Press Analysis of John Horrigan, *Broadband Adoption and Use in America* (FCC, OBI Working Paper No. 1, 2010). This survey found that cellphone adoption is 86 percent among the general population and 77 percent in families with annual incomes below \$30,000. The survey also found that cable TV subscription rates are 65 percent among the general population and 61 percent in families with annual incomes below \$30,000. And the survey found that satellite TV subscription rates are 29 percent among the general population and 25 percent in families with annual incomes below \$30,000. These gaps are much smaller than that for home broadband adoption, which is 65 percent among the general population and 42 percent in families with annual incomes below \$30,000.

²⁰ In 2008, the Commission considered a similar proposal by the company M2Z. M2Z proposed offering a nationwide, free, ad-supported, entry-level broadband service in exchange for free access to unoccupied spectrum. The proposal was not adopted. *See e.g.* Stephen Lawson, *FCC Cancels Meeting After Warning*, IDG News Service, available at http://www.pcworld.com/article/155468/fcc_cancels_meeting.html (Dec. 12, 2008).

²¹ *See e.g.*, Vivesh Kumar, *When is the Cable Buy Set To Come?*, WALL ST. J. (Apr. 3, 2008).

²² *See* Posting of Stacy Higginbotham to GigaOm.com, <http://gigaom.com> (Mar. 9, 2010, 1:44 PDT).

²³ *See generally* Comments of Consumer Federation of America, Consumers Union, Free Press, Media Access Project, New America Foundation, and Public Knowledge, *Implementation of Section 6002 of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless Including Commercial Mobile Services*, WT Docket No.09-66 (2009) (identifying numerous barriers to entry and growth in the wireless industry, ranging from disparities in spectrum holdings to exclusive device deals and the problems of vertical integration and deregulated special access services).

²⁴ *See, e.g.*, Saul Hansell, *Verizon and AT&T Win Big in Auction of Spectrum*, N.Y. TIMES, Mar. 21, 2008, available at <http://www.nytimes.com/2008/03/21/technology/21auction.html> (noting that Verizon Wireless spent \$9.6 billion and AT&T spent \$6.6 billion).

²⁵ *See, e.g.*, Chris Riley, *Market Failure in the Wireless Industry, Free My Phone*, Jan. 21, 2010, available at <http://www.freepress.net/node/76177>.

²⁶ *National Broadband Plan*, *supra* note 1, at 75.

²⁷ *Id.* at 80.

²⁸ *Id.* at 81.

²⁹ *See generally* Comments of Consumer Federation of America, Consumers Union, Free Press, Media Access Project, New America Foundation, and Public Knowledge 24, *Implementation of Section 6002 of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless Including Commercial Mobile Services*, WT Docket No.09-66 (2009).

³⁰ *Id.* at 7.

³¹ *National Broadband Plan*, *supra* note 1, at 109.

³² *Id.* at 114.

³³ Joint Meeting of the IT Strategy Council and the IT Strategy Headquarters, *Guidelines for Use of Poles, Ducts, Conduits and Similar Facilities Owned by Public Utilities* art. 1 (introduced by the MIC in 2001 and amended last in 2007), available at http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/Resources/Manual/Guidelines/Public_Uilities.pdf; Fair Trade Commission and Ministry of Public Management, Home Affairs, Posts and Telecommunications, *Guidelines for Promotion of Competition in the Telecommunication Business Field*, § II-2 (2001), available at http://www.soumu.go.jp/main_sosiki/joho_tsusin/eng/Releases/Telecommunications/010914_1.html.

³⁴ Benjamin Lennett & Sascha Meinrath, *Building a 21st Century Broadband Superhighway* (2009), available at http://www.newamerica.net/publications/policy/building_21st_century_broadband_superhighway.

³⁵ *National Broadband Plan*, *supra* note 1, at 114.

³⁶ Lennett & Meinrath, *supra* note 58.

³⁷ *Customer Information and Disclosure*, CG Docket No. 09-158; *Truth-in-Billing and Billing Format*, CC Docket 98-170; *IP-Enabled Services*, WC Docket No. 04-36, Notice of Inquiry, 24 FCC Rcd. 11380, ¶ 23 (2009).

³⁸ *National Broadband Plan*, *supra* note 1, at 21.

³⁹ *Id.* at 46.

⁴⁰ *Truth-in-Billing and Billing Format*, CC Docket No. 98-170, First Report and Order and Further Notice of Proposed Rulemaking, 14 FCC Rcd. 7492, ¶ 2 (1999).

⁴¹ *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership*, WC Docket No. 07-38, Report and Order, 23 FCC Rcd. 9691 (2008).

⁴² Federal Communications Commission, Industry Analysis and Technology Division, *High-Speed Services for Internet Access: Status as of Dec. 31, 2008* (2010).

⁴³ *National Broadband Plan*, *supra* note 1, at 37-38.

⁴⁴ *Id.* at 43.

⁴⁵ *Id.* at 44.

⁴⁶ After the Merit Network, which ran NSFnet, discontinued publishing statistical reports, there has been a steady decline in the public availability of useful information. See Testimony of Sascha D. Meinrath to the FCC regarding Consumers, Transparency, and the Open Internet (2010), available at http://www.newamerica.net/publications/resources/2010/testimony_of_sascha_d_meinrath_to_the_fcc_regarding_consumers_transparen

⁴⁷ See e.g., Comments of Free Press 287-89, *A National Broadband Plan for Our Future*, GN Docket No. 09-51 (2009).

⁴⁸ 47 U.S.C. §§ 201-76.

⁴⁹ *Amendment of Section 64.702 of the Comm'n's Rules & Regs, Second Computer Inquiry*, Docket No. 20828, Final Decision, 77 F.C.C. 2d 384, ¶¶ 201-31 (1980), *aff'd sub nom. Computer & Commc'ns Indus. Ass'n v. FCC*, 693 F.2d 198 (D.C. Cir. 1982); *Amendment of Section 64.702 of the Comm'n's Rules & Regs. (Third Computer Inquiry)*, CC Docket No. 85-229, Phase I, Report and Order, 104 F.C.C. 2d 958, ¶ 4 (1986); see also 47 C.F.R. § 64.702 (defining "enhanced service").

⁵⁰ *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, GN Docket No. 00-185; *Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, CS Docket No. 02-52, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd. 4798 (2002) (*Cable Modem Order*), *aff'd, Nat'l Cable & Telecomm. Ass'n v. Brand X Internet Services*, 545 U.S. 967 (2005); *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, CC Docket No. 02-33; *Universal Service Obligations of Broadband Providers; Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services*, CC Docket No. 01-337; *Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review--Review of Computer III and ONA Safeguards and Requirements*, CC Docket Nos. 95-20, 98-10; *Conditional Petition of the Verizon Telephone Companies for Forbearance Under 47 U.S.C. § 160(c) with Regard to Broadband Services Provided Via Fiber to the Premises; Petition of the Verizon Telephone Companies for Declaratory Ruling or, Alternatively, for Interim Waiver with Regard to Broadband Services Provided Via Fiber to the Premises*, WC Docket No. 04-242; *Consumer Protection in the Broadband Era*, WC Docket No. 05-271, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd. 14853 (2005), *aff'd, Time Warner Telecom, Inc. v. FCC*, 507 F.3d 205 (3d Cir. 2007); *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, WT Docket No. 07-53, Declaratory Ruling, 22 FCC Rcd. 5901 (2007); *United Power Line Council's Petition for Declaratory Ruling Regarding the Classification of Broadband over Power Line Internet Access Service as an Information Service*, WC Docket No. 06-10, Memorandum Opinion and Order, 21 FCC Rcd. 13281 (2006).

⁵¹ See generally 47 U.S.C. §§ 201-76.

⁵² See 47 U.S.C. § 160.

⁵³ *United States v. Southwestern Cable Co.*, 392 U.S. 157, 178 (1968).

⁵⁴ *National Broadband Plan*, *supra* note 1, at 337.

⁵⁵ *Id.*

⁵⁶ Comments of Verizon and Verizon Wireless 31, *Federal-State Joint Broad on Universal Service; High-Cost Universal Service Support*, WC Docket No. 05-337, CC Docket No. 96-45 (2008) (“[B]roadband does not qualify under section 254 as a supported service eligible for high cost subsidies.”); Reply Comments of Comcast Corporation 6, *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, CC Docket No. 02-33; *Universal Service Obligations of Broadband Providers; Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review — Review of Computer III and ONA Safeguards and Requirements*, CC Docket Nos. 95-20, 98-10 (2002) (questioning whether the Commission could use its Title I authority to require broadband providers to contribute to the Universal Service Fund); Comments of Comcast Corporation 9-12, *Consumer Protection in the Broadband Era*, WC Docket No. 05-271 (2006) (suggesting that the Commission has limited authority to enact truth-in-billing regulations as they apply to broadband services); Letter from Michael Weinberg, Staff Attorney, Public Knowledge, to Marlene H. Dortch, Secretary, FCC, *A National Broadband Plan for our Future*, GN Docket No. 09-51; *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, GN Docket No. 09-137; *Fostering Innovation and Investment in the Wireless Communications Market*, GN Docket No. 09-157; *Preserving the Open Internet*, 09-191, *IP-Enabled Services*, WC Docket Nos. 04-36; *Broadband Industry Practices*, 07-52, *Truth-in-Billing and Billing Format*, CC Docket No. 98-170; *Consumer Information and Disclosure*, CG Docket No. 09-158, *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993*, WT Docket No. 09-66, at p.1 (Feb. 19, 2010); Reply Comments of Verizon Wireless, *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers*, WT Docket No. 05-265 (2007) (arguing that FCC cannot impose roaming obligations on wireless data providers); Reply Comments of AT&T Corp. 4, *Appropriate Regulatory Treatment for Broadband Access To the Internet Over Cable Facilities*, CS Docket No. 02-52; *Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities*, GN Docket No. 00-185 (2002) (arguing Commission should not extend disability access rights to broadband).