

**SOURCE:** United States Federal Communications Commission

**TITLE:** Regulatory Approaches to Promoting Broadband

This consultation seeks to identify innovative regulatory approaches policy makers can take to advance broadband, including funding mechanisms, investment incentives, coordination with stakeholders, and ways of stimulating innovation and expanding inclusion. While the private sector will play the central role in broadband development, regulators can: (1) provide overall direction through a national plan, (2) create a favorable regulatory environment that supports investment and innovation, (3) redirect existing universal service programs and funding to cover broadband, and (4) encourage innovation to address specific challenges.

Broadband networks, services, and applications exist in a dynamic and interrelated ecosystem, and thrive where flexibility marks the regulatory landscape. Consequently, when acting to promote broadband, regulators should seek to balance regulatory certainty with flexibility. Regulatory imperatives embedded in formal instruments that cannot be revised in a timely manner to address evolving circumstances are counter productive, particularly when they impact technology choice or the operational activities associated with broadband deployment and use.

#### **(1) Adopt a National Broadband Plan**

On March 16, 2010 the FCC delivered its National Broadband Plan (Plan) to Congress. The Plan set out a comprehensive strategy to develop an affordable, nationwide high-speed Internet service and to use broadband to address national purposes such as health care, education, energy and the environment, economic opportunity and government services. The Plan includes more than 200 recommendations directed to the FCC, other U.S. federal agencies, Congress, the states and others. The Plan also includes specific, measurable targets and dates, such as actual upload and download speeds, adoption rates, coverage to be achieved, and the amount of additional spectrum to be made available for mobile broadband.

#### **(2) Create a Regulatory Environment that Supports Investment and Innovation**

- **Preserve a Free and Open Internet**

In December 2010, the FCC adopted basic rules for broadband providers to ensure continued Internet freedom and openness. The framework consists of three basic principles:

- **Transparency** – Fixed and mobile broadband providers must disclose their network management practices, performance characteristics, and terms and conditions of their broadband services;
- **No Blocking** – Fixed broadband providers may not block lawful content, applications, services, or non-harmful devices; mobile broadband providers may not block lawful websites, or block applications that compete with their voice or video telephony services; and
- **No Unreasonable Discrimination** – Fixed broadband providers may not unreasonably discriminate in transmitting lawful network traffic. (Reasonable network management is allowed, such as managing the network to address congestion or security issues.)

This open Internet framework is intended to ensure that no central authority, whether public or private, can exercise undue influence or control over the Internet's gateways. Such a framework helps ensure that investors, broadband providers and entrepreneurs have the certainty they need to invest, and the freedom and information they need to innovate and launch new products.

- **Unleash Spectrum for Mobile Broadband**

Sufficient spectrum is necessary for continued growth, investment and innovation in mobile broadband, but the explosion in demand for wireless services is putting a strain on the spectrum available. The FCC has considered a number of innovative approaches to address this issue, including:

- **Voluntary Incentive Auctions** – Voluntary incentive auctions could provide a major source of additional spectrum for mobile broadband as well as additional revenue. Under this approach, existing licensees such as television broadcasters could voluntarily choose to contribute some, or all, of their spectrum to be auctioned and would receive part of the auction proceeds. Such actions would provide an incentive-based, market-driven path to making more spectrum available. Broadcasters or other licensees could choose not to participate in the auction, or two or more broadcasters could agree to share a channel, participate in the auction and receive a major capital infusion. Voluntary incentive auctions are recommended in the FCC’s National Broadband Plan, but will require congressional action for the FCC to implement.<sup>1</sup>
- **TV “White Spaces”** – The FCC has freed up vacant spectrum between TV channels, known as TV “white spaces” so that it is available for unlicensed broadband use. The TV white spaces is the largest amount of unlicensed spectrum made available by the FCC in 25 years and will enable more powerful Internet services such as Super Wi-Fi and other new applications. Unlicensed devices operating in this spectrum will use geo-location technology to determine their location and a database lookup to identify unused channels available in that location. In January 2011, the FCC conditionally designated nine entities to serve as device database administrators for these bands.
- **Spectrum Dashboard** – On its website (<http://reboot.fcc.gov/reform/systems/spectrum-dashboard>) the FCC has created a spectrum dashboard that allows users to easily identify how nonfederal spectrum is currently being used, who holds spectrum licenses and where spectrum is available. This information can assist those looking for additional spectrum for mobile broadband and can promote a more efficient secondary market in spectrum.
- **Secondary Markets** – The FCC’s rules and policies permit FCC licensees to conduct a variety of secondary market transactions, including license transfers and assignments, partitioning (splitting a license by carving off a geographic area) and disaggregation (splitting by carving off certain frequencies). The FCC also permits spectrum leasing, including dynamic leasing arrangements that allow a licensee and lessee to share the same spectrum. In April 2011, the FCC extended its secondary market leasing rules to any Mobile Satellite Service (MSS) spectrum used for terrestrial services.<sup>2</sup>

- **Remove Barriers to Broadband Buildout**

- **Broadband Acceleration Initiative** – This FCC initiative seeks to identify and reduce regulatory barriers to infrastructure buildout.<sup>3</sup> As part of this process the FCC has: (1) established strict procedures with short, internal deadlines to speed the processing of wireless tower siting applications, (2) initiated a proceeding to ease access to utility poles, and (3) is reviewing rights-of-way practices that may impede infrastructure deployment. The FCC also recently made new spectrum available for wireless backhaul by eliminating outdated regulations. Microwave or wireless backhaul links are often used to transmit data between cell sites or between cells and network backbones and can provide a cost-effective alternative to traditional copper circuit and fiber optic links.
- **Broadband Acceleration Conference** – In February 2011, the FCC continued its public consultation on this issue by bringing together key stakeholders from federal, state and local governments,

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<sup>1</sup> Legislation has been introduced in the U.S. Congress to allow such auctions and Congress is expected to give further attention to the issue later this year.

<sup>2</sup> In this order, the FCC also added co-primary Fixed and Mobile allocations to the MSS 2 GHz band, consistent with the International Table of Allocations. This action will lay the groundwork for more flexible use of the band, including for terrestrial broadband services, in the future.

<sup>3</sup> The benefits of reducing such barriers can be significant. It has been estimated that the expense of obtaining permits, leasing pole attachments and obtaining rights-of-way can amount to 20% of the cost of fiber optic deployment and that a “dig once” policy that coordinates the laying of fiber with other construction projects could reduce fiber deployment costs by approximately 40%.

broadband providers, telecommunications carriers, tower companies, equipment suppliers and utility companies to encourage private/public partnerships and discuss ways of removing regulatory and other barriers to broadband deployment.

- **Promote Transparency and Empower Consumers**

Transparency and informed consumers both promote competition and encourage providers to invest and develop new products, services and business models that enable them to offer the greatest value. The FCC has taken a number of steps in this area, including:

- **Open Internet Rules** – As described above, the FCC has adopted rules requiring broadband providers to disclose the network management practices and performance characteristics of their broadband services.
- **National Broadband Map** – This map helps consumers identify broadband providers in their area and includes information on the technology used to provide each service and the maximum advertised speed. (<http://www.broadbandmap.gov/>)
- **Nationwide Test of Broadband Speeds** – In August 2011, the FCC released the results of the first nationwide test of the speed of residential wireline broadband service in the United States. This test involved collaboration between the FCC, 13 of the largest Internet service providers that account for 86% of all U.S. wireline broadband connections, academic researchers and others. The study found that for most major broadband providers, actual speeds are generally 80%-90% of advertised speeds or better. (<http://www.fcc.gov/measuring-broadband-america>)
- **Consumer Guide to Broadband Speeds** – In August 2011, the FCC also posted a new step-by-step guide that helps consumers understand broadband speeds, assess their needs, choose the right package and continuously evaluate their broadband performance. (<http://www.fcc.gov/guides/broadband-service-home-consumers-guide>)
- **Speed Test** – The FCC's website includes a speed test that lets users check how fast their wired or wireless Internet connections actually are. (<http://www.broadband.gov/qualitytest/about/>)

### **(3) Modernize Universal Service Support**

The FCC has launched several proceedings designed to transform the U.S. universal service program, which currently supports telephone service in high cost and rural areas and for low income consumers, into a program that supports broadband. A part of the program known as e-rate already provides support for broadband in schools and libraries. Some recent FCC initiatives to expand inclusion are:

- **Learning on the Go** – This pilot program permits schools and libraries to use e-rate to support off-campus wireless connectivity for mobile learning devices. Digital textbooks and other mobile devices can enable all students to learn in a real world context and because of their low cost and accessibility may be especially useful in providing access for children from economically disadvantaged communities.
- **School Spots** – This new program allows schools to make their e-rate supported Internet service available to the local community outside of school hours, including during holiday periods, thus expanding high speed broadband service to non-students and the community at large.
- **Lifeline/Linkup Reform** – The Lifeline/Linkup program currently provides discounts on monthly telephone service and initial telephone installation for low income users. Pending proposals include allowing the discounts to be used for bundled voice broadband plans and conducting pilot programs to test other strategies for supporting broadband service.

### **(4) Encourage Innovation to Address Specific Challenges**

Over the past year the FCC has launched three public contests through [www.challenge.gov](http://www.challenge.gov), a U.S. government-wide website that offers a platform for agencies to post challenges they are facing and solicit ideas for solutions from the public. To date, the FCC has posted three:

- **Open Internet Apps** – The FCC challenged participants to develop applications that empower consumers to monitor and protect Internet openness. The three winning submissions were announced on August 5, 2011. They include one application that, in two minutes, allows users to check their mobile network and obtain information on speeds as well as certain traffic management practices, and another that allows end-users and researchers to identify how Internet Service Providers shape traffic on their networks. (<http://challenge.gov/FCC/114-fcc-open-internet-apps-challenge>)
- **Apps for Communities** – The FCC has partnered with a private foundation to offer \$100,000 in prizes for software applications that deliver personalized, usable information to those least likely to be online, regardless of geographical area, racial or economic status, disability or English literacy. The goals are to make local public information more usable and accessible, to promote broadband adoption and to create better links to government services. (<http://appsforcommunities.challenge.gov/>)

**Lifted by the Cloud** – This contest seeks multimedia presentations that show how cloud computing can create new opportunities for persons with disabilities. (<http://challenge.gov/FCC/82-lifted-by-the-cloud-visions-of-cloud-enhanced-accessibility>)