National Broadband Plan and Mission Statement

As required by law, [1] the FCC released a substantial National Broadband Plan that provides Congress with strategies, goals, and some concrete suggestions for improving broadband access, affordability and network performance. [2] The Commission reports that nearly 100 million Americans lack broadband at home today, and 14 million Americans do not have access to broadband even if they want it. Only 42 percent of people with disabilities use broadband at home, while as few as 5 percent of people living on Tribal lands have access. Meanwhile, the cost of digital exclusion for the student unable to access the Internet to complete a homework assignment, or for the unemployed worker who can't search for a job online, continues to grow. [3]

The Plan's call for action over the next decade includes the following primary goals:

> At least 100 million U.S. homes should have affordable access to actual download speeds of at least 100 megabits per second and actual upload speeds of at least 50 megabits per second. [4]
>
> The United States should lead the world in mobile innovation, with the fastest and most extensive wireless networks of any nation. [5]

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[1] Section 6001(k) of the American Recovery and Reinvestment Act, American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 6001(k), 123 Stat. 115, 515-16 (2009) instructed the Commission to submit to Congress a National Broadband Plan.

[2] Federal Communications Commission, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN, (rel. March 16, 2010); available at: http://download.broadband.gov/plan/national-broadband-plan.pdf [hereinafter cited as National Broadband Plan].

[3] *See* Public Notice, FCC Sends National Broadband Plan To Congress Plan Details Actions for Connecting Consumers, Economy with 21st Century Networks (rel. March 16, 2010); available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296880A1.doc.

[4] National Broadband Plan at 9.

[5] *Id*.

> Every American should have affordable access to robust broadband service, and the means and skills to subscribe if they so choose. [6]
>
> Every American community should have affordable access to at least 1 gigabit per second broadband service to anchor institutions such as schools, hospitals and government buildings. [7]
>
> To ensure the safety of the American people, every first responder should have access to a nationwide, wireless, interoperable broadband public safety network. [8]
>
> To ensure that America leads in the clean energy economy, every American should be able to use broadband to track and manage their real-time energy consumption. [9]

Without specifying a timetable, the Commission also articulated a number of policy recommendations [10] that it and other government agencies should pursue with an eye toward stimulating competition and innovation:

> The federal government, including the FCC, the National Telecommunications and Information Administration (NTIA) and Congress, should make more spectrum available for existing and new wireless broadband providers in order to foster additional wireless-wireline competition at higher speed tiers. [11]
>
> The FCC and the U.S. Bureau of Labor Statistics (BLS) should collect more detailed and accurate data on actual availability, penetration, prices, churn and bundles offered by broadband service providers to consumers and businesses, and should publish analyses of these data. [12]

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[6] *Id*. at 10.

[7] *Id*.

[8] *Id*.

[9] *Id*. at 11.

[10] *Id*. at 35-36.

[11] *Id*. at 43.

[12] *Id*. The Commission identified the following starting tasks: Improve current Form 477 data collection; Collect location-specific subscribership data; Collect price, switching costs,

The FCC, in coordination with the National Institute of Standards and Technology (NIST), should establish technical broadband performance measurement standards and methodology and a process for updating them. The FCC should also encourage the formation of a partnership of industry and consumer groups to provide input on these standards and this methodology. [13]

The FCC should continue its efforts to measure and publish data on actual performance of fixed broadband services. The FCC should publish a formal report and make the data available online. [14]

The FCC should initiate a rulemaking proceeding by issuing a Notice of Proposed Rulemaking (NPRM) to determine performance disclosure requirements for broadband. [15]

The FCC should develop broadband performance standards for mobile services, multi-unit buildings and small business users. [16]

The FCC should comprehensively review its wholesale competition regulations to develop a coherent and effective framework and take expedited action based on that framework to ensure widespread availability of inputs for broadband services provided to small businesses, mobile providers and enterprise customers. [17]

The FCC should ensure that special access rates, terms and conditions are just and reasonable. [18]

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customer churn and market share information; Make more data and FCC analyses publicly available; BLS should fully resume its computer and Internet use supplement.

[13] *Id*. at 44. The Commission identified the following specific performance parameters: Actual speeds and performance over the broadband service provider's network; and the end-to-end performance of the service; Actual speeds and performance at peak use hours; Actual speeds and performance achieved with a given probability (e.g., 95%) over a set time period (e.g., one hour) that includes peak use times; and Actual speeds and performance tested against a given set of standard protocols and applications. *Id*. at 45.

[14] *Id*. at 45.

[15] *Id*. at 46.

[16] *Id*. at 47-48.

[17] *Id*. at 48.

[18] *Id*.

The FCC should ensure appropriate balance in its copper retirement policies. [19]

The FCC should clarify interconnection rights and obligations and encourage the shift to IP-to-IP interconnection where efficient. [20]

The FCC should move forward promptly in the open proceeding on data roaming. [21]

Devices

The FCC should initiate a proceeding to ensure that all multichannel video programming distributors (MVPDs) install a gateway device or equivalent functionality in all new subscriber homes and in all homes requiring replacement set-top boxes, starting on or before Dec. 31, 2012. [22] "To facilitate innovation and limits costs to consumers, the gateway device must be simple. Its sole function should be to bridge the proprietary or unique elements of the MVPD network (e.g., conditional access, tuning and reception functions) to widely used and accessible, open networking and communications standards. That would give a gateway device a standard interface with televisions, set-top boxes and other in-home devices and allow consumer electronics manufacturers to develop, market and support their products independently of MVPDs." [23]

On an expedited basis, the FCC should adopt rules for cable operators to fix certain CableCARD issues while development of the gateway device functionality progresses. Adoption of these rules should be completed in the fall of 2010. [24]

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[19] *Id*. at 48-49.

[20] *Id*. at 49.

[21] *Id*.

[22] *Id*. at 51-52. The Commission noted the lack of competition in the set top box marketplace, reporting that Motorola and Cisco have a 95% market share and the alternative to set top boxes, i.e., CableCards serving just 500,000 CableCard representing 1%. *Id*. at 50-51. "

[23] *Id*. at 51.

[24] *Id*. at 52. Specifically, the proposed rules should . . . [e]nsure equal access to linear channels for retail and operator-leased CableCARD devices in cable systems with SDV by allowing retail devices to receive and transmit out-of-band

Applications

Congress, the Federal Trade Commission (FTC) and the FCC should consider clarifying the relationship between users and their online profiles. [25]

Congress should consider helping spur development of trusted "identity providers" to assist consumers in managing their data in a manner that maximizes the privacy and security of the information. [26]

The FCC and FTC should jointly develop principles to require that customers provide informed consent before broadband service providers share certain types of information with third parties. [27]

The federal government, led by the FTC, should put additional resources into combating identity theft and fraud and help consumers access and utilize those resources, including bolstering existing solutions such as OnGuard Online. [28]

FCC consumer online security efforts should support broader national online security policy, and should be coordinated with the Department of Homeland Security (DHS), the FTC, the White House Cyber Office and other agencies. Federal agencies should connect their existing websites to

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communications with the cable headend over IP; [e]stablish transparent pricing for CableCARDs and operator-leased set-top boxes. Consumers should see the appropriate CableCARD charge, whether they purchase a retail device or lease one from the operator, and they should receive a comparable discount off packages that include the operator-leased set-top box if they choose to purchase one instead; Standardize installation policies for retail and operator leased CableCARD devices to ensure consumers buying CableCARD-enabled devices at retail do not face materially different provisioning hurdles than those using operator leased set-top boxes; [s]treamline and accelerate the certification process for retail CableCARD devices. For example, the rules could restrict the certification process to cover hardware only, similar to the certification required for cable-ready TVs, to ensure retail CableCARD devices do not harm a cable operator's network." *Id*. at 52.

[25] *Id*. at 55.

[26] *Id*.

[27] *Id*. at 56.

[28] *Id*. at 56-57.

> OnGuard Online to provide clear consumer online security information and direction. [29]
>
> The federal government should create an interagency working group to coordinate child online safety and literacy work, facilitate information sharing, ensure consistent messaging and outreach and evaluate the effectiveness of governmental efforts. The working group should consider launching a national education and outreach campaign involving governments, schools and caregivers. [30]
>
> The federal government should investigate establishing a national framework for digital goods and services taxation. [31]

The National Broadband Plan pays substantial attention to spectrum management reform, with emphasis on finding additional spectrum that can be auctioned to provide additional bandwidth for broadband services, albeit not necessarily offered by market entrants. Set out below are all the Commission's spectrum recommendations:

> **Ensure greater transparency concerning spectrum allocation and utilization.**
>
> The FCC should launch and continue to improve a spectrum dashboard offering user-friendly access to basic information about spectrum allocations and licensed users;
>
> The FCC and the National Telecommunications and Information Administration (NTIA) should create methods for ongoing measurement of spectrum utilization.
>
> The FCC should maintain an ongoing strategic spectrum plan including a triennial assessment of spectrum allocations.
>
> **Expand incentives and mechanisms to reallocate or repurpose spectrum.**
>
> Congress should consider expressly expanding the FCC's authority to enable it to conduct incentive auctions in which incumbent licensees, such

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[29] *Id*. at 57.

[30] *Id*. at 57-58.

[31] *Id*. at 58.

as television broadcasters, may relinquish rights in spectrum assignments to other parties or to the FCC.

Congress should consider building upon the success of the Commercial Spectrum Enhancement Act (CSEA) to fund additional approaches to facilitate incumbent relocation.

Congress should consider granting authority to the FCC to impose spectrum fees on license holders and to NTIA to impose spectrum fees on users of government spectrum.

The FCC should evaluate the effectiveness of its secondary markets policies and rules to promote access to unused and underutilized spectrum.

Make more spectrum available for broadband within the next 10 years.

The FCC should make 500 megahertz newly available for broadband use within the next 10 years, of which 300 megahertz between 225 MHz and 3.7 GHz should be made newly available for mobile use within five years.

The FCC should make 20 megahertz available for mobile broadband use in the 2.3 GHz Wireless Communications Service (WCS) band, while protecting neighboring federal, non-federal Aeronautical Mobile Telemetry (AMT) and satellite radio operations.

The FCC should auction the 10 megahertz Upper 700 MHz D Block for commercial use that is technically compatible with public safety broadband services.

The FCC should make up to 60 megahertz available by auctioning Advanced Wireless Services (AWS) bands, including, if possible, 20 megahertz from federal allocations.

The FCC should accelerate terrestrial deployment in 90 megahertz of Mobile Satellite Spectrum (MSS).

The FCC should initiate a rule making proceeding to reallocate 120 megahertz from the broadcast television (TV) bands.

Increase the flexibility, capacity and cost-effectiveness of spectrum for point-to-point wireless backhaul services.

The FCC should revise Parts 74, 78 and 101 of its rules to allow for increased spectrum sharing among compatible point-to-point microwave services.

The FCC should revise its rules to allow for greater flexibility and cost-effectiveness in deploying wireless backhaul.

Expand opportunities for innovative spectrum access models.

The FCC, within the next 10 years, should free up a new, contiguous nationwide band for unlicensed use.

The FCC should move expeditiously to conclude the TV white spaces proceeding.

The FCC should spur further development and deployment of opportunistic uses across more radio spectrum.

The FCC should initiate proceedings to enhance research and development that will advance the science of spectrum access.

Take additional steps to make U.S. spectrum policy more comprehensive.

The FCC and NTIA should develop a joint roadmap to identify additional candidate federal and non-federal spectrum that can be made accessible for both mobile and fixed wireless broadband use, on an exclusive, shared, licensed and/or unlicensed basis.

The FCC should promote within the International Telecommunication Union (ITU) innovative and flexible approaches to global spectrum allocation that take into consideration convergence of various radio communication services and that enable global development of broadband services.

The FCC should take into account the unique spectrum needs of U.S. Tribal communities when implementing its spectrum recommendations. [32]

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[32] *Id*. at 73-105.

On the matter of improving the infrastructure that could be used by broadband network providers when installing transmission lines and other facilities, the Commission issued a number of recommendations aiming to improve use and maximize access to federal resources. The specific recommendations are:

Improving utilization of infrastructure.

The FCC should establish rental rates for pole attachments that are as low and close to uniform as possible, consistent with Section 224 of the Communications Act of 1934, as
amended, to promote broadband deployment.

The FCC should implement rules that will lower the cost of the pole attachment "make-ready" process.

The FCC should establish a comprehensive timeline for each step of the Section 224 access process and reform the process for resolving disputes regarding infrastructure access.

The FCC should improve the collection and availability of information regarding the location and availability of poles, ducts, conduits and rights-of-way.

Congress should consider amending Section 224 of the Act to establish a harmonized access policy for all poles, ducts, conduits and rights-of-way.

The FCC should establish a joint task force with state, Tribal and local policymakers to craft guidelines for rates, terms and conditions for access to public rights-of-way.

Maximizing impact of federal resources.

The U.S. Department of Transportation (DOT) should make federal financing of highway, road and bridge projects contingent on states and localities allowing joint deployment of conduits by qualified parties.

Congress should 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).

> Congress should consider expressly authorizing federal agencies to set the fees for access to federal rights-of-way on a management and cost recovery basis.
>
> The Executive Branch should develop one or more master contracts to expedite the placement of wireless towers on federal government property and buildings. [33]

The National Broadband Plan also devotes chapters, with recommendations on research and development. [34]

The Plan also proposes a comprehensive overhaul of the universal service funding mechanism and intercarrier interconnection compensation arrangements. [35] The Commission proposes to expand the universal service mission to include broadband with several new funding mechanisms to achieve specific new goals. The Commission also proposes a multi-phased revamping of universal service funding and the basis by which carriers compensate each other when interconnecting and handing off traffic. In terms of broad goals the FCC hope to achieve the following:

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[33] *Id.* at Chapter 6, 106-118.

[34] *Id.* at Chapter 7, 119-132. The R&D recommendations are set out below: The government should focus broadband R&D funding on projects with varied risk-return profiles, including a mix of short-term and long-term projects (e.g., those lasting 5 years or longer); Congress should consider making the Research and Experimentation (R&E) tax credit a long-term tax credit to stimulate broadband R&D; The federal government should provide ultra-high-speed broadband connectivity to select DoD installations to enable the development of next-generation broadband applications; The National Academy of Sciences and the National Academy of Engineering (National Academies) should develop a research road map to guide federal R&D funding priorities. NSF should establish an open, multi-location, interdisciplinary research center for broadband, addressing technology, policy and economics. Center priorities should be driven by the agenda identified in the National Academies research road map; NSF, in consultation with the Federal Communications Commission (FCC), should consider funding a wireless testbed for promoting the science underlying spectrum policymaking and a testbed for evaluating the network security needed to provide a secure broadband infrastructure. The FCC should start a rulemaking process to establish more flexible experimental licensing rules for spectrum and facilitate the use of this spectrum by researchers.

[35] National Broadband Plan at Chapter 8,

> Affordable access in every American community to ultra-high-speed broadband of at least 1 gigabit per second at anchor institutions such as schools, hospitals, and military installations so that America is hosting the experiments that produce tomorrow's ideas and industries;
>
> Ensuring that the United States is leading the world in mobile innovation by making 500 megahertz of spectrum newly available for licensed and unlicensed use;
>
> Move our adoption rates from roughly 65 percent to more than 90 percent and make sure that every child in America is digitally literate by the time he or she leaves high school;
>
> Bring affordable broadband to rural communities, schools, libraries, and vulnerable populations by transitioning existing Universal Service Fund support from yesterday's analog technologies to tomorrow's digital infrastructure.

From 2010 to 2011 the Commission proposes a target broadband delivery speed of 4 megabits per second ("Mbps") download and 1 Mbps upload, to improve Universal Service Fund (USF) performance and accountability, and to create two funds designed to improve broadband access in underserved areas and via wireless technologies. The Commission also wants to create a glide path for eliminating per-minute interconnection charges while providing carriers an opportunity for adequate cost recovery, and to establish interim solutions to prevent arbitrage opportunities where a venture exploits differences in interconnection rates without possibly even providing service. The Commission anticipates the need for second stage, from 2012-2016, and a third stage from 2017-2020 to achieve complete reform.

The National Broadband Plan also addresses adoption and use issues including analysis of the reasons why various segments of society do not use broadband services even when available. While much of the Plan addresses supply side issues, issues such as adoption and use are affected by demand side issues, such as whether an individual has sufficient computer skills and interest in the variety of information, communications and entertainment ("ICE") services

available via the Internet. The Commission notes that barriers to adoption and use include the cost of broadband, but also such factors as digital literacy and perceived relevance to an individual's life needs. Set out below are the FCC's recommendations:

Address cost barriers to broadband adoption and utilization.

Expansion of the Lifeline Assistance (Lifeline) and Link-Up America (Link-Up) subsidy programs to make broadband more affordable for low income Households;

The FCC should consider free or very low-cost wireless broadband as a means to address the affordability barrier to adoption;

Address digital literacy barriers to broadband adoption and tilization.

The federal government should launch a National Digital Literacy Program that creates a Digital Literacy Corps, increases the capacity of digital literacy partners and creates an Online Digital Literacy Portal.

Address relevance barriers to broadband adoption and utilization.

NTIA should explore the potential for public-private partnerships to improve broadband adoption by working with other federal agencies.

Public and private partners should prioritize efforts to increase the relevance of broadband for older Americans.

The federal government should explore the potential of mobile broadband access as a gateway to inclusion.

The private sector and non-profit community should partner to conduct a national outreach and awareness campaign.

Address issues of accessibility for broadband adoption and utilization.

The Executive Branch should convene a Broadband Accessibility Working Group (BAWG) to maximize broadband adoption by people with disabilities.

The FCC should establish an Accessibility and Innovation Forum.

Congress, the FCC and the U.S. Department of Justice (DOJ) should consider modernizing accessibility laws, rules and related subsidy programs.

Expand federal support for regional broadband capacity-building, program evaluation and sharing of best practices

Federal support should be expanded for regional capacity-building efforts aimed at improving broadband deployment and adoption.

Congress and federal agencies should promote third party evaluation of future broadband adoption programs.

NTIA should establish a National Broadband Clearinghouse to promote best practices and information sharing.

Coordinate with Tribes on broadband issues.

The Executive Branch, the FCC and Congress should make changes to ensure effective coordination and consultation with Tribes on broadband-related issues. [36]

In the last major section of the National Broadband Plan, the FCC identifies a number of specific service areas for which broadband can enhance national wellbeing. The specific topics in the Plan are health care, education, energy and the environment, economic opportunity, government performance, civic engagement and public safety. For each of these sectors the FCC identifies significant goals, objectives and recommendations. Lastly the National Broadband Plan address how the FCC and interested parties might track and benchmark progress, particularly in light of current statistics that show the United States lagging in terms of broadband market penetration, performance, and affordability. Recognizing that other nations have a comparatively better record in stewardship and the articulation of a national vision for broadband the FCC hopes to promote competition across the broadband ecosystem by ensuring

[36] *Id*. at 168.

greater transparency, removing barriers to entry, and conducting market-based analysis with quality data on price, speed, and availability. The Commission specifically recommends that:

> The Executive Branch should create a Broadband Strategy Council to coordinate the implementation of National Broadband Plan recommendations. [37]
>
> The Commission should quickly publish a timetable of proceedings to implement plan recommendations within its authority, publish an evaluation of plan progress and effectiveness as part of the annual Section 706 Advanced Services Inquiry, create a Broadband Data Depository, and continue to utilize Broadband.gov as a public resource for broadband information. [38]
>
> The FCC should publish a Broadband Performance Dashboard with metrics designed to track broadband plan goals. [39]

Joint Mission Statement

In a rare bipartisan move, the FCC Commissioners also issued a Joint Statement on Broadband outlining what beliefs they share in terms of how to achieve near ubiquitous access to affordable and fast broadband service. "[W]e all share the following common beliefs:

> Every American should have a meaningful opportunity to benefit from the broadband communications era—regardless of geography, race, economic status, disability, residence on tribal land, or degree of digital literacy.
>
> Continuous private sector investment in wired and wireless networks and technologies, and competition among providers, are critical to ensure vitality and innovation in the broadband ecosystem and to encourage new products and services that benefit American consumers and businesses of every size.
>
> Strategic and prudent policies toward public resources like spectrum will benefit all Americans, by meeting current and future needs and by promoting continued innovation, investment, and competition.

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[37] *Id*. at 334.

[38] *Id*.

[39] *Id*. at 335.

> The nearly $9 billion Universal Service Fund (USF) and the intercarrier compensation (ICC) system should be comprehensively reformed to increase accountability and efficiency, encourage targeted investment in broadband infrastructure, and emphasize the importance of broadband to the future of these programs.[40]
>
> Our Nation should harness the tools of modern communications technology to protect all Americans, including by enabling the development of a nation-wide, wireless, interoperable broadband network for the Nation's first responders.
>
> Ubiquitous and affordable broadband can unlock vast new opportunities for Americans, in communities large and small, with respect to consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes. [41]

The Commission anticipates that it can achieve its goals without the need for more financial allocations from the treasury by conducting more spectrum auctions and by redirecting universal service funds, currently targeting only basic telephone services, for broadband subsidies in rural and other underserved areas. Other goals either require no direct funding or lack quantification, e.g., creating financial incentives for broadband investments.

The National Broadband Plan provides a comprehensive road map for government stewardship and vision, two long neglected components that should complement the entrepreneurial motivations of both incumbent and market entrants. The Commission recognizes the need for light handed intervention that does not distort competition and private sector

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[40] Section 6001(k)(2) of the ARRA states that: "The national broadband plan required by this section shall seek to ensure that all people of the United States have access to broadband capability."

[41] Joint Statement on Broadband, GN Docket No. 10-66, FCC 10-42 (rel. March 16, 2010); available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-10-42A1.doc.

initiatives: "Due in large part to private investment and market-driven innovation, broadband in America has improved considerably in the last decade. More Americans are online at faster speeds than ever before. Yet there are still critical problems that slow the progress of availability, adoption and utilization of broadband." [42] "While we must build on our strengths in innovation and inclusion, we need to recognize that government cannot predict the future. Many uncertainties will shape the evolution of broadband, including the behavior of private companies and consumers, the economic environment and technological advances. As a result, the role of government is and should remain limited. We must strike the right balance between the public and private sectors. Done right, government policy can drive, and has driven, progress." [43]

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[42] National Broadband Plan at 3.

[43] *Id*. at 5.