National Broadband Plan
Policy Framework

December 16, 2009 – FCC Open Meeting

63 days until Plan is due

What we want to accomplish today

- Review principles for policy development
- Review framework for National Broadband Plan

Congressional mandate

To fulfill statutory obligation to write a plan that will "seek to ensure that all people of the United States have access to broadband capability and shall establish benchmarks for meeting that goal."

Other Statutory Objectives:

(A) Analyze the most effective and efficient mechanisms for ensuring broadband access by all people of the United States

(B) Provide:

- A detailed strategy for achieving affordability of such service.
- A detailed strategy for maximum utilization of broadband infrastructure and service by the public

(C) Evaluate the state of deployment

- Include an evaluation of progress of projects supported by the grants made pursuant to the Recovery Act

(D) Provide a plan for the use of broadband infrastructure and services in:

- Advancing 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
- Other national purposes

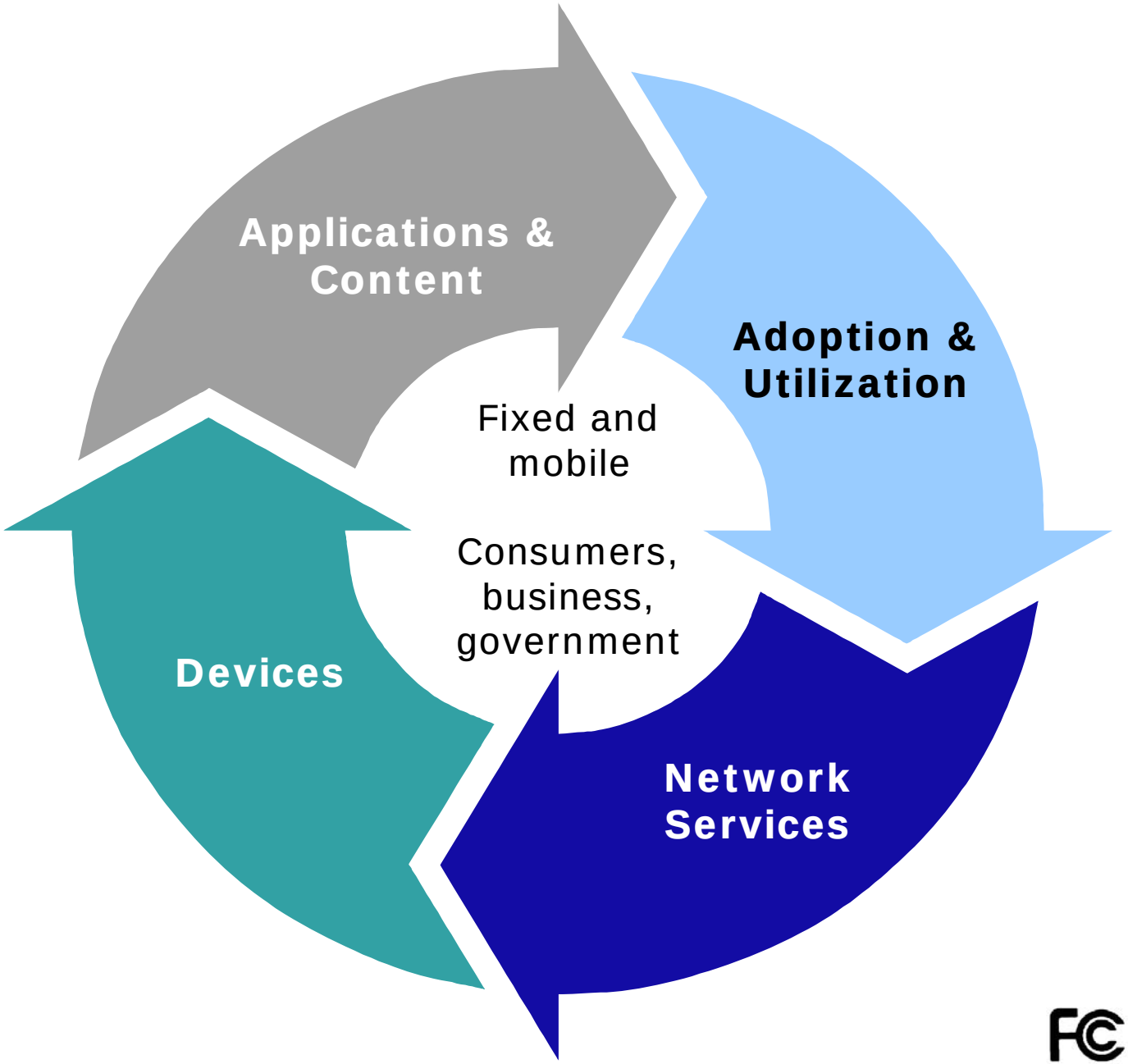
Guiding principles for Plan development

1. Open and transparent process
2. Build on specific attributes of American broadband ecosystem
3. Aspire high, but find a practical and sustainable path
4. Recommend concrete action based on data and analysis
5. Eye on the future

Guiding principles for policy choices

1. Private sector investment is essential; new funding is limited
2. Competition drives innovation and better choices for consumers
3. Better utilization of existing assets is required
4. Policy changes require consideration of unintended consequences
5. New law is necessary in certain cases, but should be limited

Plan will accelerate innovation and investment across the broadband ecosystem



Overview and proposed framework to address key gaps

Network

Gaps and Issues	Framework
• Fixed infrastructure availability gap	1. Transform USF to support broadband • Reform existing programs through short term actions • Engage in rule changes for longer term transformation
• Middle mile gap	2. BTOP provides middle mile funding in current tranche • Consider future mechanisms to fill remaining gaps
• ROW and pole attachments gap	3. Improve infrastructure access • Reform ROW, poles, and conduit to reduce deployment costs • Enable municipal efforts where appropriate 4. Incentives for capital formation, investment • Tax Policy • Competition • Consider incentives for certain geographies, such as tribal lands
• Spectrum gap	5. 21st century spectrum policy • Long term, not ad hoc, process for spectrum • More bandwidth for broadband • Enable innovative opportunistic new uses for spectrum
• Data gap	6. Improved data collection across the Commission
• Set top boxes	7. Transform CableCard to enable video and IP convergence and greater device innovation

Devices

Overview and proposed framework to address key gaps

	Gaps and Issues	Framework
Applications and Content	• Consumer information gap	8. Broadband Transparency Initiative to enable more educated choices
	• End user data control gap	9. Enable innovative uses in secure, privacy-protected, environment
	• Media gap	10. Incentives for institutions to fill emerging gaps in news and information
	• Cybersecurity and piracy gaps	11. Ensure a safe, secure Internet that respects intellectual property laws
Adoption and Utilization	• Adoption and utilization gap	12. BTOP Sustainable Adoption Funding 13. National support for local, targeted efforts, including standard-setting and clearinghouse 14. Digital literacy efforts
	• Affordability gap	15. BTOP Public Computing Center Program 16. USF support for low-income broadband adoption
	• Accessibility gap	17. Emphasis on specific situations such as Americans with disabilities

Areas of Focus for Today

- USF
- Infrastructure access
- Spectrum
- Tribal lands
- Set-top boxes
- Consumer information
- Media
- Adoption
- Accessibility
- Public safety (Other national purposes in January)

USF Reform Guiding Principles

1. Universality is the focus on availability and affordability
2. USF resources are finite; require allocation tradeoffs
3. USF policies should be viewed holistically across all four USF support programs
4. USF policies should be flexible enough to adjust to changes in technology and demand for broadband services
5. USF policies should be designed to achieve measurable outcomes with transparency, oversight, and accountability
6. USF reforms should have a predictable and defined transition path

USF Short and Medium Term Action

Framework: What are short-term actions to improve performance of current system? Options under consideration include:

- Cutting inefficient spending in the high cost fund
- Removing barriers to use of E-Rate funded connections in schools for adoption and community use comparable to permissible uses of E-Rate funded connections in libraries
- Enabling schools and libraries that currently have dial-up to migrate to broadband
- Extending the deadline for the Rural Health Care Pilot Program and providing more administrative support to help participants through the process

USF Long Term Transformation

Framework: What can be done to transform USF to shift the focus to support for broadband services? Options under consideration include:

- Revising the current method of collecting funds with an emphasis on sustainability
- Transforming the High Cost Fund to support specific broadband goals over the next 5 to 10 years with a defined transition path for existing recipients
- Permitting low income households to use Lifeline support for broadband; integrating Lifeline with other programs to promote adoption and digital literacy
- Based on lessons learned from the Rural Health Care Pilot Program, designing a new health program to expand affordable broadband connectivity
- Considering USF reform in conjunction with other FCC proceedings such as ICC and Special Access

Infrastructure Access Guiding Principles

1. Broadband infrastructure requires a partnership between the federal government and various state and local entities
2. Timely and predictable dispute resolution is critical to private investment in deployment
3. Federal investments in roads, bridges, and other infrastructure provide an opportunity to deploy broadband infrastructure
4. Lowering the costs of infrastructure inputs improves the business case for further upgrades and sustainable competition
5. Better coordination can reduce costs throughout the entire ecosystem – “dig once”

Infrastructure Initiatives

Framework: The Plan should explore reducing cost of ROW and pole attachments and, in certain circumstances, improving options for municipalities, both of which would help drive more deployment. Options under consideration include:

- Establish a uniform and fair rental rate for pole attachments
- Adopt rules that lower make-ready costs and speed access to poles, ducts, conduits, and Rights of Way
- Create a streamlined dispute resolution mechanism
- Enable municipalities to create broadband options where circumstances warrant
- Amend section 224 to establish a consistent national framework for all poles, ducts, and conduits

Spectrum Policy Guiding Principles

1. The demand for wireless broadband services will exceed the supply of spectrum to deliver those services
2. There is not enough new spectrum for wireless broadband services in the pipeline to close this gap
3. It takes a long time to address spectrum gaps, so we must start now
4. There are 3 potential paths to close the gap. We must pursue all 3 – each individually is necessary but not sufficient
   a. More productive use of existing bands
   b. More bandwidth available for broadband services
   c. Development & deployment of technologies to support new uses
5. A large, new spectrum allocation is essential to improving broadband competition
6. The country should review spectrum allocations & management practices periodically going forward to ensure the most productive use of this national asset
7. An RF assessment is a key enabler for periodic spectrum reviews
8. Market forces should be applied to all bands, though other policy objectives should play a role in allocation decisions

Long-Term Planning; More Efficient Use

Framework: What can be done to provide better transparency and better incentives to encourage incumbents to use existing allocations more effectively? Options under consideration include:

- An RF assessment tool to document and expose current license and usage information to facilitate research, planning, and potential transactions
- A periodic spectrum review process which is based on a list of factors that the FCC and NTIA can use to determine actions with regard to particular bands
- Utilization of spectrum fees and band-clearing auctions to drive more effective market allocation
- Greater incentives for more efficient use of government spectrum

More Bandwidth for Broadband

Framework: Consider all options for spectrum to close the gap and secure an innovative wireless industry, balancing the engineering and policy constraints present in the current allocations. Options under consideration include:

- Identify new spectrum for licensed and unlicensed use
- Resolve pending spectrum allocation & use issues, including:
  - Advanced Wireless Services 2 & 3
  - Wireless Communications Service viability for mobile service
  - 700 MHz D Block
  - TV White Spaces
- Explore various proposals that have been submitted, including:
  - Access to TV spectrum while maintaining over-the-air television
  - Access to federal spectrum in conjunction with NTIA
  - Use of terrestrial operations in mobile satellite spectrum

Enable Innovative Uses

Framework: Spectrum is a key ingredient to a technology sector, requiring space for unlicensed and opportunistic use to promote new devices and applications. Options under consideration include:

- Preserving spectrum for unlicensed devices
- Developing tools to manage access in order to protect incumbent operators
- Allowing opportunistic use on FCC-held licenses (*i.e.*, licenses not sold at auction)
- Enabling spectrum monitoring equipment to better inform the availability of spectrum including on a real time database
- Expanding model of opportunistic use to other bands where appropriate
- Creating an interference dispute resolution mechanism

Set Top Box Guiding Principles

1. Increasingly, the television is becoming an Internet-access device
2. Delivering Internet video to the television could drive higher broadband adoption and utilization (as 99% of households have TVs, versus 79% with computers) as new apps and uses would emerge
3. The convergence of television and the Internet is hindered by the lack of innovation in the set top box market
4. An open market in devices will drive further innovation
5. To date, CableCARD has not achieved its intended goals, in part due to poor implementation
6. The FCC has the authority to help open the set top box market to greater competition and innovation

Set Top Boxes

Framework: How can the FCC ensure the competitive availability of video navigation devices (e.g., STBs, TVs, DVRs) pursuant to 47 U.S.C. § 549 to foster greater device innovation in the set top box market and the convergence of Internet and television? Options under consideration include:

- **Fix CableCARD**: directly address current barriers to implementation of CableCARD; including bundled provisioning, pricing, and billing
- **Mandate a home gateway device**. Require MVPDs to provide a small, low-cost device whose only functionality is to bridge the proprietary MVPD network elements (conditional access, tuning & reception functions) to common, open standard widely-used in home communications interfaces; enables a retail navigation device to operate on all MVPD platforms

The Future of Media

- Universal broadband important to ensuring that the new media landscape benefits all Americans

- The spread of Internet access:
  - Undermined established media business models
  - Triggered an explosion of innovation in the media space

- The Broadband Plan will assess the impacts of the universal broadband strategy both on commercial media and the public media licensees

Broadband Transparency Guiding Principles

1. Consumers should understand the actual performance of the products and services they purchase
2. A market of better informed consumers will foster competition and encourage providers to deliver improving service
3. The information provided consumers should be clear, simple, and verifiable
4. There is a considerable difference between advertised “up to” and “actual” performance
5. There are a number of factors that determine network performance
6. Service providers cannot control every aspect of network performance (e.g., end-user hardware)

Broadband Transparency Initiative

Framework: Consumers should have better information about actual performance of different services to incent competition and improved performance. Options under consideration include:

- A measurement system that allows consumers to see the difference between average and advertised speeds
- A speedtest application that leverages speedtests available in the market so that consumers and the FCC can develop a more complete view of fixed network performance as experienced by users
- A ratings system so consumers or property owners can see the relative performance of broadband in their facility
- In partnership with NTIA, a National Broadband Map that provides a clearinghouse of broadband data that is searchable, and open to direct consumer feedback on their connection and options available in their local area

Tribal Lands Guiding Principles

1. Native American tribes are sovereign governments with distinct political and Tribal structures
2. As such, tribes have a special relationship with the federal government based on the premise of government-to-government interaction
3. Both deployment and adoption of broadband on Tribal lands is dramatically worse than elsewhere in the US
4. Tribal lands tend to be more rural and remote than other regions of the country, and thus more costly to serve
5. Each Tribal situation is unique

Tribal Lands

Framework: Recommendations for Tribal lands in the broadband plan should address future data gathering, deployment, adoption, national purposes and coordination/governance topics. Options under consideration include:

- Tribal-specific data gathering effort for both deployment and adoption
- Deployment to key “anchor institutions” in Tribal lands as a way to reach broader population
- Continuing to facilitate Tribal participation in USF
- Coordinating with other Plan recommendations that intersect with Tribal issues (e.g., education, health care)
- Creating a joint Federal-Tribal broadband working group to identify ways to remove barriers to deployment and adoption on Tribal lands

Adoption and Utilization Guiding Principles

1. “Adoption” means ability to access and use broadband delivered at the home, or to the individual
2. “Utilization” relates to intensity of use
3. Adoption is increasing overall, but many segments are lagging significantly and a utilization gap exists even among adopters
4. Key barriers to adoption are affordability, skills, relevance, and accessibility
5. Policy should be designed to further existing local efforts, by bringing vision, research, support and resources
6. The private sector has a stake in increasing adoption rates, and public-private partnerships can be effective models for reaching non-adopters
7. Federal leadership and resources must play a role in closing the adoption gap

Adoption Efforts

Framework: Focus on specific circumstances of non-adopter communities and individuals, but with the benefit of national support. Options under consideration include:

- An independent foundation to focus on adoption:
  - Support ongoing research and analysis of innovative adoption efforts
  - Facilitate sharing of ideas and "tool-kits"
  - Help bring scale to innovative and successful local efforts
- Large-scale public/private partnerships that deliver comprehensive solutions to non-adopters via existing channels to reach them
- A tax deduction for employers who pay for devices and connectivity for low-income, non-adopter employees
- Developing digital literacy standards and enhancing digital literacy support

Accessibility Guiding Principles

1. 54 million Americans have some sort of disability, including speech, hearing, vision, mobility, and cognitive disabilities
2. Preliminary FCC survey data suggests that of those with disabilities, only 42% have adopted broadband
3. People with disabilities face the same barriers to adoption that other Americans face (affordability, relevance, skills)
4. In addition, people with disabilities face their own unique barriers:
   - High cost of assistive technologies
   - Lack of consideration of accessibility in product development phase
   - Limited accessibility of web content
   - Lack of accessible services

Accessibility

Framework: Solutions for people with disabilities need to be included in broader programmatic efforts, such as those addressing digital literacy, hardware availability, and others. In addition, specialized, tailored solutions are required. Options under consideration include:

- Promoting the availability of innovative mainstream devices and components that have built-in accessibility features and standardized interfaces that allow for interoperability between information technology and assistive technology (AT)
- Promoting affordable and innovative AT options and ensuring that people with disabilities are aware of these options
- Promoting the accessibility of web content, including video programming
- Promoting innovative and accessible services and ensuring that network features and functions do not thwart accessibility
- Promoting best practices in training and customer support for product use

National Purposes Guiding Principles

1. Broadband is part of the solution to the nation's greatest challenges

2. Different institutions require different levels of connectivity, so do different functions/applications

3. Connectivity alone is not sufficient to further national purposes; the ecosystem matters

4. Aligned incentives are necessary to drive innovation and motivate adoption of broadband and applications that further national purposes

Overview and proposed framework to address key gaps

	Gaps and Issues	Framework
Health	• Connectivity gap at many health care facilities	1. Redesign Rural Health Care Pilot Program
	• Adoption gap for health IT (e.g. electronic health care records and telemedicine)	2. Modify rules and regulations to promote new uses of technology to lower costs and improve quality of care
		3. Make investment in federal provider networks to ensure patients and taxpayers can reap benefits
	• Data utilization gap	4. Unlock health applications through use of data
Education	• Adoption and application usage gap	1. Upgrade E-Rate
	• Personalized learning gap	2. Enable the creation and distribution of digital content
	• Delivery and supplemental tool gap	3. Enable the development and adoption of online learning opportunities
	• Transparency and interoperability gap	4. Foster interoperability and transparency
	• Data utilization gap	5. Unlock education applications through use of data

Overview and proposed framework to address key gaps

	Gaps and Issues	Framework
Economic Opportunity	• Small business adoption and application usage gap	1. More effective support of small and medium enterprises utilizing broadband
	• Access to job training and placement opportunities gap	2. Transform job training and placement
	• Economic development gap	3. Enable local and regional economic development via strategies that integrate broadband
Energy	• Smart grid connectivity gap	1. Bring "industrial broadband" to the smart grid
	• Data accessibility gap	2. Unlock the energy information economy
	• Smart transportation gap	3. Accelerate transportation communication applications
	• Environmental impact of broadband	4. Upgrade ICT infrastructure

Overview and proposed framework to address key gaps

	Gaps and Issues	Framework
Government Performance & Civic Engagement	• Leadership and innovation gap	1. Increase innovation inside government
	• Service delivery gap	2. Improve service delivery to citizens
	• Efficiency and performance gap	3. Identify tools to drive improved government performance
	• Civic engagement gap	4. Transform how citizens engage in their democracy
	• Data utilization gap	5. Unlock government operations through use of data
Public Safety	• Network interoperability gap	1. Nationwide interoperable broadband wireless communications network
	• Next Generation 911 gap	2. Develop Next Generation 911 system
	• Alerting system gap	3. Develop comprehensive Next Generation alert system
	• Critical infrastructure protection gap	4. Enhance security measures to protect critical infrastructure

Public Safety

Goals: Improve first responder access to broadband, leverage broadband to improve their communications with the public, and ensure that broadband networks are sound and secure, on a day-to-day basis and during emergencies. Options under consideration include:

1 Public Safety Network

Create a nationwide interoperable broadband wireless communications network

- Create an Emergency Response Interoperability Center to set interoperability and governance procedures and standards
- Survey state and local public safety broadband infrastructure and equipment
- Ensure adequate funding for coverage and resiliency

2 Next Generation 911

Accelerate development of a Next Generation 9-1-1 system

- GAO should analyze costs and appropriate Congressional appropriations
- Congress should enact a federal framework
- Examine extending location information to broadband

3 Alerting

Begin development of a comprehensive next-generation alert system

- Initiate an inquiry into a comprehensive Next Generation alerting system
- Clarify agency roles associated with implementation and maintenance of Next Generation alerting

4 Critical Infrastructure

Enhance measures to protect critical infrastructure

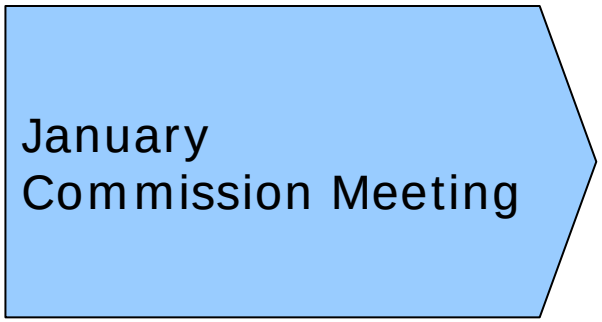
- Establish a voluntary cyber security certification regime
- Create a cyber security information reporting system
- Improve infrastructure survivability

5 Emergency Preparedness

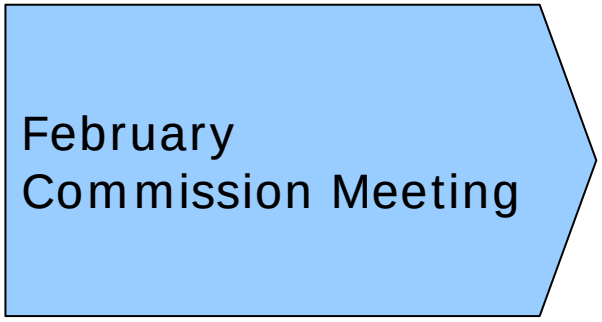
Promote effective emergency response

- Promote use of broadband satellite service in emergency response
- Preserve broadband communications during emergencies

Steps Ahead



- Report on opportunities to drive national purposes



- Report on completed plan