

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

In the Matter of)
)
Inquiry Concerning the Deployment of Advanced) GN Docket No. 10-159
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 Amended by the Broadband Data)
Improvement Act)

SEVENTH BROADBAND DEPLOYMENT NOTICE OF INQUIRY

Adopted: August 6, 2010

Released: August 6, 2010

Comment Date: September 7, 2010

Reply Comment Date: October 5, 2010

By the Commission: Chairman Genachowski and Commissioner McDowell issuing separate statements.

TABLE OF CONTENTS

	Para.
I. INTRODUCTION	1
II. SPECIFIC ISSUES FOR INQUIRY	4
A. What Is Advanced Telecommunications Capability?	4
B. How Should Broadband “Availability” Be Interpreted and Measured?	8
1. Model.....	11
2. Subscribership Data.....	14
3. Maps	19
4. Other Data and Analyses	23
C. Is Broadband Being Deployed to All Americans?	30
D. Is Broadband Deployment Reasonable and Timely?	40
E. What Actions Can Accelerate Deployment?.....	42
III. PROCEDURAL MATTERS	44
A. Paperwork Reduction Act	44
B. Ex Parte Presentations.....	45
C. Comment Filing Procedures.....	46
D. Accessible Formats	47
IV. ORDERING CLAUSE	48

I. INTRODUCTION

1. In this Notice of Inquiry (*Inquiry*), we solicit data and information that will help the Commission complete its annual task under section 706 of the Telecommunications Act of 1996, as

amended,¹ of determining whether broadband² is being deployed to all Americans in a reasonable and timely fashion. Specifically, section 706 requires the Commission annually to “initiate a notice of inquiry concerning the availability of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms).”³ In conducting this *Inquiry*, the Commission must “determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”⁴ Section 706 also requires the Commission to provide “demographic information for unserved areas”⁵ and complete an international comparison of broadband service capability.⁶ The Commission also must conduct a consumer survey to evaluate “the national characteristics of the use of broadband” and make the results of the survey public at least once per year.⁷ If the Commission finds that broadband is not being deployed to all Americans in a reasonable and timely fashion, then the Commission “shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.”⁸

2. The purpose of this *Inquiry* then is to initiate the process that will allow the Commission to fulfill these statutory responsibilities. We encourage companies, policy institutes, governmental entities, analysts, consumer groups, individual broadband consumers, individuals who live or work in unserved areas, and others to provide whatever objective, empirical data and evidence might be useful to help us complete the tasks identified above. To facilitate the process, we ask a number of questions related to interpreting section 706 and measuring the availability and deployment of broadband. We also encourage commenters to bring new issues to our attention, and to submit data and evidence to the extent reasonably related to the scope of section 706.

¹ 47 U.S.C. § 1302(b). Section 706 of the Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 56, 153 (the Telecommunications Act), as amended in relevant part by the Broadband Data Improvement Act, Pub. L. No. 110-385, 122 Stat. 4096 (2008) (BDIA), is now codified in Title 47, Chapter 12 of the United States Code. See 47 U.S.C. § 1301 et seq. We now refer to the reports required under section 706 of the Telecommunications Act as “broadband deployment reports” and have updated references to the Commission’s prior reports accordingly.

² In this *Inquiry*, we use the term “broadband” synonymously with “advanced telecommunications capability” and also seek comment on whether we should continue to do so in the next broadband deployment report. See 47 U.S.C. § 1302(d)(1); see also *infra* paras. 4–5. We emphasize that our use of these terms in this *Inquiry* and our discussion of the broadband speed threshold adopted in the most recent broadband deployment report are for purposes of our section 706 analysis and continue not to have any other regulatory significance under the Commission’s rules absent subsequent Commission action. See *infra* para. 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, Amended by the Broadband Data Improvement Act*, GN Docket Nos. 09-137, 09-51, Report, FCC 10-129, para. 11 n.46 (rel. July 20, 2010) (*2010 Sixth Broadband Deployment Report*) (“For example, today’s report has no impact on which entities are classified as [interconnected voice over Internet protocol (VoIP)] providers or what facilities must be provided on an unbundled basis.”).

³ 47 U.S.C. § 1302(b).

⁴ *Id.*

⁵ 47 U.S.C. § 1302(c) (requiring the Commission, in part, to “compile a list of geographical areas that are not served by any provider of advanced telecommunications capability”).

⁶ 47 U.S.C. § 1303(b).

⁷ 47 U.S.C. § 1303(c). Although the Commission must make publicly available the results of the consumer surveys it conducts at least once per year, the statute does not require that this be done in the broadband deployment report.

⁸ 47 U.S.C. § 1302(b).

3. Ensuring universal broadband availability is the great infrastructure challenge of our time. The ultimate purpose of this *Inquiry* is to inform ourselves about the state of broadband deployment and its progress so that we can consider what additional actions, if any, should or should not be taken by the Commission to bring broadband to all Americans to ensure that “every American has a meaningful opportunity to benefit from the broadband communications era.”⁹

II. SPECIFIC ISSUES FOR INQUIRY

A. What Is Advanced Telecommunications Capability?

4. Section 706 defines advanced telecommunications capability (i.e., broadband) 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.”¹⁰ In the *2010 Sixth Broadband Deployment Report*, the Commission took the overdue step of raising the minimum speed threshold for broadband from services in “excess of 200 kilobits per second (kbps) in both directions”—a standard adopted over a decade ago in the *1999 First Broadband Deployment Report*¹¹—to a transmission service that actually enables an end user to download content at speeds of at least 4 megabits per second (Mbps) and to upload content at speeds of at least 1 Mbps over the broadband provider’s network.¹² In making this change, the Commission recognized that consumer applications and expectations have evolved in ways that demand increasing amounts of bandwidth. In particular, the Commission found that 200 kbps is not enough bandwidth to enable a user, using current technology, “to originate and receive high-quality voice, data, graphics, and video telecommunications,” as section 706 requires of advanced telecommunications services.¹³ This new broadband threshold is the same as the national broadband availability target the *National Broadband Plan* recommended for every household in America.¹⁴

5. We seek comment on how to define “advanced telecommunications capability” and “broadband” for purposes of our *Seventh Broadband Deployment Report*. Should we continue to treat these terms synonymously in that report? If not, why and how should they be treated differently? We also seek comment on the updated broadband benchmark the Commission adopted in the *2010 Sixth*

⁹ See *Joint Statement on Broadband*, GN Docket No. 10-66, 25 FCC Rcd 3420, para. 3 (2010).

¹⁰ 47 U.S.C. § 1302(d)(1).

¹¹ 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*, CC Docket No. 98-146, Report, 14 FCC Rcd 2398, 2406, para. 20 (1999) (*1999 First Broadband Deployment Report*) (stating, in relevant part, that “broadband” and “advanced telecommunications capability” “hav[e] the capability of supporting, in both the provider-to-consumer (downstream) and the consumer-to-provider (upstream) directions, a speed . . . in excess of 200 [kbps] in the last mile”).

¹² See *2010 Sixth Broadband Deployment Report* at para. 11.

¹³ *2010 Sixth Broadband Deployment Report* at para. 10; see also 47 U.S.C. § 1302(d)(1). The Commission in its FCC Form 477 (Form 477) and High Speed Reports has used the terms “high speed” to describe connections capable of delivering 200 kbps in one direction and “advanced telecommunications capability” and “advanced services” to describe connections capable of delivering 200 kbps in each direction. See, e.g., *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, Report, 23 FCC Rcd 9615, 9616, para. 2 (2008) (*2008 Fifth Broadband Deployment Report*).

¹⁴ *2010 Sixth Broadband Deployment Report* at paras. 5, 14; see also OMNIBUS BROADBAND INITIATIVE (OBI), FCC, CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN, GN Docket No. 09-51, at 135 (2010) (NATIONAL BROADBAND PLAN), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296935A1.pdf.

Broadband Deployment Report. Does this minimum speed threshold continue to be reasonable, and if not, how should it be adjusted? For example, in light of consumers' increasing use of broadband connections to view high-quality video,¹⁵ should we revise the benchmark upward to ensure services meeting this threshold are capable of supporting advanced video services, such as two-way video conferencing and/or streaming high-definition video, which require faster broadband speeds?¹⁶ Does the current benchmark adequately enable consumers to stream standard definition video in near real-time, which consumes anywhere from 1–5 Mbps depending on a variety of factors,¹⁷ while still using basic functions such as e-mail and web browsing? Are there other Internet-based or IP-enabled services in use today or on the horizon that we should take into account in setting a broadband benchmark? Should we modify that benchmark to include additional performance metrics, such as latency or jitter thresholds? Should the benchmark take into account the level of mobility allowed with a broadband connection?

6. How can our broadband benchmark remain sufficiently flexible to account for the continuously evolving technology environment while serving the goal of giving the Commission “a relatively static point at which to gauge the progress and growth in the advanced services market from one Report to the next?”¹⁸ We note that the *National Broadband Plan* recommends reviewing and resetting the national broadband availability target for funding every four years.¹⁹ Would it appropriately balance the competing goals of sufficient flexibility and stability if the Commission also revisits the benchmark for purposes of section 706 every four years?

7. How should the Commission consider year-to-year trends in broadband availability when revisiting the benchmark for broadband? To what extent, if at all, should the Commission's broadband benchmark be influenced by other targets for broadband, such as those adopted by other federal agencies²⁰ or other nations?²¹ Finally, are there any other issues we should consider in setting a broadband benchmark in the next report?

¹⁵ *2010 Sixth Broadband Deployment Report* at para. 11; see also NATIONAL BROADBAND PLAN at 16–17.

¹⁶ *2010 Sixth Broadband Deployment Report* at para. 11 & n.51 (citing FCC Broadband Task Force, Status Update at the September Commission Meeting 23 (Sept. 29, 2009) (estimating that two-way video conferencing requires symmetrical broadband speeds of 2–5 Mbps and that streaming high-definition video requires a connection of at least 5–10 Mbps), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293742A1.pdf).

¹⁷ *2010 Sixth Broadband Deployment Report* at para. 11.

¹⁸ *Id.* at paras. 13, 15. The Commission took both current and estimated future demand into account when establishing the new broadband benchmark, “in part to minimize the risk of the Commission being forced to update its broadband benchmarks on an overly frequent basis.” *Id.* at para. 13.

¹⁹ NATIONAL BROADBAND PLAN at 135.

²⁰ See, e.g., *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, Amended by the Broadband Data Improvement Act*, GN Docket Nos. 09-137, 09-51, Notice of Inquiry, 24 FCC Rcd 10505, 10523, para. 36 (2010) (describing how broadband is defined for purposes of certain broadband grants and state broadband mapping efforts).

²¹ For example, the European Union's (EU) Digital Agenda report, which sets forth goals for broadband deployment and adoption for its member countries, includes a goal of having, by 2020, broadband coverage at 30 Mbps for all citizens in the EU, with at least half of European households subscribing to broadband at 100 Mbps. See EU, A DIGITAL AGENDA FOR EUROPE—COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF REGIONS 19 (May 19, 2010), available at http://ec.europa.eu/information_society/digital-agenda/documents/digital-agenda-communication-en.pdf.

B. How Should Broadband “Availability” Be Interpreted and Measured?

8. Section 706(b) requires the Commission to conduct an “inquiry concerning the *availability* of advanced telecommunications capability to all Americans.”²² The *2010 Sixth Broadband Deployment Report* measured broadband availability using more comprehensive broadband data than any of the Commission’s five prior reports.²³ The specific estimates of broadband availability in that report were based primarily on two sources of data: the nationwide model for broadband availability for both wired and wireless technologies (Model) Commission staff developed as part of the development of the *National Broadband Plan*,²⁴ and, consistent with previous broadband deployment reports, the broadband subscribership data the Commission collects on Form 477 (subscribership data).²⁵ For the first time, subscribership data was submitted at the Census Tract level, which allowed us to analyze how broadband availability varies by particular demographics, such as income level and population density, and how subscription rates vary on Native Homeland areas.²⁶

9. We first seek comment on how we should interpret what it means for broadband to be “available.” In the *1999 First Broadband Deployment Report*, the Commission interpreted broadband availability to be a broader concept than broadband deployment.²⁷ Specifically, the Commission indicated that availability “refers to a consumer’s ability to purchase a capability that has been deployed.”²⁸ Does the definition of availability in the *1999 First Broadband Deployment Report* form the basis of an adequate definition of “availability” for purposes of section 706? If so, what specific factors should the Commission use to determine whether broadband is available? The *National Broadband Plan* has a goal that “[e]very American should have affordable access to robust broadband service, and the means and skills to subscribe if they so choose.”²⁹ Should we consider affordability as a component of broadband availability? If so, should we, for example, consider “indicia [such] as prices, willingness to pay, [and] specific desired services”?³⁰ What data would the Commission use to make findings regarding such factors? What other factors might be relevant to availability under section 706?

10. Below, to improve and refine the way we collect, analyze, and report data, we also seek comment on how to better assess broadband availability using data the Commission collected and relied upon in the most recent broadband deployment report.

²² 47 U.S.C. § 1302(b) (emphasis added).

²³ See *2010 Sixth Broadband Deployment Report* at para. 16.

²⁴ See *id.*; NATIONAL BROADBAND PLAN at 20, 129, 136; see also *id.* at 157 n.6; OBI, THE BROADBAND AVAILABILITY GAP 17 (OBI Technical Paper No. 1, 2010) (BROADBAND AVAILABILITY GAP), available at <http://download.broadband.gov/plan/the-broadband-availability-gap-obi-technical-paper-no-1.pdf>.

²⁵ See *2010 Sixth Broadband Deployment Report* at paras. 16, 19–25.

²⁶ *Id.* at paras. 16, 23–25; see also *infra* para. 15 (explaining that the Commission analyzed the data aggregated by county due to questions about the accuracy and confidentiality of the December 2008 Form 477 Census Tract-level filings). As explained in the last report, we designate a county as a Native Homeland area if at least 50% of the land mass is designated by the Census Bureau as American Indian Area/Alaska Native Area/Hawaiian Homeland or at least 50% of the 2000 population resided in the land area designated by the Census Bureau as American Indian Area/Alaska Native Area/Hawaiian Homeland. *Id.* at para. 25 n.101.

²⁷ *1999 First Broadband Deployment Report*, 14 FCC Rcd at 2409–10, para. 30 (stating that that “section 706 concerns not only the deployment of advanced telecommunications capability, but also its availability”).

²⁸ *Id.* at 2410, para. 30.

²⁹ NATIONAL BROADBAND PLAN at xiv.

³⁰ *1999 First Broadband Deployment Report*, 14 FCC Rcd at 2410, para. 31.

1. Model

11. The American Recovery and Reinvestment Act (Recovery Act) directed the Commission to include in the *National Broadband Plan* “an analysis of the most effective and efficient mechanisms for ensuring broadband access by all people of the United States.”³¹ To comply with this requirement, the Commission staff created the Model referred to above,³² which relies on a combination of data from commercial entities, states, and other federal agencies to estimate broadband availability by analyzing network availability data and infrastructure locations estimated from engineering principles and/or statistical modeling.³³ The Model also estimates broadband performance data for telecommunications providers, cable operators, and mobile wireless providers.³⁴ According to the Model, approximately 14 million Americans, living in 7 million housing units,³⁵ cannot get residential broadband service capable of providing actual speeds of 4 Mbps downstream and 1 Mbps upstream.³⁶

12. We seek comment on the Model and its relationship to the Commission’s ongoing responsibilities under section 706. To create the Model, the Commission purchased a significant amount of the underlying data from commercial entities and hired additional temporary staff to analyze the data,³⁷ relying on a nonrecurring financial allocation from the Recovery Act for these purposes.³⁸ Given that the Commission will no longer have Recovery Act funds, what are the best sources of available data that the Commission can use to populate the Model? As mentioned above, the Model also is based on data collected from states and other federal entities. Is it advisable for the Commission to collect updated data from these state and federal sources given that any request to update the data may impose costs and

³¹ American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, § 6001(k)(2)(A), 123 Stat. 115, 516 (codified at 47 U.S.C. § 1305(k)(2)(A)).

³² See *supra* para. 8. Significantly more detail on the operation of the Model can be found in the *Broadband Assessment Model* and the *Broadband Availability Gap*. See FCC, BROADBAND ASSESSMENT MODEL at 8–9, 18–22 (2010) (BROADBAND ASSESSMENT MODEL), available at [http://download.broadband.gov/plan/fcc-omnibus-broadband-initiative-\(obi\)-working-reports-series-technical-paper-broadband-assessment-model.pdf](http://download.broadband.gov/plan/fcc-omnibus-broadband-initiative-(obi)-working-reports-series-technical-paper-broadband-assessment-model.pdf); BROADBAND AVAILABILITY GAP at 2, 29–30. The Commission staff interpreted the Recovery Act language quoted above as requiring an answer to the question: “What is the minimum level of public support necessary to ensure that all Americans have access to broadband?” BROADBAND AVAILABILITY GAP at 1. To answer this question, after the Model estimated how many housing units did not have a broadband connection (i.e., availability), it estimated how much it would cost to provide each unserved housing unit with a broadband connection (i.e., funding shortfall). See *id.* at 2.

³³ See BROADBAND AVAILABILITY GAP at 2, 29–30. Although Commission staff examined Form 477 data and Form 325 data collected by the Commission, these data were not included in the Model. See *id.* at 21.

³⁴ *Id.* at 17–26; see also *id.* at 3, 28 (explaining that satellite was not explicitly modeled).

³⁵ A housing unit or home is distinct from a household. BROADBAND AVAILABILITY GAP at 4 n.4. A “housing unit is a house, an apartment, a mobile home, a group of rooms, or a single room that is occupied (or if vacant, is intended for occupancy) as separate living quarters.” *Id.* A household is the group of people that occupy a housing unit. *Id.* Because some housing units are vacant, there are more housing units (approximately 130 million) in the country than households (approximately 118 million). *Id.*

³⁶ NATIONAL BROADBAND PLAN at 20, 129, 136. Under the Model, a housing unit or home is considered unserved depending on their proximity to the current broadband infrastructure. See, e.g., BROADBAND AVAILABILITY GAP at 2 Exh. A.

³⁷ See BROADBAND AVAILABILITY GAP at 29; News Release, FCC, *FCC Chairman Julius Genachowski Announces Senior Staff for Development of National Broadband Plan* (Aug. 4, 2009), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-292541A1.pdf.

³⁸ Recovery Act, 123 Stat. at 128.

burdens upon these government entities?

13. We also seek comment on the methodologies used in the Model.³⁹ Are these methodologies reasonable for purposes of this *Inquiry*? To the extent a commenter believes that the methodologies used in the Model should be changed, we ask that comments be as specific as possible. In particular, such comments should identify what specific change to the Model is recommended, how it would be implemented, and how the benefits of making that change or those changes would outweigh the costs of implementing such changes.

2. Subscribership Data

14. In the *2010 Sixth Broadband Deployment Report*, the Commission, consistent with previous broadband deployment reports,⁴⁰ estimated broadband availability by analyzing the residential broadband subscribership data service providers submit to the Commission semi-annually on Form 477.⁴¹ In particular, the Commission used this subscribership data to compile a list of unserved areas in the United States, as required by section 706(c).⁴² This analysis estimated that 24 million Americans (or 8.9 million households) residing in 1,024 counties in the United States and its territories are unserved by broadband.⁴³ Although it is not unusual for different methodologies to yield different estimates, we seek comment on whether there is any evidence to suggest that either the estimate of unserved Americans generated by the Model or by the subscribership data (i.e., 14 million and 24 million Americans, respectively) may be more accurate than the other.

15. Are there ways in which we could improve the analysis of subscribership data to better assess

³⁹ See NATIONAL BROADBAND PLAN at 19–20, 136; BROADBAND AVAILABILITY GAP at 1–2, 17–26; BROADBAND ASSESSMENT MODEL at 8–9, 16–22.

⁴⁰ 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*, CC Docket No. 98-146, Report, 15 FCC Rcd 20913, 20916, 20939–41, paras. 5, 62–69 (2000) (*2000 Second Broadband Deployment 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, 2854, para. 17 (2002); *Availability of Advanced Telecommunications Capability in the United States*, GN Docket No. 04-54, Report, 19 FCC Rcd 20540, 20567 (2004); *2008 Fifth Broadband Deployment Report*, 23 FCC Rcd at 9618, para. 6.

⁴¹ *2010 Sixth Broadband Deployment Report* at para. 19. Every six months, the Commission collects Form 477 basic service information from facilities-based broadband providers. Form 477 requires a facilities-based provider to report, by Census Tract, the total number of subscribers, the proportion of these subscribers that are residential subscribers, and the number of subscribers broken down by speed tier (i.e., the bandwidth of the Internet access connection provided to that customer) and technology. For the purposes of Form 477, an entity is a “facilities-based” provider of broadband connections to end-user locations if any of the following conditions are met: (1) it owns the portion of the physical facility that terminates at the end user location; (2) it obtains unbundled network elements (UNEs), special access lines, or other leased facilities that terminate at the end-user location and provisions or equips them as broadband, or (3) it provisions or equips a broadband wireless channel to the end-user location over licensed or unlicensed spectrum. See FCC, FCC FORM 477, INSTRUCTIONS FOR LOCAL TELEPHONE COMPETITION AND BROADBAND REPORTING 2, 6–9 (2010) (regarding filings due Sept. 1, 2010), available at <http://www.fcc.gov/Forms/Form477/477inst.pdf> (last visited Aug. 6, 2010).

⁴² 47 U.S.C. § 1302(c).

⁴³ *2010 Sixth Broadband Deployment Report* at paras. 19–24. By “unserved,” we mean areas without broadband availability or access.

the number of Americans, and specific areas, that are unserved?⁴⁴ For example, although the Commission collects the subscribership data by Census Tract, in the *2010 Sixth Broadband Deployment Report* the Commission analyzed the data aggregated by county due to questions about the accuracy and confidentiality of the December 2008 Form 477 Census Tract-level filings.⁴⁵ If the accuracy and confidentiality of the data are no longer questioned, should we continue to analyze subscribership data by county or analyze subscription data by Census Tract?

16. As the Commission explained in the *2010 Sixth Broadband Deployment Report*, “because the speed tiers used to collect broadband information on Form 477 do not match exactly the broadband benchmark adopted for purposes of this report, we must select a reasonable proxy to conduct our analysis.”⁴⁶ Of the two speed tier pairs the Commission considered that are closest to the benchmark, it selected the more conservative combination for determining where broadband meeting the benchmark is available—namely services advertising at least 3 Mbps download and 768 kbps upload speeds.⁴⁷ The Commission found this approach was reasonable because higher speeds are available to more subscribers than elect to purchase them⁴⁸ and because the Form 477 data reflects subscriber purchasing choices rather than availability.⁴⁹ Did the Commission properly weigh these factors in its analysis? Is there another speed tier on the Form 477 that the Commission should use to estimate where service offering actual

⁴⁴ To the extent a person desires to provide input on possible changes to the data the Commission collects pursuant to rulemaking or other proceedings, we ask that comments be filed in the relevant dockets so they will be included in the records in those proceedings. See, e.g., *Pleading Cycle Established for Comments on Review of Wireline Competition Bureau Data Practices*, WC Docket No. 10-132, Public Notice, DA 10-1189 (rel. June 29, 2010); *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership*, WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, 23 FCC Rcd 9691 (2008). We also note, in accordance with *National Broadband Plan* recommendations, the Commission plans later this year to initiate a rulemaking proceeding in which rules will be proposed to collect and analyze more detailed and accurate industry-wide data on several key broadband metrics, including subscribership, actual availability, penetration, performance, prices, churn, and bundles, for both consumers and business customers. FCC, BROADBAND ACTION AGENDA 6 (Apr. 8, 2010) (BROADBAND ACTION AGENDA), available at <http://www.broadband.gov/plan/national-broadband-plan-action-agenda.pdf>; see also FCC, PROPOSED 2010 KEY BROADBAND ACTION AGENDA ITEMS (Apr. 8, 2010) (BROADBAND ACTION ITEMS CHART), available at <http://www.broadband.gov/plan/chart-of-key-broadband-action-agenda-items.pdf>; NATIONAL BROADBAND PLAN at 43–44, 184.

⁴⁵ See INDUS. ANALYSIS & TECH. DIV., FCC, HIGH-SPEED SERVICES FOR INTERNET ACCESS: STATUS AS OF DECEMBER 31, 2008, at 4–5 (rel. Feb. 2010), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296239A1.pdf (FEBRUARY 2010 HIGH SPEED REPORT) (stating that “for reasons of accuracy and confidentiality” certain results are presented at the level of the whole county); see also *id.* at 5 n.17 (explaining that the data as filed disclose 10% of Census Tracts have a share of households with high-speed connections over fixed-location technologies at or above 100% but that the number of such “outliers” is substantially reduced, to 1%, when estimates are made for individual counties and that “[s]ome misinterpretation of reporting instructions can be expected whenever a substantially modified data collection is implemented for the first time. We are investigating the reasons for these anomalous census tract results and are working with the Form 477 filers to improve the accuracy of the data currently collected and for future collections.”).

⁴⁶ *2010 Sixth Broadband Deployment Report* at para. 20.

⁴⁷ As the Commission explained, if it had “conduct[ed] its Form 477 analysis with cutoffs of 6 Mbps download speed and 1.5 Mbps upload speed, a larger number of Americans would be reported as lacking broadband access capable of meeting the requirements set forth in section 706.” *Id.* at para. 20 n.83.

⁴⁸ *2010 Sixth Broadband Deployment Report* at para. 20 & n.81.

⁴⁹ *Id.* at para. 20.

speeds of 4 Mbps download and 1 Mbps upload is available to the subscriber (or such other benchmark as the Commission adopts)? Are there other considerations the Commission should take into account when selecting the speed tiers used as a proxy for the broadband benchmark?

17. In addition, the Commission found broadband to be available in a county (or county equivalent) if at least 1 percent of the households in that county subscribe to broadband.⁵⁰ Was this “*de minimis* threshold” reasonable? The Commission explained it applied this threshold because it did not want to overestimate broadband deployment by assuming that broadband is available to everyone in a county merely because a single person in that county subscribes to broadband.⁵¹ At the same time, the Commission explained it did not want to underestimate broadband availability by assuming broadband was not available anywhere in a county simply because few consumers in that area had subscribed to service meeting the benchmark speed, in light of evidence that not everyone for whom broadband is available elects to purchase it.⁵² Did the Commission strike the appropriate balance based on current subscription levels? What methodology should the Commission use to select a *de minimis* threshold in the next and future broadband deployment reports? For instance, as adoption rates rise over time, it might be reasonable for the Commission to adjust its *de minimis* threshold. Are there any analytically rigorous and empirically sound methodologies the Commission might use to determine what *de minimis* threshold would be most appropriate? Are there other ways the Commission could analyze its subscribership data to avoid the risks of overestimating or underestimating broadband availability without relying on a *de minimis* threshold?

18. More generally, we recognize that part of the challenge the Commission faces when trying to comply with its statutory obligation to estimate broadband availability is a lack of comprehensive data regarding broadband facilities.⁵³ In particular, the Form 477 subscribership data, although an indicator of broadband availability, are a measure of the adoption of broadband services.⁵⁴ Are there other sources of data the Commission could rely on to estimate broadband availability?⁵⁵ If the Commission were to obtain comprehensive data regarding broadband facilities, to what extent should the Commission continue to rely on subscribership data to determine availability? For example, would continued reliance on subscribership data allow greater continuity with our prior section 706 reports, provide a useful counterpart to infrastructure data, or highlight gaps between availability and demand or affordability that should be investigated? Would continued reliance on subscribership data in our section 706 reports serve other national goals, such as seeking to expand broadband usage?

⁵⁰ *Id.* at para. 21.

⁵¹ *Id.*

⁵² *Id.* (“For example, many consumers today obtain Internet access via transmission services slower than the 4 Mbps upload and 1 Mbps download speed threshold adopted in this report, even if a transmission service meeting this threshold is available.”).

⁵³ The Commission has even less data regarding other factors that might be relevant to broadband availability. *See supra* para. 9 (seeking comment on how to interpret “availability”).

⁵⁴ *See, e.g., 1999 First Broadband Deployment Report*, 14 FCC Rcd at 2402, para. 7 (relying on subscribership data as a proxy for deployment and availability, and noting that such data “may not be a precise estimate of actual deployment and availability”); *see also* 47 U.S.C. § 1302(b) (directing the Commission to conduct an inquiry “concerning the availability” of broadband to all Americans).

⁵⁵ As mentioned above, the Model relies in part on infrastructure data. *See supra* para. 11. However, those data are not routinely collected by the Commission, nor does the Commission otherwise currently collect comprehensive information regarding the deployment of broadband facilities that could be used to estimate broadband availability.

3. Maps

19. By February 17, 2011, the National Telecommunications and Information Administration (NTIA) must construct “a comprehensive nationwide inventory map of existing broadband service capability and availability” that shows the geographic extent to which that capability is deployed and available for each state (National Broadband Map).⁵⁶ The Commission currently is working with NTIA and state grantees under the BDIA to develop this map,⁵⁷ which must be posted to the web “in a form that is interactive and searchable.”⁵⁸ For purposes of the National Broadband Map, NTIA defined broadband as “[d]ata transmission technology that provides two-way data transmission to and from the Internet with advertised speeds of at least 768 kilobits per second (kbps) downstream and at least 200 kbps upstream to end users, or providing sufficient capacity in a middle mile project to support the provision of broadband service to end users within the project area.”⁵⁹

20. We seek comment on the National Broadband Map and its relationship to this *Inquiry*. This interactive map will be an extremely valuable national resource that can be used by all stakeholders to better understand the state of broadband deployment throughout the country. Given the relevant target dates, it appears likely that National Broadband Map will not be in final form until after the release of the next broadband deployment report. What impediment does that pose to the use of any data underlying the National Broadband Map that might be relevant to this proceeding, and how might any such impediments be overcome? Will the Commission also be able to use the underlying geographic data to help determine where service offering actual speeds of 4 Mbps download and 1 Mbps upload is available to subscribers today (or such other benchmark as the Commission adopts)? If so, what methodology should the Commission use to make such determinations, and what information justifies use of that methodology?

21. The Commission has released an interactive beta version of various maps illustrating the output of the Model at Broadband.gov.⁶⁰ Specifically, these maps show the percentage of housing units with access to broadband satisfying the benchmark; the number of housing units without access to broadband; the “broadband investment gap” for each county overall; the “broadband investment gap” per

⁵⁶ 47 U.S.C. § 1305(l); *see also, e.g.*, 47 U.S.C. § 1304(g)(2) (calling for the creation of “a web page on the Department of Commerce website that aggregates relevant information made available to the public by grant recipients, including, where appropriate, hypertext links to any geographic inventory maps created by grant recipients” of the State Broadband Data and Development Grant Program (SBDD)). The NTIA is an agency in the U.S. Department of Commerce.

⁵⁷ NTIA created the SBDD to allocate grants to states so they can collect and map data regarding broadband deployment on a semi-annual basis over a two-year period. *See, e.g.*, 47 U.S.C. § 1304 (requiring NTIA to establish a grant program for state-level broadband availability mapping); *see also* Broadband USA—NTIA, State Broadband Data and Development Program, <http://www2.ntia.doc.gov/SBDD> (last visited Aug. 3, 2010). Under the SBDD, the State Governors designate the “eligible entity” responsible for State mapping efforts. *See* State Broadband Data and Development Grant Program, Department of Commerce, National Telecommunications and Information Administration, Notice of Funds Availability and Solicitation of Applications, 74 Fed. Reg. 32545, 32549–50, 32552 (July 8, 2009) (SBDD NOFA), *available at* http://www.ntia.doc.gov/frnotices/2009/FR_BroadbandMappingNOFA_090708.pdf. Providers then voluntarily submit data under non-disclosure agreements to the eligible entities, which then verify the data. *Id.* at 32547–50, 32552. To date, NTIA has awarded more than \$100 million in grants for state mapping efforts towards this map. *See* Press Release, NTIA, *NTIA To Accept Updated Grant Applications From States for Broadband Improvement and Mapping Activities* (May 28, 2010), http://www.ntia.doc.gov/press/2010/SBDDNewWindow_05282010.html.

⁵⁸ 47 U.S.C. § 1305(l).

⁵⁹ SBDD NOFA, 74 Fed. Reg. at 32548.

⁶⁰ National Broadband Plan, Broadband Maps, *available at* <http://www.broadband.gov/maps/availability.htm> (last visited Aug. 3, 2010).

housing unit for each county; the broadband investment gap per housing unit broken down by which technology would be cheaper to close the availability gap; and the extent to which each housing unit needs ongoing support. We seek comment on these maps. Because these maps are based on the output of the Model described above, beyond providing a useful illustration to help stakeholders and other interested persons better understand the output of the Model, do these maps also provide a way for the Commission to better fulfill its responsibilities in this *Inquiry*?

22. Are there other issues related to the National Broadband Map and/or the Commission's maps illustrating the Model? Are there other mapping issues that the Commission should consider? Are there any concerns about the sources and quality of data used to create these maps? To the extent the Commission collects geographic data of broadband deployment, should it use the same area or coding for all types of broadband facilities or are there reasons that would justify the use of different geographic areas for different types of broadband deployment data?

4. Other Data and Analyses

23. We recognize that there are other potential data and analyses that could inform our next broadband deployment report. Besides assessing broadband deployment through the Model, subscribership data, and maps, we seek comment on whether we should assess whether broadband is available to all Americans in other ways. As discussed below, the Commission is collecting other data that may inform our section 706 analysis. Are there any ongoing efforts to collect broadband deployment data that we should rely on in this proceeding other than those discussed in this *Inquiry*? Overall, we welcome any additional data and analyses from all other sources that will enable us to make informed judgments about broadband availability. To the extent there are data sets currently unavailable to the Commission that would help the Commission comply with its responsibilities under section 706, what are these and how could the Commission obtain access to such data?⁶¹ We invite parties to submit their own data on broadband availability in this docket and recognize that such submissions may raise concerns about the confidentiality of proprietary data. We seek comment on how the Commission should balance legitimate confidentiality interests in the information it collects against the goals of accountability and openness.

24. *Consumer Survey*. As mentioned above, the Commission is required periodically to conduct consumer surveys of broadband service capability.⁶² On February 23, 2010, the Commission released the results of its first consumer survey, which focused on the state of broadband adoption and use, as well as barriers facing those who do not have broadband at home.⁶³ On June 1, 2010, the Commission released the results of its second consumer survey, which focused on American's perspectives on online connection speeds.⁶⁴ To what extent should the Commission incorporate the results of these surveys,

⁶¹ We note that the Commission plans to release a comprehensive broadband data gathering notice of proposed rulemaking. *See supra* note 44.

⁶² *See* 47 U.S.C. § 1303(c).

⁶³ JOHN HARRIGAN, OBI, BROADBAND ADOPTION AND USE IN AMERICA (2010), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf; *see also* Press Release, FCC, *93 Million Americans Disconnected from Broadband Opportunities, FCC Survey Finds Cost and Digital Literacy Main Barriers to Broadband Adoption* (Feb. 23, 2010), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296443A1.pdf.

⁶⁴ *See, e.g.*, JOHN HARRIGAN & ELLEN SATTERWHITE, OBI, AMERICANS' PERSPECTIVES ON ONLINE CONNECTION SPEEDS FOR HOME AND MOBILE DEVICES (2010) (AMERICANS' PERSPECTIVES ON ONLINE CONNECTION SPEEDS), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-298516A1.pdf; *see also* Press Release, FCC, *FCC Survey Finds 4 out of 5 Americans Don't Know Their Broadband Speeds, Agency Announces Plans for* (continued....)

which are “[f]or the purpose of evaluating, on a statistically significant basis, the national characteristics of the use of broadband service capability” into its analysis in its next broadband deployment report?⁶⁵ For example, what implications should we draw from the Commission’s most recent consumer survey, which found that 80 percent of survey respondents did not know the download speed of their service and were generally satisfied with the speed of their service?⁶⁶ Given that many Americans do not know the speed of their broadband, should the Commission consider other ways to gather such data, such as perhaps providing a mechanism for consumers to submit a copy of their broadband bill—if they are interested in doing so—to enable a better assessment of broadband adoption by various demographic groups?⁶⁷ How could surveys best be utilized to inform our understanding of the current state of broadband deployment in the next report? Are there any survey topics that are particularly relevant for inquiries conducted under section 706 that the Commission should consider?

25. *International Broadband Data Report.* As mentioned above, the Commission must conduct an international comparison that “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.”⁶⁸ The Commission is incorporating the soon-to-be released *International Broadband Data Report (IBDR)* into the *2010 Sixth Broadband Deployment Report* in order to satisfy this requirement.⁶⁹ In preparing the *IBDR*, the International Bureau relied on public data and information gathered by the Commission staff, including a number of efforts to obtain data and information from entities in foreign countries. The Bureau also reviewed portions of the record developed in the Commission’s last broadband deployment and *National Broadband Plan* proceedings that relate to the international comparison requirement in section 1303(b). We seek comment on how the Commission should implement section 1303(b) in its next report and note that the International Bureau soon will release a public notice seeking comment on how the data and analysis in the *IBDR* might be improved.

26. *Mobile Broadband Network Performance and Coverage Data.* In June 2010, the Commission sought comment on how to measure and publish data on the performance of mobile broadband services given the growing significance of mobile Internet access.⁷⁰ At the same time, the

(Continued from previous page) _____

National Speed Testing, Starts Recruitment for 10,000 volunteers (Jun. 1, 2010), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-298525A1.pdf.

⁶⁵ 47 U.S.C. § 1303(c)(1). As noted above, the Commission is not required by statute to include the results of these consumer surveys in its broadband deployment report. See *supra* note 7.

⁶⁶ AMERICANS’ PERSPECTIVES ON ONLINE CONNECTION SPEEDS at 1.

⁶⁷ See also *infra* para. 27.

⁶⁸ See 47 U.S.C. § 1303(b); see also BDIA § 103(b)(1), 122 Stat. at 4097.

⁶⁹ *International Comparison Requirements Pursuant to the Broadband Data Improvement Act, International Broadband Data Report*, GN Docket No. 09-47 (forthcoming); *2010 Sixth Broadband Deployment Report* at para. 27.

⁷⁰ *Comment Sought on Measurement of Mobile Broadband Network Performance and Coverage*, CG Docket No. 09-158, CC Docket No. 98-170, WC Docket No. 04-36, Public Notice, DA 10-988 (rel. June 1, 2010) (*Mobile Broadband Measurement Public Notice*). The Commission has previously used data from American Roamer, an independent consulting firm that tracks service provision for mobile voice and mobile data services, to analyze the deployment of mobile broadband networks. As noted in the *National Broadband Plan* and the Commission’s *Fourteenth Mobile Wireless Competition Report*, the American Roamer analysis is useful as a baseline, but likely overstates the mobile coverage actually experienced by consumers because American Roamer reports advertised coverage as reported to it by many mobile wireless service providers, each of which uses a different definition of (continued....)

Commission sought comment on ways to improve voluntary self-reporting of mobile broadband network performance and coverage. We seek comment on how the information gathered in that proceeding can be used to improve our assessment of broadband availability in the next broadband deployment report.

27. *Other Resources.* The Commission has initiated several other data collection initiatives to better understand the state of broadband. For example, the Commission currently is collecting data from speed tests generated by Ookla, Inc. and Measurement Lab to test users' actual broadband speeds.⁷¹ The Commission also is working on an initiative with SamKnows Limited to provide routers to 10,000 volunteers around the country to determine those customers' actual broadband speeds.⁷² Furthermore, the Commission has created a "broadband dead zone" reporting tool that enables consumers to voluntarily report where broadband service is not available.⁷³

28. We seek comment on how the Commission should incorporate these different types of data to benchmark broadband or accurately assess broadband availability? How can we use these data collections for purposes of our section 706 inquiry in a statistically valid manner? For example, should the Commission use broadband speed test data to reevaluate the broadband benchmark it adopted in the last broadband deployment report? If so, what criteria should the Commission use when revisiting the broadband speed threshold? How should the Commission address potential disparities in the data generated by the various broadband speed tests? Is one type of test more useful than another for determining the actual speed of broadband? Specifically, how should such data be used to determine advertised versus actual broadband speed? Is there any way to improve these data collection efforts to more effectively determine the actual speed of broadband or where broadband is not available? What other considerations should the Commission take into account in analyzing such data?

29. The Commission also receives data in connection with merger transactions that may inform our section 706 assessment. For example, as a result of the Verizon-Frontier merger, Frontier committed to provide the Commission with a report every six months including the percentage of housing units within the transferred area to which Frontier offers broadband services capable of delivering at least 4 Mbps download and 1 Mbps upload.⁷⁴ To what extent may the Commission use such data in the current *Inquiry*? Are there any legal or practical impediments to relying on that data in this proceeding? Specifically, should the Commission use such data to test its assumptions used in the Model and/or to analyze the Form 477 subscribership data regarding which areas are unserved? Is there any reason the

(Continued from previous page) _____

coverage. See NATIONAL BROADBAND PLAN at 22, 39; *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, WT Docket No. 09-66, Fourteenth Report, FCC 10-81, at 7 n.5 (rel. May 20, 1010) (*Fourteenth Mobile Wireless Competition Report*). The data do not expressly account for factors such as signal strength, bit rate, or in-building coverage, and they may convey a false sense of consistency across geographic areas and service providers.

⁷¹ FCC, About the Consumer Broadband Test (Beta), <http://www.broadband.gov/qualitytest/about/> (last visited Aug. 3, 2010).

⁷² See *Comment Sought on Residential Fixed Broadband Services Testing and Measurement Solution, Pleading Cycle Established*, CG Docket No. 09-158, CC Docket No. 98-170, WC Docket No. 04-36, Public Notice, 25 FCC Rcd 3836 (2010); see also *Mobile Broadband Measurement Public Notice*.

⁷³ FCC, BROADBAND DEAD ZONE REPORT (2010), available at <http://www.broadband.gov/Broadband-Dead-Zone-Report.pdf>; FCC, Broadband.gov—Broadband Dead Zones, available at www.broadband.gov/qualitytest/deadzone/ (last visited Aug. 3, 2010).

⁷⁴ *Applications Filed by Frontier Communications Corporation and Verizon Communications Inc. for Assignment or Transfer of Control*, WC Docket No. 09-95, Memorandum Opinion and Order, 25 FCC Rcd 5972, 6001–03, App. C (2010).

Commission should not rely on these data for purposes not directly related to the transaction between Verizon and Frontier? To the extent the use of such data is appropriate but would present confidentiality concerns, how can those concerns be addressed?

C. Is Broadband Being Deployed to All Americans?

30. Section 706 requires the Commission annually to “initiate a notice of inquiry concerning the availability of advanced telecommunications capability to *all* Americans (including, in particular, elementary and secondary schools and classrooms).”⁷⁵ In conducting this *Inquiry*, the Commission must “determine whether advanced telecommunications capability is being deployed to *all* Americans in a reasonable and timely fashion.”⁷⁶

31. In the *2010 Sixth Broadband Deployment Report*, the Commission found that approximately 14 to 24 million Americans remain without broadband access capable of originating and receiving high-quality voice, data, graphics, and video telecommunications and that, absent changes in policy, those Americans will not gain such access in the near future.⁷⁷ The Commission therefore concluded that broadband deployment to all Americans was not reasonable and timely.⁷⁸ In reaching this conclusion, the Commission interpreted “all Americans” as used in section 706 as having its ordinary meaning and thus as establishing the goal of universal broadband availability for every American.⁷⁹ We seek comment on whether the Commission should affirm its interpretation of “all Americans” in the next broadband deployment report. In particular, should the Commission continue to interpret section 706 as establishing the goal of broadband availability for every American? Does it remain true that 14 to 24 million Americans remain without broadband access?

32. As we re-evaluate whether 14 to 24 million Americans continue to be without access to broadband, are there any significant technological developments that have recently occurred that significantly affect broadband availability? How widely have any such new technologies been deployed, and what impact are these new technologies likely to have on broadband deployment? For example, have there been any developments in network technology, such as developments in satellite technology that enable greater bandwidth, that have or soon will result in broadband being available in areas where providing landline or terrestrial wireless service is particularly difficult or expensive? How should satellite and mobile wireless services be considered in our analysis for the next broadband deployment report? Are there any developments in applications or end-user devices that have or could significantly influence broadband availability?

⁷⁵ 47 U.S.C. § 1302(b) (emphasis added).

⁷⁶ *Id.* (emphasis added).

⁷⁷ *2010 Sixth Broadband Deployment Report* at paras. 1–2, 28; *see also*, NATIONAL BROADBAND PLAN at 136 (“Because service providers in [areas with low population density] cannot earn enough revenue to cover the costs of deploying and operating broadband networks, including expected returns on capital, there is no business case to offer broadband services in these areas. As a result, it is unlikely that private investment alone will fill the broadband availability gap.”); NATIONAL BROADBAND PLAN at 21 (stating that “it is unlikely there will be a significant change in the number of unserved Americans based on planned upgrades, although some small companies may upgrade their networks to support broadband in currently unserved areas”).

⁷⁸ *2010 Sixth Broadband Deployment Report* at paras. 2, 28. The Commission emphasized its conclusion “in no way diminishes the tremendous achievements industry has made deploying better and faster forms of broadband to most Americans, nor the Commission’s past efforts to foster broadband deployment.” *Id.* at para. 6; *see also* NATIONAL BROADBAND PLAN at 20 (reporting that 95% of the U.S. population lives in housing units with access to terrestrial, fixed broadband infrastructure capable of supporting actual download speeds of at least 4 Mbps).

⁷⁹ *2010 Sixth Broadband Deployment Report* at para. 28 n.121.

33. While the Commission's broadband deployment inquiries traditionally have assessed the availability of broadband to consumers at home, is broadband available to Americans in other ways that we should include in our assessment? In particular, we seek comment on whether and how the existence of broadband availability at community anchor institutions⁸⁰ and publicly available Internet access points (e.g., Internet cafes, coffee shops, and other Wi-Fi hotspots) should affect our consideration of availability. Are there other locations where most Americans are able to access broadband? For example, the Commission recently granted to all schools participating in the E-rate program a waiver of its rules to allow schools the option to open their facilities to the general public to utilize services and facilities supported by E-rate during non-operating hours, such as after school hours, on the weekends, on school holidays, or during the summer months when schools are not in session.⁸¹ Has the ability of schools to now open up their E-rate funded services and facilities to the public made broadband more available to communities across the nation?⁸² What impact should these alternatives have on our assessment of whether broadband is available to all Americans in a reasonable and timely fashion for purposes of our inquiry under section 706? For example, how frequently are such alternatives used as a substitute for broadband at home, or are such options more frequently used in addition to a broadband subscription at home? To what extent are these alternatives available nationwide, particularly in unserved or rural areas, and to low-income people? Do Americans who rely on these alternatives have access to broadband that meets the broadband benchmark established by the Commission in the *2010 Sixth Broadband Deployment Report*? What data could the Commission rely on to make these determinations?

34. The Commission has recognized that certain categories of Americans are particularly vulnerable to not having access to broadband.⁸³ We seek comment on the status of broadband deployment to rural, suburban, and urban communities, to communities with a large concentration of minority households or low income households, and to households on native homelands, including Tribal Lands, and in the U.S. territories. What other household groups, or other geographic areas, are most likely to experience broadband deployment at a different pace such that we should also monitor the rate of deployment to those households and areas?⁸⁴ What data can the Commission use to make such determinations, and how should its analysis be conducted? For example, how should the Commission

⁸⁰ See SBDD NOFA, 74 Fed. Reg. at 32548 (defining community anchor institutions as “[s]chools, libraries, medical and healthcare providers, public safety entities, community colleges and other institutions of higher education, and other community support organizations and entities.”).

⁸¹ See *Schools and Libraries Universal Service Support Mechanism*, CC Docket No. 02-6, Order and Notice of Proposed Rulemaking, 25 FCC Rcd 1740 (2010).

⁸² See, e.g., Letter from Julia Benincosa, West Virginia Department of Education, to Marlene H. Dortch, Secretary, Federal Communications Commission, CC Docket No. 02-6 (filed Aug. 2, 2010) (providing examples of community use of schools' Internet access and networks as a result of this waiver).

⁸³ See, e.g., *2010 Sixth Broadband Deployment Report* at paras. 23–25 (finding that the unserved areas appear to have lower income levels, appear to be more rural, and subscription rates are lower in Native Homeland areas); see also *2000 Second Broadband Deployment Report*, 15 FCC Rcd at 20918, 20995–21003, paras. 8, 217–43 (concluding that “[o]verall, deployment of [broadband] to residential customers is reasonable and timely” although certain categories of Americans—including low-income consumers, those living in sparsely populated or rural areas, minority consumers, Indians, persons with disabilities and those living in the U.S. territories—are vulnerable to not having timely access to [broadband]).

⁸⁴ For example, the *Rural Broadband Report* found that “people with disabilities outside metropolitan areas have a very low rate of Internet use” but that the Commission “lack[s] properly disaggregated information” about this group. See ACTING CHMN MICHAEL J. COPPS, FCC, BRINGING BROADBAND TO RURAL AMERICA: REPORT ON A RURAL BROADBAND STRATEGY, GN Docket No. 09-29, 24 FCC Rcd 12792, 12807, para. 29 (2009) (RURAL BROADBAND REPORT).

account for the reality that some Americans who lack access to broadband fall into more than one vulnerable group? How should disparities in the level of broadband availability among different groups impact our analysis of whether broadband is available on a reasonable and timely basis to all Americans? We also solicit comments on whether all Americans for whom broadband is available have the same breadth of choices among technologies and services tiers, or whether certain groups, while having access to broadband that satisfies the benchmark, have diminished broadband choices compared to most Americans. As outlined below, we also specifically seek comment on the extent to which we can improve upon the demographic analysis the Commission conducted in its most recent broadband deployment report.⁸⁵

35. *Income.* In the *2010 Sixth Broadband Deployment Report*, the Commission reported that the 1,024 identified unserved areas in the U.S. have lower income levels than the U.S. as a whole.⁸⁶ In reaching this conclusion, the Commission reported per capita income for the unserved areas, as required by section 706,⁸⁷ as well as two other measures of economic well-being, namely Median Household Income and the Percent of the Population Living in Poverty.⁸⁸ We seek comment on the value of reporting these additional measures of economic well-being, the implications of this analysis, and whether there are other measures of economic well-being we should consider. We also seek comment on how our analysis is affected by the level of disaggregation of the data and the age of the data. For example, Median Household Income and Percent of Population Living in Poverty are only available at the county level and are not available for the U.S. Territories.⁸⁹ What other issues related to Americans' income should we take into account in this *Inquiry*?

36. *Rural Areas.* We also seek comment on the Commission's analysis of rural areas in the *2010 Sixth Broadband Deployment Report* and how we could improve this analysis. To determine whether the unserved areas the Commission identified were in urban or rural areas, it examined both household density and housing units categorized as rural by the Census Bureau.⁹⁰ Using these indicia, the Commission found that unserved areas appeared to be more rural than areas where broadband is available.⁹¹ We seek comment on whether there are other, or additional, ways to determine population density or a rural area that we should include in our analysis. Should we adopt a definition of "rural" similar to the Department of Education's definition, as the Commission has proposed to do for the federal

⁸⁵ In 2008, the Commission required Form 477 filers to report broadband connections by Census Tract permitting the Commission, for the first time, to explore relationships between estimated household adoption rates and demographic factors. See FEBRUARY 2010 HIGH SPEED REPORT at 5, 8. All of the demographic analysis the Commission conducted in the *2010 Sixth Broadband Deployment Report* is based on staff's analysis of the data collected on Form 477.

⁸⁶ *2010 Sixth Broadband Deployment Report* at para. 23 (reporting for example that, when measured in 1999 dollars, on average, the 1,024 unserved areas have a Median Household Income of \$28,626 compared to \$34,809 for the U.S. as a whole).

⁸⁷ *Id.* at para. 22 & App. B (reporting that the 1,024 unserved areas have, on average, a per capita income of \$14,565 measured in 1999 dollars and that, in contrast, a typical U.S. census area has, on average, a per capita income of \$17,232 measured in 1999 dollars); see also 47 U.S.C. § 1302(c) (directing the Commission to determine the population, the population density, and the average per capita income for unserved areas to the extent that Census Bureau data are available).

⁸⁸ *2010 Sixth Broadband Deployment Report* at para. 23.

⁸⁹ *Id.* at App. B, Technical Notes 4 & 5; see also *id.* at App. C.

⁹⁰ *Id.* at App. B, Technical Notes 6 & 7.

⁹¹ *Id.* at para. 24.

universal service fund schools and libraries support mechanism program?⁹² What impact do any limitations of the data have on the reliability and usefulness of our analysis?

37. *Tribal Lands and Native Homeland Areas.* In the *2010 Sixth Broadband Deployment Report*, the Commission found that counties where at least half the population lives in a Native Homeland area or where at least half the land mass is a Native Homeland area also tend to have lower broadband subscription rates than the U.S. as a whole.⁹³ We recognize that the Native Homeland areas, as designated and defined by the Census Bureau for census taking purposes, encompass areas both within and beyond areas defined as Tribal Lands in the Commission's rules.⁹⁴ During a routine government-to-government coordination meeting with Tribal Nations, Tribal leaders noted this aspect of the *2010 Sixth Broadband Deployment Report* and asked that we consider disaggregating our analysis of Native Homeland areas, in part to allow for a more accurate assessment of broadband deployment in the Tribal Lands areas defined under the Commission's rules. Separate from Tribal Lands, Native Hawaiian Homelands may also be able to be more accurately analyzed, as they are located uniquely within the state of Hawaii. We seek comment on our analysis of broadband deployment on Tribal Lands and Native Homeland areas and how we could improve and refine this analysis. In particular, are the assumptions the Commission used to define Native Homeland areas reasonable and accurate? Are there other assumptions, or other sources of data, that could better inform our analysis?

38. *Other Demographic Groups.* The Commission explained in the *2010 Sixth Broadband Deployment Report* that it was unable to draw definitive conclusions from the broadband subscribership data for other demographic groups such as minorities and persons with disabilities because broadband providers' subscribership data are collected by geographic area (i.e., Census Tract) and the Commission does not collect demographic information for these subscribers. Is there a way for the Commission to reach meaningful conclusions for other demographic groups using the Form 477 subscribership data given overall migration patterns for the U.S. as a whole,⁹⁵ the age of almost all available county-level demographic data, and that more recent demographic data is unlikely to become available before the

⁹² See U.S. Dep't of Educ., Common Core of Data (CCD)—Identification of Rural Locales, http://nces.ed.gov/ccd/rural_locales.asp (last visited Aug. 3, 2010); see also *Schools and Libraries Universal Service Support Mechanism; A National Broadband Plan for Our Future*, CC Docket No. 02-6, GN Docket No. 09-51, Notice of Proposed Rulemaking, FCC 10-83, paras. 9, 37–40 (May 20, 2010) (*2010 E-Rate NPRM*).

⁹³ We found that only 12.5% of all households on Native Homeland areas subscribe to a broadband service faster than dialup compared to 56% of all households nationwide. *2010 Sixth Broadband Deployment Report* at para. 25. If we instead designated a county as a Native Homeland area solely by whether at least 50% of the land mass is designated by the Census Bureau as American Indian Area/Alaska Native Area/Hawaiian Homeland, we would have found similar levels of unserved Americans. *Id.* We note that our analysis assumes that the geographic areas designated as Native Homelands did not significantly change since the 2000 Census. *Id.* at para. 25 n.105. We note also that the *National Broadband Plan* recognizes that “[a]vailable data, which are sparse, suggest that less than 10% of residents on Tribal lands have broadband available...[but], as the FCC has previously observed, [b]y virtually any measure, communities on Tribal lands have historically had less access to telecommunications services than any other segment of the population.” NATIONAL BROADBAND PLAN at 152, Box 8-4, Broadband on Tribal Lands (citations omitted.)

⁹⁴ See 47 C.F.R. § 54.400(e) (“defined as any federally recognized Indian tribe’s reservation, pueblo, or colony, including former reservations in Oklahoma, Alaska Native regions established pursuant to the Alaska Native Claims Settlement Act (85 Stat. 688), and Indian allotments.”).

⁹⁵ The Census Bureau estimates that 1 in 6 Americans move each year and that roughly a third of these individuals change their county residence. See Population Profile of the United States, <http://www.census.gov/population/www/pop-profile/geomob.html> (last visited Aug. 3, 2010).

release of the next broadband deployment report?⁹⁶ To the extent the Commission's ability to analyze demographic information is hampered by the limited availability of demographic data, what steps, if any, should the Commission take to obtain more complete demographic information regarding broadband availability? Are there any other reliable demographic data that the Commission could use to analyze broadband availability? To what extent should the Commission rely more heavily on the consumer surveys to obtain such demographic information?⁹⁷ What procedures should be put into place so that the Consumer Survey is representative of the U.S. population?

39. *Schools.* As required by section 706(a), we seek comment on the deployment of broadband to elementary and secondary schools and classrooms,⁹⁸ an area in which the federal universal service fund, specifically, the schools and libraries support mechanism (also known as the E-rate program), provides substantial support.⁹⁹ Notably, in the *2010 E-Rate NPRM*, the Commission proposed changes to the E-rate program that are intended to ensure that schools can more easily participate and obtain higher bandwidth services that will support more advanced applications, thereby expanding the reach of broadband in schools.¹⁰⁰ A 2010 study released by the National Center for Education Statistics found that nearly 100 percent of public schools in the United States have Internet access.¹⁰¹ In 1996, only 14 percent of public school instructional classrooms had Internet access; that figure increased to 94 percent in 2005.¹⁰² Are there still schools in the United States that lack access to broadband service? For schools that do have broadband service, are the speeds of their connections adequate? We seek comment on whether there are particular barriers that impede or hinder access to broadband by certain categories of schools.

D. Is Broadband Deployment Reasonable and Timely?

40. The Commission must determine “whether advanced telecommunications capability is being deployed to all Americans *in a reasonable and timely fashion.*”¹⁰³ As explained above, in the *2010 Sixth Broadband Deployment Report*, the Commission found that approximately 14 to 24 million Americans do not have access to broadband and that market forces alone are unlikely to ensure that these unserved Americans would be able to obtain broadband anytime in the near future.¹⁰⁴ The Commission thus concluded that broadband was not being reasonably and timely deployed to all Americans.

41. We seek comment on these conclusions. Is there any convincing evidence that market forces alone would ensure that the unserved minority of Americans will be able to obtain the benefits of

⁹⁶ The first data from the 2010 Census are the national and state population counts which will be released on or before December 31, 2010 while other data will be released at later dates. *See* 2010 Census Progress, Door-to-Door Progress, <http://2010.census.gov/2010census/how/2010-census-progress.php> (last visited Aug. 3, 2010); *see also* U.S. CENSUS BUREAU, DEP'T OF COMMERCE, 2010 CENSUS CONSTITUENT FAQs 8 (2010), *available at* <http://2010.census.gov/partners/pdf/ConstituentFAQ.pdf>.

⁹⁷ *See, e.g.*, 47 U.S.C. § 1303(c)(1) (directing the Commission to conduct “surveys of consumers in urban, suburban, and rural areas in the large business, small business, and residential consumer markets . . .”).

⁹⁸ *See* 47 U.S.C. § 1302(b).

⁹⁹ *See* 47 C.F.R. §§ 54.500–54.523.

¹⁰⁰ *2010 E-Rate NPRM* at paras. 7, 9, 67–83.

¹⁰¹ THOMAS D. SNYDER & SALLY A. DILLOW, U.S. DEPARTMENT OF EDUCATION, PUB. NO. NCES 2010-013, DIGEST OF EDUCATION STATISTICS 2009 at 605–06 (Apr. 2010), *available at*, <http://nces.ed.gov/pubs2010/2010013.pdf>.

¹⁰² *Id.* at 614, tbl. 425.

¹⁰³ 47 U.S.C. § 1302(b) (emphasis added).

¹⁰⁴ *2010 Sixth Broadband Deployment Report* at para. 28.

broadband anytime in the near future? Have there been sufficient changes in broadband availability that would warrant a different conclusion regarding the reasonableness and timeliness of broadband availability in the next report? We also invite comment on our conclusions in the *2010 Sixth Broadband Deployment Report* that the goal of the statute is universal broadband availability and that this goal is the standard against which we should measure our nation's progress in making broadband available.¹⁰⁵ Are there any additional factors the Commission should take into account in its analysis in this regard? For example, should we take into account how the United States' efforts to promote broadband deployment measure against the similar efforts in other countries? What measures should we use to assess the timeliness of broadband deployment? How granular should our examination of the reasonableness and timeliness of broadband deployment be? How should new and ongoing efforts to collect broadband data, the *National Broadband Plan*, and recent Commission initiatives to accelerate broadband deployment impact our assessment as to the reasonableness and timeliness of broadband availability to all Americans?

E. What Actions Can Accelerate Deployment?

42. Section 706 requires that the Commission take actions to accelerate broadband deployment if it finds that broadband is not available to all Americans in a reasonable and timely manner.¹⁰⁶ We seek comment about the best actions that should or should not be taken to accelerate broadband availability to all Americans and the best methods to measure the Commission's progress towards this end.

43. Since submitting the *National Broadband Plan* to Congress, the Commission has taken a number of steps to implement its recommendations to speed up broadband deployment. For instance, in the *Broadband Action Agenda*, the Commission announced a plan to undertake at least twenty separate initiatives by the end of 2010 to speed universal broadband access and adoption,¹⁰⁷ thirteen initiatives to maximize consumer benefit and foster competition, and another fourteen initiatives to promote mobile broadband infrastructure and foster innovation.¹⁰⁸ These initiatives, *inter alia*, consist of further reforms to the universal service fund, reforms to intercarrier compensation, deployment initiatives on native homelands, special access reform, an interconnection clarification order, a *Broadband Data NPRM*, launch of a spectrum dashboard, reform of roaming rules, reform of the 2.3 GHz spectrum band rules, and examinations of changes in other spectrum bands—all of which have the potential, in conjunction with other Commission actions, to accelerate broadband deployment. For each of the initiatives listed in the *Broadband Action Agenda*, are there particular steps the Commission should take to ensure that these proceedings further the purposes of section 706 in addition to their other statutory purposes? How should the Commission measure the extent to which these proceedings accelerate broadband deployment? Are there recommendations and proceedings to accelerate broadband deployment that the Commission should act on, but are not covered in the *Broadband Action Agenda*?

III. PROCEDURAL MATTERS

A. Paperwork Reduction Act

44. 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).

¹⁰⁵ *Id.*

¹⁰⁶ 47 U.S.C. § 1302(b).

¹⁰⁷ *See* BROADBAND ACTION AGENDA at 3–5; *see also* BROADBAND ACTION ITEMS CHART.

¹⁰⁸ *See* BROADBAND ACTION AGENDA at 1–3, 5–7.

B. Ex Parte Presentations

45. This proceeding shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s *ex parte* rules.¹⁰⁹ 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.¹¹⁰ Other requirements pertaining to oral and written presentations are set forth in section 1.1206(b) of the Commission’s rules.¹¹¹

C. Comment Filing Procedures

46. Pursuant to sections 1.415, 1.419, and 1.430 of the Commission’s rules,¹¹² interested persons may file comments and replies regarding the *Inquiry* on or before the dates indicated on the first page of this document. **All filings related to this *Inquiry* should refer to GN Docket No. 10-159.** 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://fjallfoss.fcc.gov/ecfs2/> or the Federal eRulemaking Portal: <http://www.regulations.gov>. Filers should follow the instructions provided on the website for submitting comments.
- 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. All filings must be addressed to the Commission’s Secretary, Office of the Secretary, Federal Communications Commission.
 - All hand-delivered or messenger-delivered paper filings for the Commission’s Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours 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 must be addressed to 445 12th Street, SW, Washington DC 20554.

¹⁰⁹ 47 C.F.R. §§ 1.1200 et seq. Although a Notice of Inquiry proceeding is generally exempt from the *ex parte* rules, we find that the public interest is best served by treating this important matter as a “permit-but-disclose” proceeding. *See* 47 C.F.R. §§ 1.1200(a), 1.1204(b)(1).

¹¹⁰ *See* 47 C.F.R. § 1.1206(b)(2).

¹¹¹ 47 C.F.R. § 1.1206(b).

¹¹² 47 C.F.R. §§ 1.415, 1.419, 1.430.

D. Accessible Formats

47. 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.

IV. ORDERING CLAUSE

48. Accordingly, IT IS ORDERED that, pursuant to section 706 of the Telecommunications Act of 1996, as amended, 47 U.S.C. § 1302, this *Notice of Inquiry* IS ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

**STATEMENT OF
CHAIRMAN JULIUS GENACHOWSKI**

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 Amended by the Broadband Data Improvement Act, GN Docket No. 10-159, Seventh Broadband Deployment Notice of Inquiry

Our responsibility to ensure that broadband is being deployed in a reasonable and timely fashion to all Americans is one of this Commission's most important duties, one that can help drive significant investment, create jobs, and bring tremendous benefits to consumers.

We know from our last report that our nation is not where it needs to be in this area—between 14 and 24 million Americans remain without access to robust broadband, and market forces alone are unlikely to close this gap in the near future. Some find this acceptable; I do not. This finding underscores the urgency of our ongoing work to implement the recommendations of the National Broadband Plan. That work includes reforming the Universal Service Fund as an effective public-private partnership that fuels investment in networks to bring broadband to unserved Americans.

Today we launch the process to develop our next report, seeking broad public input on how to continue improving the data and analysis we use to monitor and accelerate our nation's progress toward our shared goal of universal broadband.

**STATEMENT OF
COMMISSIONER ROBERT M. McDOWELL**

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 Amended by the Broadband Data Improvement Act*, GN Docket No. 10-159, Seventh Broadband Deployment Notice of Inquiry

Broadband grew from being available to 15 percent of Americans in 2003 to 95 percent of the population a mere six years later, making it the fastest penetrating disruptive technology in American history. We can all agree that areas for improvement will always confront us, and focusing on connecting those who currently do not have access to high-speed Internet should be our highest priority. However, we should not ignore the basis for the phenomenal success of broadband: a hands-off approach by government.

I welcome the opportunity for the Commission to take another look at America's progress in broadband deployment, especially and most importantly, because we have been directed to do so by Congress. In particular, the Telecommunications Act of 1996 requires that the FCC determine whether "advanced telecommunications capability is being *deployed* to all Americans in a reasonable and timely fashion." As a general matter, I support the Commission's effort to ask many questions and to seek more granular data. Nevertheless, my support for this inquiry should not be construed as an endorsement of any particular reference to the *Sixth Broadband Deployment Report* released on July 20 of this year. I am concerned that the report's conclusions may be used to promote and support a regulatory agenda that could have the unintended effect of slowing further deployment, usage, investment, and job creation.

As for this fresh inquiry, I look forward to working with my colleagues to ensure that America continues on its impressive path of proliferating broadband across the nation. In particular, I welcome the opportunity to review any comments that are filed in this docket that indicate areas where FCC action could unintentionally impede or slow down deployment.