

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of)
)
A National Broadband Plan for Our Future) GN Docket No. 09-51

NOTICE OF INQUIRY

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I. INTRODUCTION

1. This Notice of Inquiry seeks comment to inform the development of a national broadband plan for our country. Its focus is to enable the build-out and utilization of high-speed broadband infrastructure. But “infrastructure” barely hints at the importance of what we are undertaking. High-speed ubiquitous broadband can help to restore America’s economic well-being and open the doors of opportunity for more Americans, no matter who they are, where they live, or the particular circumstances of their lives. It is technology that intersects with just about every great challenge facing our nation.

2. In the forty years since ARPANET first connected four academic research labs in 1969, the Internet has transformed the way those who have access to it live their lives.¹ Indeed, since the last major revision of the Communications Act² in 1996 in which the Internet was mentioned only briefly, the Internet has become an integral part not only of American life, but of global life. In 1996, Americans who accessed the Internet did so largely through dial-up connections. A small percentage of the population subscribed to cell phone service. Cable was a locally-regulated video delivery platform; satellite-to-the-home and the World Wide Web were in their infancy. Today, the majority of U.S. businesses and households have broadband connections, and access to the Internet through a variety of technologies – fiber, copper, cable, wireless, and satellite³ – is an integral and critical part of American life.

3. Both wireless and wireline broadband providers continue to upgrade their networks to provide additional broadband capabilities and services to existing and potential consumers. However, there is much work to be done. While Internet access – whether provided by wireline, wireless, or

¹ ARPANET is an acronym for Advanced Research Projects Agency Network, which was the world's first operational packet switching network and the predecessor of the global Internet, developed by the Advanced Research Projects Agency at the United States Department of Defense. See Kevin Werbach, *Digital Tornado: The Internet and Telecommunications Policy*, Office of Plans and Policy Working Paper Series 29, 15 (1997).

² Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996 Act) (amending the Communications Act of 1934).

³ Consumers use a variety of broadband access service technologies to access the Internet. See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, GN Docket No. 07-45, Fifth Report, 23 FCC Rcd 9615 (2008) (*Section 706 Fifth Report*).

satellite technology – is now available at faster speeds, in more locations, and on smaller, easier-to-use devices, its benefits are not yet ubiquitous.

4. New, innovative broadband products and applications – whether provided by wireline, wireless, or satellite technology – are fundamentally changing not only the way Americans communicate and work, but also how they are educated and entertained, and care for themselves and each other. Individuals increasingly take advantage of broadband today for everyday communications with family and friends, sharing files with co-workers when away from the office, uploading videos and photos, collaborating on articles, blogging about local happenings and world events, creating new jobs and businesses, finding nearby restaurants, shopping, banking, interacting with government, getting news and information when on the go, communicating through relay services, and countless additional applications.

5. While all of these developments are encouraging, we have not yet met the challenge of bringing broadband to everyone.⁴ Nor have we managed to keep up with the growing demand for faster and more reliable connections for those who have only basic access now. Many of us, even most of us, have access to broadband. Our goal must be for every American citizen and every American business to have access to robust broadband services. Our goal must be for the United States to be a model for the world in creating a partnership between government and industry to ensure that all citizens have access to broadband. But a goal without a plan is just a wish.⁵

6. In the recently passed American Recovery and Reinvestment Act of 2009,⁶ the “stimulus” legislation, Congress charged the Department of Agriculture’s Rural Utilities Service and the Department of Commerce’s National Telecommunications and Information Administration with making grants and loans to expand broadband deployment and for other important broadband projects. Congress provided \$7.2 billion for this effort—no small sum. But even this level of funding is insufficient to support nationwide broadband deployment. With this realization, the Recovery Act charges the Commission to create a national broadband plan. By February 17, 2010, the Commission must and will deliver to Congress a national broadband plan that seeks to ensure that every American has access to broadband capability and establishes clear benchmarks for meeting that goal.

7. We recognize that achieving this goal requires the wholehearted effort of both the private and the public sector. Coupling the dynamic innovations and flexibility of the private sector with the far-seeing policy goals of the public sector can help our nation achieve its broadband goals more efficiently and effectively than either could achieve alone.

8. We seek comment in this Notice from all interested parties on the elements that should go into a national broadband plan. Our plan must reflect an understanding of the problem, clear goals for the future, a route to those goals, and benchmarks along the way. Our plan must also allow for modification as we learn from our experience. And our plan must reflect the input of all stakeholders—industry, American consumers; large and small businesses; federal, state, local, and tribal governments; non-profits; and disabilities communities. With this Notice, we begin to make our plan.

⁴ Some surveys indicate that the United States lags far behind in broadband speed and penetration. *See, e.g.*, Organization for Economic Cooperation and Development, *Broadband Growth and Policies in OECD Countries* (2008), available at <http://www.oecd.org/sti/ict/broadband> (ranking the United States as 14th in the world in average download speed, 15th in the world in broadband penetration, and 18th in the world in price per megabit per second download speed). The Commission recently sought comment on international comparisons in a separate proceeding. *See Comment Sought on International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act*, GN Docket No. 09-47, Public Notice, DA 09-741 (rel. Mar. 31, 2009).

⁵ Many attribute this quotation to Antoine de Saint-Exupery. *See* <http://www.quotationspage.com/quote/34212.html> but *see* Anonymous quotation in PREPARING: WEBSTER’S QUOTATIONS, FACTS AND PHRASES 7 (2001).

⁶ American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009) (Recovery Act). The Recovery Act was signed into law on February 17, 2009.

II. BACKGROUND

9. We provide a brief overview here and at length in the attached appendix of recent legislation concerning broadband deployment, mapping and future planning.⁷ This legislation includes the Recovery Act, which provides up to \$7.2 billion in broadband stimulus funds to develop and expand broadband in order to facilitate economic development. The Recovery Act also tasks the Commission with developing a national broadband plan by February 17, 2010. By Congress's direction, this plan shall seek to ensure that all people of the United States have access to broadband capability and shall establish benchmarks for meeting that goal.⁸ The Recovery Act specifies that the Commission's plan must include an analysis of several specific elements of broadband deployment. First, the Commission must analyze the most effective and efficient mechanisms for ensuring broadband access by all people of the United States. Second, the Commission must include a detailed strategy for achieving affordability of such service and maximum utilization of broadband infrastructure and service by the public. Third, the Commission must include an evaluation of the status of deployment of broadband service, including progress of projects supported by the grants made pursuant to this section. Finally, the Commission must include a plan for use of broadband infrastructure and services in advancing a broad array of public interest goals, including 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.

10. Recent legislation also includes the 2008 Farm Bill, which calls for a comprehensive rural broadband strategy and interagency response, and the Broadband Data Improvement Act of 2008, which focuses on data collection that will identify areas still unserved and provide insights on consumer needs related to broadband. A separate background appendix also provides a brief outline of the Commission's efforts to date to expand broadband availability through universal service policies, to make spectrum available for wireless broadband services, and to improve broadband data collection.⁹

III. DISCUSSION

11. In this section, we describe our approach to developing this plan and request comment on key terms of the statute. We also discuss a number of specific policy goals outlined for the plan in the Recovery Act and how the various governmental agencies and other participants at all levels can best coordinate to achieve these goals.

A. Approach to Developing the National Broadband Plan

12. The Recovery Act states that "[n]ot later than 1 year after the date of enactment of this section, the Commission shall submit to the Committee on Energy and Commerce of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, a report containing a national broadband plan."¹⁰ In creating a national broadband plan, we ask, ultimately, how the Commission can identify and promote the best and most efficient means of achieving this congressional mandate.

13. As we consider this task, we keep in mind and follow the instruction Congress provided to the Commission in the Recovery Act and seek comment on each element of the instruction. First, we seek comment on how to implement a plan "to ensure that all people of the United States have access to broadband capability," including how to address the Congressional directive to "establish benchmarks for

⁷ See *infra* Appendix.

⁸ Recovery Act § 6001(k)(2).

⁹ See *infra* Appendix.

¹⁰ Recovery Act § 6001(k)(1).

meeting that goal.”¹¹ How should broadband capability be defined going forward, and what does it mean to have access to it? Second, we seek comment on how to provide “an analysis of the most effective and efficient mechanisms for ensuring broadband access by all people of the United States.”¹² Third, we seek comment on how to develop “a detailed strategy for achieving affordability of such service and maximum utilization of broadband infrastructure and service by the public.”¹³ Fourth, we ask about how the Commission should evaluate “the status of deployment of broadband service, including progress of projects supported by the grants made pursuant to this section.”¹⁴ Fifth, we seek comment on how to develop “a plan for use of broadband infrastructure and services in advancing” a variety of policy goals.¹⁵ We also seek comment on how we should evaluate the development of a national broadband plan in light of a variety of other related statutory directives and whether additional elements should be included in the national broadband plan. Finally, because this plan will not be solely the Commission’s to implement, we seek comment on how the Commission, in both the development and implementation of a national broadband plan, should work collaboratively with other agencies at all levels of government, with consumers, with the private sector, and with other organizations.¹⁶

B. Establishing Goals and Benchmarks

14. In this subsection, we seek comment on how to implement a plan “to ensure that all people of the United States have access to broadband capability,” including how to address the interrelated Congressional directive to “establish benchmarks for meeting that goal.”¹⁷

1. Defining Broadband Capability

15. Broadband can be defined in myriad ways. In order to ensure that all people of the United States have access to broadband capability, we must make sure that the Commission appropriately identifies goals and benchmarks in this regard. Here, we seek comment on how the Commission should define “broadband capability.”¹⁸ In the discussion below, we seek comment on how this definition should capture the various issues we should consider as we define broadband capability, including how to take into account the various existing and emerging technologies.

16. For instance, the Commission currently uses the terms “advanced telecommunications capability,”¹⁹ “broadband,” and “high-speed Internet.”²⁰ Should these definitions be unified, or should

¹¹ Recovery Act § 6001(k)(2).

¹² Recovery Act § 6001(k)(2)(A).

¹³ Recovery Act § 6001(k)(2)(B).

¹⁴ Recovery Act § 6001(k)(2)(C).

¹⁵ Recovery Act § 6001(k)(2)(D). Specifically, the national broadband plan must include “a plan for 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, and other national purposes.” *Id.*

¹⁶ See Recovery Act § 6001(k)(3) (“In developing the plan, the Commission shall have access to data provided to other Government agencies under the Broadband Data Improvement Act (47 U.S.C. 1301 note)”).

¹⁷ Recovery Act § 6001(k)(2).

¹⁸ Recovery Act § 6001(k)(2).

¹⁹ We note that Section 706 of the 1996 Act states, “The term ‘advanced telecommunications capability’ is defined, without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.” 47 U.S.C. § 157 nt (d).

²⁰ Section 706 Fifth Report, 23 FCC Rcd at 9716, para. 2.

they have separate meanings for different purposes, keeping in mind that current and future broadband platforms will increasingly support “high-speed Internet” as one of several offered services including voice, video, private data applications, and the like? In addition, to the extent that broadband is defined by “speed,” should the Commission consider raising the speeds that define broadband? Should we distinguish among the various broadband technologies? Are there specific Commission actions that could encourage more rapid adoption of these more advanced broadband deployments using mobile wireless technologies, such as Worldwide Interoperability for Microwave Access (WiMAX), Long Term Evolution (LTE), or wireline broadband deployments, such as fiber, DSL, or coaxial deployments supporting DOCSIS 3.0, for example? Are there other advanced broadband technologies that, if deployed, might better position the nation’s broadband infrastructure for continued evolution?

17. We also seek comment on whether a definition of “broadband” should be tethered to a numerical definition or, instead, an “experiential” metric based on the consumer’s ability to access sufficiently robust data for certain identifiable broadband services. In this regard, should we define broadband in terms of bandwidth and latency, capability to download a certain type of media in a certain amount of time, ability to access a certain online service or operate a certain application without depreciation in quality, or by some other metric? Furthermore, should such performance metrics apply only for the local access link, for the end-to-end path, or some other portion of the network? To what extent should our consideration of access to broadband capability take account of the middle mile? Much of the focus on broadband deployment has been on last mile connections. Is there a need, for instance in rural areas, for a greater focus on broadband capabilities in the network beyond last-mile connections? How robust are broadband capabilities in backbone and feeder networks throughout the country?

18. We also request comment on whether a definition of broadband should be static or dynamic, with speed tiers that adjust with changes in technology.²¹ Further, we seek comment on the definitions for broadband used by other government agencies and how any such definition by the Commission would impact the various government programs designed to improve consumers’ access to or use of broadband services. For example, should the Commission define broadband in the same manner as other agencies charged with implementing parts of the Recovery Act? We also seek comment on any definitions for “broadband” used in other nations or international organizations that may be useful to the Commission in this proceeding.

19. Because a range of technologies may be used to provide broadband services in a variety of situations,²² we seek comment on whether to adopt different definitions or standards of what constitutes broadband based on the technology being used to provide the service or the context in which the service is applied, or some combination of both. For instance, should a different set of standards be used to identify mobile broadband services – which allow mobility or portability but may have lower throughputs – and fixed broadband services? Should the definitions vary depending on whether the

²¹ The Commission sought comment on a dynamic definition of broadband in 2007, but ultimately did not adopt this type of definition in the *2008 Data Gathering Order*. See *Deployment of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscriberhip Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscriberhip*, WC Docket No. 07-38, Notice of Proposed Rulemaking, 22 FCC Rcd 7760, 7769-70, paras. 20-21 (2007) (*2007 Data Gathering Notice*); *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscriberhip Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscriberhip*, WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, 23 FCC Rcd 9691, 9702, para. 22 (2008) (*2008 Data Gathering Order*).

²² Wireless broadband deployments could include Advanced Wireless Service (AWS), Broadband Radio Service (BRS), PCS, WiFi, UNII, TV White Spaces Devices, etc. that use technologies, such as Worldwide Interoperability for Microwave Access (WiMAX) or Long Term Evolution (LTE), HSPA, EVDO, etc., and wireline broadband deployments could include fiber, DSL, or coaxial deployments supporting DOCSIS 3.0, for example.

broadband service is used to serve residential or business customers and if so, how? Should rural regions, with their inherently higher deployment costs, have different definitions or standards for broadband than urban areas? How should satellite technology with comparatively limited bandwidth and higher latency but potentially lower cost of deployment in rural regions be accounted for? Should our definition include some baseline dependability metric? Are there other dependability concerns, such as susceptibility to weather disruptions, that need to be addressed now or in the future?

20. In shared bandwidth broadband access technologies, how should actual speed delivered to consumers be determined, taking into account that for wireline systems, frequency bandwidth, the number of simultaneous users, and distance to the end user affect the data rates delivered? In addition to the bandwidth and number of simultaneous users, the data rates delivered to wireless end users depend upon, among other factors, transmitter power, frequency re-use, and the distance between the end user and the base station. More specifically for actual speeds on a wireless network, should they be determined at the edge of the service contour, and if so, what service contour level would define the edge of service? To what extent should the number of simultaneous users be considered when defining the individual end user data rates since the network capacity may be shared with many other users at the local level? In general, how should the speeds and other characteristics of services delivered to consumers be determined?

21. We also recognize that broadband services are provided under our provisions for the operation of unlicensed radio transmitters.²³ For example, Wi-Fi hotspots provide access to broadband service at hundreds of thousands of locations throughout the United States and the world at locations such as airports, hotels, coffee shops, and retail establishments. Unlicensed technologies are often used by Wireless Internet Service Providers (WISPs) to offer broadband service in urban, suburban and rural communities.²⁴ Unlicensed technologies are increasingly incorporated in devices operating under our licensed radio services rules to enhance consumers' broadband experience, such as cell phones that include Wi-Fi broadband access capability. We also note that the Commission recently established provisions for unlicensed devices to operate in the TV white spaces, which hold promise for the introduction of new broadband services.²⁵ In addition, the Commission has established rules to provide for broadband over power line service where the electrical distribution grid can be used for delivery of broadband services.²⁶ We invite comment as to the state of deployment of broadband services that are offered under our rules for unlicensed devices. Should they be considered as a means of providing broadband service, particularly where no other service exists? If so, how should that service be defined or quantified since unlicensed devices are not necessarily associated with specific areas of operation? We note that unlicensed devices operate on a non-interference basis and must share spectrum with all other such devices. Accordingly, a particular quality of service or data speed often cannot be assured. Should we treat data speeds and metrics for unlicensed devices and services differently because the sharing scenarios and their impact on reliability and data speeds are difficult to predict?

22. With technology developing at such a rapid pace, it is important that we do not lose sight of the potential for monumental shifts in technological platforms that would render definitions obsolete or indeed harmful to developments that might otherwise take place in the market. We thus seek comment on how potential definitions that we apply in furtherance of a national broadband plan can be effectively designed, *i.e.*, appropriately focused to achieve important social goals but sufficiently flexible to adapt to a continuously and rapidly changing technological environment.

²³ See 47 C.F.R. Part 15.

²⁴ See www.WISPA.org and www.Part-15.org for information on broadband services deployed by WISPs.

²⁵ See *Unlicensed Operation in the TV Broadcast Bands*, ET Docket 04-186, Second Report and Order and Memorandum Opinion and Order, 23 FCC Rcd 16807 (2008).

²⁶ See 47 C.F.R. Part 15, Subpart G.

2. Defining Access to Broadband

23. The Recovery Act sets a goal for the national broadband plan of seeking “to ensure that all people of the United States *have access* to broadband capability.”²⁷ We seek comment on what it means to have access to broadband capability. For instance, we seek comment on whether our determination of availability should take into consideration the provision of broadband at locations, such as at home, at work, in schools, in transit, in libraries and other similar community centers, and at public Wi-Fi hotspots. Further, we seek comment on how to interpret this term regarding access for businesses and other non-residential entities, including those that may serve as anchor tenants in a community. We also seek comment on whether to interpret the term differently depending on the technology used or whether it is used in a fixed, nomadic, or mobile context. Further, we seek comment on any similar definitions of access to broadband used by other nations or international organizations that may be useful to the Commission in this proceeding.

24. We seek comment on whether (and if so, how) the Commission should evaluate the term “access” with certain basic consumer expectations in mind. In 2005 the Commission adopted an *Internet Policy Statement* in which it committed “to preserve and promote the vibrant and open character of the Internet as the telecommunications marketplace enters the broadband age” by incorporating four consumer-based principles into its ongoing policymaking activities.²⁸ We seek comment on whether, in developing a national broadband plan, we should consider applying these principles more broadly in light of the evolving ways providers store, distribute, and otherwise provide service via broadband access facilities, particularly in ways that are not carried over the Internet. We ask if these principles require elaboration or explanation in light of the telecommunications environment that has evolved since their adoption, and whether the Commission should turn the principles into rules through a rulemaking. We ask, too, that commenters describe the relevant distinctions between the technical capabilities of the broadband connectivity and the source and nature of the services made available via broadband. Overall, we seek comment on how the Commission should develop a national broadband plan in light of these policies.²⁹

25. To what extent should the Commission consider price or marketplace competition for broadband as it considers whether people have access to broadband capability? For example, how should the Commission consider the benefits of consumers in a particular area having only a single provider, using one type of technology, versus the competitive benefits that could result from having one or more providers using similar or different technologies? How should the national broadband plan establish priorities for unserved areas versus areas with limited competition and capability?

26. What benefits to consumers are unique to different broadband technologies? How should the Commission consider the different qualitative features discussed above in the definition of broadband, such as latency, peak download speed, and mobility? What metric should be used to define wireless access? For instance would an end user have access if located within a particular service contour? Or

²⁷ Recovery Act § 6001(k)(2) (emphasis added).

²⁸ “To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet” the Commission established the following four policies: (1) “consumers are entitled to access the lawful Internet content of their choice”; (2) “consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement”; (3) “consumers are entitled to connect their choice of legal devices that do not harm the network”; and (4) “consumers are entitled to competition among network providers, application and service providers, and content providers.” *Internet Policy Statement*, 20 FCC Rcd 14986, 14987-88, para. 4 (2005). The extent to which the principles in the Internet Policy Statement apply to wireless service providers is currently before the Commission in the Skype proceeding. See Petition of Skype Communications S.A.R.L. to Confirm a Consumer’s Right to Use Internet Communications Software and Attach Devices to Wireless Networks, RM-11361, filed February 20, 2007.

²⁹ See *infra* Section III.C.5 (discussing open network policies).

would it be based on measured data rates at the end user location? Should the Commission consider access to wireless broadband from satellite or cellular providers in areas that are not served by wireline systems differently from areas where wireline services are available? Moreover, how should the Commission view the price constraining and substitutability relationships between various fixed wireline services and between fixed wireline services and fixed or mobile wireless services, including both terrestrial and satellite services? How would speed definitions and other regulations attached to grants, loans and universal service distributions affect affordability and pricing of services?

27. We also seek comment on the extent to which access hinges on affordability.³⁰ For instance, how should the Commission consider broadband services fully deployed to an area, but set at a subscription cost that is unaffordable to some or many residents of the area? Commenters should discuss other distinctions that may be relevant and should be taken into consideration in developing a national broadband plan.

28. *Access for People with Disabilities.* We seek comment on what it means for a person with disabilities to “have access” to broadband capabilities.³¹ Both Congress and the Commission have understood the tremendous value that broadband networks can bring to improving communications with and among people with disabilities and bringing opportunities to them.³² We also seek comment on how broadband services, including, for example, Internet-based telecommunications relay services, have a positive impact on the ability to communicate for persons with disabilities, as well as how the needs of people with disabilities should be included in the national broadband plan.³³ For example, we seek comment on whether, and if so, how, to ensure that the technical characteristics of current and future broadband networks align with the needs of disabled citizens.

³⁰ See *infra* para. 54 (discussing affordability).

³¹ See generally 47 U.S.C. § 255; see also *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*; *Universal Service Obligations of Broadband Providers*; *Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services*; *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*; *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*; *Consumer Protection in the Broadband Era*, CC Docket Nos. 02-33, 95-20, 98-10, 01-337, WC Docket Nos. 04-242, 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) (*Wireline Broadband Order* or *Consumer Protection in the Broadband Era NPRM*); *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, WT Docket No. 07-53, Declaratory Ruling, 22 FCC Rcd 5901 (2007).

³² See, e.g., The Assistive Technologies Act of 2004, Pub. L. No. 108-364, 118 Stat. 1707 (2004) (codified at 29 U.S.C. §§ 3001-07) (supporting state efforts to improve provision of assistive technology to individuals with disabilities); The Americans with Disabilities Act of 1990, Pub. L. No. 101-336, 104 Stat. 327, Title IV (1990) (codified at 47 U.S.C. § 225) (requiring common carriers to provide telecommunications relay services for deaf and speech-impaired individuals); *Amendment of the Commission’s Rules Governing Hearing Aid-Compatible Mobile Handsets*; *Petition of American National Standards Institute Accredited Standards Committee C63 (EMC) ANSI ASC C63®*, WT Docket No. 07-250, First Report and Order, 23 FCC Rcd 3406 (2008) (adopting hearing aid compatibility requirements for mobile wireless devices); 47 C.F.R. § 64.601-06 (Commission’s telecommunications relay service rules).

³³ See, e.g., *Provision of Improved Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*; *Petition for Clarification of WorldCom, Inc.*, CC Docket No. 98-67, Declaratory Ruling and Second Further Notice of Proposed Rulemaking, 17 FCC Rcd 7779, 7781-82, paras. 7-9 (2002) (describing the benefits of IP Relay).

3. Measuring Progress

29. In order to develop a national broadband plan, we need up-to-date and complete information on existing broadband deployment and possible future deployments. The Commission collects a variety of information regarding broadband subscribership.³⁴ We seek comment on how the Commission's existing data collections, as well as ones that we could undertake, can play a role in measuring our nation's progress toward the goal of ensuring that all Americans have access to broadband. Specifically, we seek comment on which metrics the Commission should use to measure progress and how such metrics capture the variety of communities and technologies across the nation. Further, we seek comment on how the information collected from consumers based on the periodic consumer surveys may assist the Commission in establishing or measuring progress.³⁵

30. We seek comment on the interrelationship between the various reporting obligations the Commission is tasked with under the BDIA and the NTIA and RUS grant projects. How well do these varied reporting obligations mesh and what revisions might be appropriate? For example, as we consider how to measure progress in the United States, how should we consider the comparative analyses of international broadband required by the BDIA?³⁶

31. What can the Commission learn from the efforts of other countries as it develops a national broadband plan? Have other nations developed similar plans or other programs that assist them in measuring broadband deployment that could inform our development of a national broadband plan? How have other countries addressed various barriers to deployment, such as sparsely populated areas?

32. We recognize that accurate and comprehensive data plays a critical role in assuring the success of a national broadband plan. As such, we seek comment on how we can ensure that any and all data collected in furtherance of developing and implementing a national broadband plan can be as accurate as possible. We also seek comment on what types of necessary public and private sector data are not being collected, how we can obtain such data, and how we should use such data in furtherance of a national broadband plan. Further, we ask how the Commission should balance legitimate confidentiality interests in the data it collects against goals of accountability and openness, as well as allowing the public to measure and review progress.

33. We seek comment on whether the Commission should, as a part of its national broadband plan, seek to collect additional data from broadband providers, consumers, health care providers, schools, libraries or other governmental organizations. If so, what specific additional data would be needed to provide a more comprehensive measurement of progress? We seek comment on how to factor in the broadband metrics study by the Government Accountability Office (GAO) that is scheduled to be submitted to Congress by October 10, 2009.³⁷ Additionally, we seek comment on whether statistics relevant to this inquiry are collected by other governmental or non-governmental entities. For example, are there appropriate quantifiable measures for the utilization of broadband in various aspects of American lives, such as home life, work, innovation, education, telecommuting, medical care, public safety and first response?

34. The Government Performance and Results Act³⁸ requires Federal agencies to develop performance measures for major functions and operations. Guidance issued by the Office of Management

³⁴ See *infra* App., paras. 13-16 (describing the Commission's broadband data collection).

³⁵ Broadband Data Improvement Act of 2008, Pub. L. No. 110-385, 122 Stat. 4096 § 103(c) (2008) (BDIA).

³⁶ See *infra* App., para. 6 (describing the international broadband comparison the Commission will conduct in its section 706 report).

³⁷ See *infra* App., para. 7 (describing the requirement for the GAO to study and report on additional broadband metrics).

³⁸ Government Performance and Results Act of 1993, Pub. L. No. 103-62, 107 Stat. 285 (GPRA).

and Budget (OMB)³⁹ to implement the Recovery Act states that program plans must include measures of quantifiable outcomes supported by corresponding quantifiable output measures. According to OMB, outcomes describe the intended external results of carrying out a program for its intended beneficiaries and/or the public. Also, according to OMB, outputs are an internal measure of the level of program activity that will be provided over a period of time.⁴⁰ Similarly, the GAO has addressed performance planning and practices.⁴¹ It recommends that agency plans articulate a results orientation by creating performance measures that address important dimensions of a program. Again, in its report on the Universal Service Fund's High-Cost Program,⁴² GAO emphasized that "outcome-based performance goals and measures will help illustrate to what extent, if any, the program's structure is fulfilling the guiding principles set forth by the Congress."⁴³ We seek comment on quantifiable outcome measures and corresponding output measures that would be useful in assessing progress toward the goals of a national broadband plan. We also seek comment on how progress can be measured relative to progress that would have occurred in the absence of any program to better understand the impact of the program.

4. Role of Market Analysis

35. In addition to the particular inquiries outlined in the Recovery Act, should the Commission, in formulating its broadband plan, undertake a traditional market analysis with respect to any relevant market related to broadband? What are the relevant markets? Do they extend beyond broadband service provider markets to encompass backbone networks, equipment markets, applications markets or others? Within each relevant market, who are the providers, potential providers and customers? What is the appropriate geographic area for examining any relevant market? Where is competitive supply adequate? Where is demand adequate or not? What are the barriers to entry in any particular relevant market? We seek comment on these and other questions related to broadband markets that commenters think the Commission should examine in developing a plan to ensure that all Americans have access to broadband capability.

C. Effective and Efficient Mechanisms for Ensuring Access

36. In the development of a national broadband plan, the Commission is charged by the Recovery Act with including "an analysis of the most effective and efficient mechanisms for ensuring broadband access by all people of the United States."⁴⁴ We seek comment generally on how effective and efficient existing mechanisms have been, whether they are marketplace mechanisms, or activities of governmental or non-governmental entities that supplement or complement the market mechanisms. What mechanisms currently exist at the federal, tribal, state, and local levels, whether implemented by broadband providers or by governmental or non-governmental entities? We also seek comment on how the additional mechanisms being implemented pursuant to the Recovery Act, particularly the grant programs at NTIA and the rural broadband programs at the RUS should inform our analysis and development of a national broadband plan. Similarly, we seek comment on the extent to which programs that provide training and assistance to potential users of broadband are effective and how such programs

³⁹ Office of Management and Budget, "Initial Implementing Guidance for the American Recovery and Reinvestment Act of 2009," Memorandum, M-09-10 (Feb. 18, 2009).

⁴⁰ Office of Management and Budget, "Preparation and Submission of Strategic Plans, Annual Performance Plans, and Annual Program Performance Reports," Circular No. A-11, Part 6 (June 2008).

⁴¹ United States Government Accountability Office, "Agency Performance Plans: Examples of Practices That Can Improve Usefulness to Decisionmakers," GAO/GGD/AIMD-99-69 (February 1999).

⁴² United States Government Accountability Office, "Telecommunications: FCC Needs to Improve Performance Management and Strengthen Oversight of the High-Cost Program," GAO-08-633 (June 2008).

⁴³ *Id.* at 30.

⁴⁴ Recovery Act § 6001(k)(2)(A).

might fit into the national broadband plan.⁴⁵ Are there additional mechanisms, or changes to existing mechanisms, that the Commission should consider? Further, we seek comment on the extent to which existing mechanisms adequately serve the goals of the Recovery Act and can meet the needs of all communities and people across the nation, including people with disabilities as well as people in urban, rural, insular, Native American and economically distressed communities.

1. Market Mechanisms

37. Market mechanisms have been successful in ensuring access to broadband in many areas of the country. What is the best way to attract risk capital to broadband infrastructure projects? We also seek comment on the role of regulation in broadband infrastructure and service markets, as well as its efficacy and efficiency in achieving the important policy objectives contemplated by Congress in its directive to establish a national broadband plan. Where have market-based policies been unsuccessful in ensuring access, and why? For example, what lessons can be learned with regard to whether market forces alone can deliver broadband to rural areas, or areas such as many tribal lands, where marketplace forces alone have not yet delivered even older technologies, such as telephone service? Further, we seek comment on the extent to which our plan can, and should, encourage the combination of market-based policies with other mechanisms to achieve the goals of the Recovery Act. How can any such combinations be implemented effectively and efficiently? For instance, what factors should we consider as we evaluate how government funds for broadband development are distributed, in light of the market's current patchwork of broadband build-out? Is there a way to distinguish between those areas that would receive service without government funding and those that would not? What have been the results of consolidation in some parts of the telecommunications industry with regard to broadband deployment? What is the role of spectrum policy, tax incentives, and other initiatives in promoting market-based delivery of the goals of a national broadband plan?

2. Determining Costs

38. In order to capably develop a national broadband plan, how useful or necessary is it for the Commission to understand the costs of deploying broadband networks to the unserved and underserved areas of our country?⁴⁶ Should the national broadband plan seek to bring broadband to 100 percent of the country? If so, what are the costs and benefits of bringing broadband to the least densely populated areas? We seek comment on how we can better estimate the cost of deploying various alternative broadband technologies to those areas that the market is not serving, or not adequately serving. Which broadband technologies might work best and deliver the most effective, efficient services in various parts of the nation? For this task, are cost models a viable tool, or are there other appropriate ways for estimating deployment costs? If cost models are appropriate tools, how should the Commission develop or otherwise obtain them?⁴⁷ Can these methods be verified in some objective, dependable manner?

⁴⁵ See *infra* paras. 54-57; see also Recovery Act § 6001(b)(3) (Among the purposes of the grant program at NTIA is to “provide broadband education, awareness, training, access, equipment, and support to . . . (B) organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by low-income, unemployed, aged, and otherwise vulnerable populations.”).

⁴⁶ We note that the costs of deploying such networks are related to the full utilization of these networks. See *infra* Section III.D.

⁴⁷ What can we learn from the Commission's experience using cost models? See *Federal-State Joint Board on Universal Service*, CC Docket Nos. 96-45, 97-160, Further Notice of Proposed Rulemaking (1997); *Federal-State Joint Board on Universal Service*, CC Docket Nos. 96-45, 97-160, Fifth Report and Order (1998); *Federal-State Joint Board on Universal Service*, CC Docket Nos. 96-45, 97-160, Further Notice of Proposed Rulemaking (1999); *Federal-State Joint Board on Universal Service*, CC Docket Nos. 96-45, 97-160, Tenth Report and Order (1999).

3. Universal Service Programs

39. We seek comment on the impact of broadband on our existing universal service programs, and how we should conduct our analysis of the High-Cost, Schools and Libraries, Rural Health Care (including the Rural Health Care Pilot program), and Low-Income programs. Specifically, for each program, we seek comment on the program's effectiveness and efficiency as a mechanism to help achieve national broadband goals.⁴⁸ Further, we seek comment on what modifications to these programs, if any, should be considered as a part of a national broadband plan. We seek comment on how these programs might be better targeted to address broadband deployment, particularly because these programs treat the support of broadband differently. Although the High-Cost program does not explicitly support the provision of broadband, as do the Schools and Libraries and Rural Health Care programs, a carrier providing broadband services indirectly receives the benefits of high-cost universal service support when its network provides both the supported voice services and broadband services.⁴⁹ While the Low-Income programs do not currently support broadband, the Commission recently sought comment on a pilot project designed to make broadband affordable to low-income consumers.⁵⁰

40. In particular, we seek comment on the impact of broadband stimulus funds on the Commission's broader efforts to reform the distribution of high-cost support and the collection of universal service contributions. To the extent that financial support is necessary to ensure that adequate broadband is available in high-cost deployment areas, including those currently unserved or underserved, how do we most effectively address this need? Are there opportunities to leverage the stimulus program funds and universal service funds to maximize broadband deployment, and at the same time prevent "double dipping"? To what extent will broadband deployment require continued funding for operations and maintenance?

41. Should we modify existing universal service programs? For example, should we make broadband a "supported service" eligible to receive support directly from the High-Cost and Low-Income programs? Should we create new programs specifically to provide broadband support? Should such programs be designed around the delivery of broadband? What policies or mechanism do we use to prioritize funding in an efficient manner? For instance, should unserved areas get priority? Should multiple providers in an area get support? Should we give priority to funding the construction of networks, or is ongoing support for operations and maintenance essential? If we create new programs, should these programs replace the existing programs or supplement them? If broadband services become eligible to receive high-cost and low-income support, should we also require contributions to universal service from broadband providers? What effect would such a requirement have on the economics of broadband deployment? What effect would including broadband as a supported service have on the size of the universal service fund, and on contribution requirements?

⁴⁸ See *infra* App., paras. 8-11; *infra* Sections III.F.5, III.F.7.

⁴⁹ The public switched network is not a single-use network, and modern network infrastructure can provide access not only to voice service, but also to data, graphics, video, and other services. The Commission's policies do not impede the deployment of modern plant capable of providing access to advanced service. See *Federal-State Joint Board on Universal Service, Multi-Association Group (MAG) Plan for Regulation of Interstate Services of Non-Price Cap Incumbent Local Exchange Carriers and Interexchange Carriers*, Fourteenth Report and Order, Twenty-Second Order on Reconsideration, and Further Notice of Proposed Rulemaking in CC Docket No. 96-45, and Report and Order in CC Docket No. 00-256, 16 FCC Rcd 11244, 11322, para. 200 (2001) (*Rural Task Force Order*).

⁵⁰ See *High-Cost Universal Service Support; Federal-State Joint Board on Universal Service; Lifeline and Link Up; Universal Service Contribution Methodology; Numbering Resource Optimization; Implementation of the Local Competition Provisions in the Telecommunications Act of 1996; Developing a Unified Intercarrier Compensation Regime; Intercarrier Compensation for ISP-Bound Traffic; IP-Enabled Services*, CC Docket Nos. 01-92, 99-200, 99-68, 96-98, 96-45, WC Docket Nos. 06-122, 05-337, 04-36, 03-109, Order on Remand and Report and Order and Further Notice of Proposed Rulemaking, FCC 08-262, Apps. A, C (rel. Nov. 5, 2008) (*November 2008 Further Notice*).

4. Wireless Service Policies

42. In the *Wireless Terrestrial Rural Report and Order*, the Commission concluded that steps were needed to promote greater deployment of wireless services, including steps to eliminate disincentives to serve or invest in rural areas, and to help reduce the costs of market entry, network deployment and continuing operations.⁵¹ Therefore, the Commission adopted measures designed to increase carrier flexibility, reduce regulatory costs of providing service to rural areas, and promote access to both spectrum and capital resources for entities seeking to provide or improve wireless services in rural areas. Should the Commission employ other mechanisms to encourage wireless broadband deployment in rural and tribal areas? For example, have bidding credits for carriers proposing to serve tribal lands been successful in encouraging deployment of wireless services, including broadband, to Indian Country?

43. We also seek comment on how different regulatory approaches that the Commission has adopted in the past, such as facilitating more efficient spectrum use, developing licensing rules and construction requirements, designating spectrum for licensed versus license-exempt use, secondary markets, cognitive radio, or other policies can ensure efficient and effective access to broadband.⁵² For example, what about the adoption of more rigorous buildout obligations for wireless services, such as were recently adopted by the Commission with regard to the 700 MHz band?⁵³ How effective will these policies be with regard to ensuring delivery of broadband services in rural areas, or how may they discourage investment? More importantly, how can the Commission ensure that any measures to encourage wireless broadband service coincide with and complement other broadband platforms (and vice versa)?

44. We seek comment on the extent to which access to spectrum may pose a constraint on broadband access and development. We also seek suggestions for approaches toward spectrum allocation, assignment, management, and use that will best promote national access to broadband service. For example, should the Commission conduct a “spectrum census” or “spectrum inventory” to identify spectrum bands that may be suitable for wireless broadband services?⁵⁴ If so, which portions of the spectrum would be most appropriate for examination? There are a variety of ways in which the

⁵¹ See *Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services; 2000 Biennial Regulatory Review Spectrum Aggregation Limits For Commercial Mobile Radio Services; Increasing Flexibility To Promote Access to and the Efficient and Intensive Use of Spectrum and the Widespread Deployment of Wireless Services, and To Facilitate Capital Formation*, WT Docket Nos. 02-381, 01-14, 03-202, Report and Order and Further Notice of Proposed Rule Making, 19 FCC Rcd 19078 (2004) (*Wireless Terrestrial Rural Report and Order*).

⁵² See, e.g., *Promoting Efficient Use of Spectrum Through Elimination of Barriers to the Development of Secondary Markets*, WT Docket No. 00-230, Report and Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 20604 (2003).

⁵³ See *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands; Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems; Section 68.4(a) of the Commission’s Rules Governing Hearing Aid-Compatible Telephones; Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services; Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission’s Rules; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010; Declaratory Ruling on Reporting Requirement under Commission’s Part 1 Anti-Collusion Rule*, WT Docket Nos. 07-166, 06-169, 06-150, 03-264, 96-86, PS Docket No. 06-229, CC Docket No. 94-102, Second Report and Order, 22 FCC Rcd 15289 (2007) (*700 MHz Second Report and Order*).

⁵⁴ In a 2006 Report, the GAO recommended that the FCC engage in a “spectrum census.” See United States Government Accountability Office, “Telecommunications: Options for and Barriers to Spectrum Reform,” GAO-06-526T (Mar. 2006), at 15.

Commission might conduct a “spectrum census” or “spectrum inventory”, including review of spectrum allocations, licenses, spectrum monitoring, and user surveys. What approaches would be most effective in assessing the actual use of existing spectrum and gauging potential opportunities for wireless broadband services? How should we measure “use” of spectrum, accounting for different technical properties, licensing framework, and the like, in determining whether spectrum is being fully utilized? In conducting such a census or inventory, how should “underutilized spectrum” be defined and what actions should be taken if the spectrum is underutilized? Would such a census or inventory, especially if conducted along with a similar census or inventory by the National Telecommunications and Information Administration of Federal Government spectrum use, be helpful in implementing a more efficient use of spectrum or locating spectrum used for other purposes that could be reallocated and made available to meet growing demand for broadband communications and data services? More broadly, in developing a national broadband plan, we seek comment on how the Commission’s joint spectrum policy responsibilities with NTIA should inform this plan.⁵⁵ To what extent can new technologies such as cognitive radio enable more efficient use of existing spectrum allocations or create new opportunities for sharing spectrum with existing services?

45. The Commission has recently adopted the *White Spaces Order*, which opens up the use of significant spectrum in the core TV spectrum bands for use by unlicensed devices.⁵⁶ Many see these rules as creating an important new mechanism that can help ensure broadband services become available for more Americans. Given the importance to wireless broadband services of backhaul to the PSTN and the Internet, how can this spectrum be maximized to provide point-to-point backhaul in rural areas?⁵⁷ Several other bands are currently used by WISPs to provide broadband through the use of unlicensed devices.⁵⁸ What more should the Commission do with respect to permitting the use of unlicensed devices? How should the Commission measure “subscriberhip” or use of devices utilizing unlicensed spectrum? What more should the Commission do to promote the development of cognitive radio devices in order to ensure more availability of spectrum for broadband uses?⁵⁹ To what extent should unlicensed wireless play a role in a national broadband plan?

46. The Commission has fostered opportunities for new satellite services capable of delivering broadband from satellite-based platforms. In implementing the Broadcasting-Satellite Service in the 17/24 GHz band, the Commission has created the potential for a new generation of broadband services to the public, providing a mix of local and domestic video, audio, data, video-on-demand and multi-media services to U.S. consumers.⁶⁰ Satellite operators have also been authorized to maximize

⁵⁵ See United States Government Accountability Office, “Telecommunications: Options for and Barriers to Spectrum Reform,” GAO-06-526T (Mar. 2006); United States Government Accountability Office, “Telecommunications: Comprehensive Review of U.S. Spectrum Management with Broad Stakeholder Involvement Is Needed,” GAO-03-277 (Jan. 2003).

⁵⁶ *Unlicensed Operation in the TV Broadcast Bands; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, ET Docket Nos. 04-186, 02-380, Second Report and Order, 23 FCC Rcd 16807 (2008) (*White Spaces Second Report and Order*).

⁵⁷ *White Spaces Second Report and Order*, 23 FCC Rcd 16807, at para. 160.

⁵⁸ WISPs operate primarily on unlicensed spectrum in 900 MHz, 2.4 GHz, 3.6 GHz, 5.3 GHz and 5.8 GHz bands and have shown strong interest in the use of white space frequencies. See Wireless Internet Service Providers Association (WISPA), Ex Parte Presentation, WT Docket Nos. 04-186, 02-380 at 2 (filed Oct. 22, 2008) available at http://www.nab.org/Xert/CorpComm/PressRel/Releases/102208_WISPA_WhiteSpaces.pdf.

⁵⁹ *Facilitating Opportunities for Flexible, Efficient, and Reliable Spectrum Use Employing Cognitive Radio Technologies; Authorization and Use of Software Defined Radios*, ET Docket Nos. 03-108, 00-47, Notice of Proposed Rulemaking and Order, 18 FCC Rcd 26859 (2003).

⁶⁰ *The Establishment of Policies and Service Rules for the Broadcasting-Satellite Service at the 17.3-17.7 GHz Frequency Band and at the 17.7-17.8 GHz Frequency Band Internationally, and at the 24.75-25.25 GHz Frequency*

(continued...)

spectrum utilization through the provision of ancillary terrestrial component services, including wireless broadband. Moreover, the Commission continues to license satellite-based broadband services for consumers in aeronautical, land-mobile and maritime environments.⁶¹ The Commission has also streamlined non-routine earth station processing rules, which has facilitated access to terrestrial communications facilities by satellite-based broadband service providers.⁶² Given the ubiquitous coverage capabilities of satellites, we seek comment on what further actions the Commission can take to promote the use of satellite-based platforms for access to broadband, especially in rural and remote communities.

5. Open Networks

47. We seek comment on the value of open networks as an effective and efficient mechanism for ensuring broadband access for all Americans, and specifically on how the term “open” should be defined. For example, should it incorporate access, interconnection, nondiscrimination, or infrastructure sharing principles? The Commission, through its *Computer Inquiry* proceedings, developed specific nondiscrimination requirements for facilities-based telecommunications carriers,⁶³ although several of

(...continued from previous page)

Band for Fixed Satellite Services Providing Feeder Links to the Broadcasting-Satellite Service and for the Satellite Services Operating Bi-directionally in the 17.3-17.8 GHz Frequency Band, IB Docket No. 06-123, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 8842 (2007).

⁶¹ See, e.g., *ViaSat, Inc. Application for Blanket Authority for Operation of 1,000 Technically Identical Ku-Band Aircraft Earth Stations in the United States and Over Territorial Waters*, Order and Authorization, 22 FCC Rcd 19964 (IB & OET 2007); *RaySat Antenna Systems, LLC Application for Authority to Operate 400 Land Mobile-Satellite Service Earth Stations in the 14.0-14.5 GHz and 11.7-12.2 GHz Frequency Bands*, Order and Authorization, 23 FCC Rcd 1985 (IB & OET 2008); *Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425 MHz/3700-4200 MHz Bands and 14.0-14.5 GHz/11.7-12.2 GHz Bands*, IB Docket No. 02-10, Report and Order, 20 FCC Rcd 674 (2005).

⁶² *Streamlining the Commission's Rules and Regulations for Satellite Applications and Licensing Procedures*, IB Docket Nos. 95-117 and 00-248, Eighth Report and Order and Order on Reconsideration, 23 FCC Rcd 15099 (2008).

⁶³ See *Amendment of Section 64.702 of the Commission's Rules and Regulations*, CC Docket No. 85-229, Phase I, 104 FCC 2d 958 (1986) (*Computer III Phase I Order*), recon., 2 FCC Rcd 3035 (1987) (*Computer III Phase I Reconsideration Order*), further recon., 3 FCC Rcd 1135 (1988) (*Computer III Phase I Further Reconsideration Order*), second further recon., 4 FCC Rcd 5927 (1989) (*Computer III Phase I Second Further Reconsideration Order*); *Phase I Order and Phase I Recon. Order vacated sub nom. California v. FCC*, 905 F.2d 1217 (9th Cir. 1990) (*California I*); CC Docket No. 85-229, Phase II, 2 FCC Rcd 3072 (1987) (*Computer III Phase II Order*), recon., 3 FCC Rcd 1150 (1988) (*Computer III Phase II Reconsideration Order*), further recon., 4 FCC Rcd 5927 (1989) (*Phase II Further Reconsideration Order*); *Phase II Order vacated, California I*, 905 F.2d 1217 (9th Cir. 1990); *Computer III Remand Proceeding*, CC Docket No. 90-368, 5 FCC Rcd 7719 (1990) (*ONA Remand Order*), recon., 7 FCC Rcd 909 (1992), *pets. for review denied sub nom. California v. FCC*, 4 F.3d 1505 (9th Cir. 1993) (*California II*); *Computer III Remand Proceedings: Bell Operating Company Safeguards and Tier 1 Local Exchange Company Safeguards*, CC Docket No. 90-623, 6 FCC Rcd 7571 (1991) (*BOC Safeguards Order*), *BOC Safeguards Order vacated in part and remanded sub nom. California v. FCC*, 39 F.3d 919 (9th Cir. 1994) (*California III*), cert. denied, 514 U.S. 1050 (1995); *Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services*, CC Docket No. 95-20, Notice of Proposed Rulemaking, 10 FCC Rcd 8360 (1995) (*Computer III Further Remand Notice*), Further Notice of Proposed Rulemaking, 13 FCC Rcd 6040 (1998) (*Computer III Further Remand Further Notice*); Report and Order, 14 FCC Rcd 4289 (1999) (*Computer III Further Remand Order*), recon., 14 FCC Rcd 21628 (1999) (*Computer III Further Remand Reconsideration Order*); see also *Further Comment Requested to Update and Refresh Record on Computer III Requirements*, CC Docket Nos. 95-20, 98-10, Public Notice, 16 FCC Rcd 5363 (2001) (asking whether, under the ONA framework, information service providers can obtain the telecommunications inputs, including digital subscriber line (DSL) service, they require) (collectively referred to as *Computer III*).

these obligations have been scaled back by the courts and by the Commission's revised regulatory framework for wireline broadband Internet access services and other deregulatory measures.⁶⁴ However, as the regulatory framework for broadband Internet access services changed, the Commission has taken steps to clarify the importance of open networks.⁶⁵ For instance, the Commission published its *Internet Policy Statement* establishing four principles "to ensure that broadband networks are widely deployed, open, affordable, and accessible to all consumers."⁶⁶ More recently, the Commission clarified its authority to enforce those principles and has initiated a proceeding to review broadband industry practices generally.⁶⁷ In addition, as discussed below, the Commission adopted a requirement for licensees in the 700 MHz Upper C Block to provide an open platform for devices and applications, subject to certain conditions in the 700 MHz auction.⁶⁸ We also note that the Recovery Act requires the Commission to coordinate with NTIA on the publication of "non-discrimination and interconnection obligations" that will apply to grants received from NTIA "including, at a minimum, adherence to the principles contained in the Commission's [*Internet Policy Statement*]."⁶⁹

48. We seek comment on the state of broadband infrastructure and service competition, interconnection, nondiscrimination, and openness, and whether these should factor into development of a national broadband plan. We ask commenters to address the value of open networks, and specifically, the impact on investment, innovation and entrepreneurship, content, competition and affordability of broadband, among other things. For instance, has the private sector sufficiently produced open platforms, and if so, to what extent? Would further regulation encourage or discourage more open platform innovation? We seek comment on how and whether open network principles should be incorporated into a national broadband plan. We note that some have suggested the need for a so-called "fifth principle" on

⁶⁴ See, e.g., *Wireline Broadband Order*, 20 FCC Rcd 14853 (2005); *National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 125 S. Ct. 2688 (2005) (*NCTA v. Brand X*), *aff'g Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, GN Docket No. 00-185, CS Docket No. 02-52, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002) (*Cable Modem Declaratory Ruling and NPRM*); *Qwest Petition for Forbearance Under 47 U.S.C. § 160(c) from Title II and Computer Inquiry Rules with Respect to Broadband Services*, WC Docket 06-125, Memorandum Opinion and Order, 23 FCC Rcd 12260 (2008).

⁶⁵ See *infra* App., para. 17. In addition, as discussed in para. 99 *infra*, the Commission adopted a requirement for licensees in the 700 MHz Upper C Block to provide an open platform for devices and applications, subject to certain conditions in the 700 MHz auction.

⁶⁶ *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities; Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services; 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; Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, Policy Statement, 20 FCC Rcd 14987-88, para. 4 (2005) (*Internet Policy Statement*).

⁶⁷ See generally *Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications; Broadband Industry Practices; Petition of Free Press et al. for Declaratory Ruling that Degrading an Internet Application Violates the FCC's Internet Policy Statement and Does Not Meet an Exception for "Reasonable Network Management,"* File No. EB-08-IH-1518, WC Docket No. 07-52, Memorandum Opinion and Order, 23 FCC Rcd 13028 (2008) (*Comcast Order*) *pet. for review pending, Comcast Corporation v. FCC*, No. 08-1291 (D.C. Cir. Sept. 4, 2008) (asserting the Commission's authority to enforce the *Internet Policy Statement* and addressing network management practices and consumer notice issues); *Broadband Industry Practices*, WC Docket No. 07-52, Notice of Inquiry, 22 FCC Rcd 7894 (2007).

⁶⁸ See *infra* para. 99.

⁶⁹ Recovery Act § 6001(j); see *infra* App., para. 3 & n.11.

nondiscrimination.⁷⁰ If the Commission were to adopt such a principle, what would be a definition of “nondiscrimination”? We ask commenters to address whether such a principle is necessary in light of the current state of competition and the four existing Internet policy principles. What would be the impact of adopting a principle requiring nondiscrimination? What would be the result if the Commission chose not to adopt such a principle, or if its *Internet Policy Statement* principles were found to be unenforceable? Should the underlying facilities over which service is provided have any impact on how open network policy should be applied to broadband providers? With regard to applying open network policies to wireless networks, what are the costs and benefits, technical considerations, bandwidth constraints, or constraints associated with the capacity of mobile wireless devices or networks that should be given consideration?⁷¹

6. Competition

49. We seek comment on the extent to which competition between various broadband network providers, application and service providers, and content providers should be evaluated as an effective and efficient mechanism to achieve the goals of the Recovery Act.⁷² We seek comment on whether multiple providers of broadband services are useful or necessary for achieving our goal of providing broadband services to unserved and underserved areas. While competition between multiple providers may lower prices and provide a greater diversity of services, how does subsidizing more than one provider in areas with low population density affect the ability of the providers to achieve optimal economies of scale and to continue to operate effectively? Does it make a difference if the providers utilize different technological broadband platforms? How should we evaluate the potentially increased costs of supporting multiple providers relative to any benefits to consumer welfare from competition? We also seek comment on how we should define sufficient competition as we evaluate competition as a potentially effective and efficient mechanism for broadband deployment. Are there any other factors that we should consider in determining if a service provider should be counted as a competitor? Further we seek comment on additional metrics to assess the effects of competition in the provision of broadband services.

7. Other Mechanisms

50. Are there other policies or programs that the Commission should review as a part of its analysis of effective and efficient mechanisms to achieve the goals of the Recovery Act? For instance, there are numerous proceedings impacting competition among broadband providers of all types in which parties advocate that certain changes will help to expedite the deployment of broadband facilities and services.⁷³ More generally, to what extent do tower siting, pole attachments, backhaul costs, cable

⁷⁰ See, e.g., *Broadband Industry Practices*, WC Docket No. 07-52, Notice of Inquiry, 22 FCC Rcd 7894, 7898, para. 10 (2007).

⁷¹ We note that the extent to which the principles in the *Internet Policy Statement* apply to wireless service providers is currently before the Commission in the Skype proceeding and we do not prejudge that issue here. See Petition of Skype Communications S.A.R.L. to Confirm a Consumer’s Right to Use Internet Communications Software and Attach Devices to Wireless Networks, RM-11361, filed February 20, 2007.

⁷² We note that a similar concept is captured in the fourth principle in the Commission’s *Internet Policy Statement*. See 20 FCC Rcd at 14987-88, para. 4 (“To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to competition among network providers, application and service providers, and content providers.”) (emphasis in original).

⁷³ See, e.g., *In the Matter of Special Access Rates for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, WC Docket No. 05-25, RM-10593, Order and Notice of Proposed Rulemaking, 20 FCC Rcd 1994 (2005) (special access rates); *Implementation of Section 224 of the Act; Amendment of the Commission’s Rules and Policies Governing Pole Attachments*, WC Docket No. 07-245, RM Docket Nos. 11293, 11303, Notice of Proposed Rulemaking, 22 FCC Rcd 20195 (2007) (pole attachments); *Reexamination of Roaming Obligations of Commercial*

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franchising and rights of way issues, as well as others, stand as impediments to further broadband deployments where such deployments would be made by market participants in the absence of any government-funded programs? We also note that the development of equipment and protocol standards is a key element in broadband deployment and seek comment on the appropriate role of the Commission in facilitating the development of such standards. We seek comment on how this variety of proceedings and policies could or should be evaluated by the Commission as a part of its development of a national broadband plan. We also ask whether there are requirements or policies contained in any current federal, state, or local broadband grant or loan programs that act as strong incentives or disincentives for the deployment of broadband.

51. Finally, we seek comment on any national broadband policies or programs adopted by other nations or international organizations that may be useful to the Commission in this proceeding. We seek information on specific plans or other initiatives designed to enhance broadband development in other countries and the appropriateness of introducing the same or similar plans here. These may include: consumer outreach, such as education designed for underserved communities, and the promotion of consumer access to service pricing and capacity information; subsidy programs, especially information on how projects are identified and prioritized and how funds are disbursed, (including such mechanisms as reverse auctions); competition policy, including reviews for dominance or significant market power; and other regulatory actions, such as rules for licensing, unbundling, and open networks. We also are interested in hearing about how other countries have overcome any challenges. For instance, how have other countries accounted for any differences between actual and advertised speeds? What do other countries consider to be robust broadband speeds? How have they addressed challenges relating to geography, population density and dispersion, household size, GDP per capita, income distribution, education, population age, relative size of the country's largest cities, size of businesses, telephone penetration, consumer preferences, purchasing power parity, and any other potentially relevant factors? How have other countries determined the types of data to collect and the sources of that data (*e.g.*, consumer survey versus industry census), and how have they developed methodologies that ensure the reliability and accuracy of the data that they do collect? Finally, how does consumer satisfaction vary among countries?

D. Affordability and Maximum Utilization

52. The Recovery Act requires that the Commission formulate “a detailed strategy for achieving affordability of such service and maximum utilization of broadband infrastructure and service by the public.”⁷⁴ We seek comment generally on how to interpret this task, including how the goals of affordability and maximum utilization work together, or separately. As broadband becomes more affordable, will more consumers use broadband? Beyond affordability, what factors, such as digital literacy, affect consumers' choices regarding broadband? Are issues of privacy inhibiting consumer use and adoption of broadband technology? Also, as these various broadband platforms are deployed, what steps should the Commission take to ensure that delivery of services is competitive, and thus protects consumers and helps promote lower prices? Should the Commission revise its competitive review policies to take intermodal competition into account more or less?

53. We seek comment on how consumers and businesses are using broadband. Similarly, we seek comment on who is (and is not) using broadband – children, immigrants, small businesses, seniors, persons of color, tribal communities, people with disabilities, people with low income, and others. We seek comment on how we would monitor or measure affordability and maximum utilization of

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Mobile Radio Service Providers, WT 05-26, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 15817 (2007) (wireless data roaming); *November 2008 Further Notice*, FCC 08-262, paras. 30-37, Apps. A-C (intercarrier compensation).

⁷⁴ Recovery Act § 6001(k)(2)(B).

infrastructure, and how we might address any problems, including changes or additions to regulatory requirements that need to be made to better address affordability and maximum utilization? How could the Commission establish benchmarks or measure progress toward this goal? Are there existing data sources the Commission could draw upon, or are there specific data the Commission should collect itself? In this regard, we seek comment on how we should incorporate the analysis and recommendations of the Government Accountability Office, which is tasked with developing a report analyzing additional metrics for broadband cost, capability, deployment, and penetration.⁷⁵ Further, we seek comment on any programs or policies adopted by other nations or international organizations aimed at achieving affordability for broadband services that may be useful to the Commission in this proceeding.

1. Affordability

54. We seek comment on how the Commission should define “affordability” with respect to broadband access. How should affordability be measured? To what extent does the fact that service providers typically offer different levels of broadband capability and access at different price points affect this definition? We seek comment on the role that other programs, at the Commission or elsewhere, may have in our evaluation of this topic. For instance, we seek comment on how to evaluate affordability for broadband services consistent with our obligation to base universal service policies on the principle that “[q]uality services should be available at just, reasonable, and *affordable* rates.”⁷⁶ How should the Commission encourage consumers to more fully utilize broadband access already available to them?⁷⁷ For example, through the Lifeline and Link-Up programs, the Commission partially supports the monthly subscription costs and initial hook-up fees for telephone service.⁷⁸ How do existing government subsidies of traditional telephone networks and services impact broadband uptake, deployment, and affordability? We seek comment on whether subsidizing the recurring subscription cost for broadband service, or subsidizing the fixed costs of obtaining computer equipment could address the affordability of broadband for all Americans.⁷⁹ We also seek comment on how particular consumer communities of interest should be evaluated in such programs.⁸⁰

⁷⁵ BDIA § 104.

⁷⁶ 47 U.S.C. § 254(b)(1) (emphasis added); *see also* 47 U.S.C. § 151 (the purposes of the Act include “to make available, so far as possible, without discrimination on the basis of race, color, religion, national origin, or sex, a rapid, efficient, Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges.”).

⁷⁷ *See* Pew Internet & American Life Project Survey, Adoption Stalls for Low-Income Americans Even as Many Broadband Users Opt for Premium Services That Give Them More Speed, at iii (July 2008), *at* http://www.pewinternet.org/~media/Files/Reports/2008/PIP_Broadband_2008.pdf (indicating that “19% of dial-up users said nothing would convince them to get broadband”).

⁷⁸ *See infra* App., para. 9 & n.33.

⁷⁹ *See November 2008 Further Notice*, FCC 08-262, App. A, paras. 64-91, App C., paras. 60-87 (proposed extension of Lifeline/Linkup programs to broadband).

⁸⁰ For example, parties have recommended that the Commission modify its Lifeline and Link Up programs to subsidize the cost of broadband connections for deaf and blind users who rely on video relay services (VRS) and telecommunications relay services (TRS) services to communicate. GoAmerica Comments at 2-3 in *High-Cost Universal Service Support, Federal-State Joint Board on Universal Service, Lifeline and Link Up, Universal Service Contribution Methodology, Numbering Resource Optimization, Implementation of the Local Competition, Provisions in the Telecommunications Act of 1996, Developing a Unified Intercarrier Compensation Regime, Intercarrier Compensation for ISP-Bound Traffic, IP-Enabled Services*, WC Docket No. 05-337, CC Docket No. 96-45, WC Docket No. 03-109, WC Docket No. 06-122, CC Docket No. 99-200, CC Docket No. 96-98, CC Docket No. 01-92, CC Docket No. 99-68, WC Docket No. 04-36 (filed Nov. 26, 2008).

2. Maximum Utilization

55. A full understanding of the value of broadband networks and the Internet may not be grasped by all Americans. Moreover, many Americans may lack the complement of computer or other skills necessary to fully participate in the digital broadband era. Accordingly, we seek comment on how improving the digital literacy skills of Americans would create additional demand for broadband, thus more fully utilizing the broadband infrastructure. Along these lines, how does lack of a computer or other broadband access device affect broadband utilization and, if lack of broadband access device ownership is an obstacle to maximum utilization, how can that obstacle be reduced?⁸¹ Further, are there media literacy skills that could educate our children, for example, to better understand and use all of the information available to them over this technology? How do content protections, like copyright, affect how broadband networks are deployed and used? How do such protections affect what individuals can do with broadband services and how should the Commission consider these questions in the formulation of a national broadband plan?

56. To what extent should programs that address consumer training and education about broadband play a role in a national broadband plan? For example, the Recovery Act directs NTIA to provide grants to “provide broadband education, awareness, training, access, equipment, and support to . . . organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by low-income, unemployed, aged, and otherwise vulnerable populations.”⁸² Are there ways to encourage maximum utilization of broadband infrastructure and services via the universal service programs, through federal, tribal, state, and local government initiatives, or through private and public/private initiatives? Are there specific communities that such policies should focus more heavily on, such as rural, low-income, tribal, insular, persons of color, senior citizens, or persons with disabilities? What opportunities are there to leverage federal, tribal, state, and local initiatives unrelated to broadband in an effort to increase broadband utilization? For example, are there “smart housing” initiatives that promote the connection of broadband to affordable housing?⁸³

57. We also seek comment on the extent to which a centralized clearinghouse for outreach and computer and broadband training initiatives should be a component of the national broadband plan. For instance, what can the Commission learn from prior outreach campaigns?⁸⁴ If outreach programs or the development of a clearinghouse of information and programs is warranted, we seek comment on the best ways to incorporate these practices into a national broadband plan.

3. Broadband Privacy

58. Americans are using broadband to perform everyday tasks in which they pass personal and confidential information over broadband connections, raising important consumer privacy concerns.⁸⁵

⁸¹ See *supra* para. 54.

⁸² Recovery Act § 6001(b)(3).

⁸³ See, e.g., California Emerging Technology Fund, Annual Report 2009 at 14, *available at* http://cetfund.org/files/CETF_Annual_Report_web_Accessible.pdf.

⁸⁴ For instance, the Commission and USDA launched a “Broadband Opportunities for Rural America” website in 2008 and conducted regional workshops designed to provide communities, organizations, and businesses in rural America seeking to bring the benefits of broadband to their communities with an opportunity to learn about the resources, programs, and policies of the Commission and USDA. See FCC, Broadband Opportunities for Rural America, http://wireless.fcc.gov/outreach/index.htm?job=broadband_home; FCC, Broadband Opportunities for Rural America, http://wireless.fcc.gov/outreach/index.htm?job=broadband_home, and FCC/USDA Rural Broadband Educational Workshops, <http://wireless.fcc.gov/outreach/index.htm?job=workshop>; FCC, Making the Rural Connection: FCC Satellite Rural Forum, <http://www.fcc.gov/cgb/rural/ruralforum.html>.

⁸⁵ For instance, millions of Americans pay bills, file their taxes, and send and receive financial information over broadband connections. See, e.g., Russell, Roger, *IRS Survey: Online Filing Continuing to Grow*, 22 Accounting

As a result, it is important to consider the privacy implications of such use in connection with our development of a national broadband plan.

59. The last several years have witnessed significant growth in multi-platform services, such as mobile wireless telephones enabled with broadband Internet access; bundled service offerings of voice, video, and broadband communications; and voice services offered over broadband. What are consumer expectations of privacy when using broadband services or technology and what impact do privacy concerns have on broadband adoption and use? We also note that certain broadband providers have purchased the behavioral advertising⁸⁶ services of companies that advertise an ability to “deliver[] the most actionable consumer intelligence by extending [those companies’] reach dynamically to encompass the ever-growing network of sites that consumers visit.”⁸⁷ These companies track the webpages customers visit, the searches they perform, and the ads they click, among other information.⁸⁸ Consumers may also be aware of the technological ability that broadband providers have to perform functions such as deep packet inspection.⁸⁹ What is the impact of this type of activity on consumers’ willingness to use

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Today, 10 (Apr. 14, 2008) (noting that an increasing number of taxpayers are filing their tax returns online with alternatives such as IRS E-file and Free File, and some of these include direct deposit options for refunds). We also participate in the political process, order prescriptions, and even obtain health care remotely. *See Maimonides Medical Center Deploys the PGP Encryption Platform*, Health and Medicine Week 2007, WLNR 6995121 (Apr. 16, 2008) (stating that “email communication has become a primary communications tool in health care, enabling doctors, hospital administrators, and insurance representatives to exchange email with patients and employees.”). We also research all kinds of topics, some of which may be intensely personal.

⁸⁶ Behavioral advertising is the tracking of a consumer’s activities online – including the searches the consumer has conducted, the webpages visited, and the content viewed – in order to deliver advertising targeted to the individual consumer’s interests. Congress has taken note of the issue, looking at how deep packet inspection (*see* definition at note 89) technologies affect consumer privacy and related issues. *See* House Subcommittee on Telecommunications and Internet Hearing: “What Your Broadband Provider Knows About Your Web Use: Deep Packet Inspection and Communications Laws and Policies,” July 18, 2008; Senate Committee on Commerce, Science, and Transportation Hearing: “Privacy Implications of Online Advertising,” July 9, 2008. Also, in November 2007, the Federal Trade Commission (FTC) hosted a Town Hall meeting to focus on privacy issues raised by behavioral advertising. *See* FTC Staff Proposes Online Behavioral Advertising Privacy Principles, Dec. 20, 2007, *available at* <http://www.ftc.gov/opa/2007/12/principles.shtm>. On December 20, 2007, the staff of the FTC released a set of proposed principles to guide the development of self-regulation in online behavioral advertising, and sought comment from the public. *See* Behavioral Advertising, Moving the Discussion Forward to Possible Self-Regulatory Principles, *available at* <http://www.ftc.gov/os/2007/12/P859900stmt.pdf>.

⁸⁷ *See, e.g.*, Letter from Neil Smit, President & CEO, Charter Communications, to Congressmen John D. Dingell, Joe Barton, Edward J. Markey, and Cliff Sterns, *available at* http://markey.house.gov/docs/telecomm/charter_communications_080808.pdf (dated Aug. 8, 2008) (stating that Charter planned a limited pilot with NebuAd).

⁸⁸ *See NebuAd Advertising Network Policy: US Version*, *available at*: http://www.nebuad.com/privacy/ad_network_privacy_policy.php (describing its policies regarding the collection, use, and sharing of consumers’ Internet activity data) (last visited Apr. 7, 2009). NebuAd states that its vendors collect consumer IP addresses for a limited purpose and that they are immediately discarded. *Id.* We understand that broadband providers generally know to whom they have assigned IP addresses, even in the case of dynamic IP addresses because such providers generally keep a log of the date, time, duration and dynamic IP address given to the Internet user. For this reason, certain European regulators view an IP address as personal data. *See, e.g.*, Article 29 Data Protection Working Party, WP 136 (June 20, 2007), *available at* http://ec.europa.eu/justice_home/fsj/privacy/docs/wpdocs/2007/wp136_en.pdf.

⁸⁹ Deep packet inspection (DPI) involves examining the content of a packet – the actual data the packet carries – in addition to the packet header that contains the routing information that directs the packet to its destination. In other words, DPI involves examining the contents of a Web browsing session, email, instant message, or whatever other data the packet contains. The Commission has received considerable input from parties on this issue. *See Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer*

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broadband services? We seek comment on how the Commission should treat issues such as deep packet inspection and behavioral advertising in developing a national broadband plan and whether there are issues related to other types of information connected with the provision of broadband services that the Commission should consider. Do these practices discourage consumers from “access[ing] the lawful Internet content of their choice” for fear of having that access tracked or revealed?⁹⁰ If consumers view this negatively, is it something that Congress or government agencies should address, or can privacy protections be achieved through industry self-regulation, such as industry best practices? Would protection of customers’ private information spur consumer demand for broadband connections, and consequently encourage more broadband investment and deployment consistent with the goals of section 706?⁹¹

60. The Commission has long been committed to safeguarding customer privacy and repeatedly has taken steps to ensure that private customer information is adequately protected. In fact, the Commission has already stated that consumers’ privacy needs are no less important when consumers communicate over and use broadband Internet access than when they rely on telecommunications services.⁹² Should the Commission consider as part of its plan whether to exercise its ancillary jurisdiction to address broadband privacy issues, or are other approaches available?⁹³

E. Status of Deployment

1. Subscribership Data and Mapping

61. The Recovery Act requires the Commission to develop a national broadband plan that includes “an evaluation of the status of deployment of broadband service, including progress of projects supported by the grants made pursuant to this section.”⁹⁴ We note that the Commission recently revised its Form 477 collection of data regarding broadband subscribership. In particular, the Commission is beginning to collect broadband subscribership data at the Census Tract level, including data on the number of subscribers using different technologies, and at various upload and download speeds.⁹⁵ We seek comment on how the Commission can use these data to report on the status of broadband deployment, including any benefits and limitations inherent in these data. We also seek comment on how

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Applications; Broadband Industry Practices Petition of Free Press et al. for Declaratory Ruling that Degrading an Internet Application Violates the FCC’s Internet Policy Statement and Does Not Meet an Exception for “Reasonable Network Management,” File No. EB-08-IH-1518, WC Docket No. 07-52, Memorandum Opinion and Order, 23 FCC Rcd 13028 (2008); *Broadband Industry Practices*, WC Docket No. 07-52, Notice of Inquiry, 22 FCC Rcd 7894 (2007); *Petition to Establish Rules Governing Network Management Practices by Broadband Network Operators of Vuze, Inc.*, WC Docket No. 07-52 (filed Nov. 14, 2007).

⁹⁰ *Internet Policy Statement*, 20 FCC Rcd at 14988, para. 4.

⁹¹ Section 706 of the Act, among other things, directs the Commission to encourage the deployment of advanced telecommunications capability to all Americans by using measures that “promote competition in the local telecommunications market.” 47 U.S.C. § 157 nt.

⁹² *See Consumer Protection in the Broadband Era*, 20 FCC Rcd at 14903, para. 148.

⁹³ The Commission has already used this authority to address customer privacy concerns related to broadband-enabled voice services. *See, e.g., Implementation of the Telecommunications Act of 1996: Telecommunications Carriers’ Use of Customer Proprietary Network Information and Other Customer Information; IP-Enabled Services*, CC Docket No. 96-115, WC Docket No. 04-36, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 6927, 6954-57, paras. 54-59 (2007) (exercising ancillary jurisdiction under Title I to extend the CPNI obligations of section 222 of the Communications Act to interconnected VoIP providers).

⁹⁴ Recovery Act § 6001(k)(2)(C).

⁹⁵ *See infra* App., para. 13. Mobile wireless broadband providers are required to report their total number of subscribers in each state and provide a list of Census Tracts where their broadband service is available.

additional measures, such as broadband availability data and mapping, would help the Commission to accurately assess the status of broadband deployment.⁹⁶ For example, does measurement by Census Tract adequately capture deployment on tribal lands, or in rural areas?⁹⁷ Also with regard to availability, to what extent have local exchange carriers comprehensively inventoried their loop plant to the service address level to know whether their lines are capable of providing acceptable DSL service? Likewise, we seek comment on other types of data, including pricing data that could further assist the Commission in reporting to the public on the availability of broadband services.⁹⁸ Further, we seek comment on whether the Commission should collect data on broadband use supported through universal service programs. If so, how should these data be collected and used? How would the availability of additional data improve efforts to accomplish our broadband goals?

2. Stimulus Grant and Loan Programs

62. Recent legislation has created several opportunities for organizations seeking to build out broadband infrastructure and services to unserved and underserved areas to receive grants and loans to help defray the cost of deployment, among other things.⁹⁹ The Recovery Act provides funding for broadband programs at RUS and NTIA. We seek comment on how the programs in the Recovery Act should be considered as the Commission develops a national broadband plan. We also seek comment on how we would obtain data regarding the success of these programs. We note that the Recovery Act includes requirements that all grantees report quarterly to NTIA information on the use of grant funding and progress toward fulfilling the objectives of the award.¹⁰⁰ We also note that agencies must make broadband applicant information available on their websites.¹⁰¹ Further, the Department of Agriculture must submit information to Congress regarding the RUS grants and loans provided under the Recovery Act. We seek comment on how the Commission can best access that information for purposes of implementing a national broadband plan. In particular, we seek comment on whether the information regarding the grants the Commission must monitor are limited to the NTIA grants, given that the RUS grants are located in a different section of the Recovery Act. Finally, we seek comment on how the Commission might work with NTIA to ensure that the Broadband Technology Opportunities Program (BTOP), including requirements like the nondiscrimination and network interconnection provisions, operates in an effective and efficient manner under a national broadband plan.

F. Specific Policy Goals of the National Broadband Plan

63. The Recovery Act requires the Commission to develop a national broadband plan that includes “a plan for the use of broadband infrastructure and services in advancing” a series of public

⁹⁶ See BDIA § 103; see *infra* App., paras. 6, 13, 16.

⁹⁷ Government Accountability Office, *Telecommunications: Broadband Deployment Is Extensive throughout the United States, but It Is Difficult to Assess the Extent of Deployment Gaps in Rural Areas*, GAO-06-426 (May 2006).

⁹⁸ See *infra* App., para. 13 & n.56.

⁹⁹ See Food, Conservation, and Energy Act of 2008, Pub. L. No. 110-246, 122 Stat. 923 § 6110 (2008 Farm Bill); Recovery Act RUS Appropriations; Recovery Act NTIA Appropriations; see also *infra* App., para. 5.

¹⁰⁰ Recovery Act § 6001(i).

¹⁰¹ Specifically, the Recovery Act requires that NTIA “create and maintain a fully searchable database, accessible on the Internet at no cost to the public, that contains at least a list of each entity that has applied for a grant under this section, a description of each application, the status of each such application, the name of each entity receiving funds made available pursuant to this section, the purpose for which such entity is receiving such funds, each quarterly report submitted by the entity pursuant to this section, and such other information sufficient to allow the public to understand and monitor grants awarded under the program.” Recovery Act § 6001(i)(5). See Office of Management and Budget, “Initial Implementing Guidance for the American Recovery and Reinvestment Act of 2009,” Memorandum, M-09-10 (Feb. 18, 2009).

policy goals.¹⁰² We seek comment on how to interpret this requirement and how the Commission should implement this in its development of a national broadband plan. Below, we seek comment more specifically on each of the policy goals in the order in which they are enumerated in the Recovery Act.

1. Advancing Consumer Welfare

64. In the development of a national broadband plan, the Recovery Act requires that the Commission include “a plan for the use of broadband infrastructure and services in advancing consumer welfare.”¹⁰³ We seek comment on how to interpret and implement this directive, including an analysis of existing Commission policies, programs, and proposals for advancing consumer welfare through the use of broadband infrastructure and services.

65. Consumer welfare has been an important consideration in recent Commission broadband decisions. Among other actions taken to protect consumers, the Commission has issued an *Internet Policy Statement* defining rights consumers should have when they access the Internet regardless of what service provider they choose,¹⁰⁴ and enforcing these policies when they have been ignored by service providers.¹⁰⁵ The Commission also currently is considering additional consumer protection rules proposed in the *Consumer Protection in the Broadband Era NPRM*, which sought comment on the need for any non-economic regulatory requirements necessary to ensure that consumer protection needs are met by all providers of broadband Internet access service, regardless of the underlying technology.¹⁰⁶ We seek comment on how to incorporate both the consumer rights addressed in these proceedings, and the providers’ network and facilities management practices for prioritizing service and bandwidth into a broader, nationwide plan for broadband development.¹⁰⁷

66. We request comment specifically on the role that privacy protections can play in enhancing consumer welfare. If consumers feel secure that they can calibrate the privacy level of their broadband communications, are they more likely to experience the benefits associated with broadband use? What is the role of applications providers in guarding privacy so as to encourage greater use of broadband-enabled services such as photo sharing, online tax filing and bill payment, remote data storage, social networking, and others? Do data retention policies and fears that digital records are “permanent” inhibit use of broadband technologies?

67. We ask for comment generally on how advances in technology are helping to advance consumer welfare. We seek comment on what applications are emerging or may emerge in the future that will advance consumer welfare and what their network requirements will be. As Internet and computing security issues consume a great deal of resources by consumers of all types, how should the Commission take security issues into account as it develops a national broadband plan? Additionally, we seek comment on how consumers understand the dependability of broadband services and if there are ways to improve consumer understanding of the benefits and limitations of their services. Would consumer welfare be enhanced by more disclosures to customers of any limitations that providers place on broadband services, including limitations that may be placed on service on a temporary or intermittent basis, to deal with network congestion or for other reasons?

¹⁰² Recovery Act § 6001(k)(2)(D); *see supra* note 15 (listing the policy goals enumerated in the Recovery Act).

¹⁰³ Recovery Act § 6001(k)(2)(D).

¹⁰⁴ *Internet Policy Statement*, 20 FCC Rcd at 14987-88, para. 4. For a discussion of open network policies, *see supra* Section III.C.5.

¹⁰⁵ *See Comcast Order*, 23 FCC Rcd 13028.

¹⁰⁶ *Consumer Protection in the Broadband Era NPRM*, 20 FCC Rcd 14853.

¹⁰⁷ Recovery Act § 6001(k)(2)(d).

68. What aspects of broadband policy have improved consumer welfare, promoted competition, and led to technological innovation? Are there negative aspects of broadband that should be considered when assessing consumer welfare? How can these aspects be minimized while maximizing the potential benefits?

69. We seek comment on the interplay between consumer welfare and the market generally. Where does market competition for broadband customers fall short of providing sufficient consumer safeguards and where must the government step in to ensure that consumers are being properly protected? How can the government maximize the efficiency of its consumer protection regulations? We also seek comment on how the Commission and other agencies should evaluate consumer protections for broadband and broadband-enabled services in ongoing reviews,¹⁰⁸ and we seek comment on how the Commission's plan will consider developments in the regulation and classification of broadband services.¹⁰⁹

2. Civic Participation

70. The Commission is also instructed to formulate "a plan for use of broadband infrastructure and services in advancing . . . civic participation."¹¹⁰ We seek comment on how to interpret and implement this portion of the Recovery Act. We also seek comment on how the goals of open and accessible government aimed at increasing public awareness and participation in government can be amplified by access to broadband. For example, what are new uses of broadband that would further open government and civic participation? How do new media, including social networking tools, advance civic participation, and are there limitations or concerns associated with such use? There is a constant push towards greater transparency in government, including innovative methods for direct public access to government and participation in decision making. We seek comment on how broadband infrastructure and services can improve citizen access to local and national news, information, dialogue with government and other citizens, transactional efficiency, and participation in governance. What are the positive and negative consequences of such disintermediation?

71. We also seek comment on how broadband infrastructure and services enable amateur content creation and distribution. For example, does access to broadband increase the ability of the average citizen to make her voice heard by the government and other citizens, and if so, how can this be advanced? Similarly, we seek comment on the benefits of video streaming or video conferencing of government meetings to enable participation by those who cannot attend a meeting in person (because of distance, cost, disability, illness, and the like). Are there other applications of broadband technology that can improve civic participation and how can they be encouraged?

3. Public Safety and Homeland Security

72. In the development of a national broadband plan, the Recovery Act requires that the Commission include "a plan for the use of broadband infrastructure and services in advancing . . . public

¹⁰⁸ See, e.g., *Consumer Protection in the Broadband Era NPRM*, 20 FCC Rcd 14853 (2005).

¹⁰⁹ See *Wireline Broadband Order*, 20 FCC Rcd 14853 (2005); see also *National Cable & Telecommunications Ass'n v. Brand X Internet Services*, 125 S. Ct. 2688 (2005) (*NCTA v. Brand X*), *aff'g Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities, Internet Over Cable Declaratory Ruling, Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, GN Docket No. 00-185, CS Docket No. 02-52, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002) (*Cable Modem Declaratory Ruling and NPRM*); *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) (*BPL Order*).

¹¹⁰ Recovery Act § 6001(k)(2)(D).

safety and homeland security.”¹¹¹ We seek comment on how to interpret and implement this directive, including an analysis of existing policies and programs that are on point. We seek comment on how to identify which broadband services are most needed to advance public safety and homeland security. For example, should the Commission focus on broadband high-speed Internet connectivity for public safety and homeland security needs? How should the broadband infrastructure be designed in order to support both the needs of the public for connectivity to the global Internet and the needs of emergency services for connectivity to a restricted, private IP infrastructure? We seek comment on how advancing public safety and homeland security is interrelated with improvements in telehealth and telemedicine delivery through broadband. We also seek comment on how access to broadband capability may promote interoperable wireless-based communications among various public safety agencies and jurisdictions, as well as plans and benchmarks to improve interoperability. Similarly, we seek comment on how access to broadband capability in general and specific broadband services in particular will ensure that broadband-based applications and support systems (over any broadband transport platform) are compatible among different public safety agencies.

73. We seek comment on whether and to what extent the national broadband plan should address means to protect and advance cybersecurity, specifically with respect to those broadband networks critical to the nation's critical infrastructure, financial institutions, public safety and homeland security. If so, what steps should be taken to secure the nation's most vulnerable broadband facilities and data transfers from cyber threats, such as espionage, disruption, and denial of service attacks? Should certain broadband service providers and operators adhere to specific standards or best practices to minimize such threats? Should the Commission adopt a process whereby communications providers can certify their compliance with specific standards and best practices? What agency or organization within the government is best positioned to take the lead inter-agency coordination role for protecting against and responding to cyber security attacks?

74. We seek comment on any special concerns about ensuring physical diversity or redundancy in public safety and critical infrastructure industry networks and how to track and measure these factors. We seek comment on these issues with respect to commercial networks, as used by public safety entities for emergency communications. We also seek comment on strategies for improving network redundancy and hardening network assets.

75. We seek comment on how developments in broadband technologies and broadband-enabled services impact public safety and homeland security goals. Specifically, in preparing a national broadband plan, how should the Commission take into account the advent of advanced commercial wireless broadband technologies, such as LTE and WiMAX? Are “off-the-shelf” solutions sufficient? Why or why not? What broadband policies would best promote the deployment of next generation 911 (NG 911) networks, including emergency services IP networks? How might the results of NTIA’s obligation under the NET 911 Act to develop an NG 911 migration plan assist with ensuring access to broadband service by public safety answering points (PSAPs) and establishing appropriate benchmarks?¹¹²

76. We seek comment on how the public safety, homeland security, and health care communities envision using broadband both near-term and in the future. Specifically, what features are most important: live video; data transfer; web access; IP-based voice; security and encryption; mission critical or emergency use; virtual private networks; deployable systems for special events, disasters, and pandemics? What are the costs to public safety entities of obtaining broadband service (whether commercial or self-provisioned), devices, and applications, and what sources of funding are available? Are there opportunities for pooling resources, such as shared infrastructure? What models, such as

¹¹¹ Recovery Act § 6001(k)(2)(D).

¹¹² See 47 U.S.C. § 942(d); see also New and Emerging Technologies 911 Improvement Act of 2008, Pub. L. No. 110-283, 122 Stat. 2620 (2008).

statewide networks, have been tried and shown successes or limitations? What broadband networks exist or are planned? How are public safety entities currently utilizing or planning to utilize commercial broadband networks to carry out their missions? Are such networks used for “mission critical” communications? Are there accommodations that commercial carriers have made for public safety users, such as increased geographic coverage, back-up power or hardening of facilities against weather or terrorist events, enhanced security, or enterprise customer discounts? At what cost? What limitations are public safety entities encountering with respect to commercial broadband networks, and what needs are going unmet by commercial offerings? We seek comment on how to achieve economies of network resource sharing by public safety, where there is “a dedicated broadband network that connects health care providers in a state or region.”¹¹³

77. The Commission has previously found that wireless broadband services will play an essential role in the ability of public safety entities, especially first responders, to fulfill their mission to protect the health, welfare and property of the public.¹¹⁴ What role should existing fixed and mobile spectrum allocations, which are able to support public safety broadband deployments, have in the development of a national broadband plan? Specifically, how can the 4.9 GHz band meet the broadband needs of the public safety community? In developing the national broadband plan, what is the interplay with our current rulemaking addressing public safety services in the 700 MHz band? For example, in a separate proceeding, the Commission is seeking comment on how to promote the development of a nationwide, interoperable broadband network for the nation’s first responders.¹¹⁵ What additional steps should the Commission take with regard to other spectrum bands available for public safety use, such as the 4.9 GHz band, in order to help meet the broadband needs of the public safety community? What special considerations, concerns or limitations should be taken into account specifically with respect to public safety broadband deployments in rural areas?

78. In the instant proceeding, we seek comment on what part, if any, the development of an interoperable public safety broadband network should play in the overall plan for the use of broadband infrastructure and services in advancing public safety and homeland security. We seek comment on whether there are programs at other agencies that should be considered as a part of the national broadband plan. We also seek comment on what lessons the Commission can incorporate from its existing policy

¹¹³ *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Order, 21 FCC Rcd 11111, para. 3 (2006) (*2006 Rural Healthcare Pilot Program Order*) (“Under this pilot program, all public and non-profit health care providers may apply for funding to construct a dedicated broadband network that connects health care providers in a state or region.”).

¹¹⁴ *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands; Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems; Section 68.4(a) of the Commission’s Rules Governing Hearing Aid-Compatible Telephones; Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services; Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission’s Rules; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010; Declaratory Ruling on Reporting Requirement under Commission’s Part 1 Anti-Collusion Rule*, WT Docket Nos. 06-150, 01-309, 03-264, 06-169, 96-86, 07-166, CC Docket No. 94- 102, PS Docket No. 06-229, Second Report and Order, 22 FCC Rcd 15289, 15407-08, para. 325 (2007) (*Second Report and Order*).

¹¹⁵ *See Service Rules for the 698-746, 747-762 and 777-792 Bands; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band*, WT Docket No. 06-150, PS Docket No. 06-229, Second Further Notice of Proposed Rulemaking, 23 FCC Rcd 8047 (2008) (*Second Further Notice*); *Service Rules for the 698-746, 747-762 and 777-792 Bands; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band*, WT Docket No. 06-150, PS Docket No. 06-229, Third Further Notice of Proposed Rulemaking, 23 FCC Rcd 14301 (2008) (*Third Further Notice*).

roles impacting public safety and homeland security.¹¹⁶ Finally, we seek comment on how plans and efforts to advance public safety and homeland security should be coordinated between and among the various federal, tribal, state, and local entities.

79. The prospect of a pandemic outbreak or act of bioterrorism raises the potential for radically shifting network traffic patterns. A likely result of a pandemic or bioterrorism threat is a large surge in citizens telecommuting from their homes or other locations rather than from their typical work sites. Could such a shift in broadband use from the workplace to the home trigger significant congestion and delays in the flow of data over broadband networks, particularly at the enterprise and residential Internet access levels? Should a plan for access to broadband capability address this possibility, and if so, how? For example, in such an event, would traffic prioritization schemes be necessary to maintain the flow of data essential to the nation's economy, public health, and defense? We seek comment on whether the national broadband plan should include a prioritization scheme to account for pandemic and bioterrorism threats. If so, which agencies should have the authority and responsibility for setting priorities, and how should these priorities be established and enforced? For example, should traffic be prioritized by traffic type, by destination, or by some other qualifier?

4. Community Development

80. The Recovery Act directs the Commission to include in its national broadband plan “a plan for use of broadband infrastructure and services in advancing . . . community development.”¹¹⁷ We seek comment on the interpretation and implementation of this portion of the Act. While one of the benefits of broadband is the ability to connect more efficiently with the global community, we seek comment on how it could be used for developing local communities. For example, how could a local community use broadband Internet access to identify local problems and enhance methods for solving those problems? Does or can broadband be used to help develop local resources, assess the needs of the local community, and foster cooperation and volunteerism on a local level? How can broadband be used as a resource for economic development in communities across America? How could broadband be used to provide communities with local news and information? How can the universal service High-Cost, Low-Income, Rural Health Care, and Schools and Libraries programs be modified to encourage community broadband development? What other local social goals may be impacted positively by broadband, and how could broadband access be used to further those goals?

5. Health Care Delivery

81. The Recovery Act directs the Commission to include in its national broadband plan “a plan for use of broadband infrastructure and services in advancing . . . health care delivery.”¹¹⁸ We seek comment on how to interpret and implement this portion of the Act.

82. Electronic medical records are an important aspect of modernizing our healthcare system and stimulating our economy. Federal agencies are actively working to develop interoperable Health IT

¹¹⁶ For instance, there are public safety elements of the Rural Health Care Pilot Program in which participants are to coordinate the use of their health care networks with HHS and, in particular, with its Centers for Disease Control and Prevention (CDC) in instances of national, regional, or local public health emergencies (*e.g.*, pandemics, bioterrorism). *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Order, 22 FCC Red 20360, 20402-03, paras. 81-82 (2007) (*RHC Pilot Selection Order*). Pilot Program participants must also submit quarterly reports providing detail on how their supported networks have complied with this directive. *Id.* at 20423-24, 20434, paras. 126-29, App. D. Additionally, when there is a natural disaster, the Commission often receives requests for additional funding from the E-rate program for infrastructure that has been destroyed. We seek comment on whether funding from the E-rate program should be used to upgrade – and possibly provide greater broadband access – beyond what insurance will replace.

¹¹⁷ Recovery Act § 6001(k)(2)(D).

¹¹⁸ Recovery Act § 6001(k)(2)(D).

standards.¹¹⁹ We seek comment generally on the interaction between broadband development and improved access to medical records and healthcare. For example, how can broadband infrastructure and services be used to develop more efficient, effective, and secure access to medical records? We also seek comment on ways to advance broadband networks that are consistent with the Health IT standards set by HHS to support and promote the NHIN.

83. Consistent with the Health IT policy goals outlined above, in 2006 the Commission initiated a rural healthcare program supported by universal service funds.¹²⁰ The Rural Health Care Pilot Program supports up to 85 percent of eligible costs of designing, installing, operating and maintaining a broadband health care network that is available to eligible healthcare providers.¹²¹ Pilot Program participants are required, where feasible, to use Pilot Program funding in ways to ensure their funded broadband network projects are consistent with HHS's Health IT initiatives in several areas: Health IT standards; certification of electronic health records, personal health records, and networks; the NHIN architecture; the National Resource for Health Information Technology; and the PHIN.¹²² Pilot Program participants must also submit quarterly reports providing detail on how their supported networks have complied with the HHS Health IT initiatives.¹²³

84. We also seek comment on how improved broadband infrastructure and services can increase the quality of medical care available to unserved and underserved parts of the country through tele-health initiatives. For example, how effective have existing efforts been and how can they be improved? To what extent would potential regulations impede or enhance development of a vibrant

¹¹⁹ In 2004, President Bush issued an Executive Order calling for the development and implementation of a national interoperable health information technology infrastructure. A key element of the 2004 Executive Order's interoperable health information technology infrastructure plan is the National Health Information Network (NHIN) plan which promotes a "network of networks" where state and regional health information exchanges and other networks that provide health information services work together, through common architecture (services, standards, and requirements), processes and policies to securely exchange information. Letter from Robert M. Kolodner, MD, National Coordinator for Health Information Technology, to Chairman Kevin J. Martin, FCC, WC Docket No. 02-60 (dated Aug. 17, 2007). As a result, HHS has worked since 2005 to define standards necessary to assure the interoperability of electronic health records.

¹²⁰ *2006 Rural Healthcare Pilot Program Order*, 21 FCC Rcd 11111.

¹²¹ *2006 Rural Healthcare Pilot Program Order*, 21 FCC Rcd 11111; *2007 RHC Pilot Selection Order*, 22 FCC Rcd 20360. In the Rural Health Care Pilot Program, the Commission, in consultation with HHS, addressed ways the Pilot Program and the NHIN can advance the provision of critical patient information to clinicians at the point of care to enable vital links for disaster preparedness and emergency response, to improve healthcare and population health, and to prevent illness and disease. *2007 RHC Pilot Selection Order*, 22 FCC Rcd at 20402-03, para. 82.

¹²² *2007 RHC Pilot Selection Order*, 22 FCC Rcd at 20402-03, para. 82. Participants shall use Pilot Program funding in ways that are consistent with HHS's health information technology (IT) initiatives that "provide leadership for the development and nationwide implementation of an interoperable health information technology infrastructure to improve the quality and efficiency of health care." Accordingly, where feasible, selected participants, as part of their Pilot Program network build-out projects shall: (1) use Health IT systems and products that meet interoperability standards recognized by the HHS Secretary; (2) use Health IT products certified by the Certification Commission for Healthcare Information Technology; (3) support the NHIN architecture by coordinating their activities with the organizations performing NHIN trial implementations; (4) use resources available at HHS's Agency for Healthcare Research and Quality (AHRQ) National Resource Center for Health Information Technology; (5) educate themselves concerning the Pandemic and All Hazards Preparedness Act and coordinate with the HHS Assistant Secretary for Public Response as a resource for telehealth inventory and for the implementation of other preparedness and response initiatives; and (6) use resources available through CDC's Public Health Information Network (PHIN) to facilitate interoperability with public health organizations and networks. *See id.*

¹²³ *RHC Pilot Selection Order*, 22 FCC Rcd at 20432-44, App. D. Quarterly reports are due for a 72-month period from the initial due date (July 30, 2008). *See RHC Pilot Selection Order*, 22 FCC Rcd at 20423-24, paras. 126-27.

nationwide tele-health network? What effect would this network have on our economy and jobs? We also seek comment on ways in which Rural Health Care Pilot Program projects are advancing implementation of a national interoperable health information technology infrastructure. In doing so, we seek comment on lessons learned from the pilot and suggestions concerning how the Rural Health Care program can further this initiative.

85. We also seek comment on how we can continue to work with HHS and other agencies to maximize the penetration of tele-health initiatives, educate citizens on broadband and tele-health options, and generally use broadband to increase health awareness, diagnosis, and treatment. Finally, the Recovery Act requires that HHS, in consultation with other government agencies, including the Commission, conduct a study and report on the availability of open source health information technology systems.¹²⁴ We seek comment on how to consider the availability of open source health information technology systems with respect to the national broadband plan, which, as stated, includes a plan for use of broadband infrastructure and services in advancing health care delivery.

6. Energy Independence and Efficiency

86. In the development of a national broadband plan, the Recovery Act requires that the Commission include “a plan for the use of broadband infrastructure and services in advancing . . . energy independence and efficiency.”¹²⁵ We seek comment on how to interpret and implement this directive, including an analysis of existing Commission and other agency policies, programs, and proposals designed to advance the policy goals of the Recovery Act. Federal policy and recent legislation have trended towards implementing more efficient energy distribution mechanisms. Are there broadband applications that could help to improve efficiencies in energy production, distribution or consumption, like smart grid technology?¹²⁶ In 2007, Congress set aside \$100 million per fiscal year between 2008 and 2012 for developing and implementing smart grid technologies.¹²⁷ The Recovery Act provisioned \$11 billion for the same goal.¹²⁸ We seek comment on how broadband infrastructure and services could help achieve efficient implementation of smart grid technology. Are there other organizations, such as the Department of Energy, with which the Commission should coordinate? We also seek comment on how these aspects of the national broadband plan will affect the economy and the creation of new jobs.

87. How does the potential for more widespread use of teleworking based on access to broadband capability factor into our country’s energy independence and efficiency? Would the opportunity for workers to “commute” over a broadband network rather than over roads or other transportation networks have a significant effect on the amount or source of energy that we use on a regional or national level? Is there an energy conservation role for intelligent highways, which may use broadband technologies for such things as traffic control?¹²⁹ What standards and programs exist regarding energy efficiency of consumer and commercial electronics for broadband? We also seek comment generally on how broadband technology can be leveraged to make the United States more climate-friendly, and how a national broadband plan can help us achieve this goal.

¹²⁴ Recovery Act § 4103(b); *see App.*, para. 4 (describing this requirement).

¹²⁵ Recovery Act § 6001(k)(2)(D).

¹²⁶ *See, e.g.*, Peter Slevin and Steven Mufson, *Stimulus Dollars Energize Efforts To Smarten Up the Electric Power Grid*, WASH. POST, Mar. 10, 2009, at A1.

¹²⁷ Energy Independence and Security Act of 2007, Pub. L. No. 110-140, 121 Stat. 1492 at § 1304 (2007) *codified at* 42 U.S.C. § 17384.

¹²⁸ Recovery Act Div. A, Title IV.

¹²⁹ *See, e.g.*, Charles J. Murray, *Auto Industry Prepares for Intelligent Highway: Automotive experts say nothing comes close to the life-saving potential of the intelligent highway*, DESIGN NEWS, June 2, 2008, available at: http://www.designnews.com/article/46149-Auto_Industry_Prepares_for_Intelligent_Highway.php.

7. Education

88. The Recovery Act directs the Commission to include in its national broadband plan “a plan for use of broadband infrastructure and services in advancing . . . education.”¹³⁰ We seek comment on how to interpret and implement this portion of the Act.

89. It has been said that education is the key to our future economic success. What role can broadband play in boosting the quality of American schools? Can the availability of broadband be used to encourage more technology partnerships between schools and businesses? In what ways does broadband access allow children and adults with disabilities to participate more fully in school and other educational activities? What is the role of this country’s libraries in marshaling broadband access to advance education?

90. How can a broadband plan maximize the benefits that our nation can derive from distance learning? Are the potential benefits greater in, and should our attention be focused more on, any particular scholastic level, such as grade school, middle school, high school or college? Should resources be directed more toward institutions or student locations? Does the potential to take online courses and earn a degree from a remote location increase the chances that people will earn a degree? What are the benefits of teaching media literacy to students of all ages so they can better utilize the information they receive?

91. In recent years, broadband access has allowed schools, parents, teachers and students to communicate and share valuable information online. How many parents, teachers and students are missing out on these benefits because of a lack of computers, computer literacy, or access to broadband? What other barriers are there to bringing the benefits of broadband into the classroom, and what can be done about them?

92. The Commission’s E-rate program helps schools and libraries obtain affordable telecommunications, Internet access and internal connections by providing discounts on eligible equipment and services.¹³¹ We seek comment on how this program fits into a national broadband plan. Does the Commission need additional data on the broadband needs of schools and libraries or on the services currently being supported in order to best determine how E-rate would fit into a national plan? If so, how should these data be collected?

93. We also seek comment on how we can work with the Department of Education to maximize the positive impact that a national broadband plan would have on the Department of Education’s initiatives. In addition, we seek comment on how we can identify existing and planned state initiatives that use broadband to advance education and incorporate these into our preparation of a national broadband plan.

8. Worker Training

94. The Recovery Act directs the Commission to include in its national broadband plan “a plan for use of broadband infrastructure and services in advancing . . . worker training.”¹³² We seek comment on how to interpret and implement this portion of the Act. For example, how can American workers use broadband to increase their workplace effectiveness, both for training and on a daily basis? How can access to broadband be utilized by citizens; state, local, tribal, and federal governmental agencies; and educational institutions, among others, to enable worker training in preparation for

¹³⁰ Recovery Act § 6001(k)(2)(D).

¹³¹ *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, 12 FCC Rcd 8776, 9002, para. 424 (1997) (*Universal Service First Report and Order*); see also *Release of the Funding Year 2009 Eligible Services List for Schools and Libraries Universal Service Mechanism*, CC Docket No. 02-6, Public Notice, FCC 08-265 (2008).

¹³² Recovery Act § 6001(k)(2)(D).

employment, including when workers are laid off, between jobs, or preparing to re-enter the workforce after a number of years? We also seek comment on how we can work with the Department of Labor to maximize the positive impact that a national broadband plan would have on the Department of Labor's initiatives. How could we work with the Department of Labor or other organizations to ensure that the American worker benefits from increased broadband access?

9. Private Sector Investment

95. The Recovery Act directs the Commission to include in its national broadband plan "a plan for use of broadband infrastructure and services in advancing . . . private sector investment."¹³³ We seek comment on how to interpret and implement this portion of the Act. For example, how can Congress or the Commission encourage private sector investment in broadband technology and services and the services and economic activity that they support? Likewise, how can Congress or the Commission encourage uses of broadband infrastructure and services that stimulate private sector investment in a variety of contexts (e.g., seed programs, technology hubs, unlicensed services)? Some communities have developed their own broadband projects where private sector competition has not yielded sufficient results.¹³⁴ We seek comment on the efficacy of encouraging the development of local and municipal broadband projects that compete with private enterprise. Does such public investment discourage or encourage private investment? What can we do to encourage private sector investment in broadband apart from loans and grants?

96. We seek comment on how to accurately measure private sector investment both in and as a result of broadband infrastructure and services. For example, how and from what sources should we obtain these data? Additionally, we seek comment on how to analyze the data we receive.

97. *Research and Development.* As with any other technology-based enterprise, research and development (R&D) play a key role in developing broadband infrastructure and services. Some experts have stated that the United States may have to pay a high economic price in the future for falling out of the lead in these areas.¹³⁵ As we contemplate a national broadband plan, we seek comment as to whether the change in financial markets or other global competitive factors are having an impact on the continuing development of cutting edge technologies in the United States. We seek comment on how to move our nation forward in research and development of next-generation technologies. For example, should such an effort include more government-funded research and development? Do we require more basic research? We also seek comment on how this particular economic climate should inform any efforts to stimulate R&D.

10. Entrepreneurial Activity

98. The Recovery Act directs the Commission to include in its national broadband plan "a plan for use of broadband infrastructure and services in advancing . . . entrepreneurial activity."¹³⁶ We seek comment on how to interpret and implement this portion of the Act. For example, web-based

¹³³ Recovery Act § 6001(k)(2)(D).

¹³⁴ For example, a number of municipalities have undertaken projects to bring high-speed broadband to their citizens. See, e.g., Marguerite Reardon, "Lafayette, La., finally gets its fiber network," CNET NEWS, Feb. 6, 2009 available at http://news.cnet.com/8301-11386_3-10158583-76.html (Lafayette, Louisiana fiber network); W. David Gardner, "Vermont Municipal Fiber Network Is On The Road To Profitability," INFORMATIONWEEK, Sept. 26, 2007, available at <http://www.informationweek.com/news/telecom/showArticle.jhtml?articleID=202102007> (Burlington, Vermont fiber network).

¹³⁵ See, e.g., Richard J. Newman, *Can America Keep Up?*, U.S. NEWS AND WORLD REPORT, Mar. 27, 2006, available at <http://www.usnews.com/usnews/biztech/articles/060327/27global.htm> (arguing that many of the breakthroughs in technology are no longer happening in America).

¹³⁶ Recovery Act § 6001(k)(2)(D).

entrepreneurial ventures abound. We seek comment on how increased access to broadband would either improve existing ventures or create new ones. How does widespread broadband access impact traditional entrepreneurship? Could potential access to widely dispersed resources and workers over a broadband network change the likelihood of success? Could the success rate of small businesses be improved as a result of a national broadband plan?

99. In the 700 MHz auction, the Commission adopted a requirement for licensees in the 700 MHz Upper C Block to provide an open platform for devices and applications, subject to certain conditions, a move that was supported by a coalition of entrepreneurs.¹³⁷ We seek comment on whether additional open platform or open network regulations, including expansion of the 700 MHz C Block regulation to other wireless spectrum, would stimulate or harm the development of new and innovative services previously ignored by incumbent carriers and providers. Commenters should include estimates of the positive and negative effects of such regulations on the economy and job creation.

100. We also seek comment on how we can work better with the Small Business Administration to maximize the positive impact that a national broadband plan would have on the Small Business Administration's initiatives.

101. *Diversity in Ownership.* In section 257 of the Communications Act, Congress tasked the Commission to eliminate market entry barriers for entrepreneurs and other small businesses in the provision of services such as broadband information services, and to promote the policies and purposes of the Act favoring, among other things, a diversity of media voices.¹³⁸ Further, section 309(j)(3)(B) of the Communications Act requires the Commission to promote various objectives such as "ensuring that new and innovative technologies are accessible to the American people" by disseminating licenses to "members of minority groups and women."¹³⁹ We seek comment on how the national broadband plan can incorporate these objectives, particularly participation in the broadband industry by new entrants and small businesses, including minority and women-owned businesses. What are the barriers to entry for such entities, and what are the ways to encourage diversity in the provision of broadband services? We invite commenters to propose mechanisms that they believe would better advance our goals of promoting diversity and new entry in development and deployment of broadband networks.

11. Job Creation and Economic Growth

102. In the development of a national broadband plan, the Recovery Act requires that the Commission include "a plan for the use of broadband infrastructure and services in advancing . . . job creation and economic growth."¹⁴⁰ We seek comment generally on how to interpret and implement this directive, including an analysis of existing Commission and other agency policies, programs, and proposals designed to advance the policy goals of the Recovery Act. For example, how should we evaluate the impact of the Recovery Act grant and loan programs addressing job creation in the process of broadband deployment? Further, how should the Commission consider the role of broadband as an

¹³⁷ *Service Rules for the 698-746, 747-762, and 777-792 Bands; Implementing a Nationwide Broadband Interoperable Public Safety Network in the 700MHz Band*, WT Docket No. 06-150, PS Docket No. 06-229, Second Report and Order, 22 FCC Rcd 15289, 15358-74, paras. 184-230 (2007).

¹³⁸ 47 U.S.C. § 257(a), (b).

¹³⁹ 47 U.S.C. § 309(j)(3)(B) (requiring the Commission to promote various objectives such as "ensuring that new and innovative technologies are accessible to the American people" by disseminating licenses to "members of minority groups and women"). *Turner Broadcasting Sys. v. FCC*, 512 U.S. 622, 663-64 (1994) ("*Turner I*") (quoting *United States v. Midwest Video*, 406 U.S. 649, 668 n.27 (1972) (plurality opinion) and *Associated Press v. United States*, 326 U.S. 1, 20 (1945)) (stating that "it has long been a basic tenet of national communications policy that the widest dissemination of information from diverse and antagonistic sources is essential to the welfare of the public.").

¹⁴⁰ Recovery Act § 6001(k)(2)(D).

enabling infrastructure for the creation of jobs and economic growth? Would the ability to “virtually” assemble a geographically dispersed workforce on a broadband network result in the creation of new jobs and economic growth, as well as creating opportunity for dispersed workers to compete for otherwise existing jobs? Are there particular elements of a broadband network, for example security of communications, that are essential to realizing the job creation potential of a broadband network? Are existing broadband networks and existing technologies, such as video-conferencing, sufficient to enable a dispersed workforce to assemble over a broadband network or will new technologies be required? Toward this end, how should we factor in considerations such as speed when considering the role of broadband in our economic competitiveness globally?

103. We also seek comment on how we can work with the Department of Labor to maximize the positive economic impact a broadband development plan would have on the United States economy and the American worker.

12. Other National Purposes

104. The Recovery Act directs us to include in our national plan a consideration of “other national purposes” that could be advanced by broadband infrastructure and services.¹⁴¹ We seek comment on how to interpret and implement this portion of the Act. Specifically, we seek comment on other national purposes not mentioned elsewhere in this NOI, their risks and rewards, and how they could be effectuated by national broadband access. For example, in what other ways can broadband infrastructure and services stimulate economic and social development? Additionally, we seek comment on the impact that ensuring access to broadband capability for all Americans will have with respect to America’s competitiveness in the global economy. Likewise, as the Commission compares broadband deployment in the United States with multiple communities around the globe, how should we incorporate the lessons we learn into the development of our own national broadband plan?

105. We seek comment on whether a national broadband plan is an appropriate forum for addressing other known risks associated with Internet access.¹⁴² We seek comment on whether the Commission should address traditional malfeasance that has been exacerbated by ubiquitous access to the Internet, like online child predators and cyberbullying. We also seek comment on whether the Commission should address novel issues unique to the Internet, like the potential privacy, economic, homeland security, and other issues associated with cloud computing.

G. Relationship between the Recovery Act and Other Statutory Provisions

106. The Recovery Act tasks the Commission with the development of a national broadband plan, which could include everything from policies the Commission can implement within its other statutory authority to recommendations to Congress regarding proposed policies or programs to be overseen by other governmental or non-governmental entities. Accordingly, we seek comment on how the national broadband plan should account for the variety of previously existing statutory provisions that touch on broadband, and seek comment on where authority may be needed or where resources should be directed as a part of the national broadband plan the Commission will report to Congress. While discussion in this *Inquiry* often details the policies and programs at the Commission, we ask that parties not limit the scope of their comments on the national broadband plan only to programs within the policymaking authority of the Commission.¹⁴³

¹⁴¹ Recovery Act § 6001(k)(2)(D).

¹⁴² See, e.g., *Implementation of the Child Safe Viewing Act; Examination of Parental Control Technologies for Video or Audio Programming*, MB Docket No. 09-26, Notice of Inquiry, FCC 09-14, paras. 37-43 (rel. Mar. 2, 2009) (discussing child online safety, advanced blocking technologies, and other parental empowerment tools related to the Internet).

¹⁴³ We ask that parties be specific about the statutory authority for programs and policies whenever possible.

107. We seek comment on how the Commission's development of a national broadband plan under the Recovery Act relates to other statutory provisions. As noted above, the Commission has a variety of policies and statutory directives relating to broadband, both long-standing and recent. For example, the Commission has for many years encouraged broadband deployment and promoted the public interest through policies such as universal service and competition for telephone and video services. Also, several recent Acts of Congress have required the Commission (and other agencies) to collect specific information, evaluate, provide recommendations, or report on broadband deployment. We seek comment on how these existing Commission activities and policies intersect with and can support the Commission's requirement to develop a national broadband plan.

108. We seek comment on the relationship between the Commission's development of a national broadband plan and the requirements Congress set forth in the BDIA. Specifically, through the BDIA, Congress recently amended reporting obligations under section 706.¹⁴⁴ We seek comment on the relationship between the amended section 706 reporting and analysis requirements and the development of a national broadband plan.¹⁴⁵ Will this information be sufficient to support the plan's "evaluation of the status of deployment of broadband service," or is something more required?¹⁴⁶ Similarly, we seek comment regarding how the Commission should integrate the other information collection and analysis required of the Commission in the BDIA.¹⁴⁷ For example, the BDIA tasks the Commission with cataloging "geographical areas that are not served by any provider of advanced telecommunications capability."¹⁴⁸

109. We also seek comment on how the broadband elements of the 2008 Farm Bill relate to the Commission's development of a national broadband plan.¹⁴⁹ Specifically, the 2008 Farm Bill requires the Commission, in a separate proceeding, to develop "a comprehensive rural broadband strategy," including recommendations to Congress.¹⁵⁰ We seek comment on whether and how the Commission's comprehensive rural broadband strategy should become a part of its development of a national broadband plan. Further, we seek comment on how the Commission's directive under the 2008 Farm Bill to identify and promote a government-wide strategy, including federal, state, regional, and local government agencies, will relate to or can be incorporated into our development of a national broadband plan.

110. We also seek comment on how the Communications Act and other relevant statutory provisions should inform our development of a national broadband plan. For example, in section 230(b) of the Act, Congress describes a national Internet policy. Specifically, Congress states that it is the policy of the United States "to preserve the vibrant and competitive free market that presently exists for the

¹⁴⁴ BDIA § 103.

¹⁴⁵ The Section 706 reporting requirement states, "[t]he Commission shall, within 30 months after the date of enactment of this Act, and annually thereafter, initiate a notice of inquiry concerning the availability of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms) and shall complete the inquiry within 180 days after its initiation. In the inquiry, the Commission shall determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion. If the Commission's determination is negative, it shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market." 47 U.S.C. § 157 nt (b).

¹⁴⁶ Recovery Act § 6001(k)(2)(C).

¹⁴⁷ See *infra* App., paras. 6-7 (describing the additional reporting called for by the BDIA).

¹⁴⁸ BDIA § 103(a).

¹⁴⁹ See 2008 Farm Bill; see also *infra* App., para. 5 & n.18 (describing the 2008 Farm Bill and detailing the statutory requirements for the Commission's recommendations).

¹⁵⁰ *Id.*

Internet”¹⁵¹ and “to promote the continued development of the Internet.”¹⁵² And in section 706(a) of the 1996 Act, Congress charges the Commission with “encourag[ing] the deployment on a reasonable and timely basis of advanced telecommunications capability” – broadband – “to all Americans.”¹⁵³ We seek comment on how these statutory provisions should inform our development of a national broadband plan. We also seek comment on how to consider the clause in section 706 that requires the Commission to “take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market” should the Commission find deployment of advanced telecommunications capability is not being deployed to all Americans in a reasonable or timely manner.¹⁵⁴

111. We seek comment on the ways in which section 254 of the Act defines broadband-related terms in the context of universal service and how to relate these definitions and obligations to the development of a national broadband plan. For example, the Commission is tasked with basing its universal service policies on, among other things, a policy that “[c]onsumers in all regions of the Nation . . . should have access to . . . advanced telecommunications and information services.”¹⁵⁵ Section 254 of the Act also requires the Commission to “establish competitively neutral rules . . . to enhance, to the extent technically feasible and economically reasonable, access to advanced telecommunications and information services for all public and non-profit elementary and secondary school classrooms, health care providers, and libraries.”¹⁵⁶

H. Improving Government Performance and Coordination with Stakeholders

112. We ask parties to comment on how a coordinated effort among federal departments and agencies; tribal, state, and local governments; and interested groups and individuals may enable the nation to achieve Congress’s goal that all Americans have access to broadband. We seek comment on what specific steps each of these parties should take to ensure that all stakeholders work cooperatively toward that goal. We ask, in particular, that commenters suggest both formal and informal means of coordination, and describe the information and other systems they believe may be needed to make the coordination seamless and effective.

113. *Coordination among Federal Departments, Agencies, and Others.* A number of federal departments and agencies, including RUS, NTIA, and the Commission, have programs aimed at increasing the deployment and use of broadband facilities, and many of these departments and agencies are tasked with substantive broadband-related obligations under the Recovery Act.¹⁵⁷ We seek comment on what specific steps these departments and agencies should take to cooperate with each other.¹⁵⁸ How, in particular, can the heads of broadband-related programs ensure that the programs are consistent with

¹⁵¹ 47 U.S.C. § 230(b)(2).

¹⁵² 47 U.S.C. § 230(b)(1).

¹⁵³ 47 U.S.C. § 157 nt (incorporating section 706 of the Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 (1996)).

¹⁵⁴ 47 U.S.C. § 157 nt (b).

¹⁵⁵ 47 U.S.C. § 254(b)(3). Further, section 254(c) specifically requires that “[u]niversal service is an evolving level of telecommunications services . . . taking into account advances in telecommunications and information technologies and services.” 47 U.S.C. § 254(c)(1); *see supra* para. 10.

¹⁵⁶ 47 U.S.C. § 254(h)(2).

¹⁵⁷ *See infra* App., paras. 2-4.

¹⁵⁸ *See, e.g.,* Kruger, Lennard G. and Gilroy, Angele A., Broadband Internet Access and the Digital Divide: Federal Assistance Programs, Congressional Research Service, Report No. RL30719 (Jan. 23, 2009) (tables listing federal programs related to telecommunications development and broadband access).

each other? What should each department and agency do to ensure that its staff has access to expertise and relevant information in other departments and agencies having responsibility for broadband initiatives? What specific steps should broadband program heads take to make staff in other departments and agencies aware of their broadband initiatives and to avoid duplication of efforts? To what extent should interagency coordination include informal staff-to-staff interactions as well as more formal contacts?

114. We note that broadband itself can enhance the level of coordination among, and services provided by, federal, tribal, state, and local governments. For example, the federal government's recovery.gov website provides an interactive map with links to state government websites providing information about how Recovery Act funds are being used in each state.¹⁵⁹ Feedback to the government is easily enabled at the recovery.gov website and many others at the federal, state and local level. What other ways are there that government at all levels can utilize broadband capabilities for coordination and service provision? Are there "best practices" models that we should be aware of while crafting the national broadband plan?

115. *Public/Private Partnerships and Cooperatives.* We recognize that public/private partnerships have historically achieved public goals in innovative ways.¹⁶⁰ We seek comment on ways in which public/private partnerships can collaborate to advance common broadband objectives. Likewise, we seek comment on cooperatives, including their successes and potential to meet the broadband needs of communities around the country. We ask how public/private partnerships should be structured to ensure that objectives are reached in a timely and efficient manner. Would such partnerships be more effective on a federal, state, local, or tribal level? We also seek comment on any past successful broadband public/private partnerships, as well as specific proposals for public/private partnerships in line with the objectives of a national broadband plan.

116. *Information Systems and Websites.* We seek comment on specific steps federal departments and agencies should take to improve their information systems to facilitate sharing of information among different parts of the federal government, with other governmental entities, and with the public. Is there specific technology that can be cost-effectively employed for such sharing? What interim measures should the Commission and other federal departments and agencies take in the short run to improve information sharing regarding broadband initiatives? What steps should the federal government take to develop a long-term system for information sharing among departments and agencies having broadband-related responsibilities?

117. We ask whether there should be a single website that all departments and agencies tasked with implementing broadband initiatives may use to inform members of the public regarding their programs. If so, should this website expand an existing website, such as Grants.gov¹⁶¹ or cfda.gov,¹⁶² or should a new website be established for this purpose? What specific functionalities should the website

¹⁵⁹ State Recovery Sites, <http://www.recovery.gov/?q=content/state-recovery-page> (last visited Mar. 18, 2009).

¹⁶⁰ See, e.g., UNITED STATES DEP'T OF TRANS., REPORT TO CONGRESS ON PUBLIC-PRIVATE PARTNERSHIPS (Dec. 2004) (reporting on the benefit of public/private partnerships in highway construction and maintenance), available at <http://www.fhwa.dot.gov/reports/pppdec2004/>.

¹⁶¹ Grants.gov is a federal governmental website that allows individuals and organizations to find and apply for grants from various federal governmental departments and agencies. See Grants.gov, About, http://www.grants.gov/aboutgrants/about_grants_gov.jsp (last visited June 16, 2008).

¹⁶² The Catalog of Federal Domestic Assistance, available at www.cfda.gov, provides a full listing of all federal programs available to state and local governments; federally-recognized Indian tribal governments; territories (and possessions) of the United States; domestic public, quasi-public, and private profit and nonprofit organizations and institutions; specialized groups; and individuals.

have on the user side in order to make the user experience as easy as possible? Could one application feasibly address all of a user's needs while meeting other operational requirements?

118. We also seek comment on how the federal government can use web-based systems to coordinate broadband rollout with tribal, state, and local governments and other interested groups and individuals. We ask how these systems may be made accessible to individuals with disabilities. We also ask whether we should develop other systems specifically to assist individuals and organizations that lack broadband access.

119. *Case Workers.* There are a variety of broadband grant and loan initiatives administered by numerous agencies. Some have suggested a benefit stemming from a single point of contact within the government. We ask whether each potential grant or loan applicant should be assigned a case worker to help sort through the various broadband programs to determine which would be the most likely to meet the applicant's needs, and to assist in the application process and provide further guidance in the event the applicant receives a grant or loan. Such a program could be patterned after the program the Army has developed to assist patients at Walter Reed Army Medical Center.¹⁶³ We seek specific input regarding the details of how a case worker system would operate in an environment where a single applicant might need to interface with multiple agencies. In particular, should a case worker, in addition to assisting a grant or loan applicant, serve as a central point of contact for federal government staff and other interested parties to obtain information regarding the applicant and the status of each grant or loan for which the applicant has applied? If so, should the case worker have access to confidential information regarding the applicant and be able to share that information with the federal agency personnel responsible for processing a grant or loan application pending in another agency?

120. *Confidential Information.* We ask the parties to address the extent to which federal departments and agencies will obtain confidential information in the course of discharging their broadband-related responsibilities. We invite comment on what confidentiality laws or rules might be implicated by the exchange of information among federal departments and agencies, and between those departments and other governmental entities, non-governmental organizations, and individuals. Should employees at one agency have access to otherwise confidential information held by another agency when that information may be relevant to the first agency's performance of its broadband-related responsibilities? How can the federal government best protect confidential information while complying with the Confidential Information Protection and Statistical Efficiency Act of 2002,¹⁶⁴ the Freedom of Information Act,¹⁶⁵ the Paperwork Reduction Act,¹⁶⁶ and other potentially applicable laws?

121. We also ask what laws and regulations would apply to tribal, state, and local governments and non-governmental entities in the event they receive confidential information in connection with broadband-related initiatives? How can these entities most easily comply with applicable statutes and rules, and what can the government do—beyond its current procedures—to help tribal, state, and local governments and non-governmental entities secure confidential information? Suggestions should account for electronic and interpersonal exchanges, as well as electronic and non-electronic data storage.

122. *Data Sharing.* In creating a national broadband plan, the Commission is given the opportunity to access all of the BDIA data procured by other government agencies in their compliance with the BDIA.¹⁶⁷ We seek comment on the most efficient and effective methods of acquiring these data,

¹⁶³ See Janet Boivin, R.N., *Update: Nurse's Help Heal Walter Reed*, NURSING SPECTRUM, Apr. 28, 2007, available at <http://allnurses.com/nursing-activism-healthcare/update-nurses-help-224037.html> (last visited June 16, 2008).

¹⁶⁴ Consumer Information Protection and Statistical Efficiency Act of 2002, 44 U.S.C. § 3501 note.

¹⁶⁵ 5 U.S.C. § 552.

¹⁶⁶ See Paperwork Reduction Act, 44 U.S.C. § 3510.

¹⁶⁷ Recovery Act § 6001(l).

and whether there are any complications, such as privacy restrictions, that need to be resolved. We seek submission of studies, surveys, and reports that are relevant to the development of a national broadband plan, and are considering cataloging them for public use. We also seek comment on other potential sources of data to help us measure the nation's progress toward achieving universal broadband availability.

IV. CONCLUSION

123. We recognize the gravity and scope of this forward-looking undertaking, the incredible value of ubiquitous broadband, and the difficulties that lie ahead in ensuring its availability. While bold action may be necessary, we recognize the need to approach an endeavor as vital as a national broadband plan with a spirit of collaboration, transparency, and openness. Accordingly, we seek comment on those issues discussed above, as well as any facts or issues not otherwise addressed in this NOI relating to the adoption or implementation of a national broadband plan.

V. PROCEDURAL MATTERS

A. Paperwork Reduction Act

124. This document does not contain proposed information collection(s) subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified "information collection burden for small business concerns with fewer than 25 employees," pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 47 U.S.C. § 3506(c)(4).

B. Ex Parte Presentations

125. The inquiry this Notice initiates shall be treated as a "permit-but-disclose" proceeding in accordance with the Commission's *ex parte* rules.¹⁶⁸ Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentations and not merely a listing of the subjects discussed. More than a one or two sentence description of the views and arguments presented generally is required.¹⁶⁹ Other requirements pertaining to oral and written presentations are set forth in section 1.1206(b) of the Commission's rules.¹⁷⁰

126. It is the intent of the Commission that contacts with the Commission pursuant to this Notice of Inquiry also comply with the March 20, 2009 White House Memorandum for the Heads of Executive Agencies: Ensuring Responsible Spending of Recovery Act Funds ("Memorandum").¹⁷¹ Under the Memorandum, an executive department or agency official shall not consider the view of a lobbyist registered under the Lobbying Disclosure Act of 1995, 2 U.S.C. § 1601 *et seq.*, concerning particular projects, applications, or applicants for funding under the Recovery Act unless such views are in writing. An executive department or agency official may communicate orally with registered lobbyists concerning general Recovery Act policy issues, provided that such oral communications shall not extend to or touch upon particular projects, applications, or applicants for funding, and further that the official must contemporaneously or immediately thereafter document in writing: (i) the date and time of the contact on policy issues; (ii) the names of the registered lobbyists and the official(s) between or among whom the contact took place; and (iii) a short description of the substance of the communication. This written summary will be posted publicly on the Commission's website within 3 business days of the

¹⁶⁸ 47 C.F.R. §§ 1.200 *et seq.*

¹⁶⁹ *See* 47 C.F.R. § 1.1206(b)(2).

¹⁷⁰ 47 C.F.R. § 1.1206(b).

¹⁷¹ *See* http://www.whitehouse.gov/the_press_office/Memorandum-for-the-Heads-of-Executive-Departments-and-Agencies-3-20-09/ (last visited Mar. 24, 2009).

communication. Any registered lobbyists requesting meetings should identify themselves as such at the time of requesting meetings.

C. Comment Filing Procedures

127. Pursuant to sections 1.415 and 1.419 of the Commission's rules,¹⁷² interested parties may file comments and reply comments regarding the Notice on or before the dates indicated on the first page of this document. **All filings related to this Notice of Inquiry should refer to GN Docket No. 09-51.** To improve the Commission's ability to analyze public comments, we request commenters to address specific statutory sections (e.g., section 6001(k)(2)(A)) and to mirror the organization of this Notice of Inquiry where possible. Comments may be filed using: (1) the Commission's Electronic Comment Filing System (ECFS), (2) the Federal Government's eRulemaking Portal, or (3) by filing paper copies. *See Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://www.fcc.gov/cgb/ecfs/> or the Federal eRulemaking Portal: <http://www.regulations.gov>. Filers should follow the instructions provided on the website for submitting comments.
- ECFS filers must transmit one electronic copy of the comments for GN Docket No. 09-51. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions, filers should send an e-mail to ecfs@fcc.gov, and include the following words in the body of the message, "get form." A sample form and directions will be sent in response.
- Paper Filers: Parties who choose to file by paper must file an original and four copies of each filing. Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Marlene H. Dortch, Office of the Secretary, Federal Communications Commission, 445 12th Street, S.W., Washington, D.C. 20554.
- The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.
- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.
- U.S. Postal Service first-class, Express, and Priority mail should be addressed to 445 12th Street, S.W., Washington D.C. 20554.
- Parties should send a copy of their filings to the Competition Policy Division, Wireline Competition Bureau, Federal Communications Commission, Room 5-C140, 445 12th Street, S.W., Washington, D.C. 20554, or by e-mail to cpdcopies@fcc.gov. Parties shall also serve one copy with the Commission's copy contractor, Best Copy and Printing, Inc. (BCPI), Portals II, 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554, (202) 488-5300, or via e-mail to fcc@bcpiweb.com.
- Documents in GN Docket No. 09-51 will be available for public inspection and copying during business hours at the FCC Reference Information Center, Portals II, 445 12th Street S.W., Room CY-A257, Washington, D.C. 20554. The documents may also be purchased from BCPI, telephone (202) 488-5300, facsimile (202) 488-5563, TTY (202) 488-5562, e-mail fcc@bcpiweb.com.

¹⁷² 47 C.F.R. §§ 1.415, 1.419.

D. Accessible Formats

128. To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer and Governmental Affairs Bureau at 202-418-0530 (voice) or 202-418-0432 (TTY). Contact the FCC to request reasonable accommodations for filing comments (accessible format documents, sign language interpreters, CART, etc.) by e-mail: FCC504@fcc.gov; phone: 202-418-0530 or TTY: 202-418-0432.

VI. ORDERING CLAUSE

129. Accordingly, IT IS ORDERED that, pursuant to the authority contained in sections 4(i), 4(j), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), and 403, and pursuant to the American Recovery and Reinvestment Act of 2009, this Notice of Inquiry IS ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX

1. This appendix of background materials contains information on recent federal statutes containing broadband provisions, including the Recovery Act, the 2008 Farm Bill, and the Broadband Data Improvement Act. This appendix also provides a synopsis of the Commission's programs, policies, and other efforts to address broadband, particularly broadband deployment; the synopsis includes activities relating to universal service, spectrum policy, data collection, and regulation and classification.

A. Broadband Legislation

2. The Recovery Act includes support for programs that will accelerate the deployment of broadband infrastructure and services throughout the nation. The Recovery Act also tasks the Commission with developing a national broadband plan by February 17, 2010.¹ By Congress's direction, this plan shall seek to ensure that all people of the United States have access to broadband capability and shall establish benchmarks for meeting that goal.² The Recovery Act specifies that the Commission's plan must include an analysis of the most effective and efficient mechanisms for ensuring broadband access by all people of the United States; a detailed strategy for achieving affordability of such service and maximum utilization of broadband infrastructure and service by the public; an evaluation of the status of deployment of broadband service, including progress of projects supported by the Recovery Act grants; and a plan for use of broadband infrastructure and services in advancing a broad array of public interest goals.³

3. The Recovery Act appropriates \$2.5 billion to the Department of Agriculture's Rural Utilities Service (RUS) to support grants, loans, and loan guarantees for broadband infrastructure, targeted specifically at "rural area[s] without sufficient access to high speed broadband service to facilitate rural economic development."⁴ The Act also appropriates \$4.7 billion to the Department of Commerce's National Telecommunications and Information Administration (NTIA) to "establish a national broadband service development and expansion program" called the "Broadband Technology Opportunities Program" (BTOP).⁵ This program will award grants⁶ to States, non-profit organizations,

¹ Recovery Act § 6001(k)(1).

² Recovery Act § 6001(k)(2).

³ *Id.* For a more detailed description of the national broadband plan requirements in the Recovery Act, *see supra* para. 13.

⁴ Recovery Act, Division A, Title I, Rural Utilities Service (RUS Appropriations); *see* United States Department of Agriculture, USDA Information Related to the ARRA 2009, <http://www.usda.gov/recovery> (last visited Mar. 9, 2009).

⁵ Recovery Act, Division A, Title II, National Telecommunications and Information Administration (NTIA Appropriations); Recovery Act § 6001. The BTOP has five enumerated purposes in the Recovery Act: "(1) provide access to broadband service to consumers residing in unserved areas of the United States; (2) provide improved access to broadband service to consumers residing in underserved areas of the United States; (3) provide broadband education, awareness, training, access, equipment, and support to [organizations including schools, libraries, healthcare providers, and outreach organizations]; (4) improve access to, and use of, broadband service by public safety agencies; and (5) stimulate the demand for broadband, economic growth, and job creation." Recovery Act § 6001(b). *See also* United States Department of Commerce, Information Related to the American Recovery and Reinvestment Act of 2009, <http://www.commerce.gov/Recovery/> (last visited Mar. 9, 2009).

⁶ NTIA may award competitive grants to: "(1) acquire equipment, instrumentation, networking capability, hardware and software, digital network technology, and infrastructure for broadband services; (2) construct and deploy broadband service related infrastructure; (3) ensure access to broadband service by community anchor institutions; (4) facilitate access to broadband service by low-income, unemployed, aged, and otherwise vulnerable populations in order to provide educational and employment opportunities to members of such populations; (5) construct and deploy broadband facilities that improve public safety broadband communications services; and (6) undertake such

(continued...)

and broadband providers to fulfill the broadband deployment goals of the Recovery Act.⁷ The NTIA must award at least one grant in each state,⁸ “consider whether the applicant is a socially and economically disadvantaged small business concern,”⁹ and must consider a variety of factors, including the application’s net effect on speed, cost and subscribership, as well as improved access for healthcare, education and children.¹⁰ Grantees under this program will also be subject to “non-discrimination and network interconnection” obligations.¹¹ Further, the Conference Report specifically discusses the Conferees’ considerations regarding how NTIA should define broadband services with respect to the broadband grant programs it is charged with administering.¹² Moreover, the Recovery Act and the Conference Report provide instruction regarding the selection of any throughput speed threshold for broadband.¹³

4. The Recovery Act also includes a requirement that the Secretary of the Department of Health and Human Services (HHS) study and report on the availability of open source health information technology (Health IT) systems.¹⁴ The Secretary of HHS is required to consult with the leaders of several agencies, including the Chairman of the Commission, and submit a report by October 1, 2010.¹⁵ Further,

(...continued from previous page)

other projects and activities as the Assistant Secretary finds to be consistent with the purposes for which the program is established.” Recovery Act § 6001(g).

⁷ Specifically, the Recovery Act states, “To be eligible for a grant under the program, an applicant shall-- (1)(A) be a State or political subdivision thereof, the District of Columbia, a territory or possession of the United States, an Indian tribe (as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450(b)) or native Hawaiian organization; (B) a nonprofit-- (i) foundation, (ii) corporation, (iii) institution, or (iv) association; or (C) any other entity, including a broadband service or infrastructure provider, that the Assistant Secretary finds by rule to be in the public interest. In establishing such rule, the Assistant Secretary shall to the extent practicable promote the purposes of this section in a technologically neutral manner.” Recovery Act § 6001(e).

⁸ Recovery Act § 6001(h)(1).

⁹ Recovery Act § 6001(h)(3).

¹⁰ Recovery Act § 6001(h)(2).

¹¹ Recovery Act § 6001(j). Section 6001(j) of the Recovery Act states, “Concurrent with the issuance of the Request for Proposal for grant applications pursuant to this section, the Assistant Secretary shall, in coordination with the Commission, publish the non-discrimination and network interconnection obligations that shall be contractual conditions of grants awarded under this section, including, at a minimum, adherence to the principles contained in the Commission’s broadband policy statement (FCC 05-15, [sic] adopted August 5, 2005).” *Id.* We understand Congress to mean FCC 05-151, which is the Commission’s *Internet Policy Statement*, not FCC 05-15, which is the grant of a San Francisco radio station license.

¹² The Recovery Act Conference Report states that the final version of the bill “does not define such terms as . . . ‘broadband’” and that “[i]n defining ‘broadband service,’ the Conferees intend that the NTIA take into consideration the technical differences between wireless and wireline networks, and consider the actual speeds that broadband networks are able to deliver to consumers under a variety of conditions.” H.R. Conf. Rep. No. 111-16 at 776 (2009).

¹³ With respect to eligibility for grants, the Recovery Act requires NTIA to consider, among other factors, if an application “will, if approved, provide the greatest broadband speed possible to the greatest population of users in the area.” Recovery Act § 6001(h)(2)(B). Regarding this provision, the Conference Report states, “[w]hile the House bill had included specific speed thresholds that an applicant must have met to be eligible for a grant, the substitute requires only that the NTIA consider the speeds that would be delivered to consumers in awarding grants. The Conferees are mindful that a specific speed threshold could have the unintended result of thwarting broadband deployment in certain areas.” H.R. Conf. Rep. No. 111-16 at 775 (2009).

¹⁴ Recovery Act § 4104(b)(7)(A).

¹⁵ *Id.*

the Recovery Act requires NTIA to “develop and maintain a comprehensive nationwide inventory map of existing broadband service capability and availability in the United States that depicts the geographic extent to which broadband service capability is deployed and available from a commercial provider or public provider throughout each State.”¹⁶ Such a map is required to be made accessible in an interactive and searchable format on the web by February 17, 2011.¹⁷

5. *Other Recent Legislative Acts Regarding Broadband.* In 2008, Congress passed into law two Acts affecting broadband deployment. First, Congress passed the Food, Conservation, and Energy Act of 2008 (“2008 Farm Bill”), including a provision requiring the Chairman of the Commission to submit to Congress “a comprehensive rural broadband strategy” by May 22, 2009.¹⁸ Specifically, Congress directed that this report include “recommendations” to promote interagency coordination of resources, policies, and initiatives for rural broadband and provide “a description of goals and timeframes to achieve the purposes of the report.”¹⁹ On March 10, 2009, the Commission released a public notice seeking comment on the requirements of the 2008 Farm Bill.²⁰

6. In October 2008, Congress enacted the Broadband Data Improvement Act (BDIA), which provides for improved federal data on the deployment and adoption of broadband services.²¹ The BDIA requires the Commission to publish broadband deployment reports “annually” instead of “regularly” pursuant to section 706 of the Act, and adds several types of data that the Commission must produce and evaluate regarding broadband services.²² Specifically, the BDIA requires that the Commission’s section 706 report identify “unserved” areas, identifying for each such area the population, population density, and average per capita income.²³ Further, the Commission must conduct a consumer survey at least

¹⁶ Recovery Act § 6001(l).

¹⁷ *Id.*

¹⁸ Food, Conservation, and Energy Act of 2008, Pub. L. No. 110-246, 122 Stat. 923 § 6112 (2008 Farm Bill). We note that the 2008 Farm Bill was initially enacted on May 22, 2008. *See* Pub. L. No. 110-234, 122 Stat. 923 (May 22, 2008) (May 22, 2008 Bill). The May 22, 2008 Bill, as enacted, however, did not include one title (*i.e.*, Title III – Trade) that Congress had intended to include. The June 18, 2008 Bill corrected this omission by repealing the May 22, 2008 Bill and enacting a statute that includes Title III but otherwise is identical to the May 22, 2008 Bill. The June 18, 2008 Bill specified that it would take effect on the earlier of the enactment date of that bill or the enactment date of the May 22, 2008 Bill. *See* Pub. L. No. 110-246, § 4(b). Pursuant to this provision, the Act became effective on May 22, 2008, and therefore, May 22, 2009, is the statutory deadline for the comprehensive rural broadband strategy report required by the Act.

¹⁹ 2008 Farm Bill § 2112(a). Specifically, the Commission must provide recommendations “(A) to promote interagency coordination of Federal agencies in regards to policies, procedures, and targeted resources, and to streamline or otherwise improve and streamline the policies, programs, and services; (B) to coordinate existing Federal rural broadband or rural initiatives; (C) to address both short- and long-term needs assessments and solutions for a rapid build-out of rural broadband solutions and application of the recommendations for Federal, State, regional, and local government policymakers; and (D) to identify how specific Federal agency programs and resources can best respond to rural broadband requirements and overcome obstacles that currently impede rural broadband deployment.” *Id.*

²⁰ *Comment Date Established for Report on Rural Broadband Strategy*, GN Docket No. 09-29, Public Notice, DA 09-561 (rel. Mar. 10, 2009).

²¹ Broadband Data Improvement Act of 2008, Pub. L. No. 110-385, 122 Stat. 4096 (codified at 47 U.S.C. §§ 1301-1304) (BDIA).

²² Since 1996, the Commission has initiated and completed five reports to Congress on the status of the availability of advanced telecommunications capability to all Americans, pursuant to Section 706. *See Section 706 Fifth Report*, 23 FCC Rcd at 9616, para. 1. In each case, the Commission has found that such services are being deployed in a reasonable and timely fashion. *Id.*

²³ BDIA § 103(a).

annually that includes questions regarding technology choice, price, speed, applications, consumer decisions and options,²⁴ and conduct an international comparison of broadband speeds and prices.²⁵

7. The BDIA also tasks several other federal agencies with broadband-related responsibilities. For instance, the Commission will assist the Census Bureau with the formulation of a question for the American Community Survey regarding Internet subscription and computer ownership.²⁶ The Government Accountability Office must submit a report by October 10, 2009 regarding additional metrics for comparing broadband services.²⁷ Additionally, the Small Business Administration Office of Advocacy is charged with studying and surveying the impact of broadband speed and price on small businesses.²⁸ NTIA is required to establish a grant program for state-level broadband availability mapping and other broadband related projects, and is required to make available on its website an interactive and searchable nationwide broadband inventory map by February 17, 2011.²⁹

B. Ongoing Broadband Efforts of the Commission

8. *Universal Service Programs.* The 1996 Act amended the Act with respect to the provision of universal service.³⁰ Among other things, section 254(b) directs that there should be specific, predictable, and sufficient federal and state universal service support mechanisms; quality services should be available at just, reasonable, and affordable rates; and access to advanced telecommunications and information services should be provided in all regions of the nation.³¹

²⁴ BDIA § 103(c). The Commission recently released a public notice seeking comment on this particular provision of the BDIA. *See Comment Sought on International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act*, GN Docket No. 09-47, Public Notice, DA 09-741 (rel. Mar. 31, 2009).

²⁵ Specifically, section 103(b) of the BDIA states, “As part of the assessment and report required by section 706 of the Telecommunications Act of 1996 (47 U.S.C. 157 note), the Federal Communications Commission shall include information comparing the extent of broadband service capability (including data transmission speeds and price for broadband service capability) in a total of 75 communities in at least 25 countries abroad for each of the data rate benchmarks for broadband service utilized by the Commission to reflect different speed tiers.” BDIA § 103(b)(1). The Commission recently sought comment on these particular provisions of the BDIA. *See Comment Sought on International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act*, GN Docket No. 09-47, Public Notice, DA 09-741 (rel. Mar. 31, 2009).

²⁶ Specifically, the BDIA states, “The Secretary of Commerce, in consultation with the Federal Communications Commission, shall expand the American Community Survey conducted by the Bureau of the Census to elicit information for residential households, including those located on native lands, to determine whether persons at such households own or use a computer at that address, whether persons at that address subscribe to Internet service and, if so, whether such persons subscribe to dialup or broadband Internet service at that address.” BDIA § 103(d).

²⁷ BDIA § 104.

²⁸ BDIA § 105.

²⁹ BDIA § 106; Recovery Act § 6001(l).

³⁰ 47 U.S.C. § 254.

³¹ 47 U.S.C. § 254(b)(1), (2), (5). Specifically, the Act requires that universal service policies be based on the following principles: “(1) QUALITY AND RATES.—Quality services should be available at just, reasonable, and affordable rates. (2) ACCESS TO ADVANCED SERVICES.—Access to advanced telecommunications and information services should be provided in all regions of the Nation. (3) ACCESS IN RURAL AND HIGH COST AREAS.—Consumers in all regions of the Nation, including low-income consumers and those in rural, insular, and high cost areas, should have access to telecommunications and information services, including interexchange services and advanced telecommunications and information services, that are reasonably comparable to those services provided in urban areas and that are available at rates that are reasonably comparable to rates charged for similar services in urban areas. (4) EQUITABLE AND NONDISCRIMINATORY CONTRIBUTIONS.—All providers of telecommunications services should make an equitable and nondiscriminatory contribution to the

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9. The Commission has established four programs to implement the universal service goals of the Act. The High-Cost program is designed to ensure that consumers in rural, insular, and high-cost areas have access to telecommunications services at rates that are affordable and reasonably comparable to rates charged for similar services in urban areas.³² The Low-Income program provides discounts on telephone installation and monthly telephone service to low-income consumers.³³ The Schools and Libraries program (also known as the E-rate program) provides discounts for telecommunications, Internet access, and internal connections for schools and libraries throughout the nation.³⁴ Finally, the Rural Health Care program provides reduced rates for eligible rural health care providers for telecommunications and Internet services necessary for the provision of health care.³⁵ In addition to the existing Rural Health Care program, the Commission also established the Rural Health Care Pilot Program to provide, among other things, funding for the construction of state or regional broadband networks and the advanced telecommunications and information services provided over those networks for health care providers.³⁶ The Pilot Program also will support the advancement of U.S. Department of Health and Human Services (HHS) health information technology (health IT) initiatives for electronic health records and create vital broadband links for disaster preparedness and emergency response to any large-scale emergency or public health crisis.³⁷

10. The Act specifies that “[u]niversal service is an evolving level of telecommunications service” that should be revisited periodically.³⁸ In 2007, the Federal-State Joint Board on Universal Service recommended including broadband service as a supported service under the High-Cost program and proposed permitting States to use various methods to allocate available funds for broadband projects to reach unserved areas, including funding broadband projects through a competitive bidding system designed to select the most efficient provider of such service.³⁹ In 2008, the Commission released a

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preservation and advancement of universal service. (5) SPECIFIC AND PREDICTABLE SUPPORT MECHANISMS.— There should be specific, predictable and sufficient Federal and State mechanisms to preserve and advance universal service. (6) ACCESS TO ADVANCED TELECOMMUNICATIONS SERVICES FOR SCHOOLS, HEALTH CARE, AND LIBRARIES.—Elementary and secondary schools and classrooms, health care providers, and libraries should have access to advanced telecommunications services as described in subsection (h). (7) ADDITIONAL PRINCIPLES.—Such other principles as the [Federal-State Joint Board on Universal Service] and the Commission determine are necessary and appropriate for the protection of the public interest, convenience, and necessity and are consistent with this Act. 47 U.S.C. § 254(b).

³² The program allows eligible carriers who serve these areas to recover some of their operating costs from the federal universal service fund. See 47 C.F.R. Part 54, Subpart D.

³³ 47 C.F.R. Part 54, Subpart E.

³⁴ 47 C.F.R. Part 54, Subpart F.

³⁵ 47 C.F.R. Part 54, Subpart G.

³⁶ See *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Order, 22 FCC Rcd 20360 (2007) (*RHC Pilot Selection Order*); *Rural Health Care Support Mechanism*, WC Docket No. 02-60, Order, 21 FCC Rcd 11111 (2006) (*2006 Rural Healthcare Pilot Program Order*). The Rural Health Care Pilot Program also supports costs associated with connecting to nationwide backbone providers, Internet2 or National LambdaRail, and connecting to the public Internet. See *RHC Pilot Selection Order*, 22 FCC Rcd at 20361, para. 2.

³⁷ See *2006 Rural Healthcare Pilot Program Order*, 21 FCC Rcd 11111.

³⁸ 47 U.S.C. § 254(c).

³⁹ *High-Cost Universal Service Support; Federal-State Joint Board on Universal Service*, WC Docket No. 05-337, CC Docket No. 96-45, Recommended Decision, 22 FCC Rcd 20477, 20481-82, 20490-92, paras. 12-15, 55-62 (Fed-State Jt. Bd. 2007). The Commission declined to adopt the recommendations of the Joint Board. *High-Cost Universal Service Support; Federal-State Joint Board on Universal Service; Lifeline and Link Up; Universal Service Contribution Methodology; Numbering Resource Optimization; Implementation of the Local Competition*

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Further Notice of Proposed Rulemaking seeking comment on requiring recipients of High-Cost support to offer broadband Internet access service throughout their service areas.⁴⁰ In addition, the Commission sought comment on establishing a Broadband Lifeline/Link-Up Pilot Program to examine how the Low-Income universal service support program can be used to enhance access to broadband Internet access services for low-income Americans.⁴¹ Specifically, the Commission sought comment on making available \$300 million each year for three years to enable eligible telecommunications carriers to provide discounts on broadband Internet access service and the necessary access devices to low-income consumers.⁴²

11. The Commission also has taken a series of steps, through regulatory action, consumer information and tribal outreach, to address the lack of telecommunications deployment and subscribership throughout Indian Country.⁴³ The Commission has described its trust responsibility toward tribes and expressed its commitment to work cooperatively with other federal departments and agencies, and tribal, state and local governments, to address communications problems, such as low penetration rates and poor service quality on reservations, and other problems of mutual concern.⁴⁴

12. *Increasing the Availability and Use of Spectrum for Broadband Service.* The Commission has made significant wireless spectrum suitable for broadband service available through auction and through other mechanisms. Making spectrum available is a critical step along the path toward making wireless broadband – both mobile and fixed – available to the American consumer. For example, the Commission has auctioned 90 megahertz of Advanced Wireless Service spectrum in the 2 GHz band and 52 megahertz of commercial spectrum in the 700 MHz band.⁴⁵ In addition, the Commission has

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Provisions in the Telecommunications Act of 1996; Developing a Unified Intercarrier Compensation Regime; Intercarrier Compensation for ISP-Bound Traffic; IP-Enabled Services, WC Docket Nos. 05-337, 03-109, 06-122, 04-36, CC Docket Nos. 96-45, 99-200, 96-98, 01-92, 99-68, Order on Remand and Report and Order and Further Notice of Proposed Rulemaking, FCC 08-262, paras. 30-37 (rel. Nov. 5, 2008) (*November 2008 Further Notice*).

⁴⁰ *November 2008 Further Notice* at para. 40, App. A, paras. 19-31, App. C, paras. 19-31.

⁴¹ See *November 2008 Further Notice* at para. 40; App. A, paras. 64-91; App. C, paras. 60-87.

⁴² See *id.*

⁴³ Examples include Tribal Lands Bidding Credits (TLBCs) and the Indian Telecommunications Initiatives (ITI). TLBCs are available to winning bidders for wireless licenses that deploy facilities and provide service to federally-recognized tribal areas that have a wireline telephone subscription or penetration rate equal to or below 85 percent. See, e.g., *Extending Wireless Telecommunications Services to Tribal Lands*, WT Docket No. 99-266, Report and Order and Further Notice of Proposed Rulemaking, 15 FCC Rcd 11794 (June 30, 2000) (*Tribal Bidding Credits Report and Order*); <http://wireless.fcc.gov/auctions>. ITI is a series of interactive workshops among Tribal Nations, government agencies, and industry addressing telecom issues facing Indian Country to encourage partnerships among these groups to improve telecommunications coverage in American Indian and Alaska Native communities. See, e.g., <http://www.fcc.gov/indians/>.

⁴⁴ See *Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes*, Policy Statement, 16 FCC Rcd 4078 (2000).

⁴⁵ See *Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands*, WT Docket No. 02-353, Report and Order, 18 FCC Rcd 25162 (2003) (*AWS-1 Service Rules Report and Order*), modified by *Service Rules for Advanced Wireless Services in the 1.7 GHz and 2.1 GHz Bands*, WT Docket No. 02-353, Order on Reconsideration, 20 FCC Rcd 14058 (2005). See also *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands; Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems; Section 68.4(a) of the Commission's Rules Governing Hearing Aid-Compatible Telephones; Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services; Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission's Rules; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Development of Operational, Technical and Spectrum Requirements for*

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adopted innovative licensing approaches such as the non-exclusive licensing scheme used in the 3650-3700 MHz band that permits multiple entrants to simultaneously use the band.⁴⁶ The Commission also has restructured spectrum use in existing bands with a view to advancing deployment of broadband and advanced services. For instance, in the 2.5 GHz band, the Commission restructured the band plan from interleaved spectrum to more cohesive, contiguous blocks of spectrum, thus allowing for development of mobile broadband services.⁴⁷ The Commission has also revised its rules involving unlicensed operations, devices, and equipment authorization to help facilitate the efficient use of spectrum, including allowing unlicensed radio transmitters to operate in the broadcast television spectrum at locations where that spectrum is not being used by licensed services, the so-called TV white spaces.⁴⁸

13. *Broadband Deployment Reporting and Data Collection.* One of the Commission's statutory obligations is to report regularly on "whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion,"⁴⁹ which includes broadband Internet access. Since 2000, the Commission has collected information regarding broadband subscribership throughout the United States.⁵⁰ The Commission periodically reviews and revises its data collection requirements⁵¹ and in 2008 the Commission revised, for a second time, its methods and procedures for

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Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket Nos. 06-150, 96-86, 03-264, 01-309, 06-169, CC Docket No. 94-102, PS Docket No. 06-229, Report and Order and Further Notice of Proposed Rulemaking, 22 FCC Rcd 8064 (2007); *Second Report and Order*, 22 FCC Rcd 15289 (2007) *recon. pending*.

⁴⁶ *Wireless Operations in the 3650-3700 MHz Band; Rules for Wireless Broadband Services in the 3650-3700 MHz Band*, WT Docket No. 05-96; ET Docket No. 04-151, Report and Order, 20 FCC Rcd 6502 (2005), *recon. granted in part, Memorandum Opinion and Order*, 22 FCC Rcd 10421.

⁴⁷ *See Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, WT Docket No. 03-66, Report and Order and Further Notice of Proposed Rulemaking, 19 FCC Rcd 14165, 14270, 14271-14272, paras. 281, 286 (2004); *Amendment of Parts 1, 21, 73, 74 and 101 of the Commission's Rules to Facilitate the Provision of Fixed and Mobile Broadband Access, Educational and Other Advanced Services in the 2150-2162 and 2500-2690 MHz Bands*, WT Docket No. 03-66, Third Memorandum Opinion and Order and Second Report and Order, 21 FCC Rcd 5606 (2006).

⁴⁸ *Unlicensed Operation in the TV Broadcast Bands; Additional Spectrum for Unlicensed Devices Below 900 MHz and in the 3 GHz Band*, ET Docket Nos. 04-186, 02-380, Second Report and Order, 23 FCC Rcd 16807 (2008) (*White Spaces Second Report and Order*). In addition, the Commission has affirmed its decision to allow unlicensed operation of Access Broadband over Power Line systems, proposed rule changes that would allow longer communications ranges for unlicensed point-to-point broadband digital transmitters to extend the ability of such systems to supply very high-speed broadband service, clarified its rules for operation of unlicensed Wi-Fi and other devices in the 5 GHz band, initiated a proceeding to establish a new service for advanced medical radio communication devices in the 401-406 MHz band, and modified its rules to provide for more efficient equipment authorization of both existing modular transmitter devices and emerging partitioned modular transmitter devices. *Amendment of Part 15 Regarding New Requirements and Measurement Guidelines for Access Broadband over Power Line Systems; Carrier Current Systems, including Broadband over Power Line Systems*, ET Docket Nos. 04-37, 03-104, Memorandum Opinion and Order, 21 FCC Rcd 9308 (2006).

⁴⁹ *See* Telecommunications Act of 1996, Pub. L. No. 104-104, 110 Stat. 56 § 706 (1996 Act) (amending the Communications Act of 1934) (reproduced in the notes under 47 U.S.C. § 157).

⁵⁰ *Local Competition and Broadband Reporting*, CC Docket No. 99-301, Report and Order, 15 FCC Rcd 7717 (2000) (*2000 Data Gathering Order*). The formal program followed several attempts by the Common Carrier Bureau to collect information on a voluntary basis. *See Local Competition and Broadband Reporting*, CC Docket No. 99-301, Notice of Proposed Rulemaking, 14 FCC Rcd 18106 (1999).

⁵¹ For example, in 2004, the Commission reexamined its Form 477 local competition and broadband data gathering program, and began requiring providers to submit further information about their broadband deployments, including

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collecting information on broadband services.⁵² Broadband providers are now required to report the number of broadband connections in service in individual Census Tracts, including speed data for new categories of download and upload speeds in conjunction with subscriber counts.⁵³ The Commission also collects mobile wireless subscriber counts by state and mobile wireless coverage data by Census Tract.⁵⁴ Cable systems also report broadband deployment on Form 325, the annual cable system report, by physical system (PSID). Form 325 is filed, however, by only a sample of systems with fewer than 20,000 subscribers; only large systems file every year.⁵⁵ In the *2008 Data Gathering Order*, the Commission also sought comment on a number of additional reporting requirements. Specifically, the Commission sought comment on requiring broadband providers to report actual speed delivered and prices for service, on collaboration with RUS for broadband mapping, and on whether it should periodically conduct and publish opinion surveys of broadband customers.⁵⁶

14. Section 706(c) of the 1996 Act describes advanced telecommunications capability as “high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology.”⁵⁷ In previous reports to Congress, the Commission defined “broadband” – and, in effect, “advanced telecommunications capability” and “advanced services” – as services and facilities with an upstream (customer-to-provider) and downstream (provider-to-customer) transmission speed of more than 200 kilobits per second (kbps).⁵⁸ By contrast, the Commission has used the term “high-speed” to describe

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the percentage of their broadband connections that are faster than 200 kbps in both directions and a categorization of those connections into five “speed tiers” based on the information transfer rate in the connection's faster direction: (1) greater than 200 kbps but less than 2.5 megabits per second (mbps); (2) greater than or equal to 2.5 mbps but less than 10 mbps; (3) greater than or equal to 10 mbps but less than 25 mbps; (4) greater than or equal to 25 mbps but less than 100 mbps; and (5) greater than or equal to 100 mbps. See *Local Telephone Competition and Broadband Reporting*, WC Docket No. 04-141, Report and Order, 19 FCC Rcd 22340, 22347-48, para. 14 (2004) (*2004 Data Gathering Order*).

⁵² *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscriber Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscriber Data*, WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, 23 FCC Rcd 9691 (2008) (*2008 Data Gathering Order*). The Commission updated the broadband reporting tiers to include upload and download speeds of: (1) greater than 200 kbps but less than 768 kbps; (2) equal to or greater than 768 kbps but less than 1.5 mbps; (3) equal to or greater than 1.5 mbps but less than 3.0 mbps; (4) equal to or greater than 3.0 mbps but less than 6.0 mbps, (5) equal to or greater than 6.0 mbps but less than 10.0 mbps; (6) equal to or greater than 10.0 mbps but less than 25.0 mbps; (7) equal to or greater than 25.0 mbps but less than 100.0 mbps; and (8) equal to or greater than 100 mbps. *Id.* at 9700, para. 20.

⁵³ *Id.* Previously, the Commission collected data to identify, for each technology (e.g., cable modem, satellite), whether a provider had any subscribers of that service in a postal service 5-digit zip code. The Commission did not collect the actual number of subscribers at the zip code level. *2008 Data Gathering Order*, 23 FCC Rcd at 9695, para. 10. The Commission collects and reports these data semi-annually, with the first reporting deadline for the revised data collection set at March 16, 2009. See *Form 477 Electronic Filing System Now Available; Filing Deadline Extended To March 16, 2009*, WC Docket No. 07-38, Public Notice, DA 09-431 (rel. Feb. 23, 2009).

⁵⁴ *2008 Data Gathering Order*, 23 FCC Rcd at 9698, para. 16.

⁵⁵ See 47 C.F.R. § 76.403 & nt.

⁵⁶ See *2008 Data Gathering Order*, 23 FCC Rcd at 9708-13, paras. 34-40.

⁵⁷ 47 U.S.C. § 157 nt.

⁵⁸ *Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, CC Docket No. 98-146, Report, 14 FCC Rcd 2398, 2406, para. 20 (1999) (*Section 706 First Report*); *Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion*, CC Docket No. 98-146, Second Report, 15 FCC Rcd 20913, 20919-21, para. 10 (2000) (*Section 706 Second Report*); *Deployment of* (continued....)

services with over 200 kbps capability in at least one direction.⁵⁹ In the *2008 Data Gathering Order*, the Commission updated the broadband reporting speed tiers and created the term “first generation data” to refer to those services with data rates greater than 200 kbps but less than 768 kbps in the faster direction, and the term “basic broadband tier 1” to refer to services equal to or greater than 768 kbps but less than 1.5 mbps in the faster direction. Subsequent tiers were labeled “broadband tier 2” through “broadband tier 7.”⁶⁰

15. *CMRS Competition Reports.* The Commission also provides data regarding the availability of commercial mobile wireless broadband services in its annual Commercial Mobile Radio Service (CMRS) Competition Report.⁶¹ Based on carrier-specific and technology-specific coverage maps provided through a contract with American Roamer, the CMRS Competition Reports enable the Commission to calculate the percentage of the U.S. population, based on Census Tracts, living in an area with mobile broadband network coverage. The Commission also uses the coverage maps to estimate the percentage of the population living in Census Tracts with a certain number of mobile broadband competitors.⁶² The CMRS Competition Reports also discuss technology upgrades and innovations by wireless broadband providers, applications and services available on wireless broadband networks, and mobile broadband pricing and usage levels.⁶³

16. *Other Data Collection.* We also note that the Commission collects many other types of data,⁶⁴ including data collected for the annual satellite competition report. This report investigates the reach of satellite-based two-way broadband to the home.⁶⁵

17. *Broadband Regulation and Classification.* The Commission has, for many years, had regulations aimed at advancing the deployment of broadband and advanced services. The Commission’s first such regulations, spawned in an era of a monopoly telephone system, were designed to permit the

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Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, CC Docket No. 98-146, Third Report, 17 FCC Rcd 2844, 2850, para. 9 (2002) (*Section 706 Third Report*); *Availability of Advanced Telecommunications Capability in the United States*, GN Docket No. 04-54, Fourth Report to Congress, 19 FCC Rcd 20540, 20551-52 (2004) (*Section 706 Fourth Report*).

⁵⁹ See *Section 706 Second Report*, 15 FCC Rcd at 20920, para. 11; *Section 706 Third Report*, 17 FCC Rcd at 2850-51, para. 9; *Fourth Report*, 19 FCC Rcd at 20551.

⁶⁰ *2008 Data Gathering Order*, 23 FCC Rcd at 9700-01, para. 20 n.66.

⁶¹ See, e.g., *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993; Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services*, WT Docket No. 08-27, Thirteenth Report, DA 09-54, (WTB rel. Jan. 16, 2009) (*13th Annual CMRS Competition Report*).

⁶² See *13th Annual CMRS Competition Report*, paras. 2, 37, 144-47. American Roamer is an independent consulting firm that tracks service provision for mobile voice and mobile data services. *Id.* at para. 37.

⁶³ See *13th Annual CMRS Competition Report*, paras. 119-24, 134-40, 148-52, 164-76, 201-07.

⁶⁴ Section 623(k) of the Communications Act, as amended by the Cable Television Consumer Protection and Competition Act of 1992, Pub. L. No. 102-385, 106 Stat. 1460 § 3(k) (codified at 47 U.S.C. Section 543(k)), requires the Commission to publish a statistical report on average rates charged by cable operators for the basic cable service and cable programming service tiers, and cable equipment. The Commission gathers this information by requiring a sample of cable operators to respond to a Commission questionnaire. As part of this questionnaire, the Commission asks cable operators whether they offer “Internet” service to their subscribers and what percent of these subscribers purchase their Internet service. Cable operators responding to this survey are required to provide this information for the “smallest system area for which they keep records.”

⁶⁵ See, e.g., *Annual Report and Analysis of Competitive Market Conditions with Respect to Domestic and International Satellite Communications Services*, IB Docket No. 06-67, First Report, 22 FCC Rcd 5954 (2007).

development of “enhanced services.”⁶⁶ In recent years, the Commission has turned to a deregulatory policy framework for facilities-based providers of broadband Internet access services based on limited regulation under Title I of the Act, rather than extensive regulation under Title II.⁶⁷ Regulating broadband Internet access under Title I of the Act, rather than Title II, led the Commission to inquire about how long-standing public interest requirements might apply in the revised policy framework.⁶⁸

⁶⁶ For a detailed history of Commission regulations regarding enhanced services, see *Wireline Broadband Order*, 20 FCC Rcd 14853.

⁶⁷ See *Wireline Broadband Order*, 20 FCC Rcd 14853 (2005); see also *National Cable & Telecommunications Ass’n v. Brand X Internet Services*, 125 S. Ct. 2688 (2005) (*NCTA v. Brand X*), *aff’g Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, GN Docket No. 00-185, CS Docket No. 02-52, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002) (*Cable Modem Declaratory Ruling and NPRM*); *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) (*BPL Order*).

⁶⁸ See *Consumer Protection in the Broadband Era NPRM*, 20 FCC Rcd 14853 (2005); see also *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services 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 Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities Internet Over Cable Declaratory Ruling Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, Policy Statement, 20 FCC Rcd 14986 (2005) (*Internet Policy Statement*).

**STATEMENT OF
ACTING CHAIRMAN MICHAEL J. COPPS**

Re: *A National Broadband Plan for Our Future*, GN Docket No. 09-51

Today we commence a national dialogue on how we as a nation can make high-speed broadband available, affordable and easily useable to citizens and businesses throughout the land. This is a good news item. In spite of the fact that it springs in part from an economic downturn that has put a lot of our fellow citizens on the ropes, it signals that at long last we are getting serious about making our citizens and our country more competitive, prosperous, and fulfilled. It means that we are coming to grips with the fact that we have a long way to go to get high-speed, value-laden broadband out to all our citizens. It means that we are beginning to understand that real economic and social progress needs to be fueled by both vigorous private enterprise *and* enlightened public policy. The missing ingredient until this year has been the enlightened public policy.

This Commission has never, I believe, received a more serious charge than the one to spearhead development of a national broadband plan. Congress has made it crystal clear that it expects the best thinking and recommendations we can put together by next February. If we do our job well, this will be the most formative—indeed transformative—proceeding ever in the Commission’s history.

Broadband can be the great enabler that restores America’s economic well-being and opens doors of opportunity for all Americans to pass through, no matter who they are, where they live, or the particular circumstances of their individual lives. It is technology that intersects with just about every great challenge confronting our nation—whether it’s jobs, education, energy, climate change and the environment, international competitiveness, health care, overcoming disabilities, equal opportunity—the list goes on. Enabling our people and our enterprises through value-laden broadband can spell the difference between just muddling through if we’re lucky and opening the way to many more years of U.S. prosperity and world leadership.

When I arrived here in 2001 and called for the Commission to engage in a serious dialogue about the future of broadband, it was unclear whether such a dialogue would occur. On many occasions over the intervening years, I talked about how the country lacked a national strategy; how we lacked even the essential data on which to build a viable strategy; and how we were paying way too high a price because of a cavalier approach to an urgent national problem. But that was then and today is now. We have new national leadership committed to broadband and we have economic dislocation that has awakened many people to the need for a decidedly new direction. But we’re not going to get to where we need to go without a road map, and it’s that road map that we begin designing today. We begin at last to do what we should have done years ago—make a plan for how the United States becomes the world’s broadband beacon.

Broadband products and applications, both fixed and mobile, have already fundamentally changed the way Americans go about their daily lives. Many of us—primarily in relatively well-off urban areas—have become at least familiar with the promise of broadband to communicate with family and friends, to telework and bank, to interact with government, to get news and information, and many other applications. Yet all this progress is only a small part—just prologue—to what this technology is going to do to change our lives in the years ahead. Think about the impact high-speed connections can have on students of all ages and in all areas who could access distance learning, research, or job retraining. Or telemedicine networks that can manage medical records, save lives and improve the standard of well-being for Americans living

in areas that lack access to the breadth of medical expertise, specialty care, and advanced medical technologies available in other areas. Think about a nationwide, interoperable public safety system to help first responders see us through hurricanes, tornadoes, blizzards and man-made disasters. Think about smart grids for energy efficiency. New tools to gauge and even slow climate change. The list goes on. In fact, it would be a far shorter list if we enumerated those aspects of our national life that will *not* be impacted by high-speed, value-laden broadband.

So we launch today. Our Notice of Inquiry seeks to be open, inclusive, out-reaching and data-hungry. It seeks input from stakeholders both traditional and non-traditional—those who daily ply the halls of our hallowed Portals, those that would like to have more input here if we really enable them to have it, and those who may never have heard of the Federal Communications Commission. It will go outside Washington, DC to rural communities, the inner city and tribal lands. It will go where the facts and the best analysis we can find take it. It will look at broadband supply and broadband demand. It will look at broadband quality and affordable prices. It will endeavor to better understand, and hopefully build upon, the cross-cutting nature of what broadband encompasses, beginning with an appreciation that it brings opportunities to just about every sphere of our national life. And it can also consider, in addition to the many opportunity-generating characteristics of broadband, how to deal with any problems, threats or vulnerabilities that seem almost inevitably to accompany new technologies. Ensuring broadband openness, avoiding invasions of people's privacy, and ensuring cybersecurity are three such challenges that come immediately to mind. We have never in history seen so dynamic and potentially-liberating a technology as this—but history tells us that no major technology transformation is ever a total, unmixed, problem-less blessing.

Going forward, we will distill the information that enters this NOI funnel with our eyes on the prize—a national broadband plan that is focused, practical and achievable. Instead of trying to resolve every contentious issue that has fueled so many years of seemingly-endless debates over telecommunications—debates that have too often deflected us from the progress we should have been making—we will go in quest of practical suggestions that can be deployed in time to respond to the economic and many other challenges facing us.

It's a huge task that we undertake today. Every Bureau in this Commission will have a role to play in the development of the national broadband plan. I expect everyone here will put their best effort forward to realize the objective we seek. And I hope all stakeholders—and that means whoever wishes to be heard in this critical public policy discussion—will respond to the NOI. Commenters need not—indeed cannot—respond to all the many inquiries we raise, nor should they feel compelled to. Single out those areas where you feel you can make a contribution and share your insights and suggestions with us. If there's a question or a dimension of the problem that the NOI misses, we want to hear about that and have your ideas there, too. When I say we strive to be inclusive, I mean really inclusive.

The preparation of this NOI has been a cross-cutting effort involving just about every office in the Commission. I thank the Bureaus and Offices for the hard work they have already put in—and I also use the occasion to warn them we are only just beginning. I want to thank my two colleagues, Jonathan Adelstein and Robert McDowell, for their participation and leadership and the many helpful suggestions they have made to move this proceeding along. Their staffs have been great, too. My own office has worked hard on this, too, and I want to particularly commend Scott Deutchman for his efforts to bring people and ideas together for our broadband mobilization—and mobilization it is.

Let me also recognize a few special guests here at the Commission this morning: Dennis Amari from the National Telecommunications and Information Administration and David Villano and Mary Campanola from the Rural Utilities Service. Their presence here bespeaks the beginnings of true inter-agency cooperation on the broadband challenge, an effort that is already reaching out to include many other agencies of government at the federal, state and local levels. We need the help of all of them. If no sector is outside the new world of advanced communications, then no agency should be, either.

You may have concluded by now that I think this is a pretty big deal. It really is. You don't have to trust me about that—the President and the Congress think so, too. And, judging from my meetings around the country, I think millions of our fellow citizens get it, too. All these folks are looking for the best possible effort here. That's what my colleagues and I are determined to give them. Of course, if we want the best possible product going out, we need the best possible data, analysis and recommendations coming in. That's why I encourage maximum public input into this critical public policy dialogue.

**STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN**

Re: *A National Broadband Plan for Our Future*, GN Docket No. 09-51

Today we launch a long overdue, desperately needed effort to establish a national broadband policy. This is a step Chairman Copps and I have advocated for many years. It is wonderful to see it finally come to fruition under your Chairmanship. As we finally undertake this inquiry, it is to implement a historic piece of legislation. While it should not have taken an act of Congress to get us to do our jobs, the fact that Congress acted gives us the funding to do it right, and provides us the mandate to draft an authoritative plan.

I want to thank Chairman Copps for his leadership in bringing an excellent and comprehensive item to us so quickly. At this critical time in our nation's history, this far-reaching NOI asks the right questions. It seeks input from all stakeholders as to how we can design a broadband plan that brings the promise of technology to everyone. For those of us who have long hungered for a meaty discussion of how to craft a national broadband plan, today we set the table for a feast.

Broadband is no longer a luxury. It is essential if we are going to maximize the potential of every citizen to contribute to our social, cultural and economic life. We need the full input of every citizen, whether they live in rural, insular or other high-cost areas, whether they live in economically challenged sections of our inner cities, whether they are persons with disabilities, whether or not they speak English, and regardless of their income level. We need everyone's voice to create a truly national plan that leaves nobody out.

To make our plan more than just words, we must start by upgrading our communications infrastructure in every corner of this country. And we must do a better job of making innovative communications technologies more widely available and affordable. It's clearly in our economic interests to do so, especially given the downturn we face; but it is also in the interests of our health care system, our environment, our education system, our energy grid, our transportation network, our public safety agencies – in fact, broadband will help us address almost every big challenge we face. Other countries around the world have long recognized this. At long last, we have a President, a Congress and a FCC that do, as well.

To address our communications needs, we'll need to rededicate ourselves to the tall tasks of expanding access to broadband services and modernizing universal service. We will harness the talents of everyone in this country to maximize our economic growth, improve our quality of life, and uplift our democracy and the values we hold dear.

To be clear, we are not substituting Government policy for market discipline. Any successful broadband strategy will rely primarily and extensively on the private sector to drive deployment and investment. We need to encourage capital investment, and find ways to facilitate access to the capital markets in these challenging times. A true public-private partnership will require far greater focus from our policy leaders to succeed. We need all players to work together.

On the government side, to reach its full impact, any strategy will need to involve proper coordination across all levels of government. On a Federal level, it will require unprecedented interagency coordination, which we are already seeing on a scale that dwarfs any efforts in the previous Administration. Given the cross-cutting impact of broadband, this will involve far more

agencies than just the ones we usually associate with telecommunications, such as the FCC, NTIA and RUS. A major role is needed by numerous departments including Health and Human Services, Education, Energy, Housing and Urban Development, Transportation, Justice, Homeland Security, Defense, the Small Business Administration, and the Federal Trade Commission, to name a few. This will require coordination at the White House level. And the Federal government will need to coordinate with efforts by our partners in state, local and tribal governments.

And of course we recognize that any effective effort will rely heavily on wireless broadband as the wave of the future, and a key element to reach hard to serve areas. Considering America's ever-increasing appetite for reliable broadband services and applications from mobile devices, the role that wireless will play is huge and undeniable. There is a clear need for focused efforts on spectrum efficiency and management, which will require a thorough spectrum inventory, as many in Congress are now proposing. The future success of our economy demands that we promote the expansion of communications infrastructure and focus our energies on optimizing our spectrum resources.

A key part of any meaningful broadband plan must be accurate, reliable and detailed data on broadband deployment. I am pleased that today's item, among many other important questions, asks how we can build on our current data collection methods to determine who is participating in the broadband revolution, and who is not, including those in tribal lands and rural areas. It is only with these data – which we should have been collecting all along – that we can make sound policy decisions. Today's NOI reminds us that we have also been charged by Congress to develop a comprehensive *rural* broadband strategy under the 2008 Farm Bill with our partners at the Department of Agriculture. I look forward to working with my colleagues on that important plan, which is due to Congress next month.

Broadband is now the critical infrastructure of our economy and our democracy. In the last decade, we have seen the doors of civic participation and economic opportunity blown open by the power of the Internet. And not one of our citizens should be left out. But let's be clear, this won't happen overnight. It will take contributions from every sector – private, public, non-profit and in partnership. Yet it is reassuring to finally have leadership at every level of the Federal government that truly understands the importance of these digital connections. This Notice recognizes the need to pursue a comprehensive strategy that involves improving broadband deployment, availability, affordability, adoption, competition, and cyber security.

Finally, I want to thank the hard-working staff for a true cross-bureau effort in drafting what is one of the most significant items we have seen. With your hard work, today's NOI sets us on the right path to fulfill Congress' intent to bring broadband opportunities to those who need it most, when they need it most.

**STATEMENT OF
COMMISSIONER ROBERT M. McDOWELL**

Re: *A National Broadband Plan for Our Future*, GN Docket No. 09-51

Our action today, which I support, serves as the first step in the creation of the national broadband plan Congress has directed us to develop. The end result will be the most important public policy initiative affecting broadband since the landmark Telecommunications Act of 1996. Let's all work hard to get it right.

This nation has made great strides in developing and deploying broadband infrastructure and services since the Commission issued the first Section 706 Report in 1999. Today, a wide variety of innovative services are provided to individuals and businesses over copper, cable, fiber, wireless and satellite infrastructure that simply did not exist a decade ago. These successes resulted directly from the lifting of legacy common carrier regulations from broadband services and a removal of other barriers to infrastructure investment that allowed network operators and service providers to attract investment capital to fund their businesses.

In fact, broadband deployment and adoption rates have improved significantly since we adopted these policies. The FCC's own data shows that since 2000, the number of high speed lines has increased more than 1600 percent, from approximately 6.8 million lines in December 2000 to over 121 million lines in December 2007, the most recent period for which we have data. In what might be a better measure of "broadband" deployment, FCC data shows the number of lines with transmission speeds greater than or equal to 2.5 megabits per second grew from December 2005 to December 2007 by 70 percent, from approximately 27 million lines to over 45 million lines.

As a result, the American broadband sector presents us with a solid foundation upon which to build. Although more can, and should, be done to improve on our broadband competitiveness, let's be sure to recognize what has gone right at least as much as we analyze any shortcomings. Some estimates regarding private investment in domestic broadband infrastructure in this year alone exceed \$80 billion – and that is during a time when private capital is extremely scarce at best. Few, if any, industries can make such claims. The point is that even in light of imperfections, the American broadband market has positive momentum in a time when other sectors are struggling. Let's be sure to accelerate that progress with future policy decisions.

As we develop our record in this proceeding, I will keep in mind some fundamental concepts. First, it is critical that our plan be competitively and technologically neutral. Given the incredibly diverse nature of our country – both in terms of geography and demographics – our plan must not favor one particular technology or type of provider over another, even inadvertently. Broadband deployment throughout America simply is not a one-size-fits-all proposition. Wireline, wireless and satellite technologies are meaningful alternatives, each worthy of our attention. For instance, to deny the people of Alaska the benefits of broadband connectivity via wireless and satellite would be tantamount to isolating the tens of thousands of Americans who live on Native lands and in subsistence villages. Thus, as we proceed, we must be mindful of the law of unintended consequences before making any new rules.

In addition, it is essential that our plan give current and prospective broadband network and service providers the proper incentives to deploy new technologies. We must also provide entrepreneurs with the flexibility to make full use of all available spectrum, including the television white spaces, to backhaul broadband traffic. In order to attract investors to fund the

buildout of new networks, we must not engage in rulemakings that produce whimsical regulatory arbitrage. Rather, we must allow market players to succeed or fail on their own merits and not due to the government picking winners and losers. In short, our rules must allow network operators to have a reasonable opportunity to pay back their investors. That's the only way to improve existing networks and build new ones.

It is equally as important that consumers continue to have the freedom to pull – or push – the legal content of their choice anytime, anywhere, and on the device of their choosing within the physical limitations of the networks they use. The market is rushing to satisfy the latest consumer demand in this regard. Let's make sure the government does not get in the way of these developments. Accordingly, we must avoid counterproductive government mandates that can disappear in a two, four or eight year election cycle. Such short time horizons will merely scare away investors.

Because we begin with a clean slate, this Notice of Inquiry presents myriad questions. Some are narrow and specific. Others are broader. All are important. If commenters think of questions we should have asked but did not, please raise them. If you disagree with the premise of a question, by all means say so. Your advice will help us to develop a thoughtful, reasonable, practical and pragmatic plan. As these issues are interdisciplinary and cut across the Commission's stovepipe organization, I am pleased that the responsibility of this proceeding is jointly shared among several bureaus and offices, each with its own expertise and perspective. In the meantime, I look forward to studying the data, analyses and comments and engaging with all stakeholders as we move forward.