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Before the
Federal Communications Commission
Washington DC 20554

In the Matter of	)	
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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

NOTICE OF INQUIRY

Adopted: March 12, 2007 **Released: April 16, 2007**

Comment Date: May 16, 2007
Reply Comment Date: May 31, 2007

By the Commission: Chairman Martin and Commissioners Copps, Adelstein, Tate, and McDowell issuing separate statements.

I. INTRODUCTION

1. This Notice of Inquiry (Notice) begins our fifth inquiry under section 706 of the Telecommunications Act of 1996 (the 1996 Act) into "whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion."[1] We seek comment on various market, investment, and technological trends in order for the Commission to analyze and assess whether infrastructure capable of supporting advanced services is being made available to all Americans.

2. In section 706, Congress directed the Commission and the states to encourage the deployment of advanced telecommunications capability to all Americans.[2] In conjunction with this objective, Congress instructed the Commission to conduct regular inquiries concerning the availability of advanced telecommunications capability. In so doing, Congress recognized that broadband or advanced services are critical to the future of our nation.[3] Indeed, advanced services have already played a vital role in the nation's economy and the lives of its people. Many U.S. companies, both large and small, depend on advanced services to run various facets of their businesses, including tracking inventory, monitoring consumer relations, and forecasting product sales. Moreover, advanced services have created new jobs, while enabling skilled employees to work more effectively in their current jobs. Advanced services have

[1] *See* § 706(b) of the Telecommunications Act of 1996, Pub. L. 104-104, 110 Stat. 56 (1996) (1996 Act), reproduced in the notes under 47 U.S.C. § 157.

[2] Congress specified that 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." *See* § 706(c) of the 1996 Act.

[3] For purposes of this inquiry, we use the terms "advanced" and "broadband" service interchangeably.

Commission also convened a Joint Conference, consisting of federal and state regulators, to provide a forum for an ongoing dialogue among the Commission, the states, and regional and local entities regarding the deployment of advanced telecommunications capability.[7] Finally, the Commission undertook a series of in-depth case studies to gain a detailed understanding of how advanced telecommunications capability is being deployed and used in different communities.

8. In its third section 706 inquiry, the Commission again examined the advanced services marketplace, using the same framework for information collection and analysis as previous inquiries.[8] In reaching its conclusions, the Commission relied upon standardized information from providers of advanced telecommunications capability derived from FCC Form 477, as well as information gathered from commenters, analysts, and other sources.

9. In its fourth section 706 inquiry, the Commission's report included a thorough discussion of developments in last-mile broadband technologies, as well as analysis of broadband deployment nationwide and in more specific categories, such as rural areas, schools, low-income populations, and minority groups.[9] The Commission again relied on information from FCC Form 477 and on information provided by other publicly available sources.

10. Aside from its formal section 706 inquiries, the Commission has published semiannual statistical reports every year since 2000, summarizing the FCC Form 477 data relating to high-speed connections.[10] In 2004, the Commission extended the data collection program for five years beyond its original sunset date of March 2005 and made significant improvements to FCC Form 477, including eliminating reporting thresholds that effectively exempted small entities from reporting requirements, and generally requiring more granular reporting of broadband data.[11] The Commission continues to explore ways to refine and improve our broadband deployment data. Most recently, we adopted a notice of proposed rulemaking in which we seek comment on various ideas for improving our data collection and identifying more precisely the areas of the country where broadband is not available.[12]

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[7] The Federal-State Joint Conference on Advanced Telecommunications Services was convened by the Commission on October 8, 1999 to further the vision of section 706 of the 1996 Act. To that end, the Joint Conference has held several field hearings to gather information on the deployment of advanced services, and issued a report regarding the availability and demand for broadband services in the United States. *See Broadband Services in the United States: An Analysis of Availability and Demand*, Federal-State Joint Conference on Advanced Services, October 2002.

[8] *Third Report*, 17 FCC Rcd at 2847-50, para. 7.

[9] *Fourth Report*, 19 FCC Rcd 20540.

[10] FCC Form 477 collects on a semiannual basis information relating to the provision of services that deliver an information-carrying capability in excess of 200 kbps in at least one direction. We have, to date, collected and published information 14 times under this program. The most recently published report, attached as Appendix A to this Notice, presents data as of June 2006. *See* Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division, *High-Speed Services for Internet Access: Status as of June 30, 2006* (rel. Jan. 31, 2007) (*June 2006 Statistical Summary*), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-270128A1.pdf.

[11] *See Local Telephone Competition and Broadband Reporting*, WC Docket No. 04-141, Report and Order, 19 FCC Rcd 22340 (2004) (*2004 Data Gathering Order*). The first report to reflect these changes was released in April 2005. *See* Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division, *High-Speed Services for Internet Access: Status as of June 30, 2005* (rel. Apr. 3, 2006), *available at* http://www.fcc.gov/wcb/iatd/comp.html.

[12] *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans*, WC Docket No. 07-38, Notice of Proposed Rulemaking, FCC 07-17 (rel. Apr. 16, 2007). A report recently issued by the United States Government Accountability Office (GAO) reviews the strengths and

(continued....)

evolved such that we should redefine the term "advanced services" to require a minimum speed higher than 200 kbps in one or both directions? Should we adopt a definition that establishes different tiers based on information transfer rates? Have consumer expectations with respect to bandwidth needs changed since prior reports?[18] To what extent is mobility important to consumers when considering broadband alternatives? How has the development of new broadband technologies like wireless affected the marketplace evolution? Has development of the wireless broadband marketplace been affected by ownership of wireless companies by companies with substantial wireline broadband and public switched telephone network (PSTN) facilities? Do these cross-owned wireless companies offer different services or service bundles than wireless companies not controlled by or affiliated with a wireline carrier? What sources of information currently exist regarding the deployment of advanced telecommunications capability under alternative definitions? Are any other attributes, besides the speed in which a particular quantity of information can be transmitted, relevant to the definition of advanced telecommunications capability? Finally, should we adopt a system under which our definition would automatically adjust upwards over time to reflect technological advances? Are there data sources measuring the state of technology in other countries that can guide the Commission in defining 'advanced telecommunication capacity' for the United States? For example, what speed do consumers in other industrialized nations expect from mainstream wireline residential broadband technologies?

B. Is Advanced Telecommunications Capability Being Deployed to All Americans?

13. We seek comment on whether advanced telecommunications capability is being deployed to all Americans. In particular, we seek comment on three general areas in order to facilitate our analysis: (1) the availability of advanced telecommunications capability and whether it has changed since the *Fourth Report*; (2) the economics underlying investment in advanced infrastructure and service deployment; and (3) technological improvements in advanced services technology.

14. Availability. As previously noted, the Commission began gathering data about the provision of high-speed and advanced services to end users in 2000.[19] All facilities-based providers of broadband connections to end users must report broadband data to the Commission.[20] Each filer provides data on the total number of lines or wireless channels by technology (such as digital subscriber line (DSL), cable modem, wireless, satellite, or power line). For each "technology subtotal," providers report additional

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based on the information transfer rate in the connection's faster direction: (1) greater than 200 kbps and less than 2.5 Mbps; (2) greater than or equal to 2.5 Mbps and less than 10 Mbps; (3) greater than or equal to 10 Mbps and less than 25 Mbps; (4) greater than or equal to 25 Mbps and less than 100 Mbps; and (5) greater than or equal to 100 Mbps. *See 2004 Data Gathering Order*, 19 FCC Rcd at 22347, para. 14.

[18] For example, AT&T and Verizon offer residential DSL products with maximum downstream capacities of up to 3.0 Mbps. *See* AT&T DSL Plans and Pricing, http://www.usa.att.com/dsl/index.jsp (visited Feb. 12, 2007); Verizon DSL for Home Packages and Pricing, http://www22.verizon.com/content/consumerdsl/plans/all+plans/all+plans.htm (visited Feb. 12, 2007). Time Warner Cable offers residential cable modem service products with maximum downstream capacities of up to 6.0 Mbps. *See* Time Warner Cable – Why Road Runner?, http://www.timewarnercable.com/corporate/products/highspeedinternet/whyroadrunner.html (visited Feb. 12, 2007). Verizon recently began offering its FiOS service, which may include Internet access speeds of up to 30 Mbps. *See* Verizon FiOS Internet Packages & Pricing, http://www22.verizon.com/content/fiostv/packages+and+prices/packages+and+prices.htm (visited Feb. 12, 2007).

[19] The Commission chose to collect data relating to high-speed services "because we believe that these services are an important stepping stone in the deployment of advanced telecommunications services and that these services may be priced to be particularly attractive to residential customers seeking, for example, high-speed Internet access." *2000 Data Gathering Order*, 15 FCC Rcd at 7731, para. 22.

[20] *See 2004 Data Gathering Order*, 19 FCC Rcd at 22345, para. 8. The *2004 Data Gathering Order* eliminated reporting thresholds that effectively exempted small entities from reporting requirements. *Id.*

Additionally, what effect have recent market changes, including technological and regulatory changes, in the industry had on broadband deployment?[24]

18. We seek to develop a greater understanding of the economics underlying deployment of advanced telecommunications capability and services that utilize that capability. How do the economics change over time as certain levels of deployment and/or penetration are achieved? Do the economics of deploying advanced telecommunications capability limit its availability in some geographic areas? How do providers differentiate their product among different consumer groups? What strategies, tactics, plans, organization, and operational structures do firms utilize to deliver new technologies and applications services to consumers?

19. We also seek comment on the pricing of broadband services, and what impact different pricing structures might have on broadband deployment and consumer usage. We note that some companies offer tiered service schemes, which permit both entry level and more sophisticated, higher-bandwidth services to be delivered over the same infrastructure.[25] To what extent could the availability of different product tiers affect penetration in today's marketplace? To what extent should the existence of product tiering affect our assessment of whether advanced telecommunications capability is being deployed on a reasonable and timely basis? We seek information relating price points to various speeds at which high-speed and advanced services are being made available to consumers. We seek specific comment on how the Commission can incorporate into the section 706 report information about the price of broadband services in the United States and how these prices compare to comparable services in other countries. How should the Commission gather information about broadband prices in the United States and how can it most usefully present it? Is aggregation at the national level appropriate, or does price vary by region (and if so, how should region be defined)? Should pricing information be disaggregated by type of service (e.g., wireless, DSL, fiber to the home (FTTH), satellite, cable modem, and so forth) or by speed tier? Or should it be presented in some other fashion?

20. Trends in Developing Technologies. In prior reports, the Commission looked closely at the various technologies currently capable of providing high-speed and advanced services as well as those technologies that are likely to emerge in the near future. Most recently, the *Fourth Report* described in detail several last-mile technologies used to provide high-speed systems: (1) cable modem service; (2) DSL (especially asymmetric DSL, or ADSL); (3) fiber-based wireline technologies, specifically FTTH and fiber-to-the-curb (FTTC); (4) licensed and unlicensed wireless technologies; (5) broadband over power lines (BPL); and (6) satellite service.[26] The Commission determined that competition among providers within certain technologies is emerging and that there is potential for several different technological options for providing high-speed and advanced services.[27]

21. We seek comment on technological developments that have occurred since the *Fourth Report*. What new technologies are now being used to provide high-speed or advanced services, or are likely to be

[24] *See, e.g., 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*, CC Docket Nos. 02-33, 01-337, 95-20, 98-10, Report and Order, 20 FCC Rcd 14853 (2005) (classifying wireline broadband Internet access service as an information service).

[25] *See, e.g.*, Verizon Packages and Prices, Verizon DSL for Home Packages and Pricing, http://www22.verizon.com/content/consumerdsl/plans/all+plans/all+plans.htm (visited Feb. 12, 2007) (offering Verizon DSL at two different maximum connection speeds for two different prices).

[26] *See Fourth Report*, 19 FCC Rcd at 20553-62.

[27] *See id.*

pace such that we should also monitor the rate of deployment to those customers and areas? For example, should we examine whether, within specific metropolitan areas, high-speed services are available equally in suburban and more urban areas?

25. We specifically seek comment on the status of deployment of high-speed and advanced services to consumers living in rural and other hard-to-serve areas. Our data collection shows that subscriptions to high-speed services in sparsely populated zip codes have increased, and the gap between the numbers of densely and sparsely populated zip codes that have high-speed subscribers has shrunk. For example, in June 2006, 89.3% of the most sparsely populated zip codes had high-speed subscribers, compared to 73.4% two years earlier.[32] Moreover, over the last two years, the gap between the most densely populated zip codes and most sparsely populated zip codes had shrunk from 25.5 percentage points to 10.1 percentage points, largely due to increases in the number of most sparsely populated zip codes with subscribers.[33] What are some of the reasons for this reduction in the gap between the most densely populated and the most sparsely populated zip codes? To what extent can changes in data over the past two years be attributed to the more precise information that the Commission has collected?[34] Should the Commission more closely analyze the data it currently collects to identify more precisely areas where broadband is not available? Do consumers in rural and other hard-to-serve areas enjoy choices among technologies and tiers of high-speed services comparable to those available to consumers in urban areas?[35] Are high-speed services available to consumers in rural and other hard-to-serve areas at rates comparable to those rates charged in urban areas?

26. We also seek focused comment on the deployment of advanced telecommunications capability to low-income individuals. We note that, as of June 2006, 99.3% of the highest-income zip codes had high-speed lines, and 90.6% of the lowest-income zip codes had high-speed lines.[36] By comparison, as of June 2004, 98.7% of the highest-income zip codes had high-speed lines, and 81.3% of the lowest income zip codes had high-speed lines.[37] As a result, over the last two years, the gap between the highest- and lowest-income zip codes shrank from 17.4 to 8.7 percentage points, primarily due to increases in the number of low-income zip codes with subscribers. Why has the gap between the highest-income zip codes and the lowest-income zip codes decreased over the past two years? Have any specific developments occurred that account for these changes? To what extent are firms marketing lower-priced tiers of services to low-income consumers?

27. In addition, we seek comment on the availability of advanced telecommunications capability to individuals living on tribal lands and in the U.S. territories. The United States Government Accountability Office has found that subscribership to Internet-access services by Native American households on tribal lands is unknown because no federal survey has been designed to track this information.[38] At this time, service providers report high-speed lines in Puerto Rico, the Virgin Islands,

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[32] *June 2006 Statistical Summary*, Table 18.

[33] *Id.* In June 2006, 99.4% of the most densely populated zip codes reported at least one high-speed subscriber, compared to 98.9% two years earlier. *Id.*

[34] *See 2004 Data Gathering Order*, 19 FCC Rcd at 22345, para. 8.

[35] A recent study on broadband deployment concluded that Americans living in rural areas are less likely than customers in nonrural areas to have more than one broadband provider to choose from. Pew Internet & American Life Project, *Home Broadband Adoption 2006*, at 7-8 (May 28, 2006), *available at* http://www.pewinternet.org.

[36] *June 2006 Statistical Summary*, Table 19.

[37] *Id.*

[38] United States Government Accountability Office, *Challenges to Assessing and Improving Telecommunications for Native Americans on Tribal Lands,* GAO-06-189 (Jan. 2006).

relationship between broadband adoption and specific household demographic information, such as income, education, race, tribal status and disability status.

31. Finally, we seek comment on how the availability of advanced telecommunications services in the United States as compared to other nations affects the ability of our citizens to compete in a global economy. What effect do any trends in this area have on international trade and the U.S. economic position in the global economy? We also seek comment on what data we should use to consider the question of international comparisons. Are there regularly published, reliable data that use comparable definitions, measurement standards and reporting practices? Should the Commission analyze broadband policies adopted by other nations and how those regulatory policies had affected the availability of broadband? Should we present such an analysis in the 706 Report or some other report?

D. What Actions Can Accelerate Deployment?

32. Pursuant to the 1996 Act, "the Commission and each State commission . . . shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans . . . by utilizing . . . price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment."[45] To the extent commenters advocate that we should undertake additional actions to encourage the deployment of advanced telecommunications capability, they should set forth those proposals with specificity. We also note that if we find that advanced telecommunications capability is not being deployed in a reasonable and timely manner, Congress 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."[46] Are there groups of Americans for whom the pace of deployment justifies action under section 706 to remove barriers to infrastructure investment or to promote competition? If so, what would those specific actions entail, and what would the costs and benefits of those actions be?

E. What Are Patterns of Consumer Adoption and Usage of Services Utilizing Advanced Telecommunications Capability?

33. We seek information about how and why consumers, both individuals and businesses, adopt and use services utilizing advanced telecommunications capability. We seek specific comment on research or data that addresses which factors besides availability of broadband services—such as price, speed, consumer awareness of availability, quality of customer service, waiting period for installation of broadband service after an order is placed, cost of customer premise equipment, existence of broadband service at the workplace, and demographic variables like age, gender, education, income, tribal status, etc...—affect consumers' decisions to acquire broadband service. As GAO has found, while broadband infrastructure deployment is extensive, information about where subscribers are served may not depict with a high degree of accuracy the local deployment of broadband, especially in rural areas.[47] We seek to develop a better understanding of the specific applications and services that utilize advanced platforms. If the application or service existed prior to the advent of advanced infrastructure capable of transmitting information at higher speeds, how has it benefited by the deployment of such infrastructure? To what degree, if any, could these applications and services be improved if advanced infrastructure was more ubiquitous? Are there certain economies of scale that could be achieved if broadband was used by more

[45] *See* § 706(a) of the 1996 Act.

[46] *See* § 706(b) of the 1996 Act.

[47] *GAO Broadband Report* at GAO Highlights (unnumbered page following report cover).

- The Commission's contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, NE., Suite 110, Washington, DC 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, SW, Washington DC 20554.

37. People with Disabilities: 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 & Governmental Affairs Bureau at 202-418-0530 (voice), 202-418-0432 (tty).

38. In addition, one copy of each pleading must be sent to each of the following:

39. The Commission's duplicating contractor, Best Copy and Printing, Inc, 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554; website: www.bcpiweb.com; phone: 1-800-378-3160;

(1) Sheryl Todd, Telecommunications Access Policy Division, Wireline Competition Bureau, 445 12th Street, S.W., Room 5-B540, Washington, D.C. 20554; e-mail: sheryl.todd@fcc.gov.

40. Filings and comments are also available for public inspection and copying during regular business hours at the FCC Reference Information Center, Portals II, 445 12th Street, S.W., Room CY-A257, Washington, D.C., 20554. Copies may also be purchased from the Commission's duplicating contractor, BCPI, 445 12th Street, S.W., Room CY-B402, Washington, D.C. 20554. Customers may contact BCPI through its website: www.bcpiweb.com, by e-mail at fcc@bcpiweb.com, by telephone at (202) 488-5300 or (800) 378-3160, or by facsimile at (202) 488-5563.

41. For further information regarding this proceeding, contact Amy Bender, Wireline Competition Bureau, at (202) 418-1500.

V. ORDERING CLAUSES

42. Accordingly, IT IS ORDERED that, pursuant to section 706 of the Telecommunications Act of 1996, this Notice of Inquiry IS ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch

Marlene H. Dortch
Secretary

STATEMENT OF CHAIRMAN KEVIN J. MARTIN

Re: 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)

The United States is the largest broadband market in the world with over 56 million broadband subscribers according to the Organization for Economic Cooperation and Development (OECD). Encouraging the deployment of affordable broadband services to all Americans is a top priority of mine and of the Commission. I am proud of the progress we have made in broadband deployment by creating an environment that better facilitates infrastructure investment.

Since I arrived at the Commission in July 2001, high speed lines in the U.S. have gone from 9 million to nearly 65 million. According to the Commission's most recent data, high-speed connections increased by 26% in the first half of 2006 and by 52% from June 2005 to June 2006.

A recent independent study by Pew confirmed this trend, finding that from March 2005 to March 2006, overall broadband adoption increased by 40% – from 60 to 84 million – twice the growth rate of the year before. The study found that, although overall penetration rates in rural areas still lags behind urban areas, broadband adoption in rural America also grew at approximately the same rate (39%). Perhaps most importantly, the Pew study found that the significant increase in broadband adoption was widespread and cut across all demographics. For example, broadband adoption grew by more than 120% among African Americans and grew by almost 70% among middle-income households (those with incomes between $40,000 and $50,000 per year).

The Pew data also confirms that the price of broadband service has dropped in the past two years. Specifically, the Pew Report found that between February 2004 and December 2005, the average price for high-speed service declined from $39 per month to $36 per month. Currently, Verizon and Comcast each offer promotional broadband packages for $19.99 per month, for example, and AT&T has committed to providing new retail broadband customers a $10 a month broadband Internet access service throughout the combined region.

While we have made progress recently, as I have said before, there is more we can do. For example, the Commission is committed to obtaining the best information possible about the deployment, access, and affordability of broadband services nationwide. Last year for instance, for the first time we began reporting information regarding different speeds of broadband connections (e.g., about services offered at speeds in excess of 200 kbps).

The Broadband Data NPRM we adopt today will allow the Commission to gain an even better picture of broadband deployment in this country. The Notice asks questions about how we can obtain more specific information about broadband deployment and consumer acceptance in specific geographic areas and how we can combine our data with those collected at the state level or by other public sources. By improving our data collection, we will be able to identify more precisely those areas of the country where additional broadband deployment is needed.

We also launch today our fifth inquiry into "whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion." 47 U.S.C. §157 nt. In this Notice, we seek comment on all aspects of broadband availability, including price and bandwidth speeds. In particular, we seek comment on whether, given the evolution of technology and the marketplace, we should redefine the term "advanced services" to require higher minimum speeds.

STATEMENT OF
COMMISSIONER MICHAEL J. COPPS

Re: *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*

It has been more than three years since the Commission last sought comment on America's broadband market in order to prepare its fourth section 706 report. I stated then my great dismay that our nation had fallen to 11th in the world in broadband deployment. And I dissented from the Commission's conclusion several months later that 11th in the world was somehow an acceptable state of affairs.

Never in my wildest imagination did I believe that 11th in the world would feel like the good old days. But it turns out that things ***could***—and ***did***—get worse.

To be sure, more Americans are connected to the Internet than three years ago and more have upgraded from dial-up. But that is cold comfort indeed. I doubt that anything in the world could prevent companies and consumers from taking at least ***some*** advantage of the astonishing advances in technology in the intervening years, in spite of the commercial and regulatory missteps that have dotted the road. The fact remains that America is now 15th in the world in broadband penetration according to the ITU, or 21st according the same organization's newer Digital Opportunity Index. Whatever the measurement, the rest of the world is connecting and upgrading faster than us. And we continue to fall further and further behind even as broadband edges closer and closer to the center of our nation's economy and the world economy.

Can we finally agree that something drastic needs to be done?

We can start by facing up to our problem and doing our level best to diagnose its causes. We need to know ***why*** so many Americans do not have broadband, and ***why*** those who do (or think they do) are paying twice as much for connections one-twentieth as fast those enjoyed by customers in some other countries. This is not just an exercise in self-flagellation (though we certainly deserve that by now). Rather, it is the first step in coming up with some solutions that can start to reverse our nation's slide into technological and communications mediocrity.

If the Commission had prudently invested in better broadband data-gathering a decade ago, I believe we'd all be better off—not just the government, but more importantly, consumers and industry. We'd have a better handle on how to fix the problem because we'd have a better understanding of the problem. We would already have granular data, reported by carriers, on the range of broadband speeds and prices that consumers in urban, suburban, exurban, rural and tribal areas currently face. We would know which factors—like age, gender, education, race, income, disability status, and so forth—most affect consumer broadband decisions. We would understand how various markets respond to numerous variables. We could already be using our section 706 reports to inform Congress and the country of the realities of the broadband world as the basis for charting, finally, a strategy for the ubiquitous penetration of truly competitive high-speed broadband. I don't believe we'd be 21st in the world had we gone down that road. But that was the road not taken.

Fast forward to 2007 and—good news, bad news—we are asking, in a companion item released today, ***how*** to go about gathering such information. I think everyone at this table agrees on the need for improvements in our data collection objectives and procedures. But reality is that it will be years before we will have the benefit of the kind of FCC data we need to fill the gaps I have mentioned. This decade-long refusal to update our methodology is just not an acceptable outcome when we are, by statute, charged with encouraging the deployment of advanced communications services to all our citizens.

STATEMENT OF
COMMISSIONER JONATHAN S. ADELSTEIN

Re: *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*, Notice of Inquiry (2007).

Today we take the first step toward a long-awaited and much-needed review of the broadband marketplace, focusing the spotlight on deployment, availability, affordability, and competitiveness. In the three years since the Commission commenced its last Section 706 Report, affordable and high quality broadband services have only become more critical to our economy and quality of life. Yet, even as we see the importance of these services increasing, we have witnessed a precipitous decline in our international standing, with the U.S. falling further behind our global competitors not just in broadband penetration but in broadband value. So, in order to develop a comprehensive strategy for moving ourselves back into a leadership position for the digital age, it is is critical that we engage in a candid assessment of the availability and affordability of broadband for *all* Americans.

One of America's central challenges is promoting the widespread deployment of higher-bandwidth broadband facilities to carry the vast array of new innovative services that are transforming virtually every aspect of the way we communicate, and to make sure that these facilities are affordable for consumers. We stand at the forefront of a revolution in the applications that will ride over this infrastructure. They are reshaping the way we work, educate our children, provide health care to our citizens, govern, practice democracy, and interact with one another. These are tools that can play a crucial role in driving our economy, enhancing public safety, and revitalizing our communities. Recognizing the importance of these tools, Congress directed this Commission, in Section 706 of the 1996 Act, to ensure that all Americans have reasonable and timely access to broadband services and to issue regular reports on its deployment.

This is the second such inquiry since I have been at the Commission. I have long called for a more comprehensive, detailed, and accurate assessment of where we stand. Good and instructive stories abound, and I am optimistic that this Commission can take a greater role documenting these successes and helping other communities and providers work together to meet their challenges. At the same time, we must confront head-on the uncomfortable reality that every year we slip further down the rankings of broadband penetration, according to the leading international reports. More troubling, there is growing evidence that citizens of other countries are getting a much greater broadband value, in the form of more megabits for less money. According to the ITU, the digital opportunity afforded to U.S. citizens is not even near the top, it is 21st in the world. Right now, it appears that U.S. consumers pay nearly twice as much as Japanese customers for connections that are twenty times as slow. This is more than a public relations problem, it's a productivity problem. We need an honest picture of how we have fallen to best learn how to pick ourselves up again.

It has become increasingly apparent that an issue of this importance to the economy and the success of our communities demands a coherent, cohesive, and comprehensive strategy -- one that seriously addresses our successes and failures, and strives to improve our broadband status. The first step in addressing this challenge is to collect better data about the state of the marketplace and to perform a realistic assessment of our success and failures. Our efforts in this proceeding can be tremendously valuable. We can either assess carefully our current strengths and weakness and develop responsive solutions as a foundation for success, or don an emperor's robe.

So, I am grateful to my colleagues that this *Notice* asks so many of the right questions. Most importantly, it asks whether broadband services are being made to *all* Americans, as the statute directs. The Notice asks important questions about how we should assess our progress on this front. In that respect, we must find ways to move beyond our current methodology for assessing broadband availability

STATEMENT OF COMMISSIONER DEBORAH TAYLOR TATE

Re: 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

As a state official, I witnessed first-hand the incredible impact broadband networks and services have on real communities and families across Tennessee. From watching our state become the first to connect every school to the Internet, to celebrating the 10th anniversary of the E-rate program, I've seen how millions of children all across this country are benefiting in ways we never dreamed possible before. From Appalachia to Alaska, I have also seen the impact of broadband services to improve the quality and availability of health care services to more Americans, particularly those in the most rural and isolated communities. Pockets of incredible stories, uses, and innovative projects abound, but we need to do more in order to ensure that *all* Americans enjoy the benefits that broadband can bring.

While a state member of the Federal-State Joint Conference on Advanced Telecommunications Services, I encouraged the Commission to do more, and am now pleased that we are doing just that. Congress charged us with regularly inquiring into the availability of advanced telecommunications capability to all Americans and, through this proceeding, we are fulfilling our obligation. But, more importantly, we will be providing information to CEOs deciding where to locate a new business, to consumers seeking e-learning, and to healthcare providers sharing medical records to better coordinate patient care. I also hope this will enable us to showcase some of the most innovative and exciting public-private initiatives across the country and serve as a clearinghouse for local officials, businesses, providers, and consumers seeking to bring all the opportunities and promise that broadband provides to their communities.

Meeting the goal of providing broadband to this vast and geographically challenging country will not be easy. It cannot and should not be up to government alone. But with American ingenuity, corporate commitment, the promise of new jobs to economically depressed areas, and reduced healthcare costs, we all can be part of the solution. We must be in order to continue our role of global leadership and to ensure that we prepare, educate, and provide the tools necessary for tomorrow's innovators.

and competition, which are now recognized almost universally as flawed and broken beyond the point of usefulness. In our companion item, also released today, we seek comment once again on proposals for revising our formal broadband data gathering program. Unfortunately, the timing of these items is less than optimal. Given that the Commission has typically completed its Section 706 Reports within 180 days, it will take a Herculean effort to derive any benefit from any changes we might make to our formal data gathering program.

I am pleased, nevertheless, that this *Notice* asks fundamental questions about broadband deployment to consumers in rural areas, persons with disabilities, and Native Americans. The record we develop in this proceeding can improve our understanding of the challenges of providing broadband to these consumers, and on the unique opportunities that broadband services can bring. In many ways, these customers stand to benefit most from the services that broadband enables. Broadband gives businesses in rural and Native American communities the tools they need to compete across the globe. By giving these citizens access to telemedicine and distance learning, not to mention the vast array and ever growing resources available through the Internet, we give rural residents and their children the same opportunities that others enjoy. We have also seen so many success stories in providing broadband to consumers with disabilities, and I encourage commenters to help us understand the secrets of their successes.

This *Notice* also explores what lessons we can learn from those nations that may be deploying broadband more quickly, and seeks critical information on the prices and speeds available in the U.S. and other markets. We need to put a spotlight on the cost per megabit of broadband, the telecom equivalent of what you pay at the pump for a gallon of gas. I am also pleased that this *Notice* explicitly seeks comment on the *competitiveness* of the broadband market, by launching an inquiry that we committed to do as part of our review of the major BOC-IXC mergers in late 2005. Consumers won't be well-served if we let the U.S. broadband market stagnate into duopoly, so I hope that our assessment of the state of competition for broadband services will be analytically-sound and rigorous.

As we shoot for real high-bandwidth broadband deployment, we must set ambitious goals but we must also take stock, in a honest and comprehensive manner, of where we stand today. I commend the Chairman, my colleagues, and the Bureau for their efforts to improve both this *Notice* and the *Broadband Data Gathering Notice*, over the course of our review. I look forward to working with all my colleagues here and the many interested outside parties – including Members of Congress, state and local policymakers, providers, consumers, and academics -- as we take on this critical task. Working together, we must develop a comprehensive and honest report that gives us a roadmap back to the top of the mountain, not to somewhere in the valley.

It is good news that the item we launch today, while late, is much, much better that its forerunners. *And I do want to thank the Chairman for working with us to develop a set of questions that* take us where we have not gone before. Today's item asks important questions about how the FCC can employ data and analysis from localities, states, private researchers, private-public partnerships, other federal agencies (like the General Accounting Office) and industry in order to fill in the gaps in our own data and analysis. Specifically, we seek comment on how to gather information on speed, price, international comparisons, and the many, many other factors that are part of a full picture of broadband in America. These are the right questions, and I am hopeful that interested parties will do everything they can to help the Commission develop an accurate picture about the true state of broadband in our country. I will certainly be watching to make sure that we make good use of the comments we receive to write an honest, revealing report on the state of broadband in American *circa* 2007—the year, some will remember, when the nation was promised access for all to broadband. We didn't achieve that goal, but a late start is better than no start and the time to re-dedicate ourselves to change is certainly now.

I thank the Bureau, too, for the significant improvements contained in this item and I look forward to frequent updates on how this is all proceeding.

Between these two proceedings, it is my hope that the Commission will solicit the information necessary to better assess the competitive progress in the broadband market. We have already taken some steps to improve the information we collect and report, but the items we adopt today will provide additional important progress towards our goal of universal affordable broadband access for Americans.

individuals or businesses? Would the same be true if advanced telecommunications capability was deployed in more places?

34. We also seek information about consumers of advanced services. How integral have advanced services become to these consumers? To what degree do businesses and individuals rely on advanced services to conduct business, sell products, or educate their children? Do customers of businesses that utilize advanced services enjoy lower prices, greater choices, or faster service? Moreover, what applications and services used by such individuals require access to advanced services themselves? We request that commenters not only discuss specific, current services and applications, but possible future ones as well.

IV. PROCEDURAL MATTERS

A. Ex Parte Presentations

35. This is an exempt proceeding in which ex parte presentations are permitted (except during the Sunshine Agenda period) and need not be disclosed.[48]

B. Comment Filing Procedures

36. Pursuant to sections 1.415 and 1.419 of the Commission's rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. 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.

  - For ECFS filers, if multiple docket or rulemaking numbers appear in the caption of this proceeding, filers must transmit one electronic copy of the comments for each docket or rulemaking number referenced in the caption. In completing the transmittal screen, filers should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking 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. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

  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, Office of the Secretary, Federal Communications Commission.

[48] *See* 47 C.F.R. § 1.1204(b)(1).

Guam, American Samoa, and the Northern Mariana Islands.[39] Does the information from our data collection program adequately capture the availability of high-speed or advanced services in these areas? In areas where services are being made available, are they being deployed to all consumers, or just a limited number of consumers? What types of unique challenges are associated with the deployment of advanced services in tribal areas or U.S. territories? Are these challenges similar to or distinguishable from those encountered by consumers living in rural areas of the nation? What types of technology are being used to provide advanced services on tribal lands? What types of technology are most widely deployed on tribal lands and why? Are there certain types of technological developments that may be especially promising for future deployment in tribal areas or the U.S. territories?

28. We also seek specific comment on the deployment of advanced telecommunications capability to elementary and secondary schools and classrooms, an area in which the federal universal service fund provides substantial support for advanced services.[40] The U.S. Department of Education publishes on an annual basis various statistics relating to Internet access in U.S. public schools and classrooms. Among other things, the most recent study documents the steady increase in the number of schools with Internet access, and the number of instructional classrooms with Internet access.[41] For instance, in 2005, the most recent year for which figures have been published, nearly 100% of public schools had access to the Internet, compared to 35% in 1994.[42] Moreover, in 2005, 94% of public school classrooms had access to the Internet, compared to 3% in 1994.[43] In 2005, 97% of public schools with Internet access reported using broadband connections for Internet access, compared to 85% in 2001.[44] Do these figures support a conclusion that advanced telecommunications capability is being deployed to elementary and secondary schools and classrooms on a reasonable and timely basis? Are there any other sources of information that would provide insight into whether the deployment of advanced telecommunications services to elementary and secondary schools and classrooms is occurring on a reasonable and timely basis?

29. To what extent do persons with disabilities have access to advanced telecommunications? What types of barriers do persons with disabilities encounter with respect to accessing advanced telecommunications? Have there been recent developments in adaptive technologies that improve access to advanced telecommunications for persons with disabilities? Does the availability of Internet-based forms of telecommunications relay services (TRS), including Video Relay Service, play a role in promoting demand for and access to high-speed services among persons with disabilities? To what extent do income, employment, and related factors affect the ability of persons with disabilities to access advanced or high-speed services? How should the Commission evaluate the "availability" of advanced telecommunications services for persons with disabilities, given the unique challenges that persons with disabilities may encounter in accessing advanced services? Are advanced services being made available to medically underserved rural communities?

30. If granular data cannot reasonably be collected across the entire country for each of the categories listed above, we seek comment on any other sources of data that may exist that would provide a better picture of broadband deployment. Would it be reasonable for the Commission to draw any conclusions based on this more limited data? Furthermore, we seek comment on data that may illustrate the

[39] *June 2006 Statistical Summary*, Table 10.

[40] *See, e.g.*, *Schools and Libraries Second Report and Order*, 18 FCC Rcd 9202.

[41] U.S. Department of Education, Institute of Education Sciences, Pub. No. 2007-020, *Internet Access in U.S. Public Schools and Classrooms: 1994 – 2005* (Nov. 2006).

[42] *Id.* at 4.

[43] *Id.*

[44] *Id.* at 5.

used in the near future?[28] How widely have these new technologies been deployed, and what percentage of customers utilizes such services? To what extent have these developments improved the speed and range of services offered to consumers? Are certain technological developments likely to be particularly beneficial to specific groups of customers, such as rural customers or customers with disabilities? In particular, what is the role of mobile network technologies, such as EV-DO and WCDMA/HSDPA,[29] that allow high-speed Internet access on wireless devices and have been widely deployed since the *Fourth Report*? What role will emerging technologies such as FTTH, WiMAX,[30] and BPL play in broadband access? Have there been any other changes in the industry that affect the Commission's conclusions in the *Fourth Report*?

22. We note that the Commission's Form 477 data collection program captures the marketplace presence of broadband services that utilize new and innovative technologies once consumer up-take of the services reaches a certain level. Our data collection does not, however, directly monitor the development of new technologies with likely, or possible, application to advanced services. Nor does our data collection program directly monitor the development of innovative applications that utilize advanced telecommunications capability. We therefore invite parties to bring to our attention technologies that might be used by current or potential providers to deliver new advanced services to consumers. In addition, we are interested in technologies that might be used directly by consumers, *e.g.*, within the consumer's premises, to lower the cost or difficulty of installing or using advanced services. We also are interested in technologies that might enable new broadband applications of interest to consumers.

C. Is Deployment Reasonable and Timely?

23. Once we have gathered information on the deployment of advanced telecommunications capability, section 706 requires that we determine whether such capability is being deployed to all Americans "in a reasonable and timely fashion." We generally seek comment on whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion and ask commenters to describe the empirical basis for their conclusions. We request comment on whether to modify our analytical framework in this inquiry, and welcome suggestions of additional or alternative criteria. Are there other areas of inquiry that would be informative for the Commission to explore? Are there other ways in which we could make better use of the broadband data the Commission currently collects?

24. In the *Fourth Report*, the Commission specifically considered the availability of advanced services for several groups of consumers, including businesses, residential consumers, rural communities, elementary and secondary students, low-income customers, minority consumers, and persons with disabilities.[31] Should we separately examine these specific categories in this inquiry? Are there other types of consumers or geographic areas that are likely to experience broadband deployment at a different

[28] The Commission has addressed issues relating to emerging technologies in various proceedings. *See, e.g.*, *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, FCC 06-113 (rel. Aug. 7, 2006).

[29] EV-DO, short for CDMA (Code Division Multiple Access) 1x EV-DO (Evolution-Data Optimized), is a mobile network technology that has been deployed by certain CDMA wireless network operators in the U.S. and allows typical download speeds of 400-800 kbps. HSDPA (High Speed Downlink Packet Access) is a technology overlay for WCDMA (Wireless CDMA, also called UMTS) networks that allows typical download speeds of 400-700 kbps.

[30] The term Wi-MAX, short for Worldwide Interoperability for Microwave Access, refers to the family of IEEE 802.16 standards developed for wireless broadband access systems. Wi-MAX systems have a maximum speed of around 75 Mbps and a range of up to 30 miles.

[31] *Fourth Report*, 19 FCC Rcd at 20569-76.

detail concerning the percentage of lines that are connected to residential end user premises, and they break down their high-speed lines into five speed categories, ranging from 200 kbps to greater than 100 Mbps. From this data, we obtain a verifiable count of how much service within specified parameters is being delivered. Given the association between subscription and deployment, such data collection provides a means to assess the pace at which advanced telecommunications capabilities are being made available in different parts of the country and across different demographic groups. Additionally, for June 2005 and later data, the Commission's data gathering program requires incumbent LECs to report the extent to which their DSL broadband connections are available to the households to whom they can provide local telephone service, and requires cable companies to report the extent to which their cable modem service is available to the households to whom they can provide cable TV service.[21]

15. We now have semiannual data about subscribership to high-speed and advanced services dating from December 1999 through June 2006. These data represent a significant time series for analysis and discussion. Now that we have several years of data, we are particularly interested in analyzing the trends that have developed over time. These data show a continued, steady increase in residential high-speed lines since our last section 706 report.[22] We request comment on what conclusions we should draw from these data. We also seek comment on sources of data about other countries' development of advanced telecommunications facilities—including speed, availability, adoption, and price—that provide context about or a basis of comparison for the development of broadband facilities in this country.

16. We welcome additional data from external sources that will enable us to make informed judgments about whether advanced telecommunications capability is being made available to consumers in a reasonable and timely manner. We request objective, empirical data from companies, think tanks, governments, analysts, consumer groups, and others. We also seek data that would shed additional light on the extent to which consumers have a choice of competing providers of advanced or high-speed services. Ideally, we would have information about the choices available to consumers on a house-by-house and business-by-business basis. We welcome comments about how the Commission can develop or acquire data that best approaches this ideal, including from private parties, commercial vendors, or state agencies. We also seek information on whether such data exists for selected cities, states, or regions of the country, as well as comments about how and whether these selected data sets are representative of other cities, states, or regions of the country. Further, we seek comment on whether there are any specific, verifiable examples of anticompetitive conduct in the broadband market that are occurring today. We also seek examples of anticompetitive conduct—such as blocking or feature disabling—in the markets for wireless broadband service and/or wireless broadband devices. In addition, we seek comment on whether there are other ways of analyzing our existing FCC Form 477 data.

17. Economics of Network Investment and Service Deployment. In the *Fourth Report*, the Commission concluded that incentives to invest in infrastructure for most high-speed and advanced services markets remained strong, and that the market would continue to expand while availability increases.[23] We seek comment on current investment trends and the extent to which they may reflect the availability of high-speed and advanced services. We seek comment on the relationship between the pace of investment, consumer demand, and general market expectations. We also seek comment on whether providers of high-speed and advanced services have access to sufficient levels of capital to fund infrastructure build-out and whether additional steps should be taken to accelerate deployment.

[21] See *id.* at 22349, para. 16.

[22] *See, e.g.*, *June 2006 Statistical Summary* at 2 & Chart 1 (stating that the total number of high-speed lines in service increased from 42.4 million to 64.6 million during the twelve-month period ending on June 30, 2006).

[23] *See Fourth Report*, 19 FCC Rcd at 20585.

III. ISSUES FOR INQUIRY

11. At the outset, we solicit information consistent with the framework utilized in past reports: (1) how should we define "advanced telecommunications capability"? (2) is advanced telecommunications capability being deployed to all Americans? (3) is the current level of deployment reasonable and timely? and (4) what actions, if any, can be taken to accelerate deployment? As the Commission did in its last section 706 inquiry, we examine additional questions of potential interest to policymakers. In particular, we seek to develop a better understanding of the economic considerations that support the deployment of advanced telecommunications capability. We hope to analyze available information relating to consumer adoption and usage of services requiring advanced telecommunications capability. In addition, we seek comment on the competitiveness of the broadband market and whether there is evidence of anticompetitive conduct in this market.[13] We welcome any additional information that commenters believe would further public understanding and dialogue on these critical issues.

A. What Is "Advanced Telecommunications Capability"?

12. We seek comment on how we should define "advanced telecommunications capability" for purposes of this inquiry. Since 1999, the Commission has used the terms "advanced telecommunications capability" and "high-speed, switched, broadband telecommunications capability," but has not definitively specified what speeds should be encompassed within these terms.[14] In the past, the Commission has used the terms "advanced telecommunications capability" and "advanced services" to describe services and facilities with an upstream (customer-to-provider) and downstream (provider-to-customer) transmission speed of more than 200 kilobits per second (kbps).[15] The Commission has also used the term "high-speed" to describe services and facilities with more than 200 kbps capability in at least one direction.[16] Given the rapid technological changes in the marketplace, we seek comment on the need to alter the definitional framework utilized in prior inquiries.[17] Has technology or the marketplace

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weaknesses of available data about broadband availability, including FCC Form 477 data. United States Government Accountability Office, *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) (*GAO Broadband Report*). The GAO report concludes that, while broadband deployment is extensive nationwide, it remains very difficult to assess the extent of deployment gaps in rural areas. *Id.* at 38-39. The GAO report recommends that, in order to develop a better understanding of the dynamics of broadband deployment and availability in rural areas particularly, the Commission should "develop information regarding the degree of cost and burden that would be associated with various options for improving the information about broadband deployment." *Id.* GAO conducted its work from April 2005 through February 2006, before Commission staff finished reviewing and compiling the first data submitted to the Commission (on September 1, 2005) pursuant to the modified Form 477 adopted in the *2004 Data Gathering Order*, and the GAO report discusses those modifications as well as GAO conversations with Commission staff. GAO's discussion assumes that the modified data would be available for Commission use.

[13] *See infra*, para. 16; *see also SBC Communications, Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, WC Docket No. 05-65, Memorandum Opinion and Order, 20 FCC Rcd 18290, 18392, para. 208 (2005) (*SBC/AT&T Order*) ("More generally, due to the Commission's interest in widespread broadband availability, the Commission commits to seek comment and issue an annual report assessing the competitiveness of the broadband market and whether there is evidence of anticompetitive conduct in this market."); *Verizon Communications, Inc. and MCI, Inc. Applications for Approval of Transfer of Control*, WC Docket No. 05-75, Memorandum Opinion and Order, 20 FCC Rcd 18433, 18537, para. 218 (2005) (*Verizon/MCI Order*) (same).

[14] *See supra* n.2.

[15] *See, e.g.*, *Fourth Report*, 19 FCC Rcd at 20551-52.

[16] *See, e.g.*, *id.* at 20551.

[17] The Commission requires FCC Form 477 filers to determine what percentage of their broadband or high-speed connections is faster than 200 kbps in both directions, and to categorize these connections into five "speed tiers"

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also created greater flexibility and opportunity in the workplace, particularly in the increased use of telecommuting by employees who remain connected to their jobs despite distance and other factors.

3. In addition to their benefits to the economy, advanced services have a dramatic impact on individual citizens. Advanced services improve the educational opportunities of children and adults everywhere. High-speed connections to the Internet allow children in rural areas from Alaska to Florida to access the same information as schoolchildren in urban areas. Moreover, distance learning provides more choices for children and adults to access educational materials provided by distant learning institutions.

4. Telemedicine networks made possible by advanced services save lives and improve the standard of healthcare in sparsely populated, rural areas. These services bring the skills and knowledge of specialized doctors and other medical professionals to people that would otherwise have to travel long distances to reach them. Advanced services also permit rural healthcare providers to utilize the latest medical information, which, in turn, improves the general provision of healthcare in areas of the country that have traditionally been underserved.

5. Monitoring the progress of deployment of advanced telecommunications platforms and determining if steps can or should be taken to further encourage this growth is one of the Commission's most important duties. We therefore strongly encourage commenters to provide data and new ideas on how to conduct this and future section 706 inquiries. We also invite the Federal-State Joint Conference on Advanced Telecommunications Services to submit any information that it deems appropriate into this docket.

II. BACKGROUND

6. The Commission has conducted four inquiries pursuant to section 706 to date, concluding in each proceeding that the deployment of advanced telecommunications capability was reasonable and timely on a general, nationwide basis.[4] In the initial section 706 inquiry, the Commission presented a snapshot at the early stages of the deployment of advanced services. The Commission surveyed anecdotal evidence relating to trends in investment in broadband facilities, deployment of facilities that serve the "last mile" to consumers, and demand for broadband.[5]

7. In its second section 706 inquiry, the Commission expanded its information collection efforts to gain a more comprehensive understanding of the availability of advanced telecommunications capability. Among other things, the Commission launched a formal data collection program to gather standardized information from providers of advanced telecommunications capability through FCC Form 477.[6] The

[4] *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*, CC Docket No. 98-146, Report, 14 FCC Rcd 2398 (1999) (*First Report*); *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*, CC Docket No. 98-146, Second Report, 15 FCC Rcd 20913 (2000) (*Second Report*); *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*, CC Docket No. 98-146, Report, 17 FCC Rcd 2844 (2002) (*Third Report*); *Availability of Advanced Telecommunications Capability in the United States*, GN Docket No. 04-54, Fourth Report to Congress, 19 FCC Rcd 20540 (2004) (*Fourth Report*).

[5] *First Report*, 14 FCC Rcd 2398.

[6] *Local Competition and Broadband Reporting*, CC Docket No. 99-301, Report and Order, 15 FCC Rcd 7717 (2000) (*2000 Data Gathering Order*).