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

In the Matter of	)	
	)	
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. 09-137
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51

SIXTH BROADBAND DEPLOYMENT REPORT

Adopted: July 16, 2010 **Released:** July 20, 2010

By the Commission: Chairman Genachowski and Commissioners Copps and Clyburn issuing separate statements; Commissioners McDowell and Baker dissenting and issuing separate statements.

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I. INTRODUCTION

1. This is the Commission's Sixth Report issued under section 706 of the Telecommunications Act of 1996, as amended,[1] which requires the Commission to determine annually whether broadband[2] is being deployed to all Americans in a reasonable and timely fashion.[3] Our analysis of broadband subscribership data and the broadband availability model constructed for the National Broadband Plan[4] indicates that while a substantial majority of Americans have access to broadband connections capable of "originat[ing] and receiv[ing] high-quality voice, data, graphics, and video telecommunications,"[5] roughly 80 million American adults do not subscribe to broadband at home,[6] and approximately 14 to 24 million Americans remain without broadband access capable of meeting the requirements set forth in section 706.

[1] 47 U.S.C. § 1302(b) (2010). Section 706 of the Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 56, 153 (the 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 Act as "broadband deployment reports" and have updated our references to prior reports accordingly.

[2] As explained below, in this report we use the term "broadband" synonymously with "advanced telecommunications capability." *See infra* para. 10.

[3] 47 U.S.C. § 1302(b). As a one-time event, to take advantage of the Commission's parallel effort to understand the state of broadband deployment when developing the National Broadband Plan, this year's inquiry was conducted in conjunction with the National Broadband Plan proceeding. *See* FCC, OMNIBUS BROADBAND INITIATIVE (OBI), CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN, GN Docket No. 09-51 (2010) (NATIONAL BROADBAND PLAN); *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; A National Broadband Plan for Our Future*, GN Docket Nos. 09-51, 09-137, Notice of Inquiry, 24 FCC Rcd 10505, 10513, para. 14 (2009) (*Sixth Broadband Deployment NOI*); *A National Broadband Plan for Our Future*, GN Docket No. 09-51, Notice of Inquiry, 24 FCC Rcd 4342 (2009) (*National Broadband Plan NOI*), subsequent Public Notices omitted; *see also* 47 U.S.C. § 1305(k)(2) ("The national broadband plan required by this section shall seek to ensure that all people of the United States have access to broadband capability . . . ."). As a consequence, much of the analysis we rely on in this report is summarized in the National Broadband Plan and documents released in support thereof. To avoid unnecessary duplication, some of our findings and analyses from the Plan are adopted by reference.

[4] As explained below, we estimate broadband availability using two sources of data: the FCC Form 477 Part 1A broadband data collection for December 2008 (Dec. 2008 Form 477 Broadband Data) and the National Broadband Plan model (Model). *See infra* Part III.B; Apps. B & C.

[5] 47 U.S.C. § 1302(d)(1) (defining "advanced telecommunications capability"); *see supra* note 2.

[6] *See* NATIONAL BROADBAND PLAN at 167 (relying on the *2010 Broadband Consumer Survey* and stating that "[w]hile 65% of Americans use broadband at home, the other 35% (roughly 80 million adults) do not"); JOHN HORRIGAN, OBI, BROADBAND ADOPTION AND USE IN AMERICA 3 (OBI Working Paper Series No. 1, Feb. 2010) (2010 BROADBAND CONSUMER SURVEY), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-296442A1.pdf. We note that the *2010 Broadband Consumer Survey* counted home broadband users as "those who said they used any one of the following technologies to access the internet from home: cable modem, a DSL-enabled phone line, fixed wireless, satellite, a mobile broadband wireless connection for your computer or cell phone, fiber optic, [or] T-1" without reference to the download or upload speed of their connection. *Id.* at 3. If the broadband speed benchmark used in this report had been used in the survey, it is likely that a larger number of Americans would have been reported as not having broadband.

Notwithstanding tremendous efforts by industry and government, those Americans will not gain such access in the near future absent changes in policy.[7]

2. Accordingly, we conclude that broadband deployment to *all* Americans is not reasonable and timely. This conclusion departs from previous broadband deployment reports, which held that even though certain groups of Americans were not receiving timely access to broadband, broadband deployment "overall" was reasonable and timely.[8]

3. As a consequence of that conclusion, section 706 mandates that the Commission "take immediate action to accelerate deployment of [advanced telecommunications] capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market."[9] The Commission will fulfill that requirement in part by addressing the proposals for Commission action set forth in the National Broadband Plan.[10]

4. In determining whether broadband is being deployed to all Americans in a reasonable and timely fashion, this Sixth Report takes 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] As anticipated in previous broadband deployment reports, "technologies, retail offerings, and demand among consumers"—or in other words, network capabilities, consumer applications and expectations—have evolved in ways that demand increasing amounts of bandwidth and require us to "[raise] the minimum speed for broadband

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[7] *See infra* Part IV; *see also* NATIONAL BROADBAND PLAN at 136; *infra* note 121 (explaining that broadband revenue potential in certain areas of the United States is likely insufficient to cover the costs of deploying and operating broadband networks, thus depriving industry of a business case to offer broadband services in these areas).

[8] *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, 20918, 20995–21003, paras. 8, 217–43 (2000) (*2000 Second Broadband Deployment Report*) (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); *see also 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, 2405, para. 16 (1999) (*1999 First 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, 2845, para. 1 (2002) (*2002 Third Broadband Deployment Report*); *Availability of Advanced Telecommunications Capability in the United States*, GN Docket No. 04-54, Report, 19 FCC Rcd 20540, 20547 (2004) (*2004 Fourth 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*, GN Docket No. 07-45, Report, 23 FCC Rcd 9615, 9616, para. 1 (2008) (*2008 Fifth Broadband Deployment Report*).

[9] 47 U.S.C. § 1302(b).

[10] *See, e.g.*, NATIONAL BROADBAND PLAN at xi–xv.

[11] *See 1999 First Broadband Deployment Report*, 14 FCC Rcd at 2406, para. 20 (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").

from 200 kbps to, for example, a certain number of megabits per second (Mbps)."[12] To put 200 kbps in context, in 1999, voice-over-broadband or interconnected voice over Internet protocol (VoIP) was just beginning to emerge as a consumer application, and web pages were almost entirely text-based, with little embedded graphics or video, making 200 kbps an arguably sufficient benchmark for broadband capability at the time. Today, interconnected VoIP is subscribed to by over 21 million Americans,[13] most web sites feature rich graphics and many embed video, and numerous web sites now exist primarily for the purpose of serving video content to broadband users.[14] As a result, and as predicted by previous broadband deployment reports, services at 200 kbps are not now capable of "originat[ing] and receiv[ing] high-quality voice, data, graphics, and video telecommunications," as those capabilities are delivered by today's technology and experienced and expected by today's broadband users.[15] As a result, we find that the 200 kbps threshold is no longer the appropriate benchmark for measuring broadband deployment for the purpose of this broadband deployment report.

5. As an alternative benchmark for this year's report, and given that this year's inquiry was conducted in conjunction with the National Broadband Plan proceeding, we find it appropriate and reasonable to adopt instead the minimum speed threshold of the national broadband availability target proposed in the National Broadband Plan. The National Broadband Plan recommends as a national broadband availability target that every household in America have access to affordable broadband service offering actual download (i.e., to the customer) speeds of at least 4 Mbps and actual upload (i.e., from the customer) speeds of at least 1 Mbps.[16] This target was derived from analysis of user behavior, demands this usage places on the network, and recent experience in network evolution.[17] It is the minimum speed required to stream a high-quality —even if not high-definition—video while leaving sufficient bandwidth for basic web browsing and e-mail, a common mode of broadband usage today that comports directly with section 706's definition of advanced telecommunications capability.[18] As the target for the broadband capability that the National Broadband Plan recommends should be available to all Americans, this speed threshold provides an appropriate benchmark for measuring whether broadband

[12] *Id*. at 2407–08, para. 25 ("[W]e may find in future reports that evolution in technologies, retail offerings, and demand among consumers has raised the minimum speed for broadband from 200 kbps to, for example, a certain number of megabits per second (Mbps)."); *see also 2000 Second Broadband Deployment Report*, 15 FCC Rcd at 20921, para. 14 (similar); *2002 Third Broadband Deployment Report*, 17 FCC Rcd at 2851, para. 10 ("recogniz[ing] that products are beginning to emerge that require high-bandwidth capability, such as high-definition video" and that it may be "appropriate to adjust the points at which we gauge advanced telecommunications capability in the future"); *2004 Fourth Broadband Deployment Report*, 19 FCC Rcd at 20549. *See also* NATIONAL BROADBAND PLAN at 16–17 & Exh. 3-C.

[13] Service providers reported more than 21 million U.S. subscriptions for interconnected VoIP service in the FCC's Form 477 data collection for December 2008. *See* Dec. 2008 Form 477 Broadband Data.

[14] *See* NATIONAL BROADBAND PLAN at 16, Exh. 3-B (reporting that 42% of home broadband users have downloaded or streamed video); *see also* NATIONAL BROADBAND PLAN at 17 (stating that "Cisco forecasts that video consumption on fixed and mobile networks will grow at over 40% and 120% per year, respectively, through 2013").

[15] 47 U.S.C. § 1302(d)(1); *see also infra* Part III.A.

[16] *See infra* Part III.A (benchmarking broadband for purposes of this report); NATIONAL BROADBAND PLAN at 135 (recommending that the national broadband availability target also include "acceptable quality of service for the most common interactive applications").

[17] *See* NATIONAL BROADBAND PLAN at 21, 25 n.50, 135–36; *see also* OBI, BROADBAND PERFORMANCE (Technical Paper, forthcoming).

[18] 47 U.S.C. § 1302(d)(1) (defining "advanced telecommunications capability").

deployment to all Americans is proceeding in a reasonable and timely fashion. It is by this benchmark that we find that broadband remains unavailable to approximately 14 to 24 million Americans.[19]

6. We recognize that ensuring universal broadband is the great infrastructure challenge of our time and deploying broadband nationwide—particularly in the United States—is a massive undertaking.[20] Therefore, we emphasize that our conclusion in no way diminishes the achievements industry has made deploying better and faster forms of broadband to most Americans, nor the Commission's past efforts to foster broadband deployment.[21] The fact remains, however, that to ensure the realization of section 706's goal that *all* Americans may benefit from the full range of services described in the statute, much more remains to be done to foster broadband deployment.[22]

7. As a consequence of our conclusion that broadband is not being deployed to all Americans in a reasonable and timely fashion, section 706 mandates that the Commission "take immediate action to accelerate deployment of [advanced telecommunications] capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market."[23] The National Broadband Plan outlines a number of ways the Commission and others may accelerate broadband deployment.[24] In compliance with section 706, we will consider the proposals for Commission action set forth in the National Broadband Plan for ways to remove barriers to infrastructure investment and promote competition in telecommunications markets. The Commission issued a proposed agenda for considering key recommendations of the National Broadband Plan.[25] The Commission explained the purpose and timing of more than sixty rulemakings and other notice-and-comment proceedings that when completed

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[19] *See infra* Part III.B; Apps. B & C; *see also, e.g.*, NATIONAL BROADBAND PLAN at 136 (stating that, "[a]t present, there are 14 million people living in seven million housing units that do not have access to terrestrial broadband infrastructure capable of meeting the National Broadband Availability Target"). Even if the Commission were to use a significantly slower speed threshold to measure broadband, the evidence shows that 12 million Americans today lack access to terrestrial broadband services capable of delivering actual download speeds in excess of 768 kbps. *See id.* at 157 n.7.

[20] *See id*. at 3.

[21] *See, e.g.*, Letter from Jay Bennett, Assistant Vice President – Federal Regulatory, AT&T Services Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 09-137, Attach. (filed June 14, 2010) (AT&T June 14 *Ex Parte* Letter) (summarizing industry achievements in broadband deployment); Letter from Glenn T. Reynolds, Vice President – Policy, USTelecom, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 09-137 (filed July 2, 2010) (USTelecom July 2 *Ex Parte* Letter) (similar).

[22] *See* USTelecom July 2 *Ex Parte* Letter at 5 ("It is absolutely appropriate for the Commission to be concerned about the remaining small percentage of Americans who may not have access to broadband in the foreseeable future because such deployment is not currently economically viable—indeed, Section 254 of the Act gives the Commission both the responsibility and the authority to ensure 'access to advanced telecommunications and information services . . . in all regions of the Nation.'"); AT&T June 14 *Ex Parte* Letter at 2 (emphasizing that "to the extent advanced telecommunications capability is not available over terrestrial networks in some limited areas, the Commission's own data show that such lack of availability is due to the extremely high cost of serving those areas").

[23] 47 U.S.C. § 1302(b).

[24] *See, e.g.*, NATIONAL BROADBAND PLAN at xi–xv; *id.* at xv (stating that half of the recommendations in the National Broadband Plan are offered to the Commission).

[25] *See FCC Announces Broadband Action Agenda*, FCC News Release (rel. Apr. 8, 2010) (FCC Broadband Action Agenda); *see also* Proposed 2010 Broadband Action Agenda Items, http://www.broadband.gov/plan/broadband-action-agenda.html (last visited June 30, 2010).

"will accelerate deployment and adoption of robust, affordable broadband for all Americans."[26] Through proceedings already underway and those that are still to be announced, we will work to ensure that "every American has a meaningful opportunity to benefit from the broadband communications era" as envisioned by section 706.[27]

II. BACKGROUND

8. Section 706 requires the Commission to annually "initiate a notice of inquiry concerning the availability of advanced telecommunications capability to all Americans (including, in particular, elementary and secondary schools and classrooms)."[28] In conducting this inquiry, the Commission must "determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion."[29] Section 706 also requires the Commission to provide "demographic information for unserved areas"[30] and include an international comparison in its annual broadband deployment report.[31] The Commission must also 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.[32] 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

[26] FCC Broadband Action Agenda at 1. For example, the National Broadband Plan explains that, "[i]nfrastructure such as poles, conduits, rooftops and rights-of-way play an important role in the economics of broadband networks. Ensuring service providers can access these resources efficiently and at fair prices can drive upgrades and facilitate competitive entry." NATIONAL BROADBAND PLAN at xii. To optimize infrastructure, the National Broadband Plan recommends that the Commission "[e]stablish low and more uniform rental rates for access to poles, and simplify and expedite the process for service providers to attach facilities to poles" and "[i]mprove rights-of-way management for cost and time savings." *Id*. The Commission has active proceedings to address pole attachments and rights-of-way issues. *See* FCC Broadband Action Agenda at 6; *Implementation of Section 224 of the Act; Amendment of the Commission's Rules and Policies Governing Pole Attachments*, WC Docket No. 07-245, RM-11293, RM-11303, Notice of Proposed Rulemaking, 22 FCC Rcd 20195 (2007); *Implementation of Section 224 of the Act, A National Broadband Plan for Our Future*, WC Docket No. 07-245, GN Docket No. 09-51, Order and Further Notice of Proposed Rulemaking, FCC 10-84 (rel. May 20, 2010); *Wireline Competition Bureau Seeks Comment on Level 3 Communications' Petition for Declaratory Ruling that Certain Right-of-Way Rents Imposed by the New York State Thruway Authority are Preempted Under Section 253*, WC Docket No. 09-153, Public Notice, 24 FCC Rcd 10998 (2009).

[27] *See Joint Statement on Broadband*, GN Docket No. 10-66, 25 FCC Rcd 3420, para. 1 (2010).

[28] 47 U.S.C. § 1302(b).

[29] *Id*.

[30] 47 U.S.C. § 1302(c) (requiring the Commission, in part, to "compile a list of geographical areas not served by any provider of advanced telecommunications capability").

[31] 47 U.S.C. § 1303(b).

[32] 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. 47 U.S.C. § 1303(c)(2). As discussed below, the Commission unveiled the results of its first consumer survey on February 23, 2010. *See infra* Part III.B.3; 2010 BROADBAND CONSUMER SURVEY.

market."[33] The *Sixth Broadband Deployment NOI* contains a more detailed discussion of background information relevant to the present inquiry.[34]

III. STATUS OF BROADBAND DEPLOYMENT

A. Benchmarking Broadband

9. Section 706 defines "advanced telecommunications capability" as "high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology."[35] Over a decade ago in the *1999 First Broadband Deployment Report*, the Commission determined that "advanced telecommunications capability" and "advanced services"—and, in effect, "broadband"—are services and facilities with an upstream (customer-to-provider) and downstream (provider-to-customer) transmission speed of more than 200 kbps.[36] At that time, the Commission rightly predicted "that as technologies evolve, the concept of broadband will evolve with it: we may consider today's 'broadband' to be narrowband when tomorrow's technologies are deployed and consumer demand for higher bandwidth appears on a large scale."[37] Nevertheless, all of the Commission's subsequent broadband deployment reports have been based on the broadband speed threshold the Commission adopted in the *1999 First Broadband Deployment Report*.

10. After considering the evidence in the record,[38] we conclude that the Commission's broadband speed threshold has not kept pace with the evolution of technology and consumer expectations. Although we continue to treat advanced telecommunications capability and broadband as synonymous terms in this report,[39] we find that 200 kbps simply 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 such services.[40] Today, Americans increasingly are using their broadband connections to

[33] 47 U.S.C. § 1302(b).

[34] *See Sixth Broadband Deployment NOI*, 24 FCC Rcd at 10505–21, paras. 1–32 (discussing the nation's evolving broadband goals, improvements in broadband data collection, and the actions the Commission, Congress, and other governmental entities have taken concerning broadband that are relevant to the present report).

[35] 47 U.S.C. § 1302(d)(1).

[36] *1999 First Broadband Deployment Report*, 14 FCC Rcd at 2406, para. 20. The Commission has used the term "high-speed" to describe services with over 200 kbps capability in at least one direction. *See 2000 Second Broadband Deployment Report*, 15 FCC Rcd at 20920, para. 11; *2002 Third Broadband Deployment Report*, 17 FCC Rcd at 2850–51, para. 9; *2004 Fourth Broadband Deployment Report*, 19 FCC Rcd at 20551.

[37] *See supra* note 12.

[38] In the *Sixth Broadband Deployment NOI* and throughout this proceeding, we asked for comment on how the Commission should define broadband. *See Sixth Broadband Deployment NOI*, 24 FCC Rcd at 10523–25, paras. 36–41; *National Broadband Plan NOI*, 24 FCC Rcd at 4346–48, paras. 15–22; *Comment Sought on Defining "Broadband" NBP Public Notice # 1*, GN Docket Nos. 09-47, 09-51, 09-137, Public Notice, 24 FCC Rcd 10897 (2009).

[39] *See, e.g.*, CTIA Comments at 28 (stating that Congress apparently used "broadband" and "advanced telecommunications capability" interchangeably and that the two terms, in fact, mean the same thing); Time Warner Cable Comments at 4 (same); Western Telecommunications Alliance Comments at 4–5; NASUCA June 8, 2009 Comments in GN Docket 09-51 at 12–13.

[40] 47 U.S.C. § 1302(d)(1); *see, e.g.*, NATIONAL BROADBAND PLAN at 17, Exh. 3-C. The Commission previously has recognized that 200 kbps is insufficient bandwidth to enable the transmission of live video. *See, e.g.*, *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, 9700, para. 19 (2008) (*2008 Broadband Data Gathering Order*)

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access high-quality video, and we anticipate that this demand will only continue to grow in the future.[41] For example, many Americans now communicate with their families and friends through desktop videoconference calls.[42] Many users also now post their own videos and view others' on such sites as YouTube and Hulu.[43] Instead of reading articles online, Americans often watch videos of today's top stories.[44] The growth and demand for high-quality videos by Americans is substantial, and this demand is expected to grow at over 40 percent and 120 percent per year, respectively, through 2013.[45]

11. Thus, for purposes of this report,[46] we update the Commission's broadband speed threshold. Specifically, we benchmark broadband as a transmission service that actually enables an end user to download content from the Internet at 4 Mbps and to upload such content at 1 Mbps over the broadband provider's network.[47] Of the many possible service characteristics that could be used for this purpose, we

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(explaining that "the range of information transfer capacities included in the current lowest tier of 200 kbps to 2.5 mbps captures a wide variety of services, ranging from services capable of transmitting real time video to simple always-on connections not suitable for more than basic email or web browsing activities"); Order on Reconsideration, 23 FCC Rcd 9800 (2008). Nevertheless, in previous broadband deployment reports, the Commission declined to modify its understanding of broadband to account for this limitation in part because consumer demand for such services was only starting to emerge. *See, e.g.*, *2002 Third Broadband Deployment Report*, 17 FCC Rcd at 2852, para. 12 (stating that "certain applications, such as some video products, require transmission speeds in excess of 200 kbps" and that "[a]s technology continues to evolve, and with it, consumer expectations, it may be appropriate to adopt a higher threshold for advanced telecommunications capability and revisit our analysis of deployment").

[41] NATIONAL BROADBAND PLAN at 17.

[42] *Id.*

[43] *Id*.

[44] *Id.*

[45] *Id*. (stating that "Cisco forecasts that video consumption on fixed and mobile networks will grow at over 40% and 120% per year, respectively, through 2013").

[46] We emphasize that we are benchmarking broadband in this report solely for purposes of complying with our obligations under section 706. We specifically do not intend this speed threshold to have any other regulatory significance under the Commission's rules absent subsequent Commission action. For example, today's report has no impact on which entities are classified as interconnected VoIP providers or what facilities must be provided on an unbundled basis. *See* 47 C.F.R. § 9.3 (defining interconnected VoIP service in relevant part as a service that "[r]equires a broadband connection from the user's location"); 47 C.F.R. § 51.5 (defining "advanced services"); 47 C.F.R. § 51.319(a)(2) (setting forth UNE obligations for hybrid loops). This report also does not prejudge the outcome of possible changes to the Universal Service Fund (USF) or other Commission proceedings. *See, e.g.*, NATIONAL BROADBAND PLAN at 140–51; *Connect America Fund, A National Broadband Plan for Our Future, High-Cost Universal Service Support*, WC Docket No. 10-90, GN Docket No. 09-51, WC Docket No. 05-337, Notice of Inquiry and Notice of Proposed Rulemaking, FCC 10-58 (rel. Apr. 21, 2010) (*Connect America Fund NOI and NPRM*). Similarly, our decision to benchmark broadband by means of a 4 Mbps download and 1 Mbps upload speed threshold does not mean that the Commission will stop collecting and analyzing data on services provided at slower and faster speeds. *See generally* 47 C.F.R. § 1.7000–1.7002 (requiring entities to provide advanced telecommunications capability data to the Commission in accord with the FCC Form 477 instructions).

[47] By increasing the broadband transmission speed threshold, we find a decreased level of broadband availability. This is a natural consequence of consumer expectations and the bandwidth demands of technology rising faster than broadband is being deployed to all Americans. We recognize that broadband providers continue to increase the availability of services that provide lower transmission speeds, including those in excess of 200 kbps in each direction. *See* App. D, INDUST. ANALYSIS & TECH. DIV., FCC, HIGH-SPEED SERVICES FOR INTERNET ACCESS: STATUS AS OF DECEMBER 31, 2008, at 3 (rel. Feb. 2010) (February 2010 High Speed Report). The benchmarks we
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find this benchmark appropriate for several reasons.[48] First, as discussed above, section 706 requires that broadband services enable users "to originate and receive high-quality voice, data, graphics, and video telecommunications."[49] Our examination of overall Internet traffic patterns reveals that consumers increasingly are using their broadband connections to view high-quality video, and want to be able to do so while still using basic functions such as email and web browsing.[50] Indeed, we expect that it is not uncommon for more than one person to make use of a single Internet connection simultaneously, particularly in multi-member households that subscribe to a single Internet access service. The evidence shows that streaming standard definition video in near real-time consumes anywhere from 1-5 Mbps, depending on a variety of factors.[51] The availability of broadband connections that actually enable an end user to download content from the Internet at 4 Mbps and to upload such content at 1 Mbps over the broadband provider's network is therefore a reasonable estimate of the availability of "advanced telecommunications services" as defined by the statute.

12. We also believe the benchmark is a reasonable point at which to measure broadband availability because it has been updated to reflect current demand patterns. The record shows that approximately half of all broadband consumers today purchase service that is advertised to deliver download speeds of "up to" 7 Mbps (though evidence suggests that the actual speeds of these connections may be roughly half of advertised speeds).[52] In addition, current trends indicate that consumers are likely

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adopt in this report refer to "actual" speeds rather than advertised or "up to" speeds for essentially the same reasons as set forth in the National Broadband Plan. *See* NATIONAL BROADBAND PLAN at 18–22; *but see* Letter from Neil M. Goldberg, Vice President and Counsel for National Cable & Telecommunications Association, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 09-51 (filed Mar. 26, 2010). When referring to the speed of a transmission "over the broadband provider's network," we generally mean the data throughput delivered between the network interface unit (NIU)—i.e., the subscriber's modem or other customer premise equipment (CPE)—and the service provider's Internet gateway that is the shortest administrative distance from that NIU. *See* NATIONAL BROADBAND PLAN at 156 n.2. We may adopt a different understanding of "actual" speed in future proceedings.

[48] *See, e.g.*, ADTRAN Comments at 10 (urging the Commission to assess broadband deployment and availability, not by the speed advertised by providers, but rather by the actual speeds consumers can reasonably expect under ordinary operating conditions); Free Press Comments at 15 (same); NASUCA June 8, 2009 Comments in GN Docket 09-51 at 18–19 (same). Unlike prior broadband deployment reports, we do not adopt a symmetrical broadband speed threshold. The Commission previously has recognized, "given the asymmetric use of most residential subscribers, fast upload rates do not appear to be as necessary as fast download rates." *2004 Fourth Broadband Deployment Report*, 19 FCC Rcd at 20552. We continue to "believe that Congress intended [broadband] to bring to all Americans a two-way, truly interactive medium, rather than one that is passive and entertainment-oriented." *2000 Second Broadband Deployment Report*, 15 FCC Rcd at 20921, para. 12. Symmetrical broadband speeds, however, are not necessarily a requirement for fully interactive broadband service today. At present, symmetrical capacity is rarely offered to residential customers. *See, e.g.*, ADTRAN Comments at 13–14; NCTA Reply at 3–4; Verizon Reply at 16–17.

[49] 47 U.S.C. § 1302(d)(1).

[50] *See* NATIONAL BROADBAND PLAN at 16–17.

[51] *See* FCC Broadband Task Force Status Update at the FCC September Commission Meeting 23 (Sept. 29, 2009), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293742A1.pdf.

[52] Thus, approximately half of all broadband subscribers in the United States purchase broadband service meeting our benchmark today. *See* NATIONAL BROADBAND PLAN at 21 ("Estimates of the average advertised 'up to' download speed that Americans currently purchase range from 6.7 Mbps to 9.6 Mbps, with the most detailed data showing an average of approximately 8 Mbps and a median of approximately 7 Mbps."); *see also id.* (explaining that the broadband speed consumers experience, on average, is about half of the speed to which they subscribe); *id.* at 156 n.3 (stating that the median actual download speed in the United States in the first half of 2009 was approximately 3 Mbps and is expected to exceed 4 Mbps by the end of 2010); *id.* at 135; *see also* February 2010
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to continue purchasing increasingly fast broadband connections in the future. In particular, the record shows that "the average advertised speed purchased by broadband users has grown approximately 20% each year for the last decade."[53] In contrast, when the Commission initially adopted a broadband speed threshold for purposes of complying with section 706, it estimated that only 0.4 percent of residential customers subscribed to a level of service meeting the adopted speed threshold.[54]

13. Naturally, any benchmark the Commission might adopt to measure broadband availability could be criticized as being too low in some contexts and too high in others.[55] Our present goal in selecting a benchmark to measure broadband availability is one shared with prior Commissions: to "giv[e] us a relatively static point at which to gauge the progress and growth in the advanced services market from one Report to the next."[56] The broadband benchmark takes estimated future demand into account, in part to minimize the risk of the Commission being forced to update its broadband benchmarks on an overly frequent basis.[57] We find that the speed threshold we adopt today satisfies the historic purpose of this report by establishing a practical goal: one that is neither so lofty as to be merely aspirational, nor so minimal that consumers are consigned to rudimentary Internet access that does not support the high-quality services (including video) referenced in the statute.[58] In any event, even if the Commission were to use a significantly slower speed threshold to measure broadband, we would still find that a significant number of Americans are unserved by broadband. For example, the evidence shows that

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High Speed Report at 18, chart 13 (reporting distribution of residential fixed high-speed connections by download speed tier as of December 31, 2008).

[53] *See* NATIONAL BROADBAND PLAN at 21.

[54] *See 1999 First Broadband Deployment Report*, 14 FCC Rcd at 2446, para. 91; *see also id*. at 2430–31, para. 61 (chart showing the availability, download speed and partial cost of various Internet access technologies at the time the Commission's initial broadband speed threshold was adopted).

[55] For example, while broadband providers in many urban areas currently offer Internet access service at speeds well in excess of 4 Mbps download/1 Mbps upload today, in other areas, consumers do not have the option to subscribe to terrestrial broadband services capable of delivering even 768 kbps actual download speeds because their residence is more than 16,000 feet from the nearest digital subscriber line access multiplexer (DSLAM). *See* NATIONAL BROADBAND PLAN at 20–21, Exhs. 3-E & 3-F (presenting timelines for network upgrades by provider and technology); *id*. at 157 n.7; *see also infra* note 58 (illustrating that commenters recommended a very wide range of speed thresholds for measuring broadband availability).

[56] *2002 Third Broadband Deployment Report*, 17 FCC Rcd at 2851, para. 10; *2004 Fourth Broadband Deployment Report*, 19 FCC Rcd at 20552 (stating that "[n]ow that first-generation broadband is available to the vast majority of U.S. households, it will become important to monitor the migration to next-generation networks and services").

[57] We base our predictions of future demand partially on trend data, which suggest that demand for advertised download speeds is growing at a compound annual growth rate of approximately 20%, which translates to a doubling in speed approximately every 2 to 4 years. *See* NATIONAL BROADBAND PLAN at 25 n.50 (reporting annual growth rates in subscribed speed of approximately 20–25% per year).

[58] *See, e.g*., Covad Comments at i (suggesting 100 Mbps by 2015); Internet2 Sept. 8, 2009 Reply, GN Docket Nos. 09-47, 09-51, 09-137 at 7 (stating that the Commission should adopt a definition of 100 Mbps in both directions for individual consumers); Verizon Comments at 9 (recommending a "downstream target of 50 Mbps for fixed services and 5 Mbps for mobile services"); *but see* DCPSC Comments at 4 (recommending we adopt the same speeds as the National Telecommunications and Information Administration (NTIA) and the Department of Agriculture's Rural Utilities Service (RUS) of at least 768 kbps downstream and at least 200 kbps upstream to end users); NCTA Comments at 3, 5 (same); TCA Comments at 3 (same).

12 million Americans today lack access to terrestrial broadband services capable of delivering actual download speeds in excess of 768 kbps.[59]

14. Finally, the benchmark we have selected mirrors the speed threshold the National Broadband Plan recommends as an initial national broadband availability target.[60] The analysis that underlies the selection of the national broadband availability target is equally applicable to our obligation to select an appropriate benchmark for determining whether broadband is being deployed in a reasonable and timely fashion. In both cases, the selection of a speed threshold focused on end user demand for high-quality voice, data, graphics and video capabilities, not just as those services are used or experienced by current subscribers, but as we expect them to evolve in the next several years.[61] Furthermore, the benchmark we have selected will allow the Commission to more easily measure progress towards accomplishment of the goals set forth in the National Broadband Plan, which recommends that the Commission publish an evaluation of plan progress and effectiveness as part of the annual broadband inquiry.[62] Maintaining consistency with the National Broadband Plan will avoid the confusion that likely would result from the introduction of an additional speed threshold into the nationwide discussion of the National Broadband Plan.

15. The Commission's broadband speed threshold benchmarks are not static, and we expect that in the future consumers will demand other service features, perhaps including higher upload and download speeds, service that meets specific functional criteria such as particular latency or jitter thresholds, a symmetrical broadband connection, or the ability to stream high-definition video. We recognize that "as technologies evolve, the concept of broadband will evolve with it."[63] Thus, we will continue to monitor available technology and consumer expectations and modify our broadband benchmarks accordingly.[64] For the reasons described above, however, we find it appropriate for the purposes of this report to benchmark broadband as a transmission service that actually enables an end user to download content from the Internet at 4 Mbps and to upload such content at 1 Mbps over the broadband provider's network.

B. Evidence of Broadband Availability

16. This year's broadband deployment report is based on more comprehensive broadband data than any of the Commission's prior reports. Our specific estimates of broadband availability are based primarily on two sources of data: the Model that Commission staff created in conjunction with the development of the National Broadband Plan and, consistent with previous broadband deployment reports, the broadband subscribership data the Commission collects on FCC Form 477.[65] For the first

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[59] *See* NATIONAL BROADBAND PLAN at 157 n.7.

[60] *Id.* at 135. The National Broadband Plan also recommends that the actual 4 Mbps download and 1 Mbps upload benchmark be used as a guide to public funding for broadband. *See id.* As explained above, this report adopts benchmarks for broadband solely for the purposes of complying with the Commission's obligations under section 706 and does not prejudge any issues related to possible changes to USF funding mechanisms or other support. *See supra* note 46.

[61] *See* 47 U.S.C § 1302(d)(1); NATIONAL BROADBAND PLAN at 16–17.

[62] *See* NATIONAL BROADBAND PLAN at xv, 334.

[63] *1999 First Broadband Deployment Report*, 14 FCC Rcd at 2407–08, para. 25.

[64] For example, the National Broadband Plan recommends revisiting the National Broadband Availability Target every four years. *See* NATIONAL BROADBAND PLAN at 135.

[65] *See supra* note 4; Dec. 2008 Form 477 Broadband Data; Apps. B & C; NATIONAL BROADBAND PLAN at 20, 129, 136; *see also id.* at 157 n.6; OBI, THE BROADBAND AVAILABILITY GAP (Technical Paper No. 1, 2010) (2010 BROADBAND AVAILABILITY GAP), *attached to Connect America Fund NOI and NPRM* at App. C. Naturally, our

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time, we also used Census Bureau data to help us understand how broadband availability varies by particular demographics, such as income level and population density.[66] To gain further insight into the "national characteristics of the use of broadband service capability," the Commission conducted a consumer survey.[67] Finally, we have conducted an international comparison of the extent of broadband service capability, which will be released shortly.[68]

17. Comprehensive broadband data are essential to determining whether broadband is being deployed to all Americans in a reasonable and timely fashion. Congress, the Commission, and other federal agencies all have taken steps to improve broadband data collection efforts.[69] Because these efforts are on-going, the full range of new broadband data are not yet available. For example, February 2011 is the deadline for the NTIA to post on its web site "a comprehensive nationwide inventory map of existing broadband service capability and availability."[70] In addition, the National Broadband Plan recommends that the Commission collect and analyze detailed market-by-market information on broadband pricing and competition.[71] We therefore expect that future broadband deployment reports will benefit from the

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methods are limited by the available data and are therefore imperfect. For example, subscriber data are an imperfect proxy for broadband availability or deployment. *See, e.g.*, *Sixth Broadband Deployment NOI*, 24 FCC Rcd at 10526–27, para. 45; *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* February 2010 High Speed Report at 4–5, nn.16 & 17 (explaining that mobile wireless connections are only reported at the state level and some business connections could be miscategorized as residential connections); AT&T Comments at 34–35 (supporting the use of Form 477 data because it is "the Commission's primary and most reliable source of subscribership statistics"); *but see* CPUC Reply at 4 (recommending against the use of subscribership data because "[a]vailability data, or infrastructure data, shows where broadband is available. Meanwhile, subscribership data denotes where consumers are choosing to purchase broadband service."). In addition, the only demographic information we collect in our subscription data is the Census Tract in which the subscriber receives service. *See infra* note 105. We therefore caution that, due to the limitations of the data, the lists of unserved areas compiled in this report necessarily are approximations and may be both over- and under-inclusive. We will continue striving to improve the quality of the data we collect and our analysis.

[66] The Commission was unable to conduct this type of analysis in prior broadband deployment reports because the data it previously collected were not sufficiently granular to allow a meaningful analysis of Census Bureau categories. *See* February 2010 High Speed Report at 2–3 (describing significant changes the Commission made in 2008 in the broadband subscribership data it collects and the implications of this change); *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).

[67] 47 U.S.C. § 1303(c)(1). *See infra* Part III.B.3; 2010 BROADBAND CONSUMER SURVEY.

[68] *See International Comparison Requirements Pursuant to the Broadband Data Improvement Act, International Broadband Data Report*, GN Docket No. 09-47, (forthcoming) (*International Broadband Data Report*); *see also* 47 U.S.C. § 1303(b).

[69] *See Sixth Broadband Deployment NOI*, 24 FCC Rcd at 10513–21, paras. 15–32. In 2008, the Commission improved the quality of the data it collects on Form 477 and issued a Further Notice to consider additional improvements in its broadband data collection. *See 2008 Broadband Data Gathering Order*, 23 FCC Rcd at 9708–12, paras. 33–40.

[70] 47 U.S.C. § 1305(l); *see also* 47 U.S.C. § 1304(e)(10), (g); *National Broadband Plan NOI*, 24 FCC Rcd at 4364–65, para. 61. NTIA must make this inventory map accessible to the public on an NTIA website in a form that is both interactive and searchable. 47 U.S.C. § 1305(l).

[71] NATIONAL BROADBAND PLAN at 43–44.

continued progress being made to better understand broadband availability, which in turn should help the nation reach its goal of universal broadband deployment.[72]

1. Model

18. As part of the development of the National Broadband Plan, Commission staff developed a nationwide model for broadband availability for both wired and wireless technologies.[73] The output of that model shows that approximately 14 million Americans, living in 7 million housing units, cannot get residential broadband service that meets the benchmark adopted in this report.[74]

2. Subscribership Data

19. Consistent with previous broadband deployment reports, we also estimate broadband availability by analyzing the residential broadband subscribership data the Commission collects on Form 477.[75] Every six months, the Commission collects on Form 477 basic service information from broadband providers. Form 477 requires a 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.[76] Our analysis of the Commission's subscribership data confirms the overall levels of broadband availability indicated by the Model.[77]

a. Unserved Areas

20. Before presenting our estimates, we highlight several key features of our analysis. First, although the Commission's subscribership data are collected by Census Tract, we have aggregated providers' residential subscribership totals for the whole county (or county equivalent) due to questions about the accuracy of the most recent data collected at the Census Tract level on Form 477.[78] We

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[72] *See, e.g.*, 47 U.S.C. § 1301(3) (stating that "[i]mproving Federal data on the deployment and adoption of broadband service will assist in the development of broadband technology across all regions of the Nation").

[73] *See supra* note 4; NATIONAL BROADBAND PLAN at 20, 129, 136; *see also id.* at 157 n.6; 2010 BROADBAND AVAILABILITY GAP at 17.

[74] *Id.*

[75] *See* Dec. 2008 Form 477 Broadband Data; *see also, e.g.*, *2002 Third Broadband Deployment Report*, 17 FCC Rcd at 2850, para. 9; *2004 Fourth Broadband Deployment Report*, 19 FCC Rcd at 20567; *2008 Fifth Broadband Deployment Report*, 23 FCC Rcd at 9618, para. 6. Subscribership data from Form 477 also were analyzed for purposes of better understanding competition among broadband providers in conjunction with the development of the National Broadband Plan. *See* NATIONAL BROADBAND PLAN, CHAPTER 4: BROADBAND COMPETITION AND INNOVATION POLICY at 33–61. Because that competition analysis did not focus on broadband availability, we do not rely on it in this report.

[76] *See 2008 Broadband Data Gathering Order*, 23 FCC Rcd at 9700–01, para. 20 n.66. The analysis above was based on the data collected under the modified Form 477 requirements. Formerly, Form 477 required covered providers to report the number of broadband connections they provide in each state as well as the 5-digit ZIP codes for which they had at least one customer. *Local Competition and Broadband Reporting*, CC Docket No. 99-301, Report and Order, 15 FCC Rcd 7717, 7743–46, paras. 49–52 (2000).

[77] *Compare supra* note 73 (Model) *with infra* note 89 (Form 477 subscribership data).

[78] *See* February 2010 High Speed Report at 4–5 (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% and 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

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emphasize this decision is driven by the data and does not represent a Commission conclusion that counties necessarily always are the best way to determine the "geographical areas that are not served" by broadband under section 706.[79] Second, 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. Of the 72 combinations of upload and download advertised transmission speeds for which the Commission collects data, the tiers closest to the benchmark adopted in this report are those beginning at 3 Mbps or 6 Mbps download speed and 768 kbps or 1.5 Mbps upload speed.[80] Because both OBI analysis and Form 477 data indicate that higher speeds are available to more subscribers than elect to purchase them,[81] and because the Form 477 data reflects subscriber purchasing choices rather than availability,[82] we take a conservative approach and select 3 Mbps download speed and 768 kbps upload speed as the cutoffs for the subscriber choice likely to indicate that service offering actual speeds of 4 Mbps download and 1 Mbps upload is available to the subscriber.[83]

21. Third, we have applied a "*de minimis* threshold," under which we find broadband to be available in a county only if at least 1 percent of the households in that county subscribe to broadband.[84] We do not believe it is appropriate to assume that broadband is available to everyone in a county merely because a single person in that county subscribes to broadband.[85] At the same time, we recognize that not

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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.").

[79] *See* 47 U.S.C. § 1302(c); *see also, e.g.*, NCTA Comments at 8–9 (suggesting the Commission should define geographic area in terms of Census Tracts, as it currently does for Form 477 but consider going forward, using Census Block data, in coordination with NTIA). Because Form 477 currently does not collect data for geographic areas smaller than the Census Tract, such as a Census Block, we reject suggestions to analyze the Commission's broadband subscribership data on the basis of geographic areas smaller than a Census Tract. *See, e.g.*, DCPSC Comments at 8; Free Press Comments at 77–78; NJ Rate Counsel Comments at 12–13.

[80] *See 2008 Broadband Data Gathering Order*, 23 FCC Rcd at 9700–01, para. 20.

[81] OBI analysis indicates 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. NATIONAL BROADBAND PLAN at 20. However, no more than half of those that purchase high-speed Internet access service actually purchase services capable of delivering 4 Mbps download speeds. *See supra* para. 12, note 52. Our analysis of Form 477 data likewise shows that in counties where cable modem service with advertised download speeds of 3 Mbps and upload speeds of 768 kbps are available, only 39% of cable modem subscribers choose to purchase at that speed or higher. *See* Dec. 2008 Form 477 Broadband Data.

[82] *See* FCC, FCC FORM 477, INSTRUCTIONS FOR MARCH 1, 2010 FILING (OF DATA AS OF 12/31/2009) at 6, Part III.B, *available at* http://www.fcc.gov/Forms/Form477/477inst.pdf.

[83] Were the Commission to conduct 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.

[84] For each area we examine, we define the subscription rate as the number of residential connections that are at least 3 Mbps down and 768 kbps up divided by the number of households in the area. *See* App. B, Technical Notes 2 & 3. *See also* February 2010 High Speed Report at 5 n.17 (noting that the household subscription rate for an area is the total number of residential connections in that area at a particular speed threshold divided by the estimated number of households in that area).

[85] *See, e.g.*, Letter from Melissa E. Newman, Vice President – Federal Relations, Qwest Corporation, to Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 09-47, 09-51, 09-137, Attach. at 15 (filed Sept. 17, 2009) (providing Qwest's proposal for broadband deployment to unserved areas and recognizing that the Commission's former "use

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everyone for whom broadband is available elects to purchase it. 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.[86] Given current subscription rates for Internet access transmission services of various speeds, we find applying a 1 percent *de minimis* threshold in our availability analysis appropriately balances these concerns.[87] In particular, a 1 percent threshold will treat every county that literally is "not served by *any* provider" of broadband as unserved, as well as those counties in which only a small fraction of the households subscribe to broadband service.[88] At the same time, because the 1 percent threshold is low, we minimize the risk that we classify an area as unserved when broadband service in fact is available to a majority of households, even if household adoption rates in that area happen to be relatively low.

(i) 1,024 Counties are Unserved Areas

22. Based on the analysis described above, we estimate that 1,024 out of 3,230 counties in the United States and its territories are unserved by broadband.[89] These unserved areas are home to 24 million Americans living in 8.9 million households.[90] As set forth in more detail in Appendix B, the 1,024 unserved areas have, on average: (1) a population of 23,479; (2) a population density of 138.3 people per square mile; and (3) a per capita income of $14,565 measured in 1999 dollars.[91] In contrast, a typical U.S. census area has, on average: (1) a population of 95,481; (2) a population density of 283.5 people per square mile; and (3) a per capita income of $17,232 measured in 1999 dollars.[92]

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of zip codes [was] problematic; as commentators have pointed out . . . it is questionable to conclude that an area is served by a broadband provider if any part of the relevant zip code enjoys broadband service").

[86] *See supra* note 81.

[87] Based on the Commission's subscribership data collected on Form 477, 56% of all households subscribe to an Internet access service faster than dial-up, and 45% of all households that subscribe to such a service, subscribe to a service meeting our speed benchmark. These figures are somewhat lower than the figures reported in the National Broadband Plan and in the *2010 Broadband Consumer Survey*, which are based upon more recent data. *See* NATIONAL BROADBAND PLAN at 167 (relying on the *2010 Broadband Consumer Survey* and stating that "[w]hile 65% of Americans use broadband at home, the other 35% (roughly 80 million adults) do not"); 2010 BROADBAND CONSUMER SURVEY at 13 (reporting that 65% of Americans use broadband at home where broadband is understood to be any Internet access technology faster than dial-up).

[88] 47 U.S.C. § 1302(c) (emphasis added). We find our interpretation of the statutory language described above to be reasonable and faithful to Congress's intent, and preferable to the alternative interpretations of the statute we considered. Nevertheless, we may find it appropriate to modify the *de minimis* threshold for identifying unserved areas in the future.

[89] 47 U.S.C. § 1302(c); Apps. B & C; NCTA Comments at 8 (stating that "[t]he degree to which the size of the [unserved] list shrinks over time will be a simple, yet effective, measure of the success of the Commission's National Broadband Plan").

[90] 47 U.S.C. § 1302(c); App. B (reporting the number of unserved areas in each state and U.S. territory).

[91] 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); App. B. As of the time of this report, Per Capita Income was available from the Census Bureau only in 1999 dollars. *See* App. B, Technical Note 4; CENSUS BUREAU, CENSUS 2000 SUMMARY FILE 3, http://www.census.gov/Press-Release/www/2002/sumfile3.html (last visited Mar. 24, 2010).

[92] App. B.

(ii) Unserved Areas Appear to Have Lower Income Levels

23. The unserved areas appear to have lower income levels than the U.S. as a whole.[93] To measure economic well-being, we examined Median Household Income and the percent of the population living in poverty.[94] We find 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. We find that, when measured in 2008 dollars, for 934 of the 1,024 unserved areas for which we have this information,[95] the unserved areas have a Median Household Income, on average, of $37,785 compared to $44,172 for the U.S. overall.[96] Moreover, based on the percent of the population estimated by the Census Bureau to live in poverty in 2008, we find, on average, 18.4 percent of the population live in poverty in the 934 unserved areas for which we have data, compared to 15.2 percent of the population for the U.S. overall.[97]

(iii) Unserved Areas Appear to Be More Rural

24. The unserved areas also appear to be more rural than the U.S. as a whole.[98] To determine whether the unserved areas we identified were in urban or rural areas, we examined both household density and housing units categorized as rural by the Census Bureau.[99] On average, these 1,024 unserved areas have a household density of 46.8 households per square mile and have 73 percent of the housing units categorized as rural by the Census Bureau. In contrast, for the U.S as a whole, the typical county

[93] *Id.*

[94] *Id.*

[95] *Id.* While we have Median Household Income in 1999 dollars for all 1,024 counties, we only have Median Household Income in 2008 dollars for 934 of the 1,024 unserved areas. *See id.*, Technical Note 4. We do not have Median Household Income in 2008 for one county in Alaska, one county in Hawaii, and for all of the U.S. territories. *Id.*

[96] *See* App. B.

[97] *Id.* & Technical Note 5. Hypothesis testing reveals a statistically significant difference, at the 95% confidence level, in the mean income level between served and unserved areas for the income measures included in our analysis. The Commission's recent High-Speed Report also suggests that subscription rates tend to increase with income. *See* February 2010 High Speed Report at 52, 57, Charts 20 & 25; *see also* 2010 BROADBAND CONSUMER SURVEY at 5 (reporting that "36% of non-adopter [respondents] cite cost as the main reason they do not have high-speed Internet at home"); AT&T Comments at 47 (stating that "low-income households struggling to make ends meet may be reluctant to, or simply unable to, spend precious funds on broadband service"); NAT'L TELECOMM. AND INFO. ADMIN., DIGITAL NATION: 21ST CENTURY AMERICA'S PROGRESS TOWARD UNIVERSAL BROADBAND INTERNET ACCESS at 15 (2010), *available at* http://www.ntia.doc.gov/reports/2010/NTIA_internet_use_report_Feb2010.pdf ("Affordability . . . rates highest among the major reasons for eschewing broadband at home among those with either no Internet at home or only dial-up service.").

[98] *See* App. B & Technical Notes 6 & 7; *see also* Broadband Opportunity Coalition Comments at 7 (stating that "deployment is severely lacking in isolated rural communities, such as Weirwood, Virginia, that are not situated along major highways"); Qwest Comments at 5 (stating that "[c]learly the status quo is not working in regard to rural deployment and change is needed"); USTA Comments at 10 (stating that "more needs to be done to ensure the timely and reasonable deployment of broadband to Americans in rural and other uneconomic areas"); Verizon Comments at 6 (stating that "some Americans living in remote, sparsely populated, or otherwise hard-to-serve areas still lack . . . broadband service other than satellite"). *See also infra* note 121.

[99] *See* App. B & Technical Notes 6 & 7.

has a household density of 108.2 households per square mile and has 59 percent of housing units categorized as rural by the Census Bureau.[100]

b. Subscription Rates Are Lower in Native Homeland Areas[101]

25. The Commission has in past broadband deployment reports examined broadband availability for various demographic groups, such as minorities, persons with disabilities, and Americans living in Tribal areas.[102] In particular, the Commission has recognized that certain categories of these Americans are particularly vulnerable to not having access to broadband.[103] In 2008, the Commission required Form 477 filers to report broadband connections by Census Tract permitting the Commission to conduct a demographic analysis of subscription patterns.[104] This change enables us to examine the subscription rates in Native Homeland areas for the first time.[105] We find 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. We find that only 12.5 percent of all households on Native Homeland areas subscribe to a broadband service faster than dialup compared to 56 percent of all households nationwide.[106]

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[100] *Id.* Hypothesis testing reveals a statistically significant difference, at the 95% confidence level, in the mean income level between served and unserved areas for the rural indicator measures included in our analysis.

[101] 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.

[102] *See, e.g.*, *2000 Second Broadband Deployment Report*, 15 FCC Rcd at 20918, para. 8; *see also supra* note 8.

[103] *See supra* note 8.

[104] *See* February 2010 High Speed Report at 2.

[105] We are, however, unable to draw definitive conclusions from the broadband subscription data for other demographic groups. The Commission collects broadband providers' subscription data by geographic area (Census Tract) and does not collect customers' demographic identity. At the time of this report, almost all of the county-level demographic information that is readily available is from the 2000 Census. 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* KRISTIN A. HANSEN, CENSUS BUREAU, POPULATION PROFILE OF THE UNITED STATES: GEOGRAPHIC MOBILITY, http://www.census.gov/population/www/pop-profile/geomob.html (last visited Mar. 24, 2010). Given the overall migration patterns that may have occurred in the U.S. since 2000, we were concerned it could be misleading to draw any inferences about demographic populations, such as minorities or persons with disabilities who likely changed their residence. We assume that the geographic areas designated as Native Homelands did not significantly change since 2000. Thus, we were able to confidently report on the subscription rates in Native Homeland areas. We note that the Commission's Consumer Survey, discussed below, also reported demographic statistics for survey respondents. *See infra* Part III.B.3. If we instead would designate 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 find similar levels of unserved Americans in such areas as compared to what is reported below. *See supra* note 101. Specifically, under this alternative definition, we find there would be 106 unserved counties in Native Homeland areas, representing approximately 5 million Americans. Finally, we note that other sources of information report that "[s]ome segments of the population—particularly low-income households, racial and ethnic minorities, seniors, rural residents and people with disabilities—are being left behind." NATIONAL BROADBAND PLAN at 167; *see also id.* at 167, Exh. 9-A (reporting current adoption rates for different demographic groups).

[106] *See* Dec. 2008 Form 477 Broadband Data; *see also supra* note 87 (explaining a basis for why these figures, which are based on the Commission's Form 477 data, differ somewhat from data reported in the *National Broadband Plan* and the *2010 Broadband Consumer Survey*).

3. Consumer Survey

26. In October and November 2009, the Commission conducted its first periodic survey of end-users of the Internet "[f]or the purpose of evaluating, on a statistically significant basis, the national characteristics of the use of broadband service capability."[107] On February 23, 2010, in compliance with our new annual obligation, we released the results of our first survey, which was "an effort to understand the state of broadband adoption and use, as well as barriers facing those who do not have broadband at home."[108] The survey is novel in that it focused on the non-adoption of broadband at home so that its results will help provide insight into factors associated with Americans who do not subscribe to an Internet access service, even if one is available.[109] With respect to non-adopters, the consumer survey found that 35 percent or 80 million American adults do not use broadband at home and these Americans fall into three categories, each with distinct demographic characteristics: (1) 22 percent of all American adults do not use the Internet at all; (2) 6 percent of all American adults use the Internet but do not have access at home, and (3) 6 percent of all American adults use dial-up Internet connections to go online from home.[110] The Commission will periodically conduct other consumer surveys, some of which may focus on other aspects of the "national characteristics of the use of broadband service capability."[111]

4. International Report

27. Section 1303 requires the Commission to include an international comparison in its annual broadband deployment report.[112] Specifically, section 1303 requires the Commission to "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."[113] We are incorporating by reference a report from our International Bureau that will be released shortly.[114] This inaugural *International Broadband Data Report* will present data and information on international broadband service capability, which is based on information submitted to the

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[107] 47 U.S.C. § 1303(c)(1).

[108] *See* 2010 BROADBAND CONSUMER SURVEY at 3; 47 U.S.C. § 1303(c)(2).

[109] *See* 2010 BROADBAND CONSUMER SURVEY at 11. Survey respondents were asked what type of Internet access transmission service they used at home, including dial-up. *See, e.g.*, *id*. at 14. Because we are unable to discern from the survey results what portion of the respondents use a broadband service, we do not rely on survey responses regarding the availability of Internet access service to draw inferences regarding the availability of broadband in this report.

[110] *See id.* at 24; *see also* NATIONAL BROADBAND PLAN at 167.

[111] *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"). On June 1, 2010, the Commission released the results of its second consumer survey, which focused on American's perspectives on online connection speeds. JOHN HORRIGAN & ELLEN SATTERWHITE, OBI, AMERICANS' PERSPECTIVES ON ONLINE CONNECTION SPEEDS FOR HOME AND MOBILE DEVICES (2010), *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 National Speed Testing, Starts Recruitment for 10,000 Volunteers* (June 1, 2010), *available at* http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-298525A1.pdf.

[112] 47 U.S.C. § 1303.

[113] 47 U.S.C. § 1303(b).

[114] *International Broadband Data Report*. As the *International Broadband Data Report* will explain, that report satisfies the Commission's obligations under the BDIA.

Commission and data gathered by Commission staff. The forthcoming *International Broadband Data Report* also will provide information on, for example, actual prices advertised to consumers for broadband services, community-level data, and information about the broadband market and broadband regulations in various countries around the world.[115]

IV. BROADBAND IS NOT BEING DEPLOYED TO ALL AMERICANS IN A REASONABLE AND TIMELY FASHION

28. Based on our analysis, we conclude that broadband is not being deployed to all Americans in a reasonable and timely fashion.[116] Our analysis shows that roughly 80 million American adults do not subscribe to broadband at home,[117] and approximately 14 to 24 million Americans do not have access to broadband today.[118] The latter group appears to be disproportionately lower-income Americans and Americans who live in rural areas. The goal of the statute, and the standard against which we measure our progress, is universal broadband availability.[119] We have not achieved this goal today, nor does it appear that we will achieve success without changes to present policies. The evidence further indicates that market forces alone are unlikely to ensure that the unserved minority of Americans will be able to obtain the benefits of broadband anytime in the near future.[120] Therefore, if we remain on our current course, a large number of Americans likely will remain excluded from the significant benefits of broadband that most other Americans can access today. Given the ever-growing importance of broadband to our society,[121] we are unable to conclude that broadband is being reasonably and timely deployed to all Americans in this situation.[122]

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[115] The International Bureau has gathered: (1) information for actual prices advertised to consumers for broadband services in different parts of the world from the websites of competitive and new entrant broadband providers; (2) community-level data and information from the Organization for Economic Co-operation and Development (OECD), broadband adoption data from the European Commission's regional data, and other data from individual government agencies, either through the national statistical agency or the communications ministry and/or regulator; and (3) information about the broadband market and broadband regulations in various countries around the world.

[116] 47 U.S.C. § 1302(b). We find that although 97% of schools have access to the Internet, crucial gaps exist. *See* NATIONAL BROADBAND PLAN at 20. More than 50% of teachers say slow or unreliable Internet access presents obstacles to their use of technology in classrooms. *Id.*

[117] *See id.* at 167 (relying on the *2010 Broadband Consumer Survey* and stating that "[w]hile 65% of Americans use broadband at home, the other 35% (roughly 80 million adults) do not").

[118] *See supra* Part III.B.1 & 2.

[119] We interpret "all Americans" in this context as having its ordinary meaning, and thus as establishing the goal of universal broadband availability for every American. We also adopt a straightforward interpretation of "reasonable and timely" as calling for broadband to be made available as soon as possible assuming all reasonable steps are taken. In the absence of indications to the contrary, we find that the ordinary meaning of the statutory language accurately expresses the legislative purpose. *See Gross v. FBL Financial Services, Inc.*, 129 S.Ct. 2343 (2009).

[120] *See* 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."); *id.* at 21 (stating that "it is unlikely there will be a significant change in the number of unserved Americans based on planned upgrades over the next few years, although some small companies may upgrade their networks to support broadband in currently unserved areas").

[121] Recent Congressional legislation further underscores the importance of ensuring broadband availability to all Americans as soon as reasonably possible, and its position as a top priority for the Commission. As Congress found in 2008 when it amended section 706, broadband "has resulted in enhanced economic development and public safety for communities across the Nation, improved health care and educational opportunities, and a better quality of life for all Americans." 47 U.S.C. § 1301(1); *see also, e.g.*, 47 U.S.C. § 1301(2) (stating that "[c]ontinued progress in

(continued…)

V. IMMEDIATE ACTION TO ACCELERATE DEPLOYMENT

29. If the Commission finds that broadband is not being deployed in a reasonable and timely manner, it must "take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market."[123] We have already begun. The National Broadband Plan, which also seeks to ensure that all people of the United States have access to broadband, proposes a number of ways to accelerate broadband deployment by removing barriers to infrastructure investment and by promoting competition.[124] Several proceedings currently before the Commission provide a means to address some of these recommendations.[125] Through these proceedings, and others still to be commenced, we will work to ensure that broadband is being deployed to all Americans in a reasonable and timely fashion.

VI. ORDERING CLAUSES

30. Accordingly, IT IS ORDERED that, pursuant to section 706 of the Telecommunications Act of 1996, as amended by the Broadband Data Improvement Act, 47 U.S.C. § 1301 et seq., this Report IS ADOPTED.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

(…continued from previous page)
the deployment and adoption of broadband technology is vital to ensuring that our Nation remains competitive and continues to create business and job growth"); 47 U.S.C. § 1305(k)(2) (directing the Commission to develop a National Broadband Plan that would "seek to ensure that all people of the United States have access to broadband capability"). Indeed, broadband is playing an increasingly central role in most aspects of American society. For instance, broadband helps advance "consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes." 47 U.S.C. § 1305(k)(2)(D).

[122] As stated above, we emphasize that our conclusion in this report in no way diminishes the progress broadband providers have made to expand broadband deployment throughout America. *See supra* at para. 6. Nor should our conclusion be taken as evidence that we are questioning the adequacy of the Commission's prior efforts to increase broadband deployment.

[123] *See* 47 U.S.C. § 1302(b).

[124] *See* NATIONAL BROADBAND PLAN at xi–xv; *see also supra* para. 7. Instead of choosing a specific path for broadband in America, the plan describes actions the Commission and others should take in "fostering innovation and competition in networks, devices and applications; redirecting assets that government controls or influences in order to spur investment and inclusion; and optimizing the use of broadband to help achieve national priorities." *See* NATIONAL BROADBAND PLAN at 5.

[125] *See supra* note 26.

APPENDIX A

Comments in GN Docket No. 09-137

Commenter	Abbreviation
ADTRAN, Inc.	ADTRAN
AT&T Inc.	AT&T
Broadband Opportunity Coalition *et al*.	Broadband Opportunity Coalition
Comcast Corporation	Comcast
Covad Communications Company	Covad
CTIA - The Wireless Association	CTIA
District of Columbia Public Service Commission	DCPSC
Free Press	Free Press
National Association of State Utility Consumer Advocates	NASUCA
National Cable & Telecommunications Association	NCTA
National Telecommunications Cooperative Association	NTCA
New Jersey Division of Rate Counsel	NJ Rate Counsel
One Economy	One Economy
OPASTCO	OPASTCO
PCIA and The DAS Forum	PCIA
Pennsylvania Public Utility Commission	PPUC
Qwest Corporation	Qwest
Schools, Health and Libraries Broadband Coalition	SHLB
Section 706 Joint Conference Committee	Joint Conference
Sprint Nextel	Sprint
SUNESYS, LLC	SUNESYS
TCA Inc.	TCA
Time Warner Cable Inc.	Time Warner Cable
United States Telecom Association	USTA
Verizon and Verizon Wireless	Verizon
Wayne Longman	Wayne Longman
Western Telecommunications Alliance	Western Telecommunications Alliance
Wireless Internet Service Providers Association	WISPA
YourTel America Inc.	YourTel

Replies in GN Docket No. 09-137

Replies	Abbreviation
AT&T Inc.	AT&T
California Public Utilities Commission	CPUC
Free Press	Free Press
Georgia Power Company	Georgia Power Company
GVNW Consulting, Inc.	GVNW
National Association of State Utility Consumer Advocates	NASUCA
National Cable & Telecommunications Association	NCTA
Verizon and Verizon Wireless	Verizon

APPENDIX B

Unserved Areas
By State or U.S. Territory

	Areas[1]	Population (1000s)[2]	Households (1000s)[3]	Average Population	Average Households	Average Per Capita Income (1999)[4]	Average Median Household Income (1999)[4]	Average Median Household Income (2008)[4]	Average % Living in Poverty (2008)[5]	Average Household Density[6]	Average Population Density[6]	Average % Rural Housing[7]
All Areas	3,230	308,404.1	115,221.7	95,481	35,672	$17,232	$34,809	$44,172	15.2	108.20	283.47	59.1
Unserved Areas	1,024	24,042.0	8,895.8	23,479	8,687	$14,565	$28,627	$37,785	18.4	46.79	138.30	72.6
Puerto Rico	78	3,954.0	1,307.8	50,693	16,766	$6,943	$13,189	NA	NA	432.56	1,315.85	11.5
North Carolina	19	3,450.8	1,338.3	181,623	70,438	$18,784	$37,345	$42,974	17.0	129.51	332.45	53.0
Texas	142	2,527.4	910.7	17,799	6,413	$15,348	$30,163	$38,896	18.1	8.42	23.07	66.1
South Carolina	23	1,751.4	657.9	76,148	28,602	$16,135	$32,840	$38,891	19.7	44.16	117.72	62.4
Mississippi	59	1,522.4	562.9	25,803	9,540	$13,636	$26,699	$32,551	24.4	16.95	45.64	75.0
Arkansas	61	1,454.5	569.1	23,844	9,329	$14,882	$27,888	$33,545	20.8	13.23	33.72	69.5
Oklahoma	58	1,424.8	548.0	24,566	9,448	$15,294	$29,099	$38,532	17.6	12.11	31.35	67.0
Kentucky	59	1,239.2	487.0	21,004	8,254	$14,028	$26,125	$32,425	23.9	22.71	57.76	81.5
Missouri	54	997.2	389.7	18,467	7,217	$14,879	$29,374	$36,216	18.1	12.60	32.29	78.3
Georgia	54	770.2	288.6	14,263	5,344	$15,193	$29,701	$35,625	21.6	16.05	42.58	86.7
Louisiana	29	751.5	273.9	25,913	9,445	$13,371	$26,219	$34,437	22.9	12.59	34.78	70.7
Alabama	23	562.9	219.4	24,472	9,539	$14,019	$26,586	$32,912	22.2	13.86	35.48	89.4
California	8	368.2	125.8	46,031	15,729	$18,049	$32,883	$40,602	16.7	4.94	14.10	70.7
Tennessee	18	317.6	123.1	17,645	6,841	$14,731	$27,819	$32,816	21.9	17.31	44.67	84.3
Kansas	38	280.3	112.8	7,377	2,969	$16,892	$32,281	$40,732	11.8	3.93	9.79	83.3
Montana	30	198.7	79.9	6,624	2,663	$14,982	$28,287	$36,721	15.4	1.09	2.70	91.9
South Dakota	44	192.2	69.9	4,369	1,589	$14,016	$28,230	$37,530	18.2	1.72	4.61	95.9
Alaska	22	179.9	59.5	8,176	2,702	$19,167	$45,251	$53,837	14.1	0.28	0.80	82.3
Michigan	8	145.3	58.6	18,158	7,323	$16,433	$31,109	$36,540	16.9	9.73	24.04	84.3
Minnesota	9	145.1	56.0	16,120	6,219	$16,468	$34,147	$42,576	12.7	5.89	15.31	85.3

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New Mexico	10	136.4	51.0	13,637	5,104	$13,844	$26,102	$32,446	19.5	1.18	3.15	72.7
Utah	13	131.9	43.9	10,146	3,379	$14,248	$33,697	$45,477	13.1	1.13	3.29	79.2
Wisconsin	8	131.5	51.4	16,438	6,430	$16,492	$35,111	$44,244	13.0	10.32	26.65	94.0
North Dakota	27	128.2	50.2	4,749	1,861	$15,417	$30,125	$42,435	13.9	1.55	3.98	94.0
U.S. Virgin Islands	3	108.6	40.6	36,204	13,549	$14,647	$26,925	NA	NA	315.37	831.58	17.2
Nebraska	33	108.5	43.4	3,289	1,316	$15,094	$29,650	$37,598	13.5	2.04	5.14	96.3
Illinois	6	107.5	41.6	17,916	6,934	$17,767	$36,164	$43,527	15.1	14.77	38.30	60.7
Wyoming	5	106.4	42.4	21,277	8,486	$17,760	$35,259	$54,543	8.3	1.92	4.84	74.4
Colorado	19	100.5	38.1	5,289	2,007	$16,830	$31,610	$39,726	17.7	2.17	5.55	88.4
Nevada	10	98.9	38.2	9,894	3,822	$18,492	$39,158	$50,779	12.7	1.07	2.61	71.1
Arizona	2	90.3	28.7	45,147	14,354	$11,951	$24,592	$32,351	29.7	1.85	5.36	72.3
Idaho	11	75.4	27.2	6,853	2,471	$15,014	$32,460	$42,417	13.3	2.04	5.79	88.8
Northern Mariana Islands	3	69.2	14.1	23,072	4,685	$9,897	$24,935	NA	NA	107.54	528.26	41.4
Florida	5	61.1	20.1	12,225	4,017	$13,448	$28,406	$36,216	22.8	8.31	25.08	90.5
American Samoa	4	57.3	9.3	14,323	2,337	$4,203	$17,295	NA	NA	88.50	538.92	54.8
West Virginia	6	54.6	21.9	9,104	3,648	$13,680	$26,013	$31,772	20.4	11.38	28.75	92.7
Virginia	7	52.8	20.6	7,544	2,947	$17,920	$35,024	$43,930	12.3	59.84	150.15	85.7
Ohio	2	45.1	17.7	22,567	8,839	$15,140	$30,329	$39,543	17.7	19.03	48.58	86.3
Iowa	4	44.4	17.8	11,106	4,458	$16,761	$33,083	$43,595	12.3	7.25	18.02	87.8

APPENDIX B

Unserved Areas
By State or U.S. Territory

	Areas[1]	Population (1000s)[2]	Households (1000s)[3]	Average Population	Average Households	Average Per Capita Income (1999)[4]	Average Median Household Income (1999)[4]	Average Median Household Income (2008)[4]	Average % Living in Poverty (2008)[5]	Average Household Density[6]	Average Population Density[6]	Average % Rural Housing [7]
Indiana	2	37.3	13.8	18,632	6,921	$17,493	$39,088	$47,844	13.0	16.53	44.50	90.2
Oregon	5	33.4	13.1	6,675	2,618	$16,378	$32,093	$39,205	15.6	0.82	2.16	83.0
Washington	2	28.8	11.6	14,387	5,778	$16,384	$31,956	$38,112	18.7	7.50	18.53	53.4
Hawaii	1	0.1	0.1	117	105	$13,756	$9,333	NA	NA	7.96	8.86	100.0

Technical Notes:

1) We examine a total of 3,230 counties or county equivalent areas, including 3,141 counties in the States and District of Columbia, 78 Municipal areas in Puerto Rico and 11 Municipal areas in American Samoa, Guam, Northern Mariana Islands and the U.S. Virgin Islands. We exclude two county equivalent areas in the Northern Mariana Islands (Rose Island Municipality and Northern Mariana Islands Municipality) due to data irregularities. As we work to improve our data, we anticipate that we will have a more precise identification of unserved areas. *See supra* Part III.B.2.a. & note 69.
2) We base our analysis on the most recent Census Bureau data available. We rely on Census Bureau 2008 population estimates for 3,140 counties in the 50 States and the District of Columbia, and 78 Municipalities in Puerto Rico. We rely on Census Bureau 2000 population estimates for a single county in Alaska and the 11 Municipal areas in American Samoa, Guam, Northern Mariana Islands and the U.S. Virginia Islands. *See* CENSUS BUREAU, POPULATION ESTIMATES DATA SETS, http://www.census.gov/popest/datasets.html (last visited Mar. 24, 2010).
3) We estimate households for 2008 by assuming that the relationship between household size and population size in each area has not changed between 2000 and 2008. Specifically, $\text{Households}_{2008} = \text{Population}_{2008} / \text{Household Size}_{2000}$, where $\text{Household Size}_{2000} = \text{Population}_{2000}/\text{Households}_{2000}$. For the 12 counties in which we do not have 2008 population estimates, we use Households based upon the 2000 Census. *See, e.g.*, CENSUS BUREAU, CENSUS 2000 SUMMARY FILE 1 (SF 1) 100-PERCENT DATA, http://factfinder.census.gov/servlet/DownloadDatasetServlet?_lang=en (last visited Mar. 24, 2010) (2000 Census Data).
4) We report two Income measures, Per Capita Income and Median Household Income. Per Capita Income and Median Household Income in 1999 dollars are reported for all county or county equivalent areas in the Census 2000 Summary File 3. *See, e.g.*, CENSUS BUREAU, CENSUS 2000 SUMMARY FILE 3, http://www.census.gov/Press-Release/www/2002/sumfile3.html (last visited Mar. 24, 2010). Median Household Income in 2008 dollars is available for 3,139 county or county equivalent areas. We do not have Median Household Income in 2008 for one county in Alaska and Hawaii, and all of the U.S. territories. *See* CENSUS BUREAU, SMALL AREA INCOME AND POVERTY ESTIMATES: STATE AND COUNTY ESTIMATES FOR 2008, http://www.census.gov/did/www/saipe/data/statecounty/data/2008.html (last visited Mar. 24, 2010).
5) Proportion of Population Living in Poverty in 2008 is reported by the Census Bureau for 3,139 of the 3,230 county or county equivalent areas. *Id.*

6) Household density is defined as the ratio of households to the total land area in the county. Population Density is defined as the ratio of population to the total land area in the area. These estimates are based upon the most recent Census Bureau data available. *See supra* Technical Notes 2 and 3.
7) Rural Housing Proportion is defined as the number of housing units categorized as rural by the Census Bureau divided by the total number of housing units in the county. *See* 2000 Census Data; *supra* Technical Note 3.

APPENDIX C

Unserved Areas
By County or County Equivalent

County or County Equivalent Areas[1]	Population[2]	Households[3]	Average Per Capita Income (1999)[4]	Median Household Income (1999)[4]	Median Household Income (2008)[4]	Percent Living in Poverty (2008)[5]	Household Density[6]	Population Density[6]	Percent Rural Housing[7]
Alaska									
Aleutians East Borough	2,810	546	$18,421	$47,875	$52,786	15.3	0.40	7.81	100.00
Aleutians West Census Area	4,529	1,056	$24,037	$61,406	$62,849	9	1.03	24.01	72.56
Bethel Census Area	17,236	4,546	$12,603	$35,701	$41,755	21.5	0.42	11.19	68.75
Bristol Bay Borough	953	373	$22,210	$52,167	$67,214	7.8	1.89	73.82	100.00
Denali Borough	1,848	769	$26,251	$53,654	$70,720	5.4	0.14	6.03	100.00
Dillingham Census Area	4,933	1,514	$16,021	$43,079	$50,827	19.6	0.26	8.11	100.00
Haines Borough	2,271	935	$22,090	$40,772	$48,299	10.4	0.97	39.90	100.00
Kenai Peninsula Borough	53,409	19,790	$20,949	$46,397	$54,206	10.3	3.34	123.58	86.34
Kodiak Island Borough	13,049	4,156	$22,195	$54,636	$61,525	8	1.99	63.35	27.93
Lake and Peninsula Borough	1,488	479	$15,361	$36,442	$43,687	17.2	0.06	2.01	100.00
Nome Census Area	9,261	2,705	$15,476	$41,250	$46,892	20.9	0.40	11.76	69.11
North Slope Borough	6,615	1,895	$20,540	$63,173	$72,499	11.4	0.07	2.13	40.50
Northwest Arctic Borough	7,502	1,851	$15,286	$45,976	$57,721	16.5	0.21	5.15	60.75
Prince of Wales-Outer Ketchikan Census Area	5,533	2,044	$18,395	$40,636	$44,491	15.2	0.75	27.58	100.00
Sitka City and Borough	8,889	3,301	$23,622	$51,901	$61,436	7.8	3.09	114.86	20.22
Skagway-Hoonah-Angoon Census Area	3,436	1,369	$19,974	$40,879	NA	NA	0.44	17.34	100.00
Southeast Fairbanks Census Area	6,753	2,265	$16,679	$38,776	$59,124	13.3	0.27	9.13	100.00
Valdez-Cordova Census Area	9,362	3,567	$23,046	$48,734	$58,946	8.5	0.27	10.39	100.00
Wade Hampton Census Area	7,717	1,768	$8,717	$30,184	$33,033	29.2	0.45	10.28	100.00
Wrangell-Petersburg Census Area	5,910	2,303	$23,494	$46,434	$54,274	9.8	1.01	39.47	64.52
Yakutat City and Borough	657	216	$22,579	$46,786	$54,401	13.3	0.09	2.83	100.00
Yukon-Koyukuk Census Area	5,701	2,006	$13,720	$28,666	$33,900	24.9	0.04	1.37	100.00

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County or County Equivalent Areas[1]	Population[2]	Households[3]	Average Per Capita Income (1999)[4]	Median Household Income (1999)[4]	Median Household Income (2008)[4]	Percent Living in Poverty (2008)[5]	Household Density[6]	Population Density[6]	Percent Rural Housing[7]
Alabama									
Bibb	21,629	7,668	$14,105	$31,420	$41,076	18.5	34.72	1230.72	85.60
Blount	57,441	21,562	$16,325	$35,241	$46,086	13.1	88.98	3339.88	91.31
Bullock	10,796	3,680	$10,163	$20,605	$26,980	33.6	17.27	588.80	72.05
Calhoun	113,419	45,853	$17,367	$31,768	$39,997	17.6	186.40	7535.89	30.27
Cherokee	24,545	9,944	$15,543	$30,874	$38,028	17.7	44.38	1797.74	100.00
Chilton	42,444	16,370	$15,303	$32,588	$40,292	17.1	61.16	2358.80	87.89
Choctaw	14,055	5,600	$14,635	$24,749	$30,728	22.9	15.39	613.03	100.00
Clarke	26,304	10,041	$14,581	$27,388	$34,101	20.6	21.24	810.85	75.36
Cleburne	14,799	5,885	$14,762	$30,820	$37,742	14.8	26.42	1050.46	100.00
Conecuh	13,066	5,356	$12,964	$22,111	$27,068	24.9	15.36	629.49	100.00
Fayette	17,691	7,154	$14,439	$28,539	$34,092	19.8	28.19	1139.77	78.69
Greene	9,172	3,638	$13,686	$19,819	$26,001	30.3	14.20	563.26	100.00
Lamar	14,295	5,798	$14,435	$28,059	$32,424	18.2	23.63	958.65	100.00
Lowndes	12,644	4,603	$12,457	$23,050	$30,225	25.4	17.61	641.17	100.00
Marengo	21,055	8,209	$15,308	$27,025	$32,381	22.6	21.55	840.23	71.84
Marion	29,465	11,966	$15,321	$27,475	$31,602	19.6	39.74	1613.91	99.46
Perry	10,643	3,891	$10,948	$20,200	$26,513	31.7	14.79	540.77	100.00
Pickens	19,524	7,552	$13,746	$26,254	$31,053	25.6	22.15	856.78	100.00
Randolph	22,620	8,728	$14,147	$28,675	$34,185	17.3	38.93	1502.05	79.51
Sumter	13,266	5,130	$11,491	$18,911	$24,221	32.9	14.66	566.85	100.00
Washington	17,204	6,347	$14,081	$30,815	$37,076	18.2	15.92	587.29	100.00
Wilcox	12,803	4,653	$10,903	$16,646	$23,090	30.2	14.41	523.57	100.00
Winston	23,974	9,771	$15,738	$28,435	$32,018	18.3	39.02	1590.21	84.26
Arkansas									
Arkansas	19,236	7,855	$16,401	$30,316	$37,295	20.1	19.46	794.66	39.96

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Ashley	22,233	8,601	$15,702	$31,758	$36,079	18.3	24.14	933.68	51.36
Baxter	42,115	18,760	$16,859	$29,106	$34,666	16.8	75.97	3384.09	68.23
Bradley	11,906	4,568	$13,895	$24,821	$30,621	24.1	18.30	702.05	55.03
Calhoun	5,435	2,202	$15,555	$28,438	$34,908	16.5	8.65	350.45	100.00
Chicot	11,993	4,417	$12,825	$22,024	$24,809	30.4	18.62	685.81	36.78
Clark	23,888	9,022	$14,533	$28,845	$34,327	21.8	27.60	1042.50	60.27
Clay	15,845	6,630	$14,512	$25,345	$31,910	18.1	24.78	1037.06	61.19
Cleburne	25,397	10,753	$17,250	$31,531	$36,707	15.2	45.92	1944.31	80.18
Cleveland	8,665	3,302	$15,362	$32,405	$39,567	19.5	14.50	552.38	100.00
Columbia	24,146	9,432	$15,322	$27,640	$35,162	20.7	31.52	1231.13	60.09
Conway	20,755	8,145	$16,056	$31,209	$36,026	17.1	37.32	1464.61	71.88
Craighead	92,640	36,427	$17,091	$32,425	$39,989	17.5	130.32	5124.43	33.71
Cross	18,808	7,148	$15,726	$29,362	$34,489	18.7	30.54	1160.70	59.07
Dallas	8,144	3,102	$14,610	$26,608	$31,608	21	12.20	464.77	60.46
Desha	13,538	5,244	$13,446	$24,121	$27,555	29	17.70	685.45	36.09
Drew	18,670	7,312	$16,264	$28,627	$34,919	20.4	22.54	882.93	54.76
Fulton	11,688	4,838	$15,712	$25,529	$30,364	18.7	18.91	782.66	91.14
Garland	97,465	41,829	$18,631	$31,724	$38,020	16.1	143.92	6176.53	32.75
Grant	17,690	6,676	$17,547	$37,182	$45,165	11.5	28.00	1056.65	77.26
Greene	40,684	16,008	$16,403	$30,828	$37,017	16.6	70.45	2771.96	46.00
Hempstead	22,900	8,702	$14,103	$28,622	$34,221	20.6	31.42	1194.05	58.56
Hot Spring	31,909	12,607	$15,216	$31,543	$37,619	15.7	51.89	2050.10	67.85
Howard	14,143	5,407	$15,586	$28,699	$33,219	21.3	24.08	920.46	66.56
Independence	34,641	13,640	$16,163	$31,920	$36,019	15.1	45.35	1785.81	68.57
Izard	12,992	5,291	$14,397	$25,670	$30,941	19.7	22.37	911.22	100.00
Jackson	16,936	6,419	$14,564	$25,081	$30,490	24.9	26.73	1013.27	57.96

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Jefferson	78,373	28,414	$15,417	$31,327	$38,018	20.6	88.58	3211.31	30.95
Johnson	24,851	9,495	$15,097	$27,910	$34,307	17.4	37.53	1433.91	77.38
Lafayette	7,705	3,066	$14,128	$24,831	$28,265	25.4	14.63	582.37	100.00
Lawrence	16,861	6,777	$13,785	$27,139	$31,160	20.8	28.75	1155.37	63.53
Lee	10,782	3,607	$10,983	$20,510	$25,178	38.6	17.92	599.43	54.82
Lincoln	13,609	3,999	$12,479	$29,607	$34,820	29	24.25	712.67	100.00
Little River	12,807	5,152	$15,899	$29,417	$34,996	18.4	24.09	968.86	74.97
Madison	15,651	5,996	$14,736	$27,895	$33,221	17	18.70	716.58	100.00
Marion	16,774	7,028	$14,588	$26,737	$32,648	17.7	28.06	1175.77	100.00
Miller	43,226	16,771	$16,444	$30,951	$38,192	19.8	69.27	2687.71	40.22
Mississippi	46,808	17,388	$13,978	$27,479	$34,211	23.5	52.11	1935.78	33.99
Monroe	8,518	3,411	$13,096	$22,632	$27,044	26	14.04	562.25	68.09
Montgomery	9,047	3,684	$14,668	$28,421	$34,343	17.7	11.58	471.79	100.00
Nevada	9,157	3,592	$14,184	$26,962	$31,432	22	14.77	579.39	71.02
Newton	8,298	3,390	$13,788	$24,756	$29,273	23.3	10.08	411.96	100.00
Ouachita	25,770	10,381	$15,118	$29,341	$34,370	22	35.18	1417.23	56.43
Perry	10,317	4,041	$16,216	$31,083	$37,595	16.2	18.73	733.52	100.00
Phillips	21,603	7,925	$12,288	$22,231	$26,436	34.9	31.19	1144.09	46.38
Pike	10,616	4,216	$15,385	$27,695	$37,545	17.5	17.61	699.19	100.00
Poinsett	24,721	9,623	$13,087	$26,558	$31,511	23.8	32.62	1270.01	63.18
Polk	20,257	8,075	$14,063	$25,180	$30,994	19.5	23.57	939.65	72.14
Pope	59,952	22,776	$15,918	$32,069	$40,728	15.7	73.84	2805.27	56.58
Randolph	18,134	7,226	$14,502	$27,583	$30,508	20.4	27.82	1108.53	68.35
Scott	11,248	4,440	$13,609	$26,412	$33,458	19.9	12.58	496.77	73.13
Searcy	8,048	3,442	$12,536	$21,397	$25,547	24.2	12.06	515.91	100.00
Sevier	16,519	5,985	$14,122	$30,144	$32,062	22.3	29.29	1061.30	67.81

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Sharp	17,866	7,547	$14,143	$25,152	$31,801	19.7	29.56	1248.70	79.60
St. Francis	26,336	9,004	$12,483	$26,146	$28,442	31.4	41.55	1420.52	54.81
Stone	12,090	5,007	$14,134	$22,209	$28,724	19.4	19.93	825.39	100.00
Union	43,213	17,041	$16,063	$29,809	$38,616	19.8	41.59	1640.31	51.21
Van Buren	16,575	6,951	$16,603	$27,004	$35,155	18.3	23.30	976.88	100.00
White	74,845	28,035	$15,890	$32,203	$39,283	16.7	72.38	2711.21	56.49
Woodruff	7,439	3,027	$13,269	$22,099	$26,185	27.1	12.68	516.09	100.00
Yell	21,976	8,214	$15,383	$28,916	$36,459	17.6	23.68	885.22	82.59
American Samoa									
Eastern District	23,441	3,845	$4,350	$18,271	NA	NA	905.78	14857.37	9.29
Manu'a District	1,378	273	$4,509	$14,338	NA	NA	62.96	1247.28	100.00
Swains Island	37	7	$3,597	$18,125	NA	NA	63.56	1202.54	100.00
Western District	32,435	5,224	$4,356	$18,445	NA	NA	1,123.36	18092.95	9.82
Arizona									
Apache	70,207	20,157	$8,986	$23,344	$31,728	33.2	6.27	179.90	81.32
La Paz	20,086	8,550	$14,916	$25,839	$32,973	26.1	4.46	190.00	63.28
California									
Alpine	1,061	432	$24,431	$41,875	$49,320	15.7	1.44	58.51	100.00
Imperial	163,972	45,419	$13,239	$31,870	$36,894	21.5	39.28	1087.95	22.84
Mariposa	17,976	6,918	$18,190	$34,626	$44,419	13.5	12.39	476.70	100.00
Modoc	9,184	3,660	$17,285	$27,522	$35,319	17.4	2.33	92.81	70.73
Siskiyou	44,542	18,674	$17,570	$29,530	$36,823	16.4	7.09	297.04	67.62
Tehama	61,550	23,164	$15,793	$31,206	$38,160	16.5	20.86	784.96	49.90
Trinity	14,317	6,137	$16,868	$27,711	$34,726	19.9	4.50	193.08	100.00
Tuolumne	55,644	21,429	$21,015	$38,725	$49,151	12.5	24.89	958.62	54.39
Colorado									

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Baca	3,834	1,619	$15,068	$28,099	$31,963	17.7	1.50	63.33	100.00
Bent	5,902	1,969	$13,567	$28,125	$33,187	29.4	3.90	130.06	45.90
Cheyenne	1,749	688	$17,850	$37,054	$46,017	12	0.98	38.64	100.00
Conejos	8,067	2,863	$12,050	$24,744	$30,747	21.2	6.27	222.40	100.00
Costilla	3,232	1,320	$10,748	$19,531	$25,208	24.8	2.63	107.57	100.00
Crowley	6,332	1,563	$12,836	$26,803	$31,603	46.2	8.03	198.09	100.00
Custer	3,999	1,701	$19,817	$34,731	$50,660	11.8	5.41	230.21	100.00
Dolores	1,986	843	$17,106	$32,196	$43,760	11.8	1.86	79.04	100.00
Gilpin	5,153	2,228	$26,148	$51,942	$62,332	6.2	34.38	1486.79	100.00
Hinsdale	840	380	$22,360	$37,279	$50,692	7.3	0.75	33.96	100.00
Jackson	1,346	569	$17,826	$31,821	$40,413	15.6	0.83	35.29	100.00
Kiowa	1,321	533	$16,382	$30,494	$38,581	12.2	0.75	30.12	100.00
Kit Carson	7,843	2,937	$16,964	$33,152	$39,997	14.5	3.63	135.92	58.63
Mineral	962	441	$24,475	$34,844	$46,394	10.4	1.10	50.37	100.00
Otero	18,774	7,304	$15,113	$29,738	$33,234	22.2	14.87	578.37	37.01
Phillips	4,477	1,785	$16,394	$32,177	$42,087	11.9	6.51	259.56	100.00
Prowers	13,116	4,822	$14,150	$29,935	$35,730	19.1	8.00	293.98	38.41
Saguache	7,058	2,757	$13,121	$25,495	$33,198	29.9	2.23	87.00	100.00
Washington	4,497	1,809	$17,788	$32,431	$38,982	12.4	1.78	71.77	100.00
Florida									
Calhoun	13,617	4,678	$12,379	$26,575	$33,613	20.9	24.00	824.62	75.24
Gilchrist	17,191	5,955	$13,985	$30,328	$37,120	16.8	49.27	1706.83	100.00
Hamilton	14,348	4,473	$10,562	$25,638	$32,444	29.3	27.87	868.84	77.35
Lafayette	8,013	2,455	$13,087	$30,651	$39,293	25.6	14.76	452.17	100.00
Liberty	7,957	2,524	$17,225	$28,840	$38,608	21.5	9.52	301.95	100.00
Georgia									

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Appling	18,038	6,828	$15,044	$30,266	$34,654	20.3	35.47	1342.82	71.21
Bacon	10,442	3,978	$14,289	$26,910	$33,481	19.3	36.65	1396.09	71.28
Baker	3,805	1,408	$16,969	$30,338	$31,834	26	11.09	410.36	100.00
Brantley	15,511	5,769	$13,713	$30,361	$37,814	17.6	34.90	1298.16	99.08
Calhoun	6,271	1,949	$11,839	$24,588	$29,435	33.4	22.38	695.54	100.00
Candler	10,580	3,741	$12,958	$25,022	$31,651	23.7	42.86	1515.18	70.82
Clay	3,231	1,304	$16,819	$21,448	$26,697	31.1	16.55	668.08	100.00
Crawford	12,510	4,471	$15,768	$37,848	$41,429	17.8	38.49	1375.77	100.00
Echols	4,063	1,362	$15,727	$25,851	$35,925	26.7	10.05	336.91	100.00
Emanuel	22,825	8,404	$13,627	$24,383	$30,236	26.2	33.28	1225.42	69.40
Evans	11,646	4,198	$12,758	$25,447	$33,269	24.8	62.98	2270.09	64.60
Fannin	22,618	9,571	$16,269	$30,612	$36,134	15.2	58.64	2481.30	100.00
Franklin	21,824	8,490	$15,767	$32,134	$37,110	18.8	82.89	3224.40	90.74
Gilmer	28,537	11,007	$17,147	$35,140	$40,665	17.1	66.88	2579.58	88.84
Glascock	2,796	1,108	$14,185	$29,743	$36,630	16.8	19.40	768.78	100.00
Habersham	43,056	15,969	$17,706	$36,321	$45,377	13.5	154.78	5740.88	68.87
Hancock	9,440	3,041	$10,916	$22,003	$28,039	31.4	19.95	642.56	71.78
Jasper	13,842	5,059	$19,249	$39,890	$42,849	15.4	37.37	1365.74	100.00
Jefferson	16,443	6,002	$13,491	$26,120	$31,191	22.9	31.16	1137.42	80.97
Jenkins	8,547	3,201	$13,400	$24,025	$28,405	26.8	24.43	914.94	64.45
Johnson	9,550	3,477	$12,384	$23,848	$28,704	28.2	31.39	1142.92	100.00
Lincoln	8,074	3,140	$15,351	$31,952	$36,358	18.4	38.25	1487.69	100.00
Macon	13,520	4,624	$11,820	$24,224	$29,374	26.5	33.52	1146.47	59.69
Marion	6,964	2,617	$14,044	$29,145	$34,982	24.1	18.98	713.18	100.00
Meriwether	22,840	8,402	$15,708	$31,870	$35,566	18.7	45.38	1669.35	81.27
Miller	6,185	2,404	$15,435	$27,335	$32,359	25.7	21.85	849.34	100.00

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Monroe	25,252	8,964	$19,580	$44,195	$52,114	13.7	63.83	2265.66	75.61
Montgomery	8,930	3,182	$14,182	$30,240	$35,888	23	36.40	1297.13	98.57
Oglethorpe	14,106	5,454	$17,089	$35,578	$43,832	14.2	31.98	1236.36	99.85
Pickens	31,176	12,184	$19,774	$41,387	$52,222	12.1	134.30	5248.77	80.25
Pierce	18,127	6,892	$14,230	$29,895	$36,721	17.6	52.81	2007.88	76.19
Pike	17,569	6,104	$17,661	$44,370	$57,143	10.6	80.45	2795.42	100.00
Quitman	2,703	1,099	$14,301	$25,875	$31,608	23.1	17.84	724.99	66.72
Rabun	16,514	6,921	$20,608	$33,899	$37,119	18.2	44.51	1865.13	100.00
Screven	15,133	5,704	$13,894	$29,312	$33,699	21.9	23.34	879.67	81.38
Stephens	25,493	9,992	$15,529	$29,466	$34,881	17.8	142.21	5573.97	60.74
Stewart	4,666	1,779	$16,071	$24,789	$28,973	27.1	10.17	387.75	100.00
Talbot	6,414	2,492	$14,539	$26,611	$32,206	22.4	16.31	633.84	100.00
Taliaferro	1,863	776	$15,498	$23,750	$27,033	26.6	9.53	397.09	100.00
Tattnall	23,469	7,427	$13,439	$28,664	$35,647	24.5	48.52	1535.56	81.27
Taylor	8,766	3,258	$13,432	$25,148	$30,502	25.8	23.22	863.13	100.00
Toombs	28,102	10,641	$14,252	$26,811	$33,139	24.2	76.65	2902.10	51.16
Towns	11,042	4,745	$18,221	$31,950	$41,127	14	66.25	2847.36	100.00
Twiggs	10,257	3,682	$14,259	$31,608	$34,823	21.1	28.47	1022.08	100.00
Union	21,351	8,861	$18,845	$31,893	$40,841	13.8	66.19	2747.10	100.00
Ware	35,879	13,628	$14,384	$28,360	$34,983	20.7	39.76	1510.42	27.76
Warren	5,844	2,240	$14,022	$27,366	$32,439	25.7	20.47	784.66	100.00
Washington	21,006	7,379	$15,565	$29,910	$35,394	23.4	30.88	1084.65	61.56
Webster	2,164	832	$14,772	$27,992	$33,757	19.5	10.33	397.12	100.00
Wheeler	6,877	2,250	$13,005	$24,053	$31,728	35.2	23.10	755.89	100.00
White	25,299	9,806	$17,193	$36,084	$42,511	14.3	104.72	4058.94	100.00
Wilcox	8,750	2,828	$14,014	$27,483	$31,128	30.8	23.01	743.61	100.00

APPENDIX C

Unserved Areas
By County or County Equivalent

County or County Equivalent Areas[1]	Population[2]	Households[3]	Average Per Capita Income (1999)[4]	Median Household Income (1999)[4]	Median Household Income (2008)[4]	Percent Living in Poverty (2008)[5]	Household Density[6]	Population Density[6]	Percent Rural Housing[7]
Wilkes	10,282	4,154	$15,020	$27,644	$32,021	21.8	21.81	881.33	68.32
Wilkinson	10,026	3,774	$14,658	$32,723	$40,093	19.3	22.45	845.13	100.00
Hawaii									
Kalawao	117	105	$13,756	$9,333	NA	NA	8.86	795.59	100.00
Iowa									
Calhoun	9,887	3,999	$17,498	$33,286	$43,799	13.2	17.34	701.44	100.00
Clayton	17,566	6,942	$16,930	$34,068	$46,462	10.8	22.56	891.31	94.45
Greene	9,293	3,767	$16,866	$33,883	$45,911	10.7	16.35	662.74	56.82
Van Buren	7,676	3,126	$15,748	$31,094	$38,207	14.3	15.83	644.74	100.00
Idaho									
Adams	3,499	1,439	$14,908	$28,423	$37,479	13.2	2.56	105.49	100.00
Butte	2,751	1,031	$14,948	$30,473	$39,822	14.9	1.23	46.15	100.00
Camas	1,126	452	$19,550	$34,167	$49,282	9.2	1.05	42.07	100.00
Clark	910	302	$11,141	$31,576	$40,608	16.5	0.52	17.11	100.00
Custer	4,254	1,730	$15,783	$32,174	$41,450	13.3	0.86	35.13	100.00
Fremont	12,551	4,133	$13,965	$33,424	$41,295	13.6	6.72	221.40	82.02
Lemhi	7,808	3,269	$16,037	$30,185	$36,423	15.4	1.71	71.62	63.63
Minidoka	18,645	6,464	$13,813	$32,021	$42,979	13.4	24.55	850.94	53.97
Oneida	4,130	1,456	$13,829	$34,309	$44,846	11.7	3.44	121.28	100.00
Owyhee	10,877	3,818	$13,405	$28,339	$36,177	17.5	1.42	49.72	77.45
Teton	8,833	3,083	$17,778	$41,968	$56,228	7.9	19.61	684.61	100.00
Illinois									
Alexander	8,152	3,253	$16,084	$26,042	$28,725	29.5	34.49	1376.23	55.78
Bond	18,253	6,363	$17,947	$37,680	$45,930	14.3	48.01	1673.62	67.53
Cass	13,574	5,327	$16,532	$35,243	$40,561	12.4	36.11	1417.00	56.83
Macoupin	48,138	18,935	$17,298	$36,190	$45,009	12.6	55.74	2192.68	58.01

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Menard	12,464	4,866	$21,584	$46,596	$57,884	9.1	39.66	1548.59	72.77
Schuyler	6,916	2,858	$17,158	$35,233	$43,053	12.4	15.81	653.58	53.39
Indiana									
Parke	17,152	6,389	$16,986	$35,724	$41,907	16.7	38.56	1436.43	80.36
Spencer	20,111	7,453	$18,000	$42,451	$53,781	9.3	50.44	1869.45	100.00
Kansas									
Atchison	16,481	6,160	$15,207	$34,355	$42,788	13.6	38.12	1424.92	36.74
Bourbon	14,851	5,925	$16,393	$31,199	$37,575	15.6	23.31	930.07	47.99
Chase	2,804	1,161	$17,422	$32,656	$39,788	12.3	3.61	149.69	100.00
Chautauqua	3,768	1,550	$16,280	$28,717	$35,460	14.4	5.87	241.54	100.00
Cheyenne	2,742	1,190	$17,862	$30,599	$37,413	10.4	2.69	116.72	100.00
Clark	2,108	864	$17,795	$33,857	$41,482	12.4	2.16	88.68	100.00
Clay	8,859	3,669	$17,939	$33,965	$43,045	11.1	13.76	569.91	47.06
Cloud	9,453	3,852	$17,536	$31,758	$39,126	13.6	13.21	538.25	45.60
Decatur	2,912	1,259	$16,348	$30,257	$36,913	12.5	3.26	140.89	100.00
Dickinson	19,328	7,909	$17,780	$35,975	$46,289	9.3	22.79	932.80	63.11
Elk	3,047	1,325	$16,066	$27,267	$32,462	16	4.71	204.69	100.00
Ellis	27,801	11,324	$18,259	$32,339	$44,846	11.2	30.89	1258.24	24.66
Ellsworth	6,250	2,390	$16,569	$35,772	$42,896	10.5	8.73	333.82	67.26
Gove	2,548	1,041	$17,852	$33,510	$42,205	9.9	2.38	97.21	100.00
Graham	2,592	1,106	$18,050	$31,286	$39,094	11.2	2.89	123.12	100.00
Gray	5,688	2,000	$18,632	$40,000	$49,864	8.8	6.55	230.18	100.00
Greenwood	6,861	2,892	$15,976	$30,169	$36,704	15.5	6.02	253.74	64.12
Harper	5,857	2,478	$16,368	$29,776	$37,575	13.4	7.31	309.16	100.00
Hodgeman	1,948	735	$15,599	$35,994	$44,829	9.6	2.27	85.51	100.00
Jewell	3,142	1,393	$16,644	$30,538	$37,937	12.6	3.46	153.24	100.00

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Labette	21,871	8,817	$15,525	$30,875	$37,501	15.7	33.71	1358.98	49.50
Lincoln	3,261	1,395	$15,788	$30,893	$40,793	10.7	4.54	194.10	100.00
Lyon	35,562	13,575	$15,724	$32,819	$39,942	15.3	41.79	1595.38	25.51
Meade	4,359	1,634	$16,824	$36,761	$48,307	9.5	4.46	167.01	100.00
Mitchell	6,292	2,602	$17,653	$33,385	$44,321	10.6	8.99	371.85	49.58
Morris	6,037	2,528	$18,491	$32,163	$41,867	10.4	8.66	362.49	100.00
Nemaha	10,112	3,758	$17,121	$34,296	$46,938	9.3	14.08	523.43	100.00
Ness	2,945	1,292	$17,787	$32,340	$44,389	9.3	2.74	120.19	100.00
Norton	5,370	2,045	$16,835	$31,050	$38,252	12.3	6.12	232.96	43.28
Osborne	3,804	1,667	$16,236	$29,145	$37,568	12.4	4.26	186.80	100.00
Ottawa	6,026	2,387	$17,663	$38,009	$45,925	8.7	8.36	330.98	100.00
Rawlins	2,503	1,095	$17,161	$32,105	$38,980	12.7	2.34	102.41	100.00
Republic	4,812	2,102	$17,433	$30,494	$38,199	11.8	6.72	293.43	100.00
Rush	3,232	1,407	$18,033	$31,268	$39,197	10.9	4.50	195.92	100.00
Sheridan	2,510	1,012	$16,299	$33,547	$43,297	11.2	2.80	112.89	100.00
Smith	3,901	1,680	$14,983	$28,486	$34,547	11.9	4.36	187.57	100.00
Trego	2,882	1,226	$16,239	$29,677	$39,069	10.7	3.24	138.03	100.00
Washington	5,791	2,381	$15,515	$29,363	$40,445	9.4	6.45	264.96	100.00
Kentucky									
Adair	17,773	6,940	$14,931	$24,055	$30,169	23.4	43.69	1705.73	74.73
Allen	19,090	7,388	$14,506	$31,238	$36,097	19.2	55.15	2134.58	76.62
Barren	41,566	16,781	$16,816	$31,240	$36,155	17.8	84.66	3417.98	62.14
Bath	11,750	4,728	$15,326	$26,018	$30,960	26.7	42.05	1691.69	100.00
Bell	29,055	11,629	$11,526	$19,057	$24,858	31.3	80.54	3223.34	60.76
Bourbon	19,828	7,891	$18,335	$35,038	$41,220	14.3	68.04	2707.77	42.26
Breathitt	15,813	6,071	$11,044	$19,155	$24,162	31.5	31.93	1225.95	78.70

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Breckinridge	19,132	7,525	$15,402	$30,554	$39,128	18.9	33.42	1314.68	100.00
Butler	13,276	5,157	$14,617	$29,405	$35,917	19.2	31.01	1204.76	100.00
Carter	27,454	10,574	$13,442	$26,427	$33,435	20.8	66.86	2575.16	83.44
Casey	16,214	6,584	$12,867	$21,580	$26,892	26.2	36.39	1477.63	100.00
Clay	23,930	8,354	$9,716	$16,271	$22,365	38.3	50.81	1773.73	85.24
Edmonson	12,085	4,848	$14,480	$25,413	$33,785	20.7	39.93	1601.96	100.00
Fleming	14,735	5,744	$14,214	$27,990	$33,584	18.5	42.00	1637.08	78.09
Floyd	42,094	16,731	$12,442	$21,168	$27,462	28.1	106.76	4243.30	85.95
Franklin	48,844	20,373	$21,229	$40,011	$48,291	13.1	232.08	9680.03	23.15
Fulton	6,855	2,861	$14,309	$24,382	$27,815	30.1	32.81	1369.07	61.94
Garrard	17,021	6,639	$16,915	$34,284	$40,083	16.6	73.62	2871.66	71.09
Green	11,613	4,787	$16,107	$25,463	$33,509	20.7	40.23	1658.40	100.00
Hancock	8,663	3,319	$16,623	$36,914	$46,518	13.2	45.88	1757.85	88.50
Harlan	30,783	12,313	$11,585	$18,665	$23,648	33.9	65.89	2635.60	50.60
Harrison	18,654	7,267	$17,478	$36,210	$42,445	15.3	60.24	2346.76	60.99
Hart	18,561	7,194	$13,495	$25,378	$31,166	21.7	44.63	1729.50	86.55
Hopkins	46,338	18,771	$17,382	$30,868	$40,027	18.5	84.17	3409.39	43.70
Jackson	13,645	5,369	$10,711	$20,177	$25,084	27.1	39.40	1550.26	100.00
Johnson	24,056	9,326	$14,051	$24,911	$31,116	26	91.98	3565.70	73.09
Knott	17,385	6,619	$11,297	$20,373	$26,948	30.2	49.36	1879.51	100.00
Knox	32,810	12,786	$10,660	$18,294	$25,090	33.4	84.64	3298.09	68.27
Lawrence	16,443	6,284	$12,008	$21,610	$29,015	27.1	39.26	1500.57	77.60
Lee	7,414	2,811	$13,325	$18,544	$23,786	33.9	35.33	1339.32	100.00
Leslie	11,639	4,610	$10,429	$18,546	$23,627	30	28.81	1141.05	100.00
Letcher	23,890	9,502	$11,984	$21,110	$27,374	29.4	70.46	2802.68	99.76
Lewis	13,807	5,309	$12,031	$22,208	$28,466	26.4	28.50	1095.88	100.00

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Lincoln	25,072	9,885	$13,602	$26,542	$34,401	21	74.56	2939.57	80.25
Logan	27,117	10,719	$15,962	$32,474	$39,176	17.8	48.80	1928.98	72.87
Lyon	8,245	2,972	$16,016	$31,694	$40,932	16.4	38.22	1378.05	100.00
Magoffin	13,151	4,962	$10,685	$19,421	$25,890	34.9	42.50	1603.47	100.00
Marion	19,063	6,912	$14,472	$30,387	$37,766	19.7	55.03	1995.29	65.36
Martin	11,602	4,399	$10,650	$18,279	$22,841	35.3	50.29	1906.78	100.00
McCreary	17,315	6,633	$9,896	$19,348	$22,253	35.4	40.48	1550.87	100.00
McLean	9,681	3,875	$16,046	$29,675	$37,353	17.6	38.07	1523.87	100.00
Mercer	21,920	8,888	$17,972	$35,555	$42,912	15.4	87.36	3542.32	57.33
Metcalfe	10,288	4,109	$13,236	$23,540	$31,942	22.4	35.37	1412.62	100.00
Nelson	43,113	16,067	$18,120	$39,010	$48,125	12.7	102.01	3801.80	61.23
Nicholas	6,811	2,720	$15,880	$29,886	$35,496	17.4	34.64	1383.56	100.00
Ohio	23,789	9,233	$15,317	$29,557	$35,953	19.1	40.06	1554.90	73.85
Owsley	4,634	1,825	$10,742	$15,805	$19,829	37.6	23.39	921.19	100.00
Perry	29,241	11,422	$12,224	$22,089	$28,124	27.2	85.46	3338.24	75.99
Pike	65,331	26,290	$14,005	$23,930	$31,012	25.1	82.94	3337.59	90.41
Powell	13,859	5,300	$13,060	$25,515	$30,737	25.8	76.94	2942.16	75.79
Pulaski	60,851	24,532	$15,352	$27,370	$32,901	24.3	91.97	3707.99	61.81
Robertson	2,202	832	$13,404	$30,581	$35,621	23	22.00	831.25	100.00
Rockcastle	16,788	6,627	$12,337	$23,475	$24,650	26.9	52.87	2087.17	82.93
Russell	17,296	7,375	$13,183	$22,042	$27,866	23.5	68.22	2909.03	100.00
Union	15,024	5,497	$17,465	$35,018	$42,261	18.4	43.54	1592.80	70.21
Washington	11,595	4,368	$15,722	$33,136	$40,375	16.6	38.57	1453.05	100.00
Wayne	20,696	8,205	$12,601	$20,863	$27,343	28.1	45.05	1786.14	71.16
Webster	13,669	5,390	$15,657	$31,529	$39,754	17.7	40.83	1610.19	76.35
Whitley	38,668	14,866	$12,777	$22,075	$27,394	27.2	87.85	3377.36	61.17

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Louisiana									
Allen Parish	25,635	8,189	$13,101	$27,777	$40,131	20.7	33.53	1071.20	72.39
Avoyelles Parish	42,360	15,062	$12,146	$23,851	$32,744	21.9	50.89	1809.33	66.42
Beauregard Parish	34,978	12,863	$15,514	$32,582	$43,398	14	30.15	1108.75	68.95
Bienville Parish	14,728	5,709	$12,471	$23,663	$31,440	21	18.17	704.27	84.04
Caldwell Parish	10,353	3,848	$13,884	$26,972	$34,298	21.5	19.56	726.85	100.00
Cameron Parish	7,238	2,602	$15,348	$34,232	$49,984	12.7	5.51	198.20	100.00
Catahoula Parish	10,522	3,939	$12,608	$22,528	$31,236	21.9	14.95	559.80	100.00
Claiborne Parish	16,142	6,023	$13,825	$25,344	$31,386	28.7	21.39	798.17	78.81
Concordia Parish	19,064	7,098	$11,966	$22,742	$29,807	25.2	27.39	1019.90	44.53
East Carroll Parish	8,166	2,573	$9,629	$20,723	$25,100	43.7	19.38	610.44	34.42
Evangeline Parish	35,624	12,837	$11,432	$20,532	$29,733	22.7	53.63	1932.56	57.35
Franklin Parish	20,006	7,329	$12,675	$22,964	$29,904	26.1	32.08	1175.18	72.07
Grant Parish	19,974	7,538	$14,410	$29,622	$38,896	17.3	30.96	1168.40	100.00
Jackson Parish	15,191	6,032	$15,354	$28,352	$36,073	18.4	26.66	1058.74	68.18
Lincoln Parish	42,561	15,268	$14,313	$26,977	$36,720	23.6	90.29	3238.94	38.48
Madison Parish	11,790	3,830	$10,114	$20,509	$25,788	34.6	18.89	613.62	29.97
Morehouse Parish	28,602	10,520	$13,197	$25,124	$32,168	25.2	36.01	1324.56	48.93
Rapides Parish	133,131	49,697	$16,088	$29,856	$41,200	18	100.66	3757.70	36.76
Red River Parish	9,118	3,230	$12,119	$23,153	$31,495	23.4	23.42	829.83	75.20
Richland Parish	20,501	7,329	$12,479	$23,668	$30,504	24.2	36.71	1312.44	64.32
Sabine Parish	23,688	9,327	$15,199	$26,655	$34,786	20.9	27.38	1077.96	90.96
Tensas Parish	5,694	2,095	$12,622	$19,799	$26,135	32.4	9.45	347.73	100.00
Union Parish	22,692	8,821	$14,819	$29,061	$35,624	18.3	25.86	1005.11	88.21
Vernon Parish	45,639	15,878	$14,036	$31,216	$41,284	15.4	34.36	1195.28	52.26
Washington Parish	45,430	17,017	$12,915	$24,264	$30,725	24.1	67.85	2541.54	60.32

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Webster Parish	40,754	16,081	$15,203	$28,408	$35,981	17.9	68.47	2701.68	53.36
West Carroll Parish	11,495	4,171	$12,302	$24,637	$30,922	23.7	31.98	1160.50	100.00
West Feliciana Parish	15,003	3,596	$16,201	$39,667	$50,095	21.9	36.95	885.73	100.00
Winn Parish	15,408	5,405	$11,794	$25,462	$31,108	23.9	16.21	568.63	64.12
Michigan									
Gladwin	25,920	10,523	$16,614	$32,019	$37,924	17.8	51.14	2076.38	92.87
Iron	12,001	5,238	$16,506	$28,560	$36,325	15.4	10.29	449.07	76.79
Lake	11,014	4,550	$14,457	$26,622	$31,658	20.1	19.41	801.89	100.00
Luce	6,614	2,341	$16,828	$32,031	$36,851	20.3	7.32	259.21	73.30
Menominee	24,202	10,073	$16,909	$32,888	$39,072	15.7	23.19	965.31	67.31
Oscoda	8,836	3,691	$15,697	$28,228	$34,239	17.7	15.64	653.25	100.00
Presque Isle	13,650	5,846	$17,363	$31,656	$37,731	13.8	20.68	885.67	84.73
Sanilac	43,024	16,324	$17,089	$36,870	$38,521	14.5	44.64	1693.73	79.68
Minnesota									
Cass	28,732	11,497	$17,189	$34,332	$41,740	14.5	14.24	569.84	100.00
Clay	55,767	20,310	$17,557	$37,889	$48,988	13	53.35	1943.06	30.95
Clearwater	8,249	3,256	$15,694	$30,517	$38,099	14.3	8.29	327.36	100.00
Grant	6,005	2,427	$17,131	$33,775	$38,532	10.8	10.99	444.21	100.00
Hubbard	18,810	7,603	$18,115	$35,321	$42,312	10.8	20.39	824.26	87.13
Mahnomen	5,128	1,941	$13,438	$30,053	$34,493	21.8	9.22	348.93	100.00
Marshall	9,502	3,847	$16,317	$34,804	$45,780	9.8	5.36	217.05	100.00
Norman	6,605	2,672	$15,895	$32,535	$41,496	12	7.54	304.97	100.00
Wilkin	6,286	2,416	$16,873	$38,093	$51,743	7.7	8.37	321.58	49.47
Missouri									
Adair	24,943	9,632	$15,484	$26,677	$33,471	27.3	43.99	1698.73	34.20
Andrew	16,923	6,412	$19,375	$40,688	$54,491	9.4	38.89	1473.47	59.28

APPENDIX C

Unserved Areas
By County or County Equivalent

County or County Equivalent Areas[1]	Population[2]	Households[3]	Average Per Capita Income (1999)[4]	Median Household Income (1999)[4]	Median Household Income (2008)[4]	Percent Living in Poverty (2008)[5]	Household Density[6]	Population Density[6]	Percent Rural Housing[7]
Audrain	26,049	9,947	$16,441	$32,057	$38,944	17.2	37.58	1435.13	40.92
Barry	36,301	14,272	$14,980	$28,906	$38,692	16.9	46.60	1831.91	76.23
Bollinger	11,990	4,574	$13,641	$30,462	$35,946	18	19.32	736.88	100.00
Buchanan	89,408	34,924	$17,882	$34,704	$42,269	15	218.21	8523.65	12.82
Butler	41,383	16,948	$15,721	$27,228	$32,363	20.8	59.33	2429.73	51.96
Caldwell	9,248	3,632	$15,343	$31,240	$39,417	14.6	21.54	845.84	100.00
Carter	5,890	2,357	$13,349	$22,863	$26,956	25.4	11.60	464.28	100.00
Cedar	13,652	5,631	$14,356	$26,694	$32,014	20.9	28.68	1183.06	72.57
Cooper	17,535	6,251	$15,648	$35,313	$42,929	13.5	31.03	1106.38	54.45
Dallas	16,844	6,521	$15,106	$27,346	$34,600	18.6	31.10	1204.15	81.01
Daviess	7,911	3,142	$15,953	$30,855	$38,866	15.3	13.95	554.23	100.00
DeKalb	12,275	3,761	$12,687	$31,654	$41,592	16.1	28.94	886.55	84.06
Douglas	13,438	5,355	$13,785	$25,918	$29,051	21.8	16.50	657.44	77.12
Gasconade	15,261	6,155	$17,319	$35,047	$38,468	13.1	29.31	1182.20	68.12
Grundy	10,125	4,266	$15,432	$27,333	$35,381	16.9	23.23	978.77	40.69
Harrison	8,844	3,681	$14,192	$28,707	$34,294	16.7	12.20	507.57	69.46
Hickory	9,048	3,995	$13,536	$25,346	$28,988	20	22.70	1002.11	100.00
Howard	9,918	3,728	$15,198	$31,614	$40,527	14.9	21.30	800.35	62.86
Jasper	116,813	46,275	$16,227	$31,323	$38,085	17.9	182.60	7233.50	23.90
Knox	4,020	1,654	$13,075	$27,124	$31,193	17	7.95	327.01	100.00
Lewis	9,951	3,760	$14,746	$30,651	$39,295	17.2	19.70	744.51	100.00
Maries	9,046	3,593	$15,662	$31,925	$38,515	17	17.14	680.80	100.00
Marion	28,225	11,039	$16,964	$31,774	$40,183	15.8	64.43	2519.88	24.21
McDonald	22,731	8,527	$13,175	$27,010	$35,298	21	42.13	1580.48	100.00
Mercer	3,523	1,501	$15,140	$29,640	$36,736	14.5	7.76	330.55	100.00
Monroe	9,127	3,568	$14,695	$30,871	$39,606	13.6	14.13	552.35	100.00

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Montgomery	11,804	4,651	$15,092	$32,772	$39,365	14.7	21.96	865.40	100.00
Newton	56,120	21,498	$17,502	$35,041	$41,822	14.6	89.59	3431.84	63.12
Oregon	10,264	4,236	$12,812	$22,359	$26,584	23.4	12.97	535.25	79.31
Osage	13,465	5,109	$17,245	$39,565	$47,420	10	22.22	842.90	100.00
Ozark	9,227	3,855	$14,133	$25,861	$30,427	21.7	12.43	519.49	100.00
Pemiscot	18,515	7,302	$12,968	$21,911	$27,188	31.7	37.55	1480.86	34.93
Perry	18,743	7,162	$16,554	$36,632	$42,125	12.3	39.49	1508.95	57.66
Pike	18,476	6,461	$14,462	$32,373	$39,524	17.8	27.46	960.24	55.14
Putnam	4,862	2,085	$14,647	$26,282	$32,887	18.2	9.39	402.62	100.00
Ralls	9,832	3,805	$16,456	$37,094	$47,865	10.6	20.87	807.80	98.14
Randolph	25,723	9,613	$15,010	$31,464	$37,684	17.8	53.33	1993.11	46.41
Reynolds	6,388	2,612	$13,065	$25,867	$30,482	21	7.87	321.98	100.00
Ripley	13,485	5,428	$12,889	$22,761	$27,737	25.6	21.42	862.37	100.00
Schuyler	4,110	1,700	$15,850	$27,385	$29,924	19.4	13.35	552.24	100.00
Scotland	4,798	1,825	$14,474	$27,409	$35,981	15.3	10.94	416.14	100.00
Shannon	8,423	3,369	$11,492	$20,878	$28,559	26	8.39	335.57	100.00
Shelby	6,411	2,597	$15,632	$29,448	$36,403	15.1	12.80	518.40	100.00
Ste. Genevieve	17,720	6,557	$17,283	$39,200	$50,542	10.3	35.27	1305.14	78.11
Stoddard	29,537	11,979	$14,656	$26,987	$35,299	17.2	35.71	1448.26	68.37
Sullivan	6,629	2,682	$13,392	$26,107	$34,628	17	10.18	412.06	100.00
Texas	24,598	10,029	$13,799	$24,545	$29,678	22.6	20.87	851.00	99.26
Vernon	20,009	7,844	$15,047	$30,021	$32,919	20.5	23.99	940.53	57.10
Washington	24,548	8,808	$12,934	$27,112	$32,546	24.1	32.32	1159.57	82.95
Wayne	12,652	5,286	$13,434	$24,007	$27,249	25.3	16.62	694.63	100.00
Worth	2,039	862	$14,367	$27,471	$44,078	14.6	7.65	323.43	100.00
Wright	18,443	7,287	$13,135	$24,691	$28,561	23.2	27.04	1068.25	73.26

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By County or County Equivalent

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Northern Mariana Islands									
Rota Municipality	3,283	757	$10,326	$28,708	NA	NA	99.58	2296.24	100.00
Saipan Municipality	62,392	12,507	$9,021	$22,555	NA	NA	1,400.38	28071.79	1.93
Tinian Municipality	3,540	790	$10,344	$23,542	NA	NA	84.81	1892.76	22.37
Mississippi									
Adams	31,307	12,484	$15,778	$25,234	$29,830	26.7	68.02	2712.29	30.91
Amite	13,248	5,153	$14,048	$26,033	$31,767	24.2	18.16	706.34	100.00
Attala	19,671	7,569	$13,782	$24,794	$29,786	25.7	26.76	1029.60	64.68
Benton	8,116	3,051	$12,212	$24,149	$28,723	23.3	19.95	749.98	100.00
Bolivar	37,195	12,621	$12,088	$23,428	$28,779	35.2	42.45	1440.33	43.30
Calhoun	14,508	5,772	$15,106	$27,113	$31,181	20.1	24.73	984.05	83.63
Carroll	10,367	3,916	$15,744	$28,878	$35,106	17.8	16.51	623.85	100.00
Choctaw	9,090	3,430	$13,474	$27,020	$31,771	24.7	21.69	818.41	100.00
Claiborne	10,848	3,380	$11,244	$22,615	$27,876	35.1	22.29	694.32	71.54
Clarke	17,378	6,747	$14,288	$26,610	$33,264	21.1	25.14	976.03	100.00
Coahoma	27,272	9,423	$12,558	$22,338	$28,320	32.2	49.21	1700.52	32.02
Copiah	29,331	10,400	$12,408	$26,358	$33,699	24.6	37.77	1339.11	58.74
Covington	20,526	7,545	$14,506	$26,669	$31,639	24.4	49.60	1823.47	100.00
George	22,406	7,904	$14,337	$34,730	$43,666	16.3	46.85	1652.48	100.00
Greene	13,818	4,305	$11,868	$28,336	$36,547	22.2	19.39	603.90	100.00
Grenada	22,995	8,696	$13,786	$27,385	$32,835	21.3	54.52	2061.60	45.46
Hancock	40,140	15,781	$17,748	$35,202	$43,491	17.4	84.17	3309.16	36.41
Harrison	178,460	67,410	$18,024	$35,624	$44,463	16.2	307.17	11602.73	19.69
Holmes	20,595	7,028	$10,683	$17,235	$23,369	34.9	27.24	929.63	72.41
Humphreys	10,089	3,411	$10,926	$20,566	$24,091	35.2	24.13	815.93	50.46
Issaquena	1,658	534	$10,581	$19,936	$26,522	48.1	4.01	129.38	100.00

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Itawamba	23,175	8,956	$14,956	$31,156	$38,063	15	43.54	1682.39	89.11
Jackson	130,694	47,489	$17,768	$39,118	$51,034	13.3	179.80	6533.10	30.28
Jasper	18,253	6,748	$12,889	$24,441	$30,950	21	27.00	998.28	100.00
Jefferson	8,872	2,996	$9,709	$18,447	$24,352	37.5	17.08	576.81	76.90
Jefferson Davis	12,653	4,699	$11,974	$21,834	$26,590	27.8	30.98	1150.54	100.00
Kemper	9,967	3,725	$11,985	$23,998	$28,549	26.3	13.01	486.25	100.00
Lawrence	13,370	5,114	$14,469	$28,495	$33,123	20.2	31.05	1187.53	100.00
Leake	22,844	8,317	$13,365	$27,055	$31,525	23.6	39.20	1427.34	84.69
Lincoln	34,931	13,183	$13,961	$27,279	$34,050	20.6	59.64	2250.81	63.29
Lowndes	59,284	21,997	$16,514	$32,123	$36,069	22.6	118.03	4379.26	39.65
Marion	25,830	9,457	$12,301	$24,555	$31,967	25.2	47.63	1743.74	69.87
Monroe	37,250	14,308	$14,072	$30,307	$34,251	20.3	48.75	1872.29	64.58
Montgomery	11,266	4,351	$14,040	$25,270	$31,456	24.3	27.69	1069.34	63.59
Neshoba	30,530	11,378	$14,964	$28,300	$35,410	16.7	53.56	1996.14	75.21
Newton	22,355	8,380	$14,008	$28,735	$34,768	19.2	38.67	1449.71	84.71
Noxubee	11,828	4,215	$12,018	$22,330	$25,668	32.9	17.02	606.72	75.73
Perry	12,235	4,463	$12,837	$27,189	$36,027	19.9	18.91	689.67	100.00
Pike	39,961	15,207	$14,040	$24,562	$30,697	24	97.73	3718.99	51.14
Pontotoc	29,004	10,992	$15,658	$32,055	$38,518	15.6	58.32	2210.18	82.68
Prentiss	25,707	9,883	$14,131	$28,446	$34,111	19	61.96	2381.88	76.51
Quitman	8,724	3,088	$10,817	$20,636	$25,407	34.9	21.55	762.76	63.98
Scott	28,850	10,380	$14,013	$26,686	$31,632	21.8	47.37	1704.14	71.37
Sharkey	5,556	1,839	$11,396	$22,285	$26,217	38.1	12.99	429.98	100.00
Simpson	28,034	10,247	$13,344	$28,343	$34,508	21.6	47.62	1740.59	85.05
Smith	15,809	5,943	$14,752	$30,840	$35,318	17.8	24.86	934.57	100.00
Stone	16,025	5,584	$14,693	$30,495	$39,735	18.1	35.98	1253.89	78.16

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Tallahatchie	13,027	4,590	$10,749	$22,229	$27,493	28.9	20.23	712.82	78.55
Tishomingo	18,947	7,869	$15,395	$28,315	$33,674	18.9	44.67	1855.42	100.00
Union	27,212	10,511	$15,700	$32,682	$37,499	15.5	65.50	2530.04	75.03
Walthall	15,416	5,668	$12,563	$22,945	$30,752	25.2	38.18	1403.49	100.00
Warren	48,087	18,194	$17,527	$35,056	$39,825	21	81.97	3101.53	35.09
Washington	55,079	19,373	$13,430	$25,757	$27,452	35.8	76.08	2675.88	17.57
Wayne	20,755	7,700	$12,757	$25,918	$33,145	22.6	25.61	950.23	75.58
Webster	9,887	3,762	$14,109	$28,834	$33,014	21	23.40	890.46	100.00
Wilkinson	10,283	3,574	$10,868	$18,929	$26,759	31.6	15.20	528.14	100.00
Winston	19,575	7,354	$14,548	$28,256	$33,002	20.6	32.25	1211.63	75.72
Yalobusha	13,645	5,522	$14,953	$26,315	$31,094	21.8	29.21	1182.22	80.62
Yazoo	28,464	9,267	$12,062	$24,795	$30,087	34.5	30.96	1007.80	52.17
Montana									
Blaine	6,491	2,344	$12,101	$25,247	$32,605	24	1.54	55.46	100.00
Broadwater	4,704	1,874	$16,237	$32,689	$40,104	11.5	3.95	157.31	100.00
Carter	1,234	496	$13,280	$26,313	$34,070	11.8	0.37	14.86	100.00
Cascade	82,026	33,311	$17,566	$32,971	$42,528	13.6	30.40	1234.69	20.12
Chouteau	5,225	1,960	$14,851	$29,150	$40,588	16.2	1.32	49.34	100.00
Daniels	1,643	731	$16,055	$27,306	$34,239	12.2	1.15	51.24	100.00
Fallon	2,716	1,078	$16,014	$29,944	$47,099	9.6	1.68	66.53	100.00
Garfield	1,184	493	$13,930	$25,917	$35,585	15.4	0.25	10.57	100.00
Golden Valley	1,081	373	$13,573	$27,308	$33,753	20	0.92	31.78	100.00
Granite	2,821	1,197	$16,636	$27,813	$38,323	13.4	1.63	69.30	100.00
Judith Basin	2,014	822	$14,291	$29,241	$37,033	15	1.08	43.98	100.00
Liberty	1,725	663	$14,882	$30,284	$35,663	17.2	1.21	46.35	100.00
Lincoln	18,971	7,843	$13,923	$26,754	$33,383	20.1	5.25	217.11	78.48

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McCone	1,676	686	$15,162	$29,718	$37,576	11.7	0.63	25.95	100.00
Meagher	1,868	780	$15,019	$29,375	$30,142	19.7	0.78	32.62	100.00
Mineral	3,862	1,583	$15,166	$27,143	$34,985	17.1	3.17	129.77	100.00
Musselshell	4,498	1,865	$15,389	$25,527	$34,318	18.1	2.41	99.91	100.00
Petroleum	436	185	$15,986	$24,107	$31,243	17	0.26	11.18	100.00
Phillips	3,904	1,565	$15,058	$28,702	$35,229	16.1	0.76	30.44	100.00
Powder River	1,694	674	$15,351	$28,398	$36,933	13	0.51	20.43	100.00
Prairie	1,064	477	$14,422	$25,451	$33,590	12.8	0.61	27.44	100.00
Richland	9,270	3,734	$16,006	$32,110	$49,838	11.2	4.45	179.17	44.09
Roosevelt	10,089	3,428	$11,347	$24,834	$32,671	25.7	4.28	145.51	46.91
Sanders	11,034	4,613	$14,593	$26,852	$30,250	17.6	3.99	167.02	100.00
Sheridan	3,283	1,398	$16,038	$29,518	$40,127	12.5	1.96	83.38	100.00
Sweet Grass	3,790	1,551	$17,880	$32,422	$44,424	10.2	2.04	83.61	100.00
Treasure	637	269	$14,392	$29,830	$38,296	11.4	0.65	27.44	100.00
Valley	6,892	2,822	$16,246	$30,979	$39,344	14.5	1.40	57.35	66.37
Wheatland	2,010	743	$11,954	$24,492	$30,486	19.1	1.41	52.21	100.00
Wibaux	866	345	$16,121	$28,224	$37,217	13.5	0.97	38.75	100.00
North Carolina									
Anson	25,162	9,172	$14,853	$29,849	$34,012	23.4	47.34	1725.43	71.20
Bladen	32,312	12,887	$14,735	$26,877	$29,043	24	36.93	1472.86	89.00
Cleveland	99,015	38,097	$17,395	$35,283	$39,049	17.5	213.11	8199.36	54.73
Davidson	158,166	62,443	$18,703	$38,640	$44,136	14.5	286.46	11309.11	56.76
Davie	40,971	16,141	$21,359	$40,174	$52,408	10.8	154.50	6086.86	77.72
Forsyth	343,028	139,000	$23,023	$42,097	$47,318	14.9	837.48	33935.99	8.83
Gaston	206,679	80,164	$19,225	$39,482	$46,265	15.1	580.21	22504.32	21.94
Mecklenburg	890,515	350,289	$27,352	$50,579	$57,293	10.9	1,692.11	66560.15	3.66

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County or County Equivalent Areas[1]	Population[2]	Households[3]	Average Per Capita Income (1999)[4]	Median Household Income (1999)[4]	Median Household Income (2008)[4]	Percent Living in Poverty (2008)[5]	Household Density[6]	Population Density[6]	Percent Rural Housing[7]
Richmond	46,005	17,698	$14,485	$28,830	$30,743	23.7	97.06	3733.91	43.27
Robeson	129,123	45,674	$13,224	$28,202	$31,499	30.4	136.09	4813.67	64.04
Rockingham	92,282	37,191	$17,120	$33,784	$38,267	16.2	162.92	6565.74	56.83
Rutherford	63,424	25,384	$16,270	$31,122	$36,866	16.8	112.43	4499.80	64.45
Scotland	36,508	13,597	$15,693	$31,010	$33,364	27.6	114.39	4260.44	51.62
Stokes	46,171	18,151	$18,130	$38,808	$42,958	14.9	102.18	4017.14	80.50
Transylvania	30,187	12,730	$20,767	$38,587	$42,608	12.4	79.78	3364.17	68.62
Union	193,255	67,769	$21,978	$50,638	$62,478	8.6	303.21	10632.66	50.83
Wake	866,410	334,137	$27,004	$54,988	$65,487	9.2	1,041.45	40164.35	11.42
Wayne	113,671	42,669	$17,010	$33,942	$39,934	18.3	205.71	7722.00	44.48
Yadkin	37,954	15,127	$18,576	$36,660	$42,774	13.8	113.11	4508.09	86.76
North Dakota									
Benson	6,953	2,334	$11,509	$26,688	$33,194	27.9	5.04	169.08	100.00
Billings	811	331	$16,186	$32,667	$44,715	11.4	0.70	28.71	100.00
Bottineau	6,338	2,630	$16,227	$29,853	$45,271	11.6	3.80	157.64	100.00
Burke	1,820	826	$14,026	$25,330	$43,693	10.4	1.65	74.89	100.00
Dickey	5,237	2,083	$15,846	$29,231	$41,557	12.9	4.63	184.19	100.00
Divide	1,986	879	$16,225	$30,089	$43,711	11.6	1.58	69.83	100.00
Eddy	2,388	988	$15,941	$28,642	$38,119	13.1	3.79	156.84	100.00
Foster	3,447	1,422	$17,928	$32,019	$44,090	9	5.43	223.91	100.00
Golden Valley	1,640	647	$14,173	$29,967	$39,109	13.2	1.64	64.57	100.00
Grant	2,415	1,019	$14,616	$23,165	$35,062	17.1	1.46	61.42	100.00
Griggs	2,359	1,008	$16,131	$29,572	$40,517	10.6	3.33	142.30	100.00
LaMoure	3,986	1,642	$17,059	$29,707	$46,843	11.3	3.47	143.17	100.00
McHenry	5,168	2,179	$15,140	$27,274	$37,710	13.7	2.76	116.26	100.00
McKenzie	5,674	2,137	$14,732	$29,342	$44,704	14.4	2.07	77.95	100.00

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Mercer	7,854	3,047	$18,256	$42,269	$63,570	7.2	7.51	291.49	68.70
Mountrail	6,511	2,526	$13,422	$27,098	$41,551	14	3.57	138.52	100.00
Oliver	1,695	641	$16,271	$36,650	$50,353	10.2	2.34	88.60	100.00
Pierce	4,091	1,719	$14,055	$26,524	$36,065	12.3	4.02	168.86	38.61
Ransom	5,628	2,239	$18,219	$37,672	$49,093	9.6	6.52	259.49	100.00
Renville	2,245	935	$16,478	$30,746	$47,264	8.8	2.57	106.88	100.00
Rolette	13,657	4,551	$10,873	$26,232	$32,393	27.9	15.13	504.33	100.00
Sargent	4,048	1,653	$18,689	$37,213	$51,521	7.1	4.71	192.50	100.00
Sheridan	1,266	538	$13,283	$24,450	$32,549	17.9	1.30	55.39	100.00
Sioux	4,232	1,142	$7,731	$22,483	$29,137	37.8	3.87	104.35	100.00
Stutsman	20,394	8,374	$17,706	$33,848	$45,307	11.6	9.18	376.98	29.73
Towner	2,202	922	$17,605	$32,740	$48,023	10	2.15	89.97	100.00
Wells	4,191	1,820	$17,932	$31,894	$40,631	12.3	3.30	143.19	100.00
Nebraska									
Antelope	6,679	2,658	$14,601	$30,114	$37,307	13.8	7.79	310.17	100.00
Arthur	338	141	$15,810	$27,375	$35,208	10.4	0.47	19.69	100.00
Blaine	428	178	$12,323	$25,278	$31,090	19.2	0.60	25.00	100.00
Boone	5,446	2,147	$15,831	$31,444	$46,764	9.9	7.93	312.72	100.00
Boyd	2,090	874	$13,840	$26,075	$31,942	13.5	3.87	161.75	100.00
Butler	8,326	3,257	$16,394	$36,331	$44,853	9.5	14.27	558.18	69.37
Chase	3,629	1,484	$17,490	$32,351	$42,821	10.6	4.06	165.85	100.00
Dundy	2,002	830	$15,786	$27,010	$34,354	14.3	2.18	90.21	100.00
Frontier	2,584	991	$16,648	$33,038	$42,541	12.7	2.65	101.64	100.00
Garfield	1,710	735	$14,368	$27,407	$32,772	13.4	3.00	129.02	100.00
Grant	604	241	$14,815	$34,821	$37,935	10	0.78	31.04	100.00
Greeley	2,290	904	$13,731	$28,375	$35,576	13.5	4.02	158.58	100.00

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Hamilton	9,300	3,471	$17,590	$40,277	$54,722	7.4	17.11	638.35	53.43
Hayes	1,005	410	$14,099	$26,667	$37,207	15.7	1.41	57.53	100.00
Hitchcock	2,836	1,178	$14,804	$28,287	$37,381	13.6	3.99	165.88	100.00
Hooker	736	317	$15,513	$27,868	$35,622	9.3	1.02	43.92	100.00
Keya Paha	836	351	$11,860	$24,911	$31,122	22.4	1.08	45.42	100.00
Knox	8,498	3,445	$13,971	$27,564	$34,296	15.4	7.67	310.88	100.00
Logan	735	299	$14,937	$33,125	$40,087	10.5	1.29	52.42	100.00
Loup	619	245	$12,427	$26,250	$30,938	17.7	1.09	43.03	100.00
McPherson	514	205	$13,055	$25,750	$37,225	12.9	0.60	23.91	100.00
Nuckolls	4,467	1,962	$15,608	$28,958	$32,931	13.2	7.76	341.02	100.00
Pawnee	2,602	1,133	$16,687	$29,000	$37,158	12.9	6.03	262.49	100.00
Perkins	2,884	1,151	$17,830	$34,205	$44,607	10.7	3.27	130.31	100.00
Polk	5,122	2,046	$17,934	$37,819	$47,605	7.8	11.67	466.13	100.00
Richardson	8,294	3,478	$16,460	$29,884	$37,937	10.9	14.99	628.68	54.96
Rock	1,508	648	$14,350	$25,795	$33,449	17.6	1.50	64.29	100.00
Sheridan	5,337	2,200	$14,844	$29,484	$34,992	15.6	2.19	90.13	100.00
Thayer	5,104	2,155	$17,043	$30,740	$39,355	10.9	8.88	375.00	100.00
Thomas	583	259	$15,335	$27,292	$34,833	13.2	0.82	36.35	100.00
Thurston	7,102	2,220	$10,951	$28,170	$35,638	28.2	18.03	563.83	100.00
Webster	3,508	1,475	$16,802	$30,026	$36,927	11.5	6.10	256.64	100.00
Wheeler	807	326	$14,355	$26,771	$33,551	18.7	1.40	56.69	100.00
New Mexico									
Catron	3,405	1,525	$13,951	$23,892	$29,127	20.7	0.49	22.02	100.00
De Baca	1,907	787	$14,065	$25,441	$29,340	18	0.82	33.84	100.00
Guadalupe	4,346	1,542	$11,241	$24,783	$27,913	23.7	1.43	50.90	56.53
Harding	684	309	$16,240	$26,111	$28,697	15.2	0.32	14.54	100.00

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Hidalgo	4,910	1,781	$12,431	$24,819	$34,236	21.3	1.42	51.70	56.14
Lea	59,155	21,015	$14,184	$29,799	$45,813	15.5	13.47	478.37	22.11
Mora	5,052	1,965	$12,340	$24,518	$28,962	23	2.62	101.77	100.00
Rio Arriba	40,692	14,833	$14,263	$29,429	$38,578	17.2	6.95	253.23	60.30
Sierra	12,437	5,720	$15,023	$24,152	$27,580	23.9	2.98	136.83	32.02
Union	3,777	1,564	$14,700	$28,080	$34,218	16	0.99	40.83	100.00
Nevada									
Esmeralda	677	316	$18,971	$33,203	$40,299	14.3	0.19	8.80	100.00
Eureka	1,628	654	$18,629	$41,417	$55,090	10	0.39	15.66	100.00
Humboldt	17,763	6,335	$19,539	$47,147	$58,005	10.2	1.84	65.66	40.78
Lander	5,086	1,857	$16,998	$46,067	$61,938	9.9	0.93	33.81	37.95
Lincoln	4,898	1,830	$17,326	$31,979	$44,535	13.9	0.46	17.21	100.00
Mineral	4,684	2,033	$16,952	$32,891	$37,630	15.9	1.25	54.12	33.11
Nye	44,375	18,184	$17,962	$36,024	$43,463	15.8	2.45	100.21	57.19
Pershing	6,291	1,844	$16,589	$40,670	$53,651	18.1	1.04	30.55	100.00
Storey	4,341	1,875	$23,642	$45,490	$63,967	5.2	16.48	711.64	95.05
White Pine	9,199	3,291	$18,309	$36,688	$49,209	13.5	1.04	37.08	46.61
Ohio									
Gallia	30,912	12,030	$15,183	$30,191	$38,997	20.3	65.94	2566.23	74.83
Monroe	14,221	5,649	$15,096	$30,467	$40,089	15	31.22	1240.07	97.81
Oklahoma									
Adair	21,811	7,743	$11,185	$24,881	$29,809	22.9	37.89	1345.12	83.06
Alfalfa	5,637	2,025	$14,704	$30,259	$38,916	17	6.50	233.65	100.00
Beaver	5,248	2,005	$17,905	$36,715	$48,051	10.9	2.89	110.52	100.00
Beckham	21,136	7,830	$14,488	$27,402	$45,809	15.8	23.44	868.27	32.06
Blaine	12,659	4,404	$13,546	$28,356	$36,983	22.6	13.63	474.30	71.45

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Caddo	29,024	10,534	$13,298	$27,347	$33,111	21.3	22.70	824.07	81.67
Carter	47,979	18,910	$15,511	$29,405	$39,360	16.4	58.24	2295.53	53.67
Cherokee	45,733	17,451	$13,436	$26,536	$32,296	25.3	60.89	2323.53	64.04
Choctaw	14,890	6,052	$12,296	$22,743	$27,774	24.7	19.24	782.02	62.71
Cimarron	2,556	1,022	$15,744	$30,625	$35,513	16.3	1.39	55.71	100.00
Comanche	111,772	38,811	$15,728	$33,867	$40,589	18.3	104.52	3629.37	21.06
Cotton	6,191	2,447	$14,626	$27,210	$44,923	16.8	9.72	384.33	59.42
Craig	15,132	5,674	$16,539	$30,997	$38,954	19.2	19.88	745.60	59.10
Custer	26,412	10,262	$15,584	$28,524	$40,013	18	26.77	1040.22	31.52
Delaware	40,425	16,219	$15,424	$27,996	$36,518	19.9	54.58	2189.87	85.25
Dewey	4,389	1,822	$15,806	$28,172	$40,060	12.9	4.39	182.18	100.00
Ellis	3,971	1,729	$16,472	$27,951	$41,204	12.4	3.23	140.65	100.00
Garfield	58,167	23,362	$17,457	$33,006	$42,893	16.7	54.96	2207.33	19.92
Garvin	27,247	10,918	$14,856	$28,070	$38,431	15.6	33.74	1352.07	66.18
Grady	51,066	19,421	$15,846	$32,625	$43,057	16.3	46.38	1763.98	62.86
Grant	4,450	1,805	$15,709	$28,977	$39,584	13.6	4.45	180.44	100.00
Greer	5,713	2,126	$14,053	$25,793	$32,660	23.2	8.94	332.45	47.20
Harmon	2,843	1,089	$13,464	$22,365	$29,456	27.5	5.29	202.56	100.00
Harper	3,290	1,412	$18,011	$33,705	$45,072	10.3	3.17	135.92	100.00
Haskell	12,152	4,768	$13,775	$24,553	$34,327	20.3	21.06	826.34	78.99
Hughes	13,625	5,145	$12,687	$22,621	$30,932	24.3	16.89	637.79	63.00
Jackson	25,236	9,426	$15,454	$30,737	$39,249	17.2	31.44	1174.28	26.31
Jefferson	6,219	2,466	$12,899	$23,674	$29,596	22.3	8.20	324.94	100.00
Kingfisher	14,300	5,385	$18,167	$36,676	$52,284	11.8	15.84	596.33	69.74
Kiowa	9,399	3,873	$14,231	$26,053	$32,075	19.2	9.26	381.73	64.93
Latimer	10,561	3,925	$12,842	$23,962	$34,598	17.5	14.62	543.54	73.71

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Lincoln	32,153	12,224	$14,890	$31,187	$41,053	14.2	33.57	1276.32	91.73
Love	9,155	3,565	$16,648	$32,558	$41,399	14.2	17.76	691.75	100.00
Major	7,112	2,881	$17,272	$30,949	$43,895	9.8	7.43	301.08	100.00
Mayes	39,912	15,405	$15,350	$31,125	$37,044	17.3	60.83	2347.75	78.98
McClain	32,365	12,057	$18,158	$37,275	$52,822	10	56.81	2116.49	81.12
McIntosh	19,698	8,196	$16,410	$25,964	$30,076	20.8	31.77	1321.87	90.41
Murray	12,784	5,085	$16,084	$30,294	$40,268	16.8	30.57	1215.78	68.28
Muskogee	71,278	27,149	$14,828	$28,438	$34,727	19.7	87.58	3335.88	35.73
Noble	11,169	4,431	$17,022	$33,968	$42,503	13.7	15.26	605.41	51.81
Okfuskee	11,172	4,039	$12,746	$24,324	$30,527	23.7	17.88	646.48	71.41
Okmulgee	39,219	15,128	$14,065	$27,652	$37,460	20.3	56.27	2170.56	46.13
Ottawa	31,849	12,499	$14,478	$27,507	$34,873	19.6	67.57	2651.92	50.49
Pawnee	16,307	6,255	$15,261	$31,661	$39,489	15.8	28.64	1098.45	80.61
Payne	78,280	30,686	$15,983	$28,733	$39,364	18.7	114.05	4471.01	31.83
Pittsburg	45,115	17,631	$15,494	$28,679	$39,722	17.2	34.55	1350.07	55.91
Pontotoc	36,999	14,748	$14,664	$26,955	$34,465	19.4	51.41	2049.34	49.75
Pottawatomie	69,616	26,111	$15,972	$31,573	$42,013	16.5	88.38	3314.84	48.77
Pushmataha	11,710	4,729	$12,864	$22,127	$27,771	25.8	8.38	338.46	100.00
Roger Mills	3,404	1,417	$16,821	$30,078	$45,159	11.5	2.98	124.07	100.00
Seminole	24,200	9,313	$13,956	$25,568	$31,547	22	38.26	1472.37	62.22
Stephens	43,498	17,614	$16,357	$30,709	$43,581	13	49.77	2015.23	41.41
Texas	20,283	7,197	$15,692	$35,872	$44,775	12.2	9.96	353.31	51.02
Tillman	7,899	3,065	$14,270	$24,828	$31,463	21.9	9.06	351.55	51.06
Washington	50,452	20,807	$20,250	$35,816	$45,023	13.2	121.04	4992.01	20.01
Washita	11,709	4,609	$15,528	$29,563	$41,971	14.9	11.67	459.38	73.40
Woods	8,422	3,431	$17,487	$28,927	$38,676	16.6	6.55	266.70	39.83

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Woodward	19,838	7,625	$16,734	$33,581	$49,087	12.8	15.97	613.75	37.41
Oregon									
Grant	6,916	2,833	$16,794	$32,560	$34,846	15.2	1.53	62.55	100.00
Lake	7,239	3,022	$16,136	$29,506	$36,215	17.9	0.89	37.14	61.02
Morrow	11,140	3,834	$15,802	$37,521	$50,173	14.2	5.48	188.64	53.86
Wallowa	6,760	2,849	$17,276	$32,129	$42,559	13.9	2.15	90.57	100.00
Wheeler	1,319	553	$15,884	$28,750	$32,231	16.8	0.77	32.27	100.00
Puerto Rico									
Adjuntas	18,338	5,666	$4,975	$9,888	NA	NA	274.97	8496.17	42.06
Aguada	46,036	14,814	$6,100	$11,384	NA	NA	1,488.54	47900.73	0.00
Aguadilla	67,491	23,041	$6,996	$11,476	NA	NA	1,844.48	62969.14	0.00
Aguas Buenas	31,601	10,059	$7,034	$12,957	NA	NA	1,033.89	32908.97	5.68
Aibonito	27,129	8,617	$6,579	$12,725	NA	NA	867.04	27539.93	12.40
Arecibo	102,645	35,084	$7,290	$12,496	NA	NA	814.72	27847.16	8.69
Arroyo	18,954	6,107	$5,797	$11,484	NA	NA	1,260.15	40605.20	4.02
Añasco	30,300	10,048	$6,613	$12,620	NA	NA	771.51	25585.52	10.24
Barceloneta	23,106	7,772	$6,938	$11,706	NA	NA	1,238.50	41656.98	1.55
Barranquitas	30,544	9,143	$4,978	$11,322	NA	NA	892.61	26720.53	4.06
Bayamón	219,740	72,217	$9,234	$19,861	NA	NA	4,951.07	162716.72	0.00
Cabo Rojo	53,849	19,691	$8,070	$13,580	NA	NA	765.41	27988.88	21.44
Caguas	143,176	47,868	$8,632	$16,522	NA	NA	2,440.16	81581.97	0.73
Camuy	39,851	12,955	$6,380	$13,168	NA	NA	858.38	27903.93	12.65
Canóvanas	47,666	14,823	$5,917	$13,034	NA	NA	1,451.14	45126.62	3.13
Carolina	187,438	64,077	$10,511	$21,236	NA	NA	4,135.14	141361.92	0.19
Cataño	26,074	8,361	$8,369	$12,852	NA	NA	5,404.08	173295.03	0.00
Cayey	47,193	15,565	$7,027	$13,452	NA	NA	909.38	29991.99	8.29

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County or County Equivalent Areas[1]	Population[2]	Households[3]	Average Per Capita Income (1999)[4]	Median Household Income (1999)[4]	Median Household Income (2008)[4]	Percent Living in Poverty (2008)[5]	Household Density[6]	Population Density[6]	Percent Rural Housing[7]
Ceiba	17,802	5,667	$9,256	$16,440	NA	NA	612.95	19511.17	5.03
Ciales	20,658	6,320	$5,634	$10,981	NA	NA	309.96	9482.88	27.77
Cidra	48,548	15,041	$7,877	$15,557	NA	NA	1,345.07	41673.65	5.56
Coamo	39,816	12,455	$6,102	$12,064	NA	NA	510.18	15959.19	20.48
Comerío	19,276	6,099	$4,972	$10,892	NA	NA	678.96	21483.58	14.79
Corozal	39,000	11,887	$5,394	$11,786	NA	NA	915.74	27911.67	4.83
Culebra	2,138	806	$8,901	$17,008	NA	NA	184.02	6935.19	100.00
Dorado	36,630	11,713	$8,765	$16,460	NA	NA	1,570.18	50206.76	1.70
Fajardo	42,270	14,679	$7,852	$15,410	NA	NA	1,415.07	49141.11	4.40
Florida	16,067	5,168	$5,164	$11,123	NA	NA	1,057.44	34013.88	19.53
Guayama	45,298	14,549	$7,326	$12,112	NA	NA	696.14	22359.33	9.60
Guayanilla	23,686	7,378	$5,954	$11,361	NA	NA	559.14	17417.24	9.97
Guaynabo	102,956	35,080	$16,287	$26,211	NA	NA	3,795.29	129316.69	0.14
Gurabo	43,764	14,012	$8,819	$16,451	NA	NA	1,571.92	50328.04	3.66
Guánica	22,824	7,585	$5,204	$9,721	NA	NA	615.06	20440.21	6.25
Hatillo	43,658	14,236	$6,773	$12,378	NA	NA	1,044.88	34072.50	6.66
Hormigueros	17,648	6,179	$9,024	$16,745	NA	NA	1,558.39	54563.51	0.64
Humacao	60,809	19,874	$7,677	$14,345	NA	NA	1,358.25	44390.81	0.45
Isabela	48,134	16,224	$6,816	$11,685	NA	NA	869.41	29303.74	3.99
Jayuya	18,343	5,377	$5,156	$11,220	NA	NA	411.38	12060.26	34.00
Juana Díaz	53,223	15,745	$5,632	$12,892	NA	NA	882.77	26115.76	8.30
Juncos	41,221	13,503	$6,369	$13,072	NA	NA	1,550.48	50790.69	1.97
Lajas	28,027	9,627	$7,691	$11,384	NA	NA	466.32	16016.97	24.87
Lares	37,961	12,133	$4,634	$9,685	NA	NA	617.63	19741.03	24.19
Las Marías	12,216	3,939	$5,066	$9,472	NA	NA	263.63	8501.62	65.49
Las Piedras	39,893	12,922	$6,427	$14,622	NA	NA	1,177.34	38135.16	7.17

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Loíza	33,778	9,980	$5,283	$11,200	NA	NA	1,737.23	51326.25	0.52
Luquillo	20,561	6,824	$7,529	$13,631	NA	NA	800.11	26554.57	5.38
Manatí	49,845	16,783	$7,502	$12,796	NA	NA	1,103.65	37159.22	7.11
Maricao	6,310	1,972	$5,224	$9,243	NA	NA	172.27	5382.46	53.48
Maunabo	12,668	3,988	$5,400	$11,638	NA	NA	602.17	18956.86	7.76
Mayagüez	92,996	32,812	$8,003	$11,775	NA	NA	1,197.89	42265.92	2.29
Moca	44,891	14,410	$5,664	$11,271	NA	NA	892.70	28656.14	5.21
Morovis	32,995	9,682	$5,748	$12,090	NA	NA	848.79	24906.99	7.78
Naguabo	24,342	8,073	$6,960	$11,461	NA	NA	470.84	15616.05	9.61
Naranjito	29,901	8,978	$5,634	$12,484	NA	NA	1,101.19	33062.78	0.00
Orocovis	24,870	7,415	$4,637	$9,945	NA	NA	391.71	11678.75	27.75
Patillas	19,941	6,526	$5,950	$12,021	NA	NA	427.04	13975.47	27.68
Peñuelas	29,575	8,557	$5,096	$12,194	NA	NA	666.77	19292.65	12.76
Ponce	179,353	57,432	$7,276	$12,998	NA	NA	1,563.38	50062.58	3.99
Quebradillas	28,129	9,179	$6,209	$12,210	NA	NA	1,241.86	40525.11	4.51
Rincón	16,615	5,794	$6,610	$11,460	NA	NA	1,163.43	40574.59	0.00
Río Grande	56,695	17,827	$7,347	$15,006	NA	NA	933.61	29357.00	12.52
Sabana Grande	27,728	9,492	$6,164	$12,485	NA	NA	772.67	26449.96	8.18
Salinas	32,241	10,560	$6,133	$11,391	NA	NA	465.83	15258.03	9.08
San Germán	37,638	13,005	$7,944	$13,089	NA	NA	690.49	23858.67	6.78
San Juan	422,665	159,023	$12,437	$17,367	NA	NA	8,839.48	332574.79	0.00
San Lorenzo	44,842	14,363	$6,856	$12,226	NA	NA	843.70	27022.89	14.27
San Sebastián	48,095	16,249	$5,681	$10,962	NA	NA	682.45	23056.24	11.98
Santa Isabel	22,925	7,171	$5,903	$11,895	NA	NA	671.53	21005.94	20.56
Toa Alta	81,959	24,891	$8,568	$20,134	NA	NA	2,994.79	90950.65	0.00
Toa Baja	94,799	30,704	$8,666	$18,331	NA	NA	4,092.87	132563.07	0.00

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Trujillo Alto	87,083	27,772	$10,936	$21,980	NA	NA	4,197.29	133859.02	0.00
Utuado	34,339	10,879	$5,086	$9,948	NA	NA	302.68	9589.47	32.84
Vega Alta	39,723	12,468	$7,356	$13,495	NA	NA	1,431.46	44929.98	3.48
Vega Baja	64,879	20,725	$7,279	$13,933	NA	NA	1,413.74	45161.57	3.38
Vieques	9,252	3,383	$6,562	$9,331	NA	NA	182.02	6656.48	14.47
Villalba	30,367	8,398	$5,176	$11,728	NA	NA	856.77	23693.01	16.80
Yabucoa	40,559	12,617	$6,125	$12,292	NA	NA	734.06	22835.65	5.49
Yauco	48,481	15,707	$6,434	$11,924	NA	NA	711.42	23049.43	11.78
South Carolina									
Bamberg	15,307	5,609	$12,584	$24,007	$30,305	28	38.92	1426.31	55.54
Barnwell	22,872	8,840	$15,870	$28,591	$35,460	22	41.71	1611.88	84.24
Calhoun	14,583	5,710	$17,446	$32,736	$38,803	17.2	38.35	1501.82	100.00
Chester	32,618	12,330	$14,709	$32,425	$35,886	19.7	56.19	2123.95	67.42
Chesterfield	42,882	16,642	$14,233	$29,483	$34,492	20.6	53.70	2083.93	72.88
Clarendon	33,149	12,035	$13,998	$27,131	$32,725	25	54.59	1982.01	86.77
Darlington	67,031	25,713	$16,283	$31,087	$37,650	21.9	119.45	4582.20	53.93
Dillon	30,698	11,201	$13,272	$26,630	$30,935	23.9	75.83	2766.82	64.31
Dorchester	127,133	45,741	$18,840	$43,316	$60,254	10.1	221.21	7958.64	27.73
Fairfield	23,435	8,750	$14,911	$30,376	$35,880	21.7	34.13	1274.40	74.38
Kershaw	58,901	22,606	$18,360	$38,804	$44,446	13.9	81.10	3112.72	62.25
Lancaster	75,913	28,740	$16,276	$34,688	$39,898	16.9	138.28	5235.12	59.57
Lee	19,891	6,815	$13,896	$26,907	$30,876	27.6	48.48	1660.96	78.07
Lexington	248,518	95,907	$21,063	$44,659	$52,515	10.6	355.41	13715.61	33.76
Marion	33,843	12,669	$13,878	$26,526	$30,832	24.1	69.20	2590.55	58.38
Marlboro	28,704	10,417	$13,385	$26,598	$30,749	27.5	59.84	2171.46	47.71
McCormick	10,093	3,591	$14,770	$31,577	$37,676	19.5	28.07	998.72	100.00

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Oconee	71,274	29,405	$18,965	$36,666	$42,668	16.1	113.96	4701.75	72.61
Orangeburg	90,336	33,707	$15,057	$29,567	$32,694	23.8	81.67	3047.23	67.39
Richland	364,001	136,251	$20,794	$39,961	$49,653	14.3	481.22	18012.72	12.00
Saluda	18,625	6,934	$16,328	$35,774	$40,295	16.7	41.16	1532.45	84.46
Sumter	104,148	37,539	$15,657	$33,278	$38,167	19.5	156.52	5641.58	37.83
York	217,448	80,703	$20,536	$44,539	$51,636	12	318.63	11825.34	34.90
South Dakota									
Aurora	2,867	1,101	$13,887	$29,783	$40,874	11.8	4.05	155.42	100.00
Bennett	3,393	1,058	$10,106	$25,313	$30,560	33.8	2.86	89.23	100.00
Bon Homme	7,079	2,573	$13,892	$30,644	$40,010	14.2	12.57	456.78	100.00
Buffalo	2,142	548	$5,213	$12,692	$19,182	37.7	4.55	116.48	100.00
Campbell	1,352	545	$14,117	$28,793	$36,665	11.6	1.84	74.04	100.00
Charles Mix	8,906	3,171	$11,502	$26,060	$31,548	22.8	8.11	288.90	100.00
Clark	3,436	1,319	$15,597	$30,208	$40,536	12.9	3.59	137.66	100.00
Corson	4,136	1,266	$8,615	$20,654	$27,591	34.9	1.67	51.20	100.00
Custer	7,811	3,194	$17,945	$36,303	$42,952	10.3	5.01	205.06	100.00
Day	5,526	2,298	$15,856	$30,227	$38,189	13.5	5.37	223.40	100.00
Deuel	4,276	1,765	$15,977	$31,788	$44,641	9.4	6.86	283.11	100.00
Dewey	5,931	1,842	$9,251	$23,272	$31,716	27.5	2.58	80.01	100.00
Douglas	2,945	1,119	$13,827	$28,478	$40,054	13.2	6.79	258.13	100.00
Edmunds	4,034	1,532	$16,149	$32,205	$53,372	11.3	3.52	133.77	100.00
Fall River	7,145	2,981	$17,048	$29,631	$35,823	15	4.11	171.31	51.10
Faulk	2,255	869	$14,660	$30,237	$40,976	13.4	2.25	86.86	100.00
Gregory	4,084	1,719	$13,656	$22,732	$31,030	17.7	4.02	169.20	100.00
Haakon	1,819	717	$16,780	$29,894	$39,781	11.1	1.00	39.57	100.00
Hamlin	5,660	2,076	$16,982	$33,851	$47,147	10.7	11.17	409.58	100.00

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Hand	3,274	1,339	$18,735	$32,377	$43,150	10.2	2.28	93.21	100.00
Hanson	3,609	1,297	$14,778	$33,049	$51,048	7.6	8.30	298.30	100.00
Harding	1,145	442	$12,794	$25,000	$36,549	12.3	0.43	16.54	100.00
Hutchinson	7,250	2,870	$15,922	$30,026	$41,976	12.2	8.92	353.14	100.00
Hyde	1,424	579	$16,356	$31,103	$39,102	13.1	1.65	67.31	100.00
Jackson	2,711	873	$9,981	$23,945	$28,119	32.4	1.45	46.73	100.00
Jerauld	1,982	852	$16,856	$30,690	$39,198	14.1	3.74	160.69	100.00
Jones	1,024	431	$15,896	$30,288	$36,824	14.5	1.06	44.40	100.00
Lyman	3,811	1,362	$13,862	$28,509	$36,466	21.6	2.32	83.05	100.00
Marshall	4,320	1,730	$15,462	$30,567	$39,006	13.3	5.16	206.57	100.00
McCook	5,671	2,139	$16,374	$35,396	$45,644	8.6	9.87	372.36	100.00
McPherson	2,480	1,058	$12,748	$22,380	$31,709	15.4	2.18	93.07	100.00
Mellette	1,982	652	$10,362	$23,219	$28,866	34.3	1.52	49.89	100.00
Miner	2,435	1,030	$15,155	$29,519	$39,067	11.8	4.27	180.61	100.00
Perkins	2,900	1,237	$15,734	$27,750	$34,673	15	1.01	43.06	100.00
Potter	2,123	891	$17,417	$30,086	$41,305	10.6	2.45	102.81	100.00
Roberts	9,851	3,623	$13,428	$28,322	$36,451	18.1	8.95	329.01	100.00
Sanborn	2,447	947	$18,301	$33,375	$42,988	13.5	4.30	166.39	100.00
Shannon	13,637	3,029	$6,286	$20,916	$25,867	46	6.51	144.66	76.21
Sully	1,356	542	$17,407	$32,500	$46,373	8.2	1.35	53.83	100.00
Todd	10,167	2,779	$7,714	$20,035	$27,236	40.1	7.32	200.22	100.00
Tripp	5,681	2,234	$13,776	$28,333	$35,875	18.5	3.52	138.43	49.44
Turner	8,366	3,332	$17,343	$36,059	$48,157	8	13.56	540.13	100.00
Walworth	5,238	2,196	$15,492	$27,834	$37,410	16.1	7.40	310.31	43.19
Ziebach	2,542	746	$7,463	$18,063	$25,592	54.4	1.30	38.00	100.00
Tennessee									

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Bledsoe	13,142	4,688	$13,889	$28,982	$33,640	23.9	32.34	1153.90	100.00
Cannon	13,804	5,377	$16,405	$32,809	$40,527	15.3	51.96	2024.12	100.00
Clay	7,794	3,307	$13,320	$23,958	$28,831	21.4	33.01	1400.53	100.00
DeKalb	18,694	7,509	$17,217	$30,359	$37,016	19.7	61.38	2465.29	80.13
Dyer	37,600	14,902	$16,451	$32,788	$39,484	17.7	73.65	2919.17	41.65
Fentress	17,667	7,152	$12,999	$23,238	$28,547	23.5	35.43	1434.27	100.00
Gibson	49,257	19,947	$16,320	$31,105	$36,782	17.1	81.73	3309.84	48.43
Hancock	6,693	2,734	$11,986	$19,760	$23,526	30.8	30.11	1229.92	100.00
Haywood	19,024	7,282	$14,669	$27,671	$32,860	21.9	35.68	1365.73	48.02
Houston	8,137	3,243	$15,614	$29,968	$34,131	19.6	40.64	1619.56	100.00
Jackson	10,847	4,416	$15,020	$26,502	$31,276	22.4	35.12	1429.74	100.00
Lake	7,323	2,216	$10,794	$21,995	$26,739	37.8	44.81	1356.07	100.00
Lauderdale	26,692	9,413	$13,682	$29,751	$32,679	23.6	56.74	2000.80	55.57
Marshall	29,731	11,428	$17,749	$38,457	$41,157	14.4	79.21	3044.67	61.48
Perry	7,753	3,098	$16,969	$28,061	$33,179	19	18.69	746.64	100.00
Pickett	4,801	2,027	$14,681	$24,673	$29,422	19.8	29.47	1244.31	100.00
Scott	22,039	8,576	$12,927	$24,093	$28,422	24.8	41.42	1611.72	82.80
Wayne	16,614	5,829	$14,472	$26,576	$32,471	20.7	22.64	794.18	100.00
Texas									
Armstrong	2,123	800	$17,151	$38,194	$47,097	10	2.32	87.52	100.00
Atascosa	43,877	14,571	$14,276	$33,081	$41,883	18.2	35.61	1182.61	62.09
Austin	26,851	9,944	$18,140	$38,615	$49,721	10.6	41.15	1523.71	65.64
Bailey	6,279	2,225	$12,979	$27,901	$33,331	17.4	7.60	269.19	37.29
Bandera	20,303	8,114	$19,635	$39,013	$48,688	13.2	25.64	1024.89	100.00
Baylor	3,737	1,633	$16,384	$24,627	$32,236	18	4.29	187.58	50.32
Blanco	9,082	3,573	$19,721	$39,369	$49,446	10.6	12.77	502.39	100.00

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Borden	593	238	$18,364	$29,205	$44,822	9	0.66	26.52	100.00
Bowie	92,283	34,154	$17,357	$33,001	$39,531	19.3	103.94	3846.72	33.90
Brewster	9,331	3,867	$15,183	$27,386	$34,189	17.1	1.51	62.44	36.22
Briscoe	1,462	589	$14,218	$29,917	$34,442	15.3	1.62	65.41	100.00
Calhoun	20,406	7,347	$17,125	$35,849	$43,123	15.7	39.83	1434.12	53.34
Callahan	13,533	5,311	$15,204	$32,463	$41,493	14.7	15.06	591.07	75.05
Camp	12,666	4,775	$16,500	$31,164	$38,435	17.1	64.13	2417.64	64.23
Carson	6,251	2,381	$19,368	$40,285	$50,493	8.5	6.77	257.92	97.09
Cass	29,284	11,724	$15,777	$28,441	$36,378	18.2	31.24	1250.76	81.81
Castro	7,129	2,381	$14,457	$30,619	$36,748	19.9	7.94	265.04	47.44
Childress	7,536	2,436	$12,452	$27,457	$33,634	25.4	10.61	342.92	20.01
Clay	10,888	4,290	$16,361	$35,738	$48,445	11	9.92	390.73	74.06
Cochran	2,977	1,050	$13,125	$27,525	$34,388	22.3	3.84	135.39	100.00
Coke	3,480	1,385	$16,734	$29,085	$35,848	15	3.87	154.11	100.00
Collingsworth	2,985	1,202	$15,318	$25,438	$31,486	20.4	3.25	130.82	100.00
Colorado	20,734	7,753	$16,910	$32,425	$39,441	17.9	21.53	805.09	64.20
Concho	3,610	958	$15,727	$31,313	$37,505	25.4	3.64	96.67	100.00
Cooke	38,407	14,416	$17,889	$37,649	$49,705	11.9	43.96	1650.14	58.48
Cottle	1,617	696	$16,212	$25,446	$29,462	21.3	1.79	77.28	100.00
Crane	4,017	1,369	$15,374	$32,194	$50,114	10.6	5.11	174.29	9.46
Crosby	6,192	2,206	$14,445	$25,769	$33,294	23.6	6.88	245.29	100.00
Dallam	6,267	2,340	$13,653	$27,946	$37,192	13.6	4.16	155.50	26.88
Dawson	13,692	4,291	$15,011	$28,211	$40,590	21.7	15.18	475.67	21.33
DeWitt	19,596	7,083	$14,780	$28,714	$40,225	19.3	21.55	779.08	59.63
Dickens	2,450	867	$13,156	$25,898	$30,343	26.8	2.71	95.84	100.00
Dimmit	9,758	3,140	$9,765	$21,917	$27,895	33.4	7.33	235.95	42.73

APPENDIX C

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By County or County Equivalent

County or County Equivalent Areas[1]	Population[2]	Households[3]	Average Per Capita Income (1999)[4]	Median Household Income (1999)[4]	Median Household Income (2008)[4]	Percent Living in Poverty (2008)[5]	Household Density[6]	Population Density[6]	Percent Rural Housing[7]
Donley	3,850	1,564	$15,958	$29,006	$35,875	17.4	4.14	168.21	100.00
Duval	12,033	3,991	$11,324	$22,416	$33,127	26.5	6.71	222.60	51.47
Eastland	18,186	7,280	$14,870	$26,832	$35,258	18.9	19.64	786.12	64.75
Ector	131,941	47,718	$15,031	$31,152	$46,868	15.5	146.43	5295.84	7.86
Edwards	1,952	726	$12,691	$25,298	$31,434	22.2	0.92	34.24	100.00
Falls	16,900	5,930	$14,311	$26,589	$32,844	24.2	21.97	771.03	63.27
Fisher	3,912	1,615	$15,120	$27,659	$34,838	15.6	4.34	179.18	100.00
Floyd	6,455	2,270	$14,206	$26,851	$32,794	21.9	6.51	228.80	52.44
Foard	1,361	561	$14,799	$25,813	$30,176	17.5	1.93	79.44	100.00
Franklin	11,001	4,349	$17,563	$31,955	$39,830	15.4	38.51	1522.45	94.84
Freestone	18,923	6,977	$16,338	$31,283	$41,153	14.5	21.57	795.21	66.50
Frio	16,163	4,703	$16,069	$24,504	$31,072	28.2	14.27	415.09	29.75
Gaines	15,081	4,896	$13,088	$30,432	$40,489	17.2	10.04	325.91	56.51
Garza	4,628	1,602	$12,704	$27,206	$37,815	22.1	5.17	178.83	37.86
Glasscock	1,212	408	$18,279	$35,655	$52,364	9	1.35	45.27	100.00
Goliad	7,152	2,723	$17,126	$34,201	$45,273	14.2	8.38	319.07	100.00
Gray	22,248	8,597	$16,702	$31,368	$44,888	14.7	23.97	926.16	17.04
Gregg	117,528	45,001	$18,449	$35,006	$45,792	14.1	428.89	16422.07	19.43
Hale	35,234	11,503	$13,655	$31,280	$35,802	19.1	35.07	1145.01	25.81
Hansford	5,280	1,989	$17,408	$35,438	$45,291	12	5.74	216.29	44.74
Hardeman	3,984	1,653	$16,824	$28,312	$34,007	17.6	5.73	237.71	41.26
Hartley	5,162	1,482	$18,067	$46,327	$54,316	10.4	3.53	101.37	45.11
Haskell	5,216	2,201	$14,918	$23,690	$32,817	22.2	5.78	243.75	61.18
Hemphill	3,472	1,321	$16,929	$35,456	$56,489	8.7	3.82	145.22	100.00
Hill	35,637	13,489	$15,514	$31,600	$38,020	16.3	37.03	1401.67	78.51
Hockley	22,205	7,803	$15,022	$31,085	$42,371	17.6	24.45	859.14	39.82

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Houston	22,698	8,094	$14,525	$28,119	$33,272	26.1	18.44	657.60	73.86
Howard	32,537	11,041	$15,027	$30,805	$38,661	21.2	36.04	1222.93	23.89
Hudspeth	3,137	1,032	$9,549	$21,045	$26,625	30.1	0.69	22.58	100.00
Hutchinson	21,512	8,370	$17,317	$36,588	$49,548	11.7	24.24	943.20	22.86
Jackson	14,146	5,249	$16,693	$35,254	$44,278	13.4	17.05	632.81	61.45
Jasper	34,374	12,979	$15,636	$30,902	$38,264	20.5	36.67	1384.54	79.56
Jeff Davis	2,275	923	$18,846	$32,212	$42,055	12.2	1.00	40.74	100.00
Jim Hogg	5,016	1,725	$12,185	$25,833	$33,104	22.8	4.42	151.82	22.01
Jones	19,197	5,674	$13,656	$29,572	$37,797	23.6	20.62	609.42	78.34
Karnes	15,051	4,363	$13,603	$26,526	$33,394	27.5	20.06	581.55	54.08
Kenedy	388	129	$17,959	$25,000	$29,587	16.4	0.27	8.88	100.00
Kent	708	289	$17,626	$30,433	$35,804	11.4	0.78	32.06	100.00
King	281	88	$12,321	$35,625	$44,939	12.3	0.31	9.60	100.00
Kinney	3,233	1,250	$15,350	$28,320	$35,576	21.5	2.37	91.65	100.00
Kleberg	30,739	10,638	$13,542	$29,313	$36,659	24.2	35.29	1221.35	18.25
Knox	3,393	1,333	$13,443	$25,453	$31,469	21.1	4.00	157.02	100.00
La Salle	5,861	1,819	$9,692	$21,857	$29,778	29.1	3.94	122.20	33.58
Lamar	49,286	19,357	$17,000	$31,609	$37,104	17.4	53.76	2111.36	43.80
Lamb	13,585	4,951	$15,169	$27,898	$35,137	21.3	13.37	487.23	56.96
Lavaca	18,652	7,437	$16,398	$29,132	$43,814	13.1	19.23	766.83	83.21
Leon	16,859	6,829	$17,599	$30,981	$41,212	14.8	15.73	637.04	100.00
Lipscomb	2,981	1,179	$16,328	$31,964	$46,490	12.2	3.20	126.48	100.00
Live Oak	11,247	3,861	$15,886	$32,057	$43,376	17.8	10.85	372.61	83.60
Loving	42	19	$24,084	$40,000	$50,221	14.3	0.06	2.79	100.00
Lynn	5,783	2,089	$14,090	$26,694	$35,256	19.6	6.48	234.22	55.52
Madison	13,382	4,071	$14,056	$29,418	$36,650	21.8	28.49	866.92	67.69

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Marion	10,544	4,438	$14,535	$25,347	$31,510	21.6	27.66	1164.17	100.00
Martin	4,513	1,556	$15,647	$31,836	$43,492	15.9	4.93	170.06	49.05
Maverick	52,279	14,472	$8,758	$21,232	$29,787	26.5	40.84	1130.57	12.25
McMullen	837	352	$22,258	$32,500	$40,033	13.6	0.75	31.64	100.00
Medina	44,275	14,529	$15,210	$36,063	$44,632	16.8	33.35	1094.27	59.72
Milam	24,892	9,433	$16,920	$33,186	$41,290	16.5	24.48	927.78	54.66
Mitchell	9,230	2,695	$14,043	$25,399	$35,837	26.2	10.14	296.18	53.60
Moore	20,308	6,873	$15,214	$34,852	$43,377	13.6	22.57	763.98	18.73
Morris	12,915	5,182	$15,612	$29,011	$36,929	17.6	50.74	2035.92	80.77
Motley	1,260	524	$16,584	$28,348	$34,551	19	1.27	52.96	100.00
Navarro	49,456	18,118	$15,266	$31,268	$40,730	18.5	49.08	1798.02	50.72
Newton	13,752	5,108	$13,381	$28,500	$35,524	22.3	14.74	547.63	100.00
Nolan	14,879	5,809	$14,077	$26,209	$36,026	20.7	16.32	636.93	28.29
Ochiltree	9,613	3,496	$16,707	$38,013	$51,680	12	10.48	380.98	17.78
Panola	23,084	8,949	$15,439	$31,909	$42,917	13.9	28.82	1117.36	75.72
Parmer	9,224	3,046	$14,184	$30,813	$40,346	14.2	10.46	345.43	62.70
Pecos	16,307	5,002	$12,212	$28,033	$37,283	20.5	3.42	105.00	40.11
Polk	46,144	16,983	$15,834	$30,495	$36,930	15.5	43.64	1606.35	89.16
Potter	120,918	43,402	$14,947	$29,492	$36,988	22.5	132.99	4773.43	6.92
Presidio	7,467	2,564	$9,558	$19,860	$27,490	21.3	1.94	66.50	53.23
Real	2,875	1,162	$14,321	$25,118	$31,677	18.8	4.11	165.95	100.00
Red River	12,955	5,264	$15,058	$27,558	$32,902	18.8	12.34	501.23	76.89
Reeves	11,062	3,449	$10,811	$23,306	$31,057	27.5	4.20	130.85	24.21
Roberts	833	343	$20,923	$44,792	$63,265	6.7	0.90	37.09	100.00
Robertson	15,693	6,018	$14,714	$28,886	$37,219	20.5	18.36	704.25	76.49
Sabine	10,062	4,319	$15,821	$27,198	$33,443	15.6	20.52	881.00	100.00

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San Augustine	8,576	3,469	$15,548	$27,025	$30,306	24.2	16.25	657.22	100.00
San Jacinto	24,882	9,701	$16,144	$32,220	$40,606	19.1	43.60	1699.92	100.00
San Saba	5,881	2,177	$15,309	$30,104	$35,739	21.2	5.18	191.90	61.71
Scurry	15,973	5,613	$15,871	$31,646	$42,565	18.3	17.70	621.90	28.80
Shackelford	3,105	1,215	$16,341	$30,479	$43,294	11.5	3.40	132.93	100.00
Shelby	26,529	10,143	$15,186	$29,112	$35,154	23.5	33.41	1277.27	80.79
Sherman	2,930	1,038	$17,210	$33,179	$42,684	14.2	3.17	112.49	100.00
Stephens	9,585	3,634	$15,475	$29,583	$38,168	17.5	10.71	406.22	39.79
Stonewall	1,440	604	$16,094	$27,935	$37,325	16.7	1.57	65.74	100.00
Terrell	924	377	$13,721	$24,219	$30,359	20.3	0.39	15.99	100.00
Terry	12,135	4,103	$13,860	$28,090	$32,788	25	13.64	461.11	28.13
Throckmorton	1,667	688	$17,719	$28,277	$34,865	14.3	1.83	75.36	100.00
Titus	29,793	10,135	$15,501	$32,452	$40,295	15.2	72.57	2468.68	54.61
Tyler	20,470	7,621	$15,367	$29,808	$36,730	20.2	22.18	825.73	88.15
Upshur	38,331	14,441	$16,358	$33,347	$42,947	14.5	65.23	2457.50	79.82
Upton	3,149	1,154	$14,274	$28,977	$43,137	14.8	2.54	92.91	100.00
Uvalde	26,461	8,722	$12,557	$27,164	$33,121	23.8	17.00	560.37	37.27
Van Zandt	52,197	19,770	$16,930	$35,029	$42,802	15.5	61.51	2329.55	80.20
Victoria	86,755	30,993	$18,379	$38,732	$46,104	15.4	98.31	3511.91	25.93
Walker	64,212	19,059	$14,508	$31,468	$38,244	23.5	81.54	2420.40	48.18
Ward	10,549	3,851	$14,393	$29,386	$42,595	16.4	12.63	460.88	31.52
Washington	32,244	12,042	$17,384	$36,760	$46,210	13.6	52.93	1976.58	58.53
Wheeler	4,772	1,931	$16,083	$31,029	$43,124	12	5.22	211.19	100.00
Wilbarger	13,782	5,206	$16,520	$29,500	$38,536	15.9	14.19	536.14	21.58
Willacy	20,600	5,748	$9,421	$22,114	$29,079	30.6	34.52	963.25	54.85
Wilson	40,398	13,747	$17,253	$40,006	$54,206	11.1	50.06	1703.49	83.88

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Winkler	6,675	2,409	$13,725	$30,591	$45,917	14.5	7.94	286.46	18.92
Wood	42,461	16,843	$17,702	$32,885	$41,529	14.5	65.30	2590.27	82.45
Young	17,579	7,016	$16,710	$30,499	$39,898	15.2	19.06	760.65	33.80
Zapata	13,847	4,464	$10,486	$24,635	$32,249	26.2	13.89	447.82	42.99
Zavala	11,678	3,422	$10,034	$16,844	$23,083	33.5	8.99	263.53	38.18
Utah									
Carbon	19,549	7,120	$15,325	$34,036	$45,621	13.3	13.22	481.59	42.48
Daggett	938	350	$15,511	$30,833	$44,963	7.9	1.34	50.17	100.00
Duchesne	16,861	5,372	$12,326	$31,298	$51,616	12.4	5.21	165.91	78.96
Emery	10,510	3,359	$14,243	$39,850	$48,569	12	2.36	75.45	100.00
Garfield	4,658	1,562	$13,439	$35,180	$43,312	10.9	0.90	30.19	100.00
Grand	9,589	3,893	$17,356	$32,387	$38,540	14.2	2.60	105.75	28.11
Kane	6,577	2,432	$15,455	$34,247	$45,337	10	1.65	60.93	68.83
Millard	12,082	3,755	$13,408	$36,178	$46,823	12.7	1.83	56.98	75.85
Piute	1,404	492	$12,697	$29,625	$36,139	16.7	1.85	64.94	100.00
Rich	2,205	734	$16,267	$39,766	$53,159	9	2.14	71.39	100.00
San Juan	15,055	4,292	$10,229	$28,137	$38,827	28.1	1.93	54.88	82.90
Uintah	29,885	9,628	$13,571	$34,518	$57,769	10.1	6.68	215.04	53.09
Wayne	2,589	933	$15,392	$32,000	$40,524	13	1.05	37.91	100.00
Virginia									
Amelia	12,808	4,764	$18,858	$40,252	$49,180	9.6	35.90	1335.11	100.00
Appomattox	14,501	5,641	$18,086	$36,507	$43,529	13	43.46	1690.40	100.00
Bath	4,544	1,848	$23,092	$35,013	$42,446	9.6	8.54	347.46	100.00
Bedford city	6,312	2,525	$15,423	$28,792	$36,559	18	916.38	36660.94	0.00
Craig	5,087	2,061	$17,322	$37,314	$45,703	11.2	15.39	623.51	100.00
Highland	2,426	1,073	$15,976	$29,732	$38,088	12.8	5.83	258.10	100.00

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Surry	7,128	2,717	$16,682	$37,558	$52,004	11.6	25.54	973.51	100.00
Virgin Islands									
St. Croix Island	53,234	19,455	$11,868	$21,401	NA	NA	642.31	23474.00	11.98
St. John Island	4,197	1,735	$18,012	$32,482	NA	NA	213.98	8845.81	35.82
St. Thomas Island	51,181	19,458	$14,061	$26,893	NA	NA	1,638.46	62290.87	3.94
Washington									
Asotin	21,420	8,705	$17,748	$33,524	$41,275	16.3	33.71	1370.15	6.86
Ferry	7,353	2,850	$15,019	$30,388	$34,948	21.1	3.34	129.31	100.00
Wisconsin									
Buffalo	13,741	5,496	$18,123	$37,200	$47,198	10	20.08	802.93	100.00
Burnett	16,196	6,819	$17,712	$34,218	$41,276	14.1	19.71	830.02	100.00
Crawford	16,885	6,519	$16,833	$34,135	$41,646	12	29.48	1138.27	67.77
Lafayette	15,871	6,112	$16,811	$37,220	$47,796	9.2	25.05	964.63	100.00
Menominee	4,571	1,353	$10,625	$29,440	$34,042	25.2	12.77	377.88	100.00
Pepin	7,357	2,833	$18,288	$37,609	$49,943	9.7	31.67	1219.83	100.00
Trempealeau	27,790	11,088	$17,681	$37,889	$48,650	9.6	37.86	1510.49	100.00
Vernon	29,090	11,219	$15,859	$33,178	$43,402	14.4	36.60	1411.39	84.29
West Virginia									
Calhoun	7,212	2,934	$11,491	$21,578	$26,023	21.3	25.70	1045.35	100.00
Clay	10,075	3,948	$12,021	$22,120	$28,342	24.7	29.42	1153.06	100.00
Doddridge	7,201	2,774	$13,507	$26,744	$32,226	21.3	22.47	865.76	100.00
Hardy	13,591	5,587	$15,859	$31,846	$35,530	13.9	23.30	957.68	100.00
Pleasants	7,150	2,753	$16,920	$32,736	$42,474	13.2	54.69	2105.75	56.00
Webster	9,394	3,892	$12,284	$21,055	$26,037	27.9	16.90	700.10	100.00
Wyoming									
Big Horn	11,322	4,263	$15,086	$32,682	$44,304	11.4	3.61	135.88	100.00

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By County or County Equivalent

County or County Equivalent Areas[1]	Population[2]	Households[3]	Average Per Capita Income (1999)[4]	Median Household Income (1999)[4]	Median Household Income (2008)[4]	Percent Living in Poverty (2008)[5]	Household Density[6]	Population Density[6]	Percent Rural Housing[7]
Crook	6,457	2,529	$17,379	$35,601	$54,434	7.5	2.26	88.48	100.00
Natrona	73,129	29,458	$18,913	$36,619	$51,486	8.8	13.69	551.66	15.13
Sublette	8,456	3,388	$20,056	$39,044	$72,079	4.7	1.73	69.39	100.00
Weston	7,022	2,791	$17,366	$32,348	$50,412	9.2	2.93	116.41	57.04

Technical Notes:

1) We examine a total of 3,230 counties or county equivalent areas, including 3,141 counties in the States and District of Columbia, 78 Municipal areas in Puerto Rico and 11 Municipal areas in American Samoa, Guam, Northern Mariana Islands and the U.S. Virgin Islands. We exclude two county equivalent areas in the Northern Mariana Islands (Rose Island Municipality and Northern Mariana Islands Municipality) due to data irregularities. As we work to improve our data, we anticipate that we will have a more precise identification of unserved areas. *See supra* Part III.B.2.a. & note 69.
2) We base our analysis on the most recent Census Bureau data available. We rely on Census Bureau 2008 population estimates for 3,140 counties in the 50 States and the District of Columbia, and 78 Municipalities in Puerto Rico. We rely on Census Bureau 2000 population estimates for a single county in Alaska and the 11 Municipal areas in American Samoa, Guam, Northern Mariana Islands and the U.S. Virginia Islands. *See* CENSUS BUREAU, POPULATION ESTIMATES DATA SETS, http://www.census.gov/popest/datasets.html (last visited Mar. 24, 2010).
3) We estimate households for 2008 by assuming that the relationship between household size and population size in each area has not changed between 2000 and 2008. Specifically, $\text{Households}_{2008} = \text{Population}_{2008} / \text{Household Size}_{2000}$, where $\text{Household Size}_{2000} = \text{Population}_{2000}/\text{Households}_{2000}$. For the 12 counties in which we do not have 2008 population estimates, we use Households based upon the 2000 Census. *See, e.g.*, CENSUS BUREAU, CENSUS 2000 SUMMARY FILE 1 (SF 1) 100-PERCENT DATA, http://factfinder.census.gov/servlet/DownloadDatasetServlet?_lang=en (last visited Mar. 24, 2010) (2000 Census Data).
4) We report two Income measures, Per Capita Income and Median Household Income. Per Capita Income and Median Household Income in 1999 dollars are reported for all county or county equivalent areas in the Census 2000 Summary File 3. *See, e.g.*, CENSUS BUREAU, CENSUS 2000 SUMMARY FILE 3, http://www.census.gov/Press-Release/www/2002/sumfile3.html (last visited Mar. 24, 2010). Median Household Income in 2008 dollars is available for 3,139 county or county equivalent areas. We do not have Median Household Income in 2008 for one county in Alaska and Hawaii, and all of the U.S. territories. *See* CENSUS BUREAU, SMALL AREA INCOME AND POVERTY ESTIMATES: STATE AND COUNTY ESTIMATES FOR 2008, http://www.census.gov/did/www/saipe/data/statecounty/data/2008.html (last visited Mar. 24, 2010).
5) Proportion of Population Living in Poverty in 2008 is reported by the Census Bureau for 3,139 of the 3,230 county or county equivalent areas. *Id.*

6) Household density is defined as the ratio of households to the total land area in the county. Population Density is defined as the ratio of population to the total land area in the area. These estimates are based upon the most recent Census Bureau data available. *See supra* Technical Notes 2 and 3.
7) Rural Housing Proportion is defined as the number of housing units categorized as rural by the Census Bureau divided by the total number of housing units in the county. *See* 2000 Census Data; *supra* Technical Note 3.

APPENDIX D

Commission's Report on High-Speed Services for Internet Access: Status as of December 31, 2008

High-Speed Services for Internet Access: Status as of December 31, 2008

Industry Analysis and Technology Division
Wireline Competition Bureau
February 2010

This report is available for reference in the FCC's Reference Information Center, Courtyard Level, 445 12th Street, SW, Washington, DC. Copies may be purchased by contacting Best Copy and Printing, Inc., 445 12th Street, SW, Room CY-B402, Washington, DC 20554, telephone (800) 378-3160, or via their website at www.bcpiweb.com. The report can also be downloaded from the Wireline Competition Bureau Statistical Reports Internet site at www.fcc.gov/wcb/stats.

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High-Speed Services for Internet Access: Status as of December 31, 2008

Introduction. Congress directed the Commission and the states, in section 706 of the Telecommunications Act of 1996,[1] to encourage deployment of advanced telecommunications capability in the United States on a reasonable and timely basis. To assist in its evaluation of such deployment, in 2000 the Commission instituted a formal data collection program (FCC Form 477),[2] which gathers standardized information about subscribership to high-speed Internet access services from telephone companies, cable system operators, terrestrial wireless service providers, satellite service providers, and any other facilities-based providers of advanced telecommunications capability.[3] This report summarizes information reported for December 31, 2008, which, for the first time, includes details about subscribership differences among census tracts and counties, as well as states.

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[1] 47 U.S.C. § 1302(b). Section 706 of the Telecommunications Act of 1996, Pub. L. No. 104-104, title VII, Sec. 706, 110 Stat. 56, 153 (1996) (1996 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*. Prior to the BDIA, section 706 was reproduced in the notes to section 157 of the Communications Act of 1934, as amended (the Act). 47 U.S.C. § 157 nt. (2008).

[2] *Local Competition and Broadband Reporting*, CC Docket No. 99-301, Report and Order, 15 FCC Rcd 7717 (2000); *Local Telephone Competition and Broadband Reporting,* WC Docket No. 04-141, Report and Order, 19 FCC Rcd 22340 (2004). Qualifying entities file FCC Form 477 each year on March 1 (reporting data for the preceding December 31) and September 1 (reporting data for June 30 of the same year). The first data collected were as of December 31, 1999.

[3] Form 477 collects, and this report summarizes, information about Internet access connections *in service* to end-user locations that are advertised to deliver information to and/or from the end user – that is, in at least one direction – at transfer rates ("speeds") above 200 kilobits per second (kbps). Information is collected about connections in several sub-groupings ("speed tiers") defined by ranges of upstream speeds and downstream speeds. Connections are further categorized by the technology employed by the part of the connection that terminates at the end-user location. *See* Technical Notes, at the end of this report, for information about the technology categories. To provide continuity with published historical data, this particular report uses the term "high-speed" to describe all reported connections and, additionally, uses the term "advanced services" to describe the subset of connections with advertised speeds above 200 kbps both to and from the end user (but not necessarily the same speed in each direction). (Consistent with the Form 477 data collection orders, "broadband" and "high-speed" are synonyms in footnotes that discuss particular elements of those orders.)

In the Form 477 data collection, "end users" are residential, business, institutional, or government entities who use services for their own purposes and who do not resell such services to other entities. The "facilities-based" provider of a connection is the entity that owns the portion of the physical facility that terminates at the end-user location, obtains an unbundled network element (UNE), special access line, or other leased facility that terminates at the end-user location and provisions/equips it as broadband, or provisions/equips a broadband wireless channel to the end-user location over licensed spectrum or over spectrum that the provider uses on an unlicensed basis. The facilities-based providers report information about connections they provide directly to their own end-user customers and also connections that they provide to Internet Service Providers (ISPs) for resale to end users, and ISPs who are not themselves facilities-based providers do not report. These requirements avoid double-counting of end user connections. When the service retailer is such a reseller ISP, connections must be reported as residential or business connections based on the status of the end user of the ISP's retail Internet access service.

Major modifications to the data collection. For June 30 and December 31 dates from December 1999 through June 2008, Form 477 filers were required to report numbers of high-speed connections in service to end-user locations in each state, broken down by speed tier and technology, and to identify all ZIP Codes in which they had at least one high-speed connection in service to an end-user location.[4] The Commission and others have recognized these requirements as insufficiently granular or precise to inform necessary policymaking, and, in 2008, the Commission significantly improved the data collection.[5] The statistics reported here reflect data as of December 31, 2008, and are the first to be based on data collected under the modified Form 477 requirements.

The Commission improved three elements of the data collection:

- Providers of fixed-location high-speed Internet access connections now report the number of connections in service at the census tract level as well as at the state level. Consequently, this report summarizes information about fixed-location connections in 3,232 counties and 66,287 census tracts.[6]

- All filers report connections in accordance with an increased number of upload and download transmission speed categories, which now total 72.

- Mobile wireless service providers report more specific information about mobile wireless Internet access service, as discussed below.[7]

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[4] For the data through June 2008, the Commission required mobile wireless providers to report the number of subscribers by state and to provide a list of the ZIP Codes that best represented the areas where the provider's mobile wireless broadband service was advertised and *available* to actual and potential subscribers. Also to obtain information about service availability, as opposed to subscribership, the Commission required incumbent telephone companies to report (starting with the June 30, 2005 data) the extent to which their Digital Subscriber Line service – including both asymmetric DSL ("aDSL" in this report) and symmetric DSL ("sDSL" in this report) – was available to the housing units in their local telephone service area in the state, and required cable system operators to report the extent to which their cable modem service was available to the housing units in their cable TV service area in the state.

[5] *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, 23 FCC Rcd 9691 (2008); Order on Reconsideration, 23 FCC Rcd 9800 (2008). Effective with the filing of data as of December 31, 2008, Form 477 is a Web-based electronic filing system. Information about system mechanics and detailed reporting requirements is available at http://www.fcc.gov/form477/.

[6] According to the Census Bureau, there are 66,438 census tracts in the United States, Puerto Rico, and the Island Areas (e.g., the U.S. Virgin Islands); *see* "Definition: Census tract" in results for "census tract" keyword search at http://www.census.gov/ (visited Oct. 26, 2009). For the 2000 decennial census, the Census Bureau assigned a default census tract code of 000000 to some coastal and Great Lakes water and territorial sea, and these default-code tracts are not included in the statistics in this report.

[7] *See* pp. 3-4.

In conjunction with measures underway pursuant to the Broadband Data Improvement Act and the Recovery Act,[8] data collected by the modified Form 477 provide the Commission and the public with a more valuable resource than prior collections for evaluating the state of broadband in the country. For example, the statistics reported here depict subscribership to high-speed Internet access services at finer levels of geographic detail than was previously possible using the Form 477 data. They also provide more detailed information about connection speeds, including, in particular, information about connections that meet the "broadband service" definition (advertised speeds of at least 768 kilobits per second (kbps) downstream and 200 kbps upstream to end users) that the Rural Utilities Service, Department of Agriculture, and the National Telecommunications and Information Administration, Department of Commerce, have adopted to implement the stimulus funding for broadband deployment provisions of the Recovery Act.[9]

Implications for trends analysis. Readers interested in historical trends in the Form 477 data should note certain changes to the reporting requirements that were effective in 2005 and in 2008.

First, the historical series presented in this report begin with data as of June 30, 2005. In earlier data from this collection, providers with fewer than 250 high-speed connections in service in a particular state were not required to report data for that state.[10] Readers may refer to previous releases of this report for the more extensive data, from December 31, 1999, onward.[11]

Second, the modifications adopted for the December 31, 2008, and later, data have caused a one-time decrease in the reported number of high-speed mobile wireless Internet access service connections, from about 60 million in June 2008 to about 25 million in December 2008.[12] For reporting periods through June 30, 2008, Form 477 had instructed mobile wireless providers to report the number of subscribers whose mobile device (such as a wireless modem laptop card, smartphone, or handset) was capable of sending or receiving data at speeds above 200 kbps. The Commission found these instructions insufficiently precise to enable it to determine, from the reported data, the number of subscribers making regular use of Internet access service above 200 kbps as part of their mobile service package. Starting with the December 31, 2008 data, therefore, Form 477 requires mobile wireless providers to report the number of subscribers that have a capable device (as discussed above) for which the subscription includes

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[8] *See* 47 U.S.C. § 1301 *et seq*. (Broadband Data Improvement Act); American Recovery and Reinvestment Act of 2008, Pub.L. 111-5, 123 Stat. 115 (2009) (Recovery Act).

[9] *See* Department of Agriculture, Rural Utilities Service, Broadband Initiatives Program, RIN: 00572-ZA01, Department of Commerce, National Telecommunications and Information Administration, Broadband Technology Opportunitites Program, RIN: 0660-ZA28, Notice of Funds Availability, 74 Red. Reg. 33104 (July 9, 2009) (NTIA/RUS BTOP/BIP NOFA or NOFA).

[10] Eliminating the reporting threshold resulted in the number of filers more than doubling. However, as of June 30, 2005, filers with fewer than 250 connections in a state (including some entities that previously made voluntary submissions) represented about 0.2% of total reported high-speed connections.

[11] Previous releases of this report are available at http://www.fcc.gov/wcb/iatd/comp.html. Individual reports may include revisions of previously published statistics.

[12] *See* Table 1. The one-time decrease in high-speed mobile wireless Internet access connections is, in turn, reflected in a one-time decrease in total high-speed Internet access connections for all technologies combined.

a data plan for transferring, on a monthly basis,[13] either a specified or an unlimited amount of data to and from Internet sites of the subscriber's choice, and *excluding* subscribers whose choice of content is restricted to only customized-for-mobile content (for example, text and multimedia messaging, or the capacity to download ringtones and games). In this report, we refer to these subscribers as having high-speed service subscriptions for full Internet access.[14]

Starting with the December 31, 2008, data, providers also must report, explicitly and separately, total subscribers with a device capable of a high-speed connection, irrespective of the service plan purchased. The number of such devices reported for December 2008 was about 86 million. That figure is not directly comparable to mobile wireless connections reported for June 2008 or earlier reporting periods, however, because individual providers – to a varying and largely unknown degree – included or excluded subscribers with service plans for less than full Internet access in the earlier data.

Finally, the Form 477 modifications adopted for the December 31, 2008, and later, data specify how mobile wireless providers should distinguish between residential subscribers and other subscribers, and some of these providers consequently reported a larger share of residential subscribers than they had reported for earlier dates.[15]

Census tracts and counties. The December 31, 2008 data are the most comprehensive to date, with some 1,556 entities submitting 4,491 state-level filings, of which 4,209 included subscription information at the census tract level of detail.[16] We present statistics for census tracts where practicable

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[13] The Form 477 instructions do not distinguish between prepaid and postpaid monthly service plans.

[14] As compared to the modified Form 477 (that is, starting with the December 31, 2008 data), other sources may estimate larger numbers of mobile wireless Internet access service subscribers under less-specific definitions. For example, Nielsen Mobile estimated that, as of May 2008, 15.6% of mobile telephony subscribers (or 40 million subscribers) paid for access to the mobile Internet, either as part of a subscription or on a per-transaction basis, and used a mobile Internet service in the past 30 days. (*See*, for example, the Commission's Thirteenth Annual CMRS Competition Report, at p. 97; available at http://wireless.fcc.gov/index.htm?job=cmrs_reports.) By contrast, in their Form 477 filings, mobile wireless providers reported that 25 million subscribers had mobile devices with high-speed data plans for full Internet access at year-end 2008.

[15] For reporting data through June 30, 2008, the Form 477 instructions allowed mobile wireless providers to estimate the share of subscribers who were residential end users (as opposed to business, government, or institutional end users) based on marketing information (for example, those subscribers who purchased service plans the provider designed primarily to attract residential end users). The Commission observed that the aggregate residential percentage reported under those guidelines (for example, about 11% in the June 30, 2006 data) could understate residential subscribership. Therefore, starting with the December 31, 2008, data, Form 477 requires mobile wireless providers to report, as residential, those subscriptions the provider *does not* bill to a corporate, non-corporate business, government, or institutional account. In the data reported for December 31, 2008, the aggregate residential percentage reported was 63% (compare Table 3 to Table 1).

[16] Because mobile service subscribers may move within and among broadband service areas, the Commission decided, in the 2008 Form 477 modifications, to continue to require mobile wireless service providers to report the number of connections they provide in individual states (with the state determined by the billing address associated with the service subscription) but not the number of subscribers located in individual census tracts. However, each facilities-based mobile wireless provider must report the census tracts in the state that best represent the areas where service is available over the provider's own network, for each of the speed tiers in which the provider offers service.

in this report, but for reasons of accuracy and confidentiality, we present them at the county level in certain situations.[17]

We present several maps and charts that are entirely or substantially new. For example, previous reports contained a single map, which counted (at the holding company level) each provider with any fixed-location connections reported for the ZIP Code and also any mobile wireless service provider who listed the ZIP Code as part of its high-speed service area. By contrast, in this report we provide a map for providers (counted at the holding company level) of any fixed-location connections reported for the census tract and a separate map for providers making mobile wireless high-speed service available. Also, we present an entirely new map showing the number of providers that reported any *residential* fixed-location connections, thereby excluding any providers of exclusively business fixed-location connections in the census tract.

We also present entirely new maps that are based on our estimates of the share of households with fixed-location high-speed connections in individual census tracts (that is, census tract-specific estimates of household subscribership, or *adoption*, rates).

In several new charts, we begin to explore relationships between our estimated household adoption rates and demographic factors, for example, median household income, households per square mile, and educational attainment.[18] We primarily illustrate county-level data at this time because there are unresolved anomalies in some census tract data.[19]

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[17] For example, we have used the newly available data to estimate, for individual census tracts, the share of households with high-speed connections over fixed-location technologies, and have found that 10% of census tracts have estimates at or above 100%. The number of such "outliers" is substantially reduced, to 1%, when estimates are made for individual counties. (Census tracts can easily be aggregated into counties because tracts do not cross county boundaries.) Some 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. Our preliminary assessment is that reasons may include (1) geocoding misallocations in this first collection of data for census tracts (an unfamiliar geography for many filers), with unresolved service locations attributed to a single census tract; (2) proper allocation of connections to the county level by some filers, but improper allocation of all connections to a single tract in the county; (3) possible overestimation of residential connections in service plans for which the customer base is primarily residential that is not counterbalanced by underestimation of residential connections in service plans puchased primarily by businesses; and (4) connections at seasonally or occasionally occupied housing units, such as vacation homes, while the household is counted elsewhere. We also note that the numbers of households in census tracts, which we use to generate the residential share estimates, are themselves estimates, for 2009. (We have used GeoLytics, Inc. census block-level estimates of households in 2009, which can be aggregated into estimates for individual census tracts. Other estimates of households by census block or census tract may differ, and any estimate is, by definition, not a complete census.)

[18] *See* Charts 19, 21, and 23, respectively. *See also*, Charts 20, 22, and 24, which are box plots. In these box plots, the 10% of counties (first decile) that are ranked lowest according to the variable of interest (for example, median household income) are summarized by the box on the far left of the chart, and so on, until the 10% of counties (tenth decile) that are ranked highest according to the variable of interest are summarized by the box on the far right. In most deciles, there are some counties (shown as small, unshaded boxes) that appear to be atypical of their group, and therefore may deserve additional study.

[19] *See* n.17, above. In Chart 25, however, we illustration the relationship, in the collected data as of year-end 2008, between estimated household share of fixed-location high-speed connections and population density (measured by households per square mile), in census tracts with differing income levels.

Report overview. Following a presentation of report highlights, the remainder of the report consists of tables and charts in the following sequence.

- National data. Updates of four historical trend tables from earlier reports are presented, followed by tables and charts summarizing newly available data. New materials include:

  - Tables summarizing connections reported in 72 combinations of upstream and downstream transmission speeds, and charts comparing that information to the NTIA/RUS BTOP/BIP NOFA definition of broadband service.

  - Charts and maps summarizing differences among the 3,232 counties and 66,287 census tracts in the estimated share of households with fixed-location high-speed Internet access connections.

- State data. Certain historical trend tables from earlier reports are updated, and a new table summarizes the expanded information about connection speeds.

- County and census tract data. New tables explore, in greater detail, estimated shares of households with fixed-location high-speed Internet access service in different geographies. By contrast to the national summary information, these tables present detailed results for the counties and census tracts in individual states.

- Preliminary analysis of demographic factors. Charts are introduced to illustrate relationships to demographic factors, for example, income and educational attainment.

Readers should note that, consistent with our past practices for this report, publicly available detailed information that supplements the report will be made available electronically on the Wireline Competition Bureau's website.[20]

Report highlights

Total subscribership by technology (Table 1)

- High-speed Internet access connections to homes and businesses over fixed-location technologies increased by 10% during 2008, to 77 million. By contrast, the annual rate of increase was 17% during 2007.

[20] *See*, for example, items posted under the subheading "Miscellaneous data from FCC Form 477" at http://www.fcc.gov/wcb/iatd/comp.html.

- At year-end 2008, 25 million mobile wireless service subscribers had mobile devices (such as laptops and smartphones) with high-speed data plans for full Internet access. By contrast, at that time there were 86 million subscribers whose mobile device was capable of transmitting information at speeds above 200 kbps, including subscribers who purchased only a voice service plan for the handset, subscribers whose data service included only customized-for-mobile content (for example, text and multimedia messaging, or the capacity to download ringtones and games), and the 25 million subscribers with data plans for full Internet access. Because reporting practices previously varied among providers to a largely unknown degree, neither of the December 2008 figures is directly comparable to mobile wireless high-speed connections reported for earlier dates.

- Reported connections for the most widely adopted fixed-location technologies, cable modem and aDSL, increased by 14% and 3%, respectively, during 2008, to 41 million cable modem connections and 30 million aDSL connections, with the cable modem increase being partly due to more comprehensive reporting by small cable systems. A 56% increase in total fiber-to-the-premises ("FTTP") connections, to 3 million, was the largest rate of change among the fixed-location technologies.

Residential subscribership by technology (Table 3)

- There were 86 million residential high-speed connections at year-end 2008, of which 70 million were fixed-technology connections and 16 million were mobile wireless subscribers with data plans for full Internet access.

- Of the 86 million residential high-speed connections at year-end 2008, cable modem represented 46%, aDSL represented 31%, mobile wireless subscribers with data plans for full Internet access represented 18%, FTTP represented 3%, and all other technologies represented 1%. At year-end 2005, by contrast, there were roughly half as many residential high-speed connections (44 million), of which cable modem represented 58%, aDSL represented 40%, and all other technologies represented 2%.

- Residential FTTP connections increased by 61% during 2008 while residential aDSL high-speed connections were essentially unchanged. Together, residential aDSL and FTTP connections increased by 4% during 2008, to 29 million.

Connection speeds (Tables 5 - 7)

- Of the 102 million total (combined residential and business) high-speed connections at year-end 2008, 86 million (or 84% or the total) were faster than 200 kbps in both upstream and downstream directions, 77% met the NOFA definition of broadband service (with 768 kbps or higher advertised downstream speeds and upstream speeds above 200 kbps), 49% had downstream speeds of 3 megabits per second (mbps) or more and upload speeds above 200 kbps, 34% had downstream speeds of 6 mbps or more and upload speeds above 200 kbps, and 11% had downstream speeds of 10 mbps or more and upload speeds above 200 kbps.

- For fixed-location technologies as a group, 89% of connections met the NOFA definition of broadband service. Among mobile wireless subscribers whose subscription included a data plan for full Internet access, 41% of subscriptions met the NOFA definition.

- Of the 86 million *residential* high-speed connections reported at year-end 2008, 69 million (or 80% of the total) met the NOFA definition of broadband service. Of these, 56% were cable modem, 31% were aDSL, 4% were FTTP, 9% were mobile wireless subscribers with data plans for full Internet access, and 1% were a technology other than these.

- Of the 17 million *residential* high-speed connections reported at year-end 2008 that did not meet the NOFA definition of broadband service, 56% were mobile wireless subscribers with data plans for full Internet access, 31% were aDSL, 8% were cable modem, 3% were satellite, 1% were fixed wireless, and 1% were a technology other than these.

Census tract and county shares of households with high-speed connections (Charts 17 and 18, and two maps following Table 12)

- For the first time in the Form 477 data collection, data are available to estimate the share of households with fixed-location high-speed Internet access connections in individual census tracts and counties. Our estimates indicate that there are substantial areas of relatively low and relatively high household adoption around the national average.

- Particularly for census tracts, we find estimates above 100% for the share of households with fixed-location high-speed Internet access connections. These results suggest that there may have been some reporting errors in the initial collection of information by census tract.[21]

Maps of high-speed providers by census tract

- New maps depict the number of providers of high-speed connections by census tract. These maps are similar to previously published maps of providers by ZIP Code, but differ in important respects. Instead of a single map combining providers of connections over all technologies and to both residential and business end users, now three maps depict: (1) providers of total (combined residential and business) fixed-location connections, (2) providers of *residential* fixed-location connections, and (3) providers making mobile wireless high-speed service *available*.

Household adoption rates and subscribership demographics (Charts 19 - 25)

- For the first time, the report includes charts illustrating the relationship between household subscribership, or *adoption*, rates and demographic factors, such as median household income, household density, and educational attainment.

- The exploratory data analysis presented in the report indicates that some demographic variables matter in explaining geographic variations in the adoption of high-speed Internet access service.

* * * *

We invite users of this information to provide suggestions for improved analysis of data presented in this report by using the attached customer response form or by e-mailing comments to IATDreports@fcc.gov for subject: Dec 2008 high speed data. We encourage users of this information to provide suggestions for improved data collection by participating in any formal proceedings undertaken by the Commission to solicit comments for improvement of FCC Form 477.

[21] *See* n.17, above.

Table 1
High-Speed Connections 2005-2008
(Connections over 200 kbps in at least one direction, in thousands)

	2005		*2006*		*2007*		*2008*	
Technology	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*
Total	42,518	50,930	64,992	82,525	100,986	121,222	132,814	**102,043**
Total Fixed	42,138	47,803	53,975	60,238	65,681	70,206	73,123	**76,926**
aDSL	16,316	19,515	22,584	25,413	27,793	29,449	29,964	**30,190**
sDSL	412	369	337	345	320	293	275	**245**
Other Wireline	487	373	472	545	622	605	665	**711**
Cable Modem	24,017	26,558	29,173	31,982	34,404	36,507	38,190	**41,468**
FTTP[1]	316	298	547	894	1,281	1,849	2,346	**2,881**
Satellite	377	427	495	572	669	791	869	**938**
Fixed Wireless	209	257	361	483	587	707	808	**488**
Power Line and Other	5	5	5	5	5	5	5	**5**
Mobile Wireless[2]	380	3,128	11,017	22,288	35,305	51,016	59,691	**25,117**

[1] Fiber to the premises. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.
[2] Reporting instructions for mobile wireless changed between the June 2008 and December 2008 data. The changes, and their effect on the reported data, are explained at pp. 3-4 of the report text.
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Part I.

Chart 1
Fixed High-Speed Connections 2005-2008

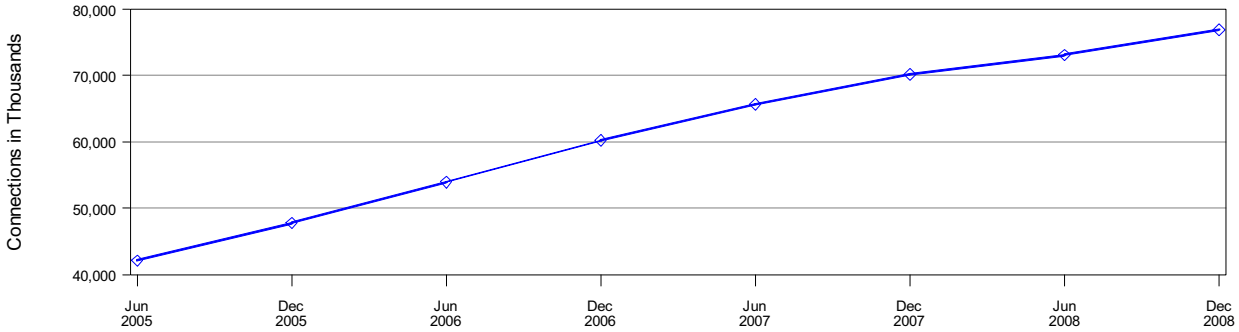


Chart 2
High-Speed Connections by Technology as of December 31, 2008

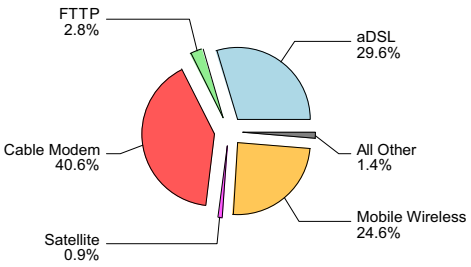


Table 2
Advanced Services Connections 2005-2008
(Connections over 200 kbps in both directions, in thousands)

	2005		*2006*		*2007*		*2008*	
Technology	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*
Total	37,333	43,592	50,838	59,505	69,619	80,254	88,414	**85,865**
Total Fixed	37,311	43,510	48,923	55,015	60,429	64,907	68,189	**71,320**
aDSL	13,176	15,921	18,310	21,144	23,657	25,244	26,132	**26,562**
sDSL	387	369	337	345	319	293	275	**245**
Other Wireline	482	368	471	544	622	605	665	**711**
Cable Modem	22,745	26,294	28,893	31,594	33,936	36,165	37,849	**40,415**
FTTP[1]	314	297	546	893	1,279	1,845	2,344	**2,876**
Satellite	11	36	27	36	57	74	155	**110**
Fixed Wireless	191	220	333	455	554	675	763	**397**
Power Line and Other	4	5	5	5	5	5	5	**5**
Mobile Wireless[2]	21	82	1,914	4,491	9,190	15,347	20,226	**14,545**

[1] Fiber to the premises. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.
[2] See footnote 2, Table 1.
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Part I.

Chart 3
Fixed Advanced Services Connections 2005-2008

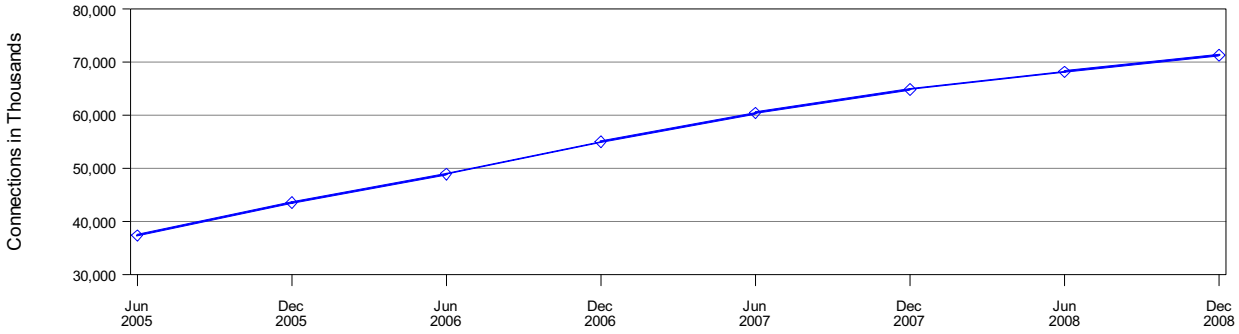


Chart 4
Advanced Services Connections by Technology as of December 31, 2008

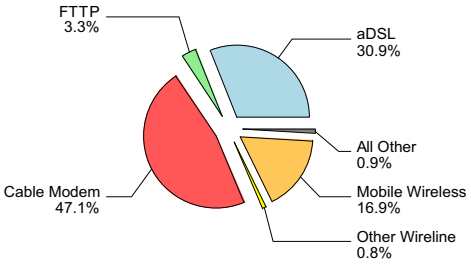


Table 3
Residential High-Speed Connections 2005-2008
(Connections over 200 kbps in at least one direction, in thousands)

	2005		*2006*		*2007*		*2008*	
Technology	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*
Total	38,696	43,965	50,941	58,344	66,173	73,984	79,090	**85,966**
Total Fixed	38,694	43,956	49,784	55,652	60,628	64,875	67,554	**70,148**
aDSL	14,443	17,371	20,152	22,768	24,962	26,475	26,950	**26,481**
sDSL	154	122	103	105	105	82	81	**74**
Other Wireline	6	7	9	13	12	17	32	**42**
Cable Modem	23,578	25,714	28,388	31,118	33,336	35,341	36,901	**39,788**
FTTP[1]	83	213	444	764	1,153	1,683	2,139	**2,715**
Satellite	265	320	382	456	530	626	705	**630**
Fixed Wireless	161	203	301	424	523	644	741	**413**
Power Line and Other	4	5	5	5	5	5	5	**5**
Mobile Wireless[2]	3	9	1,157	2,692	5,545	9,109	11,536	**15,818**

[1] Fiber to the premises. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.
[2] See footnote 2, Table 1.
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Parts I and VI.

Chart 5
Residential Fixed High-Speed Connections 2005-2008

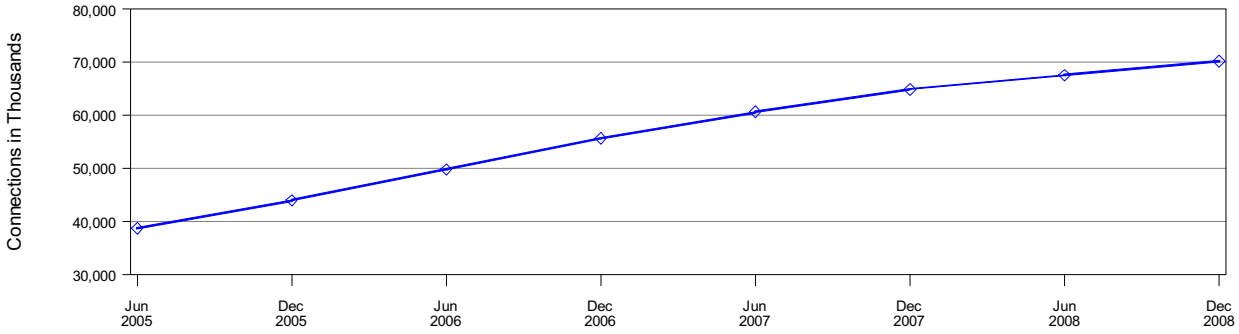


Chart 6
Residential High-Speed Connections by Technology as of December 31, 2008

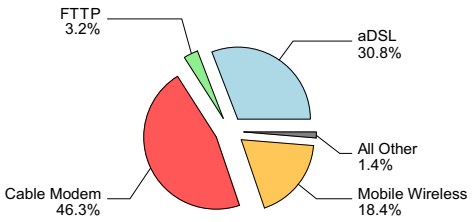


Table 4
Residential Advanced Services Connections 2005-2008
(Connections over 200 kbps in both directions, in thousands)

	2005		*2006*		*2007*		*2008*	
Technology	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*
Total	34,445	40,323	46,585	53,648	61,371	69,148	74,458	**74,333**
Total Fixed	34,443	40,314	45,428	50,956	55,825	60,040	62,934	**65,051**
aDSL	11,731	14,242	16,416	18,878	21,106	22,556	23,315	**23,039**
sDSL	150	122	103	105	105	82	81	**74**
Other Wireline	2	3	9	13	12	17	32	**42**
Cable Modem	22,324	25,533	28,159	30,771	32,916	35,035	36,600	**38,779**
FTTP[1]	83	213	443	763	1,151	1,680	2,137	**2,710**
Satellite	2	25	15	23	35	48	63	**73**
Fixed Wireless	146	171	278	399	494	617	700	**330**
Power Line and Other	4	4	5	5	5	5	5	**5**
Mobile Wireless[2]	3	9	1,157	2,692	5,545	9,108	11,525	**9,281**

[1] Fiber to the premises. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.
[2] See footnote 2, Table 1.
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Parts I and VI.

Chart 7
Residential Fixed Advanced Services Connections 2005-2008

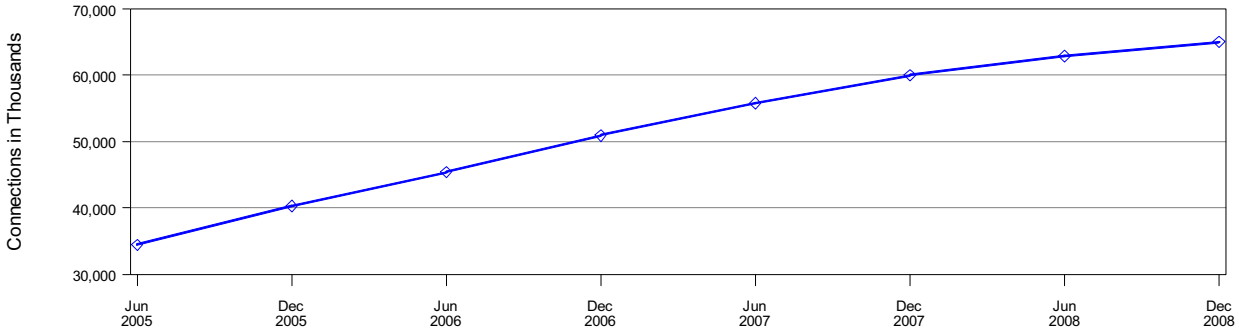


Chart 8
Residential Advanced Services Connections by Technology as of December 31, 2008

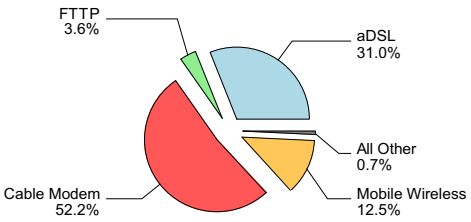


Chart 9
Residential Fixed High-Speed Connections 2005-2008
(Shares of Selected Technologies)

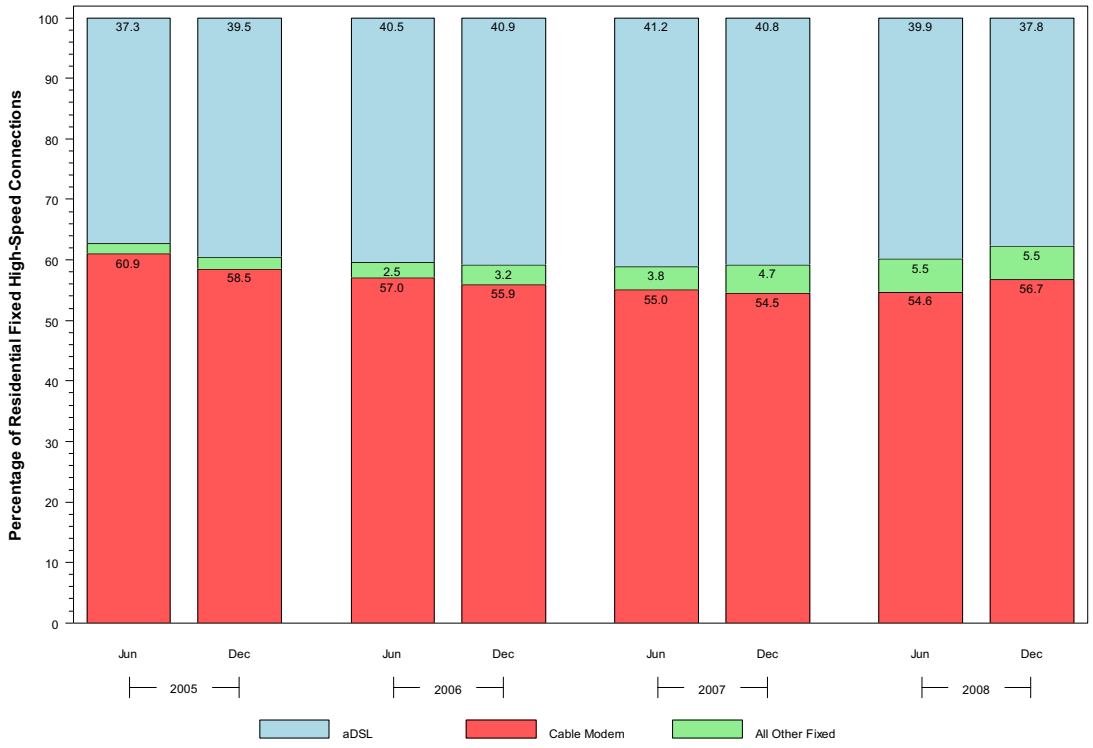


Chart 10
Residential Fixed High-Speed Connections 2005-2008
(Net Adds for Selected Technologies)

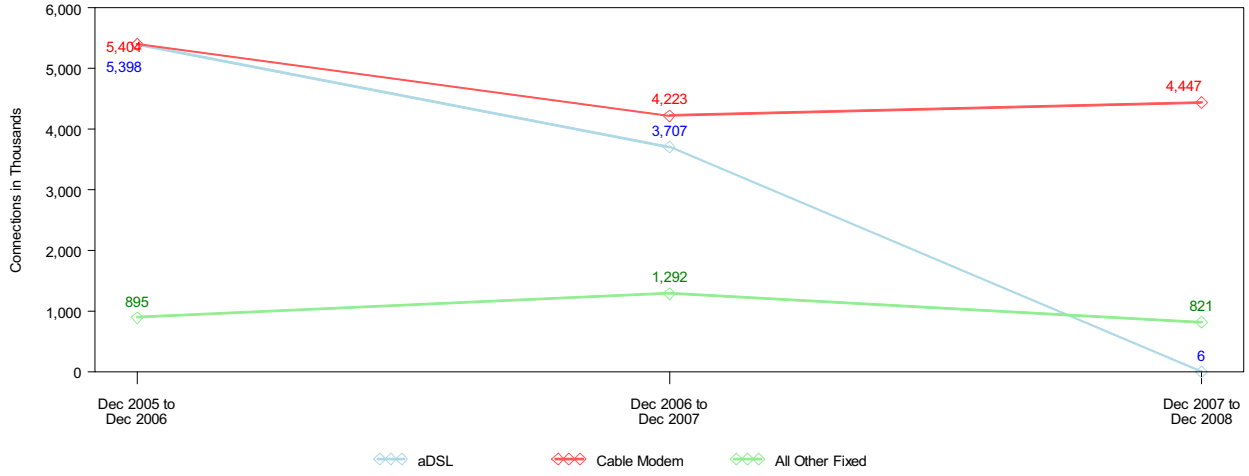


Chart 11
Distribution of High-Speed Connections by Downstream Speed
Selected Technologies as of December 31, 2008

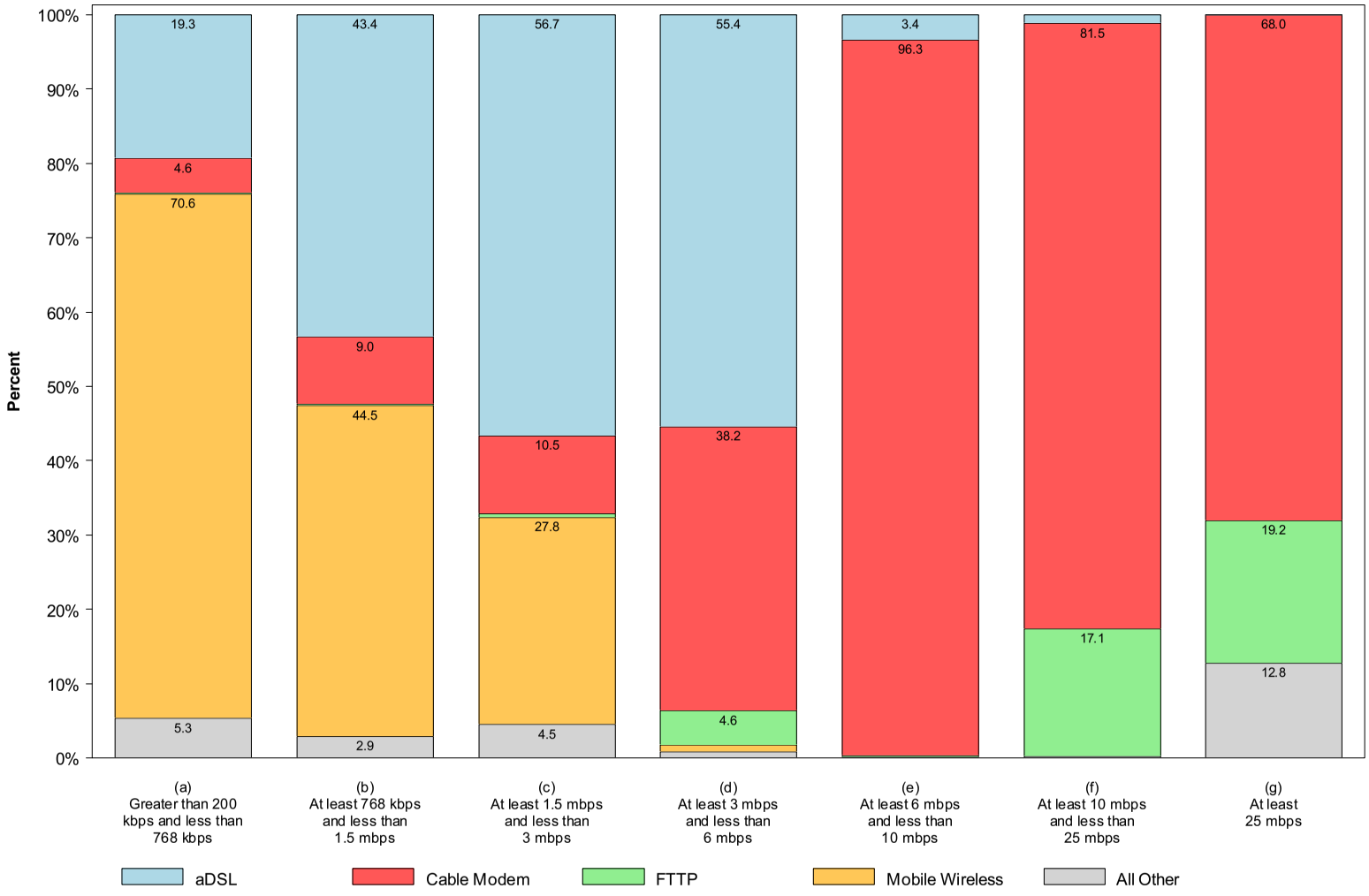
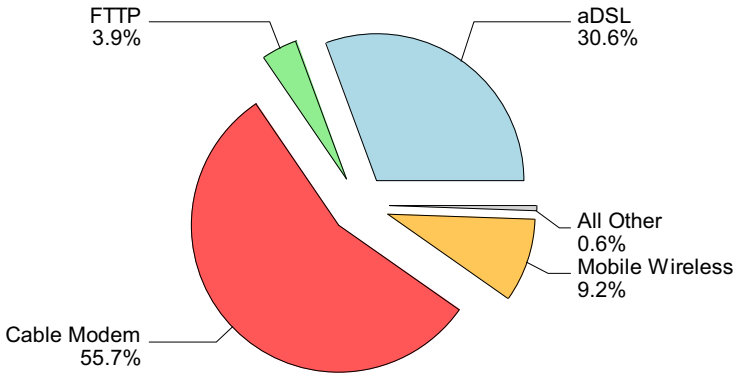


Table 5
Residential High-Speed Connections by Technology and Speed as of December 31, 2008
(Connections in thousands)

Technology	*At Most 200 kbps Upstream or less than 768 kbps Downstream*	*Over 200 kbps Upstream and at least 768 kbps Downstream*	*Total*
aDSL	5,318	21,163	26,481
sDSL	37	37	74
Other Wireline	4	38	42
Cable Modem	1,327	38,461	39,788
FTTP	19	2,695	2,715
Satellite	560	70	630
Fixed Wireless	170	244	413
Mobile Wireless	9,465	6,353	15,818
Power Line and Other	1	3	5
Total	16,901	69,066	85,966

= Rounds to Zero.
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Parts I and VI.

Chart 12
Residential Broadband Connections (BTOP/BIP Definition) by Technology as of December 31, 2008



Note: The BTOP/BIP broadband definition is advertised speeds of at least 768 kbps downstream and 200 kbps upstream to end users. See also p. 3 of the report text.
Source: FCC Form 477, Parts I and VI.

Table 6
Total High-Speed Connections by Speed Tier as of December 31, 2008
(Connections in thousands)

	200 kbps or less Upstream			*Over 200 kbps Upstream*								
Technology	*Download over 200 kbps and less than 768 kbps*	*Download at least 768 kbps*	*Subtotal*	*Download over 200 kbps and less than 768 kbps*	*Download at least 768 kbps and less than 1.5 mbps*	*Download at least 1.5 mbps and less than 3 mbps*	*Download at least 3 mbps and less than 6 mbps*	*Download at least 6 mbps and less than 10 mbps*	*Download at least 10 mbps and less than 25 mbps*	*Download at least 25 mbps*	*Subtotal*	*Total*
aDSL	1,174	2,455	3,628	2,080	5,969	9,252	8,357	769	135	#	26,562	30,190
sDSL	0	0	0	110	80	*	4	#	*	#	245	245
Other Wireline	0	0	0	110	88	392	62	22	16	22	711	711
Cable Modem	446	607	1,053	331	1,171	1,696	5,756	21,967	9,373	121	40,415	41,468
FTTP	5	1	6	19	40	79	697	37	1,970	34	2,876	2,881
Satellite	499	329	828	*	*	*	*	0	0	0	110	938
Fixed Wireless	70	22	92	101	109	123	45	9	9	1	397	488
Mobile Wireless	7,576	2,996	10,572	4,296	8,364	1,747	138	0	0	0	14,545	25,117
Power Line and Other	0	0	0	*	*	*	*	0	*	0	5	5
Total	9,769	6,409	16,178	7,052	15,839	13,428	15,060	22,804	11,503	178	85,865	102,043
						Percentages						
aDSL	3.9	8.1	12.0	6.9	19.8	30.6	27.7	2.5	0.4	0.0	88.0	100.0
sDSL	0.0	0.0	0.0	44.9	32.5	*	1.6	0.0	*	0.0	100.0	100.0
Other Wireline	0.0	0.0	0.0	15.5	12.3	55.1	8.7	3.1	2.2	3.1	100.0	100.0
Cable Modem	1.1	1.5	2.5	0.8	2.8	4.1	13.9	53.0	22.6	0.3	97.5	100.0
FTTP	0.2	0.0	0.2	0.7	1.4	2.7	24.2	1.3	68.4	1.2	99.8	100.0
Satellite	53.2	35.0	88.3	*	*	*	*	0.0	0.0	0.0	11.7	100.0
Fixed Wireless	14.2	4.5	18.7	20.8	22.3	25.2	9.2	1.9	1.8	0.2	81.3	100.0
Mobile Wireless	30.2	11.9	42.1	17.1	33.3	7.0	0.5	0.0	0.0	0.0	57.9	100.0
Power Line and Other	0.0	0.0	0.0	*	*	*	*	0.0	*	0.0	100.0	100.0
Total	9.6	6.3	15.9	6.9	15.5	13.2	14.8	22.3	11.3	0.2	84.1	100.0

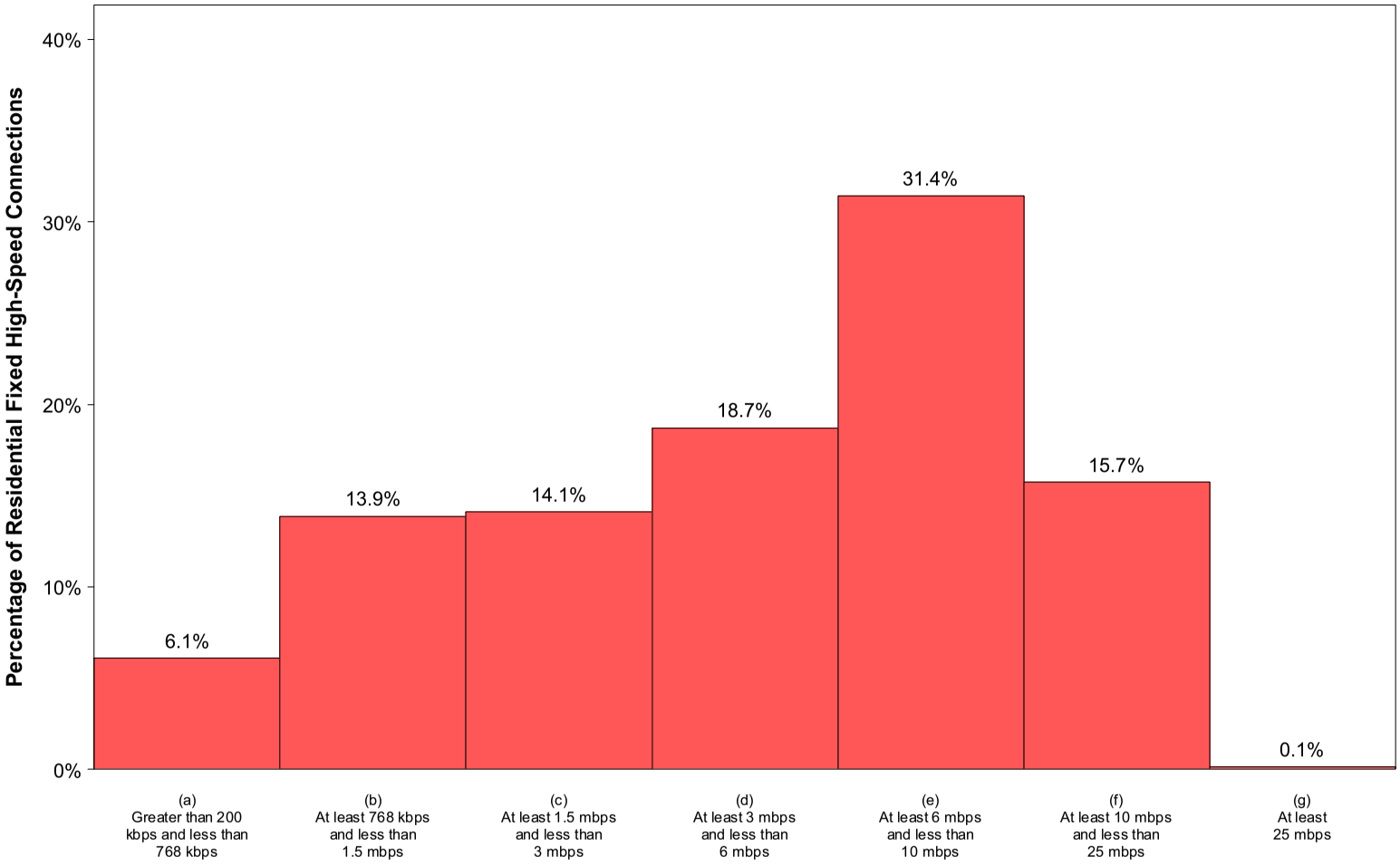
= Rounds to Zero.
* = Data withheld to maintain firm confidentiality.
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Part I.

Table 7
Residential High-Speed Connections by Speed Tier as of December 31, 2008
(Connections in thousands)

	200 kbps or less Upstream			*Over 200 kbps Upstream*								
Technology	*Download over 200 kbps and less than 768 kbps*	*Download at least 768 kbps*	*Subtotal*	*Download over 200 kbps and less than 768 kbps*	*Download at least 768 kbps and less than 1.5 mbps*	*Download at least 1.5 mbps and less than 3 mbps*	*Download at least 3 mbps and less than 6 mbps*	*Download at least 6 mbps and less than 10 mbps*	*Download at least 10 mbps and less than 25 mbps*	*Download at least 25 mbps*	*Subtotal*	*Total*
aDSL	1,094	2,348	3,442	1,876	5,466	7,912	7,045	627	113	#	23,039	26,481
sDSL	0	0	0	37	22	*	1	#	*	0	74	74
Other Wireline	0	0	0	4	20	8	1	8	#	#	42	42
Cable Modem	415	595	1,010	317	1,111	1,553	5,353	21,355	9,020	70	38,779	39,788
FTTP	4	1	5	14	31	54	678	31	1,885	16	2,710	2,715
Satellite	354	203	557	*	*	*	*	0	0	0	73	630
Fixed Wireless	63	20	84	86	90	104	35	7	7	#	330	413
Mobile Wireless	4,709	1,828	6,537	2,928	5,079	1,156	119	0	0	0	9,281	15,818
Power Line and Other	0	0	0	*	*	*	*	0	*	0	5	5
Total	6,639	4,995	11,634	5,267	11,835	10,857	13,232	22,027	11,028	86	74,333	85,966
						Percentages						
aDSL	4.1	8.9	13.0	7.1	20.6	29.9	26.6	2.4	0.4	0.0	87.0	100.0
sDSL	0.0	0.0	0.0	49.6	29.6	*	1.2	0.0	*	0.0	100.0	100.0
Other Wireline	0.0	0.0	0.0	9.0	48.4	19.8	3.4	18.9	0.6	0.0	100.0	100.0
Cable Modem	1.0	1.5	2.5	0.8	2.8	3.9	13.5	53.7	22.7	0.2	97.5	100.0
FTTP	0.2	0.0	0.2	0.5	1.2	2.0	25.0	1.2	69.5	0.6	99.8	100.0
Satellite	56.1	32.2	88.3	*	*	*	*	0.0	0.0	0.0	11.7	100.0
Fixed Wireless	15.3	4.9	20.2	20.8	21.7	25.3	8.5	1.7	1.8	0.1	79.8	100.0
Mobile Wireless	29.8	11.6	41.3	18.5	32.1	7.3	0.8	0.0	0.0	0.0	58.7	100.0
Power Line and Other	0.0	0.0	0.0	*	*	*	*	0.0	*	0.0	100.0	100.0
Total	7.7	5.8	13.5	6.1	13.8	12.6	15.4	25.6	12.8	0.1	86.5	100.0

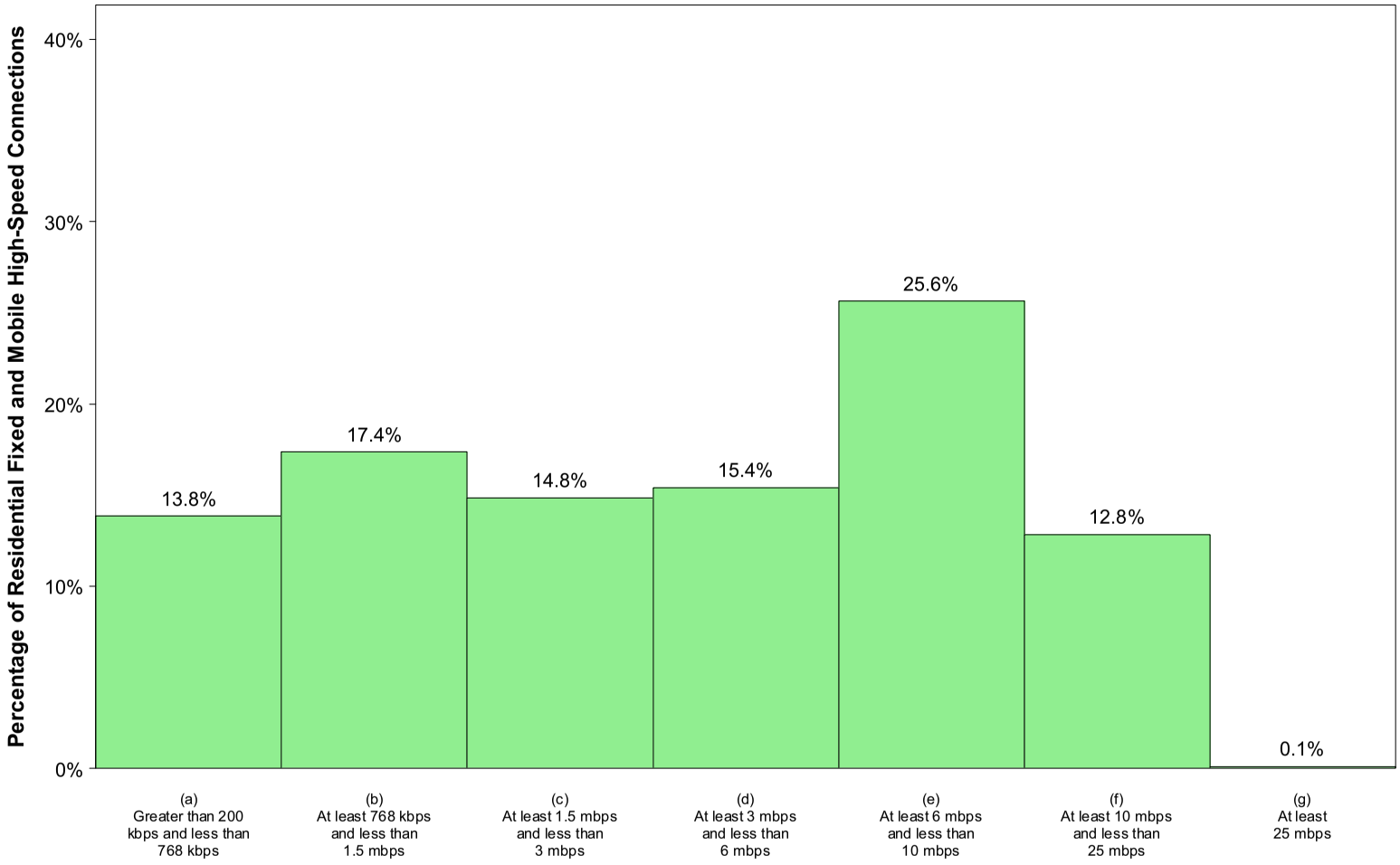
= Rounds to Zero.
* = Data withheld to maintain firm confidentiality.
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Part I.

Chart 13
Distribution of Residential Fixed High-Speed Connections by Download Speed Tier as of December 31, 2008



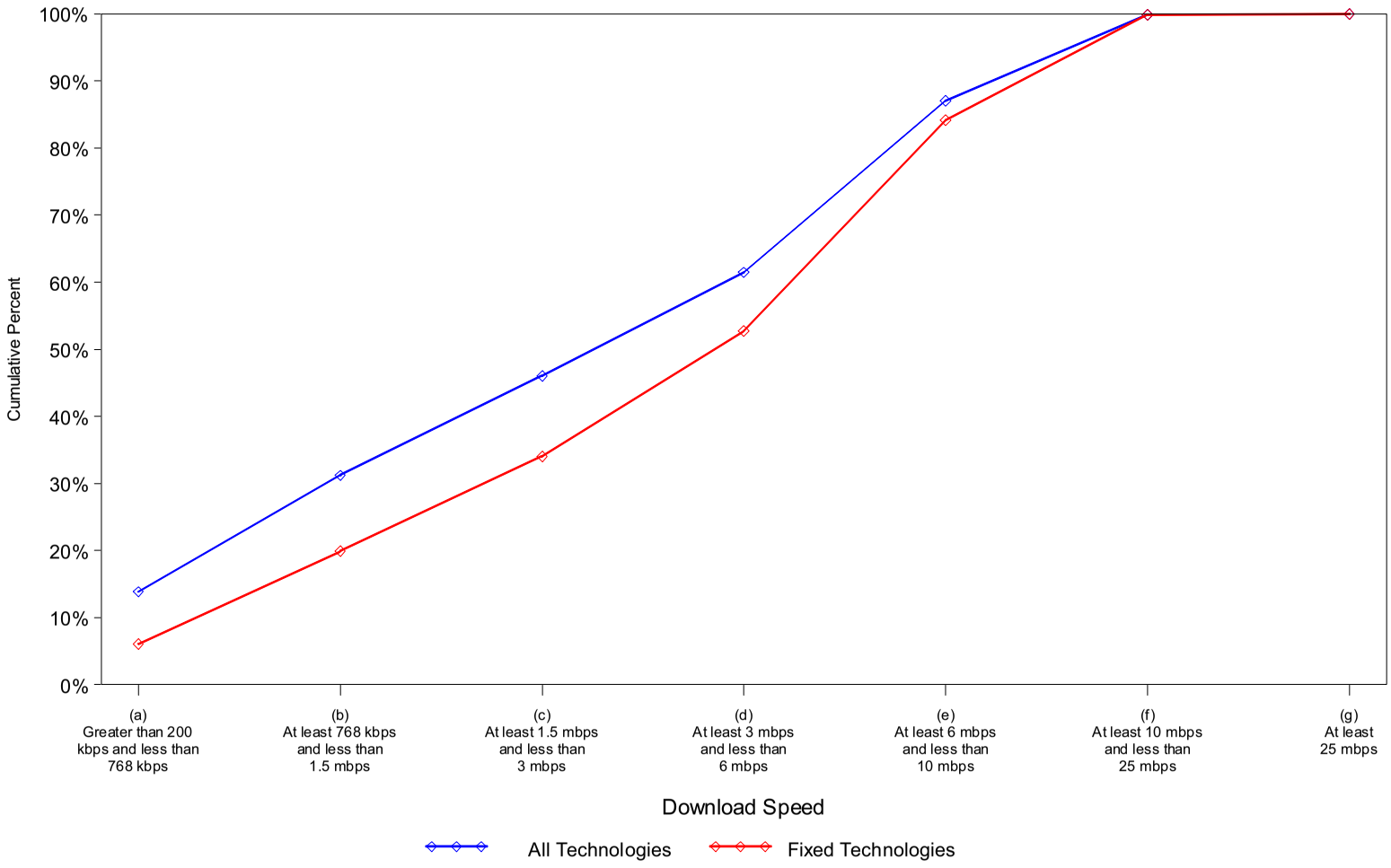
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Part VI.

Chart 14
Distribution of Residential High-Speed Connections by Download Speed Tier as of December 31, 2008



Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Parts I and VI.

Chart 15
Cumulative Distribution of Residential High-Speed Connections by Download Speed Tier as of December 31, 2008



Source: FCC Form 477, Parts I and VI.

Table 8
Total High-Speed Connections and Percentage Residential by Speed Tier as of December 31, 2008
(Connections in thousands)

		Download Speed								
Upload Speed	*Customer Class*	*Greater than 200 kbps and less than 768 kbps*	*At least 768 kbps and less than 1.5 mbps*	*At least 1.5 mbps and less than 3 mbps*	*At least 3 mbps and less than 6 mbps*	*At least 6 mbps and less than 10 mbps*	*At least 10 mbps and less than 25 mbps*	*At least 25 mbps and less than 100 mbps*	*At least 100 mbps*	*Total*
Less than or equal to 200 kbps	Total Connections	9,769	3,191	3,200	16	2	#	*	*	16,178
	% Residential	*68*	*97*	*60*	*41*	*59*	*60*	*0*	*0*	*72*
Greater than 200 kbps and less than 768 kbps	Total Connections	7,046	7,577	8,782	9,050	7,515	1,465	*	*	41,436
	% Residential	*75*	*92*	*86*	*89*	*98*	*98*	*0*	*80*	*88*
At least 768 and less then 1.5 mbps	Total Connections	3	8,262	4,098	4,954	14,469	*	1	*	34,978
	% Residential	*79*	*59*	*80*	*85*	*96*	*98*	*1*	*76*	*84*
At least 1.5 mbps and less than 3 mbps	Total Connections	2	#	548	864	785	5,603	*	*	7,803
	% Residential	*71*	*54*	*10*	*94*	*96*	*95*	*52*	*0*	*89*
At least 3 mbps and less than 6 mbps	Total Connections	*	*	1	184	3	1,101	115	*	1,405
	% Residential	*42*	*15*	*23*	*58*	*63*	*96*	*58*	*0*	*88*
At least 6 mbps and less than 10 mbps	Total Connections	*	*	*	8	32	2	*	0	41
	% Residential	*0*	*0*	*100*	*0*	*46*	*83*	*0*	*0*	*39*
At least 10 mbps and less than 25 mbps	Total Connections	0	0	*	*	*	151	3	*	155
	% Residential	*0*	*0*	*100*	*100*	*75*	*72*	*54*	*0*	*72*
At least 25 mbps and less than 100 mbps	Total Connections	0	0	0	*	*	*	22	#	22
	% Residential	*0*	*0*	*0*	*0*	*0*	*0*	*4*	*0*	*4*
At least 100 mbps	Total Connections	0	0	0	0	0	0	*	*	26
	% Residential	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*36*	*36*
Total	Total Connections	16,822	19,030	16,628	15,075	22,806	11,504	143	35	102,043
	% Residential	*71*	*78*	*77*	*88*	*97*	*96*	*49*	*44*	*84*

= Rounds to Zero.
* = Data withheld to maintain firm confidentiality.
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Parts I and VI.

Table 9
Fixed High-Speed Connections and Percentage Residential by Speed Tier as of December 31, 2008
(Connections in thousands)

		Download Speed								
Upload Speed	*Customer Class*	*Greater than 200 kbps and less than 768 kbps*	*At least 768 kbps and less than 1.5 mbps*	*At least 1.5 mbps and less than 3 mbps*	*At least 3 mbps and less than 6 mbps*	*At least 6 mbps and less than 10 mbps*	*At least 10 mbps and less than 25 mbps*	*At least 25 mbps and less than 100 mbps*	*At least 100 mbps*	*Total*
Less than or equal to 200 kbps	Total Connections	2,193	3,078	*	16	2	*	*	*	5,606
	% Residential	*88*	*96*	*60*	*41*	*59*	*60*	*0*	*0*	*91*
Greater than 200 kbps and less than 768 kbps	Total Connections	2,750	6,553	8,435	*	7,515	1,465	*	*	35,769
	% Residential	*85*	*92*	*85*	*89*	*98*	*98*	*0*	*80*	*91*
At least 768 and less then 1.5 mbps	Total Connections	3	922	*	4,954	14,469	3,182	1	*	26,238
	% Residential	*79*	*82*	*91*	*85*	*96*	*98*	*1*	*76*	*93*
At least 1.5 mbps and less than 3 mbps	Total Connections	2	#	*	726	785	5,603	*	*	7,665
	% Residential	*71*	*54*	*10*	*95*	*96*	*95*	*52*	*0*	*89*
At least 3 mbps and less than 6 mbps	Total Connections	*	*	1	184	3	1,101	115	*	1,405
	% Residential	*42*	*15*	*23*	*58*	*63*	*96*	*58*	*0*	*88*
At least 6 mbps and less than 10 mbps	Total Connections	*	*	*	8	32	2	*	0	41
	% Residential	*0*	*0*	*100*	*0*	*46*	*83*	*0*	*0*	*39*
At least 10 mbps and less than 25 mbps	Total Connections	0	0	*	*	*	151	3	*	155
	% Residential	*0*	*0*	*100*	*100*	*75*	*72*	*54*	*0*	*72*
At least 25 mbps and less than 100 mbps	Total Connections	0	0	0	*	*	*	22	#	22
	% Residential	*0*	*0*	*0*	*0*	*0*	*0*	*4*	*0*	*4*
At least 100 mbps	Total Connections	0	0	0	0	0	0	*	*	26
	% Residential	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*36*	*36*
Total	Total Connections	4,950	10,553	11,998	14,937	22,806	11,504	143	35	76,926
	% Residential	*86*	*92*	*82*	*88*	*97*	*96*	*49*	*44*	*91*

= Rounds to Zero.
* = Data withheld to maintain firm confidentiality.
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Parts I and VI.

Table 10
Nationwide Number of Providers of High-Speed Connections by Technology 2005 - 2008
(Connections over 200 kbps in at least one direction, in thousands)

	2005		*2006*		*2007*		*2008*	
Technology	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*
aDSL	758	818	833	858	864	856	863	**879**
sDSL	270	269	256	257	242	233	238	**262**
Other Wireline	206	241	246	256	246	250	259	**290**
Cable Modem	227	242	254	279	282	292	296	**341**
FTTP	138	170	187	222	251	276	308	**430**
Satellite	10	4	5	5	5	5	4	**5**
Fixed Wireless	423	463	452	505	484	514	505	**617**
Mobile Wireless	13	15	19	24	19	22	24	**46**
Power Line and Other	18	7	6	6	6	7	6	**5**
Total	1,270	1,345	1,327	1,396	1,374	1,399	1,395	**1,554**

Note: Multiple Form 477 filers within a holding company structure count as one provider.
Source: FCC Form 477, Part I.

Chart 16
Nationwide Number of Providers of High-Speed Connections
Selected Technologies 2005 - 2008

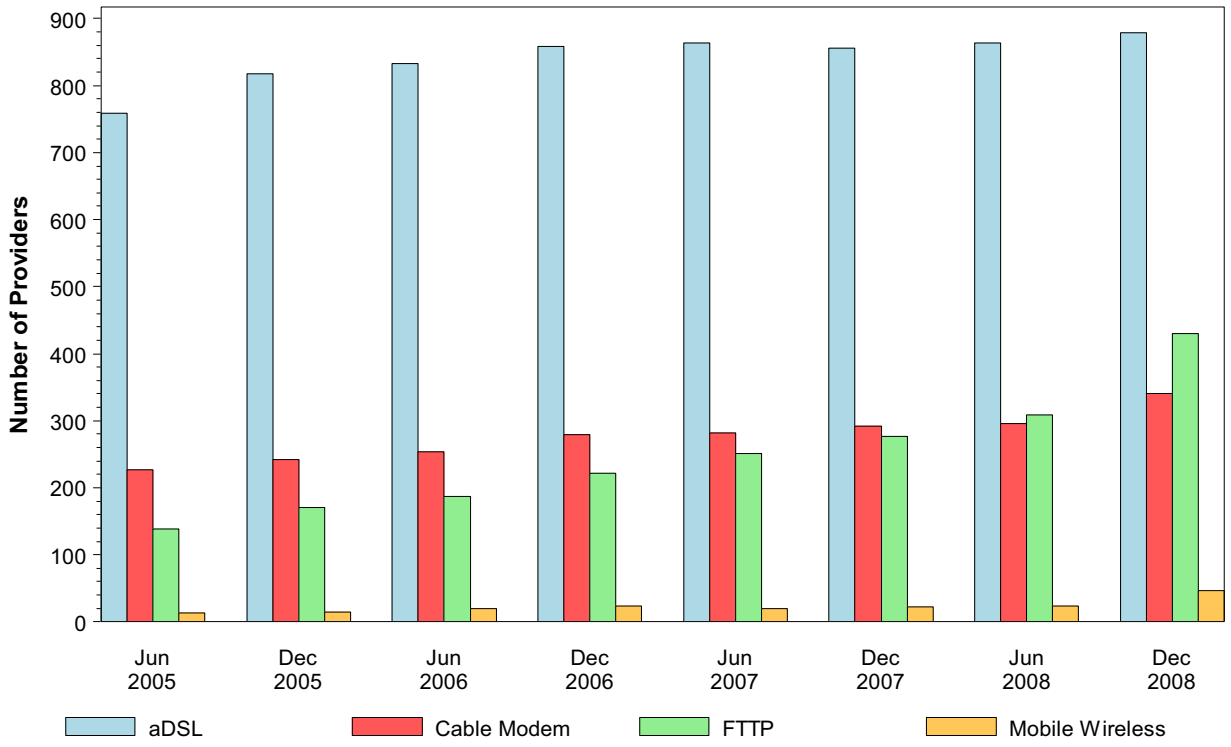
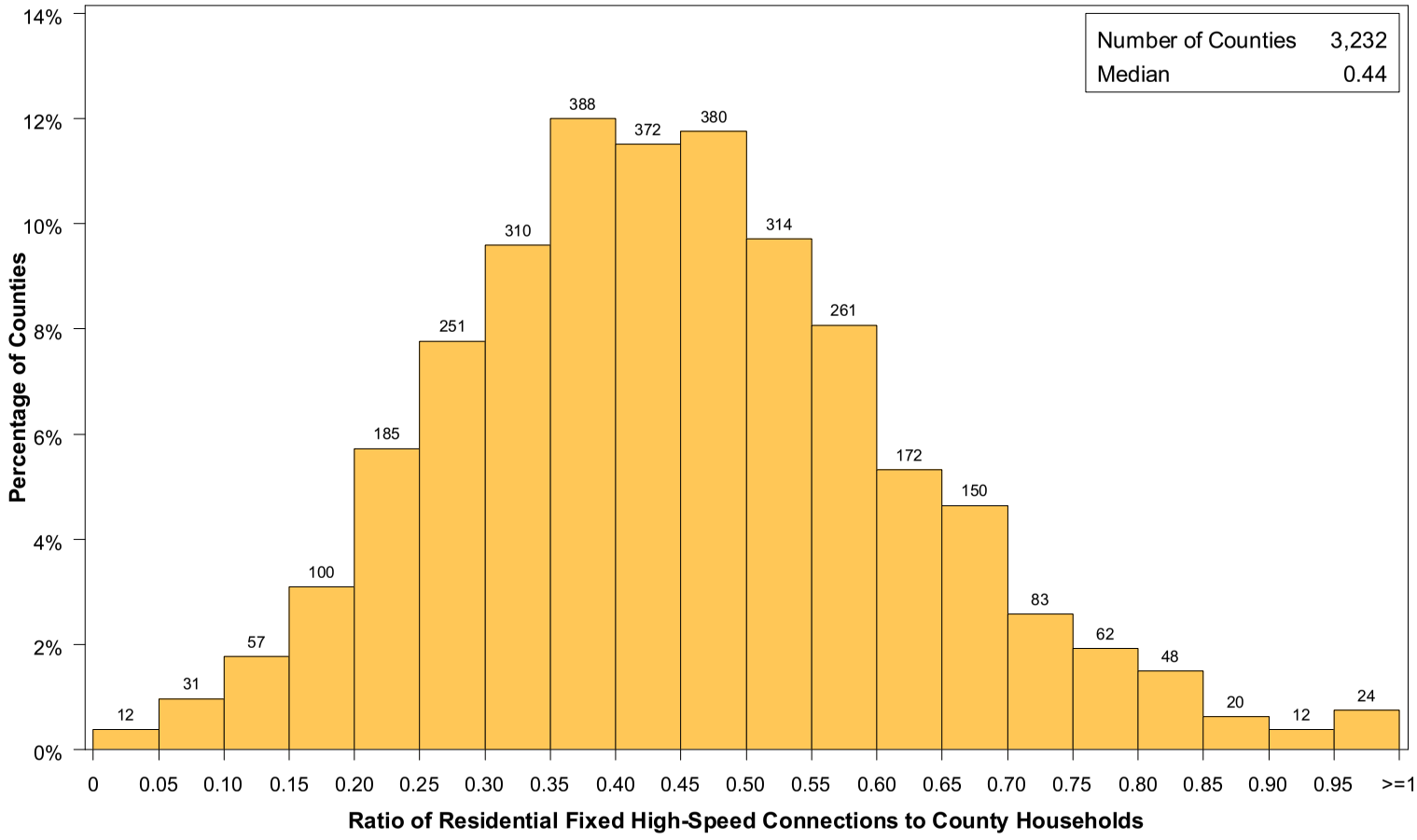


Chart 17
Distribution of Counties by Ratio of Residential Fixed High-Speed Connections to County Households as of December 31, 2008



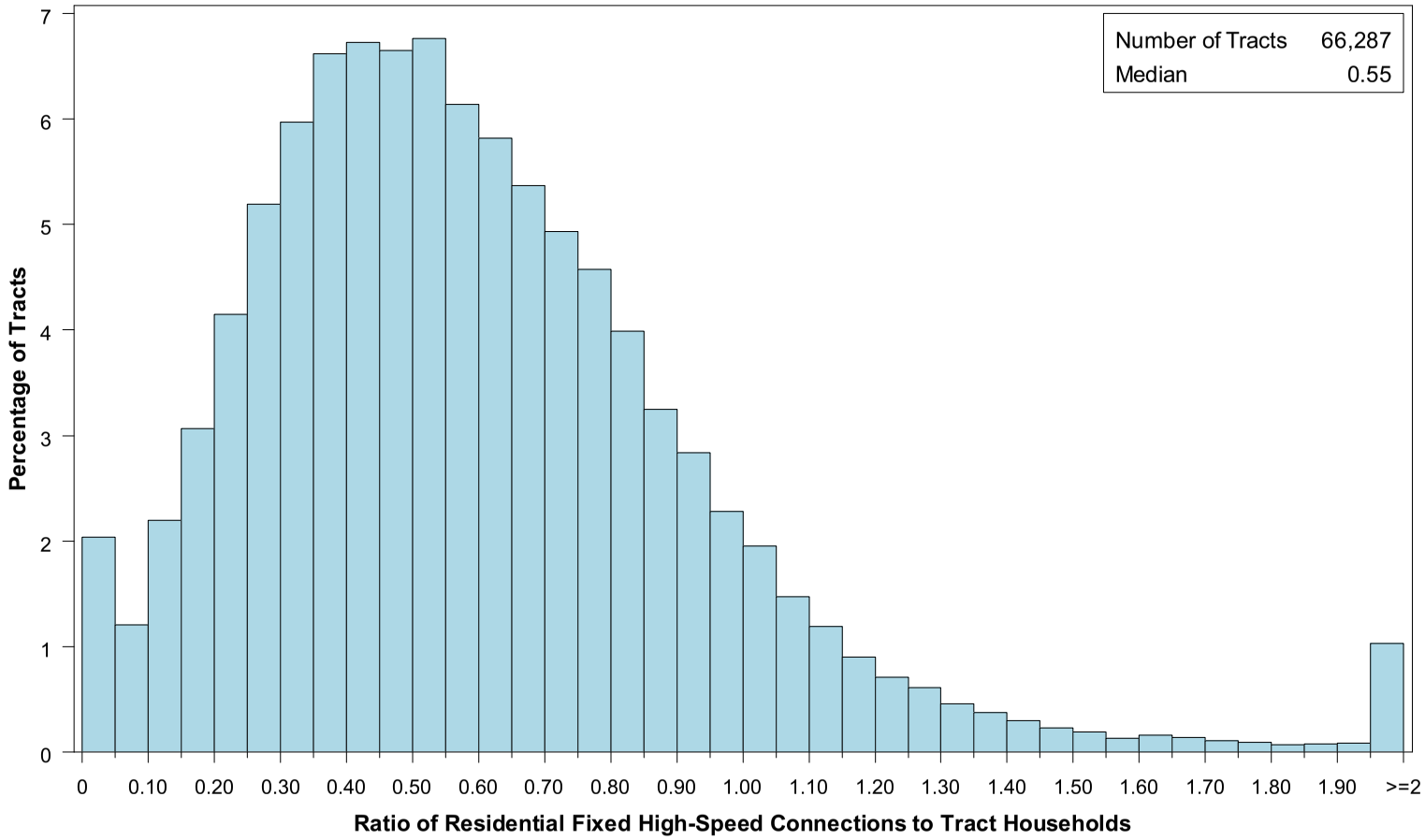
Note: Ratios over 1 were set to 1. See Technical Notes at the end of the report.
Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates; and Census 2000.

Table 11
Distribution of Counties by Ratio of Residential Fixed High-Speed Connections to County Households by Technology as of December 31, 2008

	Ratio of Residential Fixed High-Speed Connections to County Households										
Technology	*Zero*	*Greater than 0 and no more than 5%*	*Greater than 5 and no more than 10%*	*Greater than 10 and no more than 20%*	*Greater than 20 and no more than 30%*	*Greater than 30 and no more than 40%*	*Greater than 40 and no more than 50%*	*Greater than 50 and no more than 60%*	*Greater than 60 and no more than 75%*	*Greater than 75 and no more than 100%*	*100% or more*
aDSL	0.7	2.1	7.0	34.4	33.3	16.0	4.9	1.1	0.4	0.1	0.0
sDSL	85.0	13.8	0.4	0.3	0.2	0.2	0.0	0.0	0.0	0.0	0.0
Other Wireline	95.4	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cable Modem	15.8	12.7	12.2	20.3	16.8	10.6	6.5	3.0	1.6	0.4	0.1
FTTP	76.5	18.0	2.4	1.6	0.9	0.4	0.2	0.0	0.0	0.0	0.0
Satellite	1.0	95.1	3.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Fixed Wireless	52.7	39.4	5.2	2.1	0.5	0.1	0.1	0.0	0.0	0.0	0.0
Power Line	99.4	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All Other	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.2	0.2	1.0	4.9	13.5	21.6	23.3	17.8	12.5	4.6	0.6

Note: Figures may not sum to totals due to rounding. See Technical Notes at the end of the report.
Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates; and Census 2000.

Chart 18
Distribution of Census Tracts by Ratio of Residential Fixed High-Speed Connections to Tract Households as of December 31, 2008



Note: Ratios over 2 were set to 2. See Technical Notes at the end of the report.
Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates; and Census 2000.

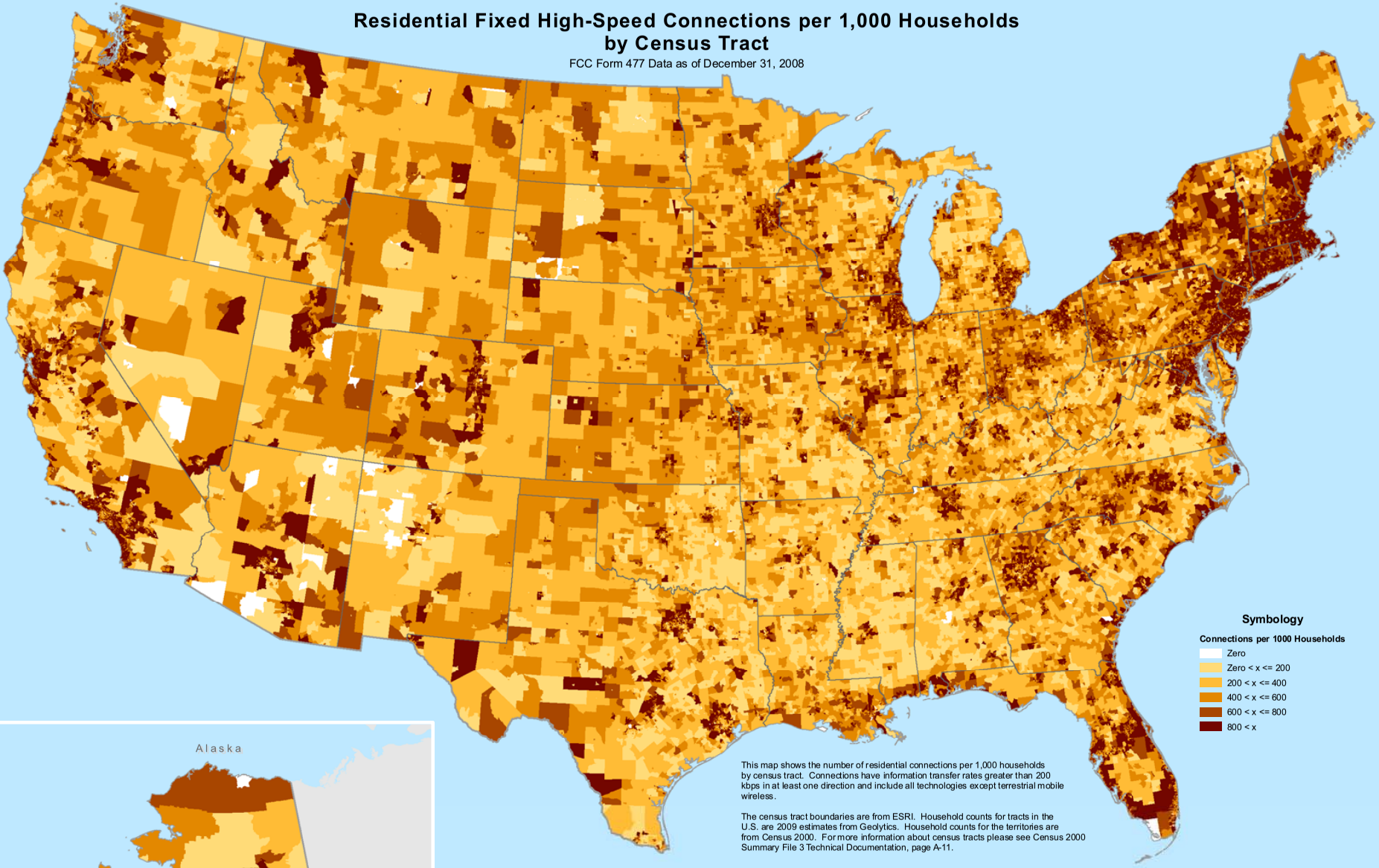
Table 12
Distribution of Census Tracts by Ratio of Residential Fixed High-Speed Connections to Tract Households by Technology as of December 31, 2008

	Ratio of Residential Fixed High-Speed Connections to Tract Households										
Technology	*Zero*	*Greater than 0 and no more than 5%*	*Greater than 5 and no more than 10%*	*Greater than 10 and no more than 20%*	*Greater than 20 and no more than 30%*	*Greater than 30 and no more than 40%*	*Greater than 40 and no more than 50%*	*Greater than 50 and no more than 60%*	*Greater than 60 and no more than 75%*	*Greater than 75 and no more than 100%*	*100% or more*
aDSL	4.3	10.1	10.5	27.4	21.0	13.2	6.6	3.2	1.9	1.1	0.8
sDSL	96.0	3.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Wireline	99.2	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cable Modem	8.6	4.9	5.5	15.0	16.1	15.1	12.7	8.7	7.2	4.0	2.2
FTTP	86.7	5.1	1.6	2.3	1.6	1.2	0.7	0.4	0.2	0.1	0.1
Satellite	45.2	51.9	2.3	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Fixed Wireless	87.3	10.4	1.2	0.8	0.2	0.1	0.0	0.0	0.0	0.0	0.0
Power Line	99.8	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All Other	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	1.1	1.0	1.2	5.3	9.3	12.6	13.4	12.9	16.1	16.9	10.2

Note: Figures may not sum to totals due to rounding. See Technical Notes at the end of the report.
Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates; and Census 2000.

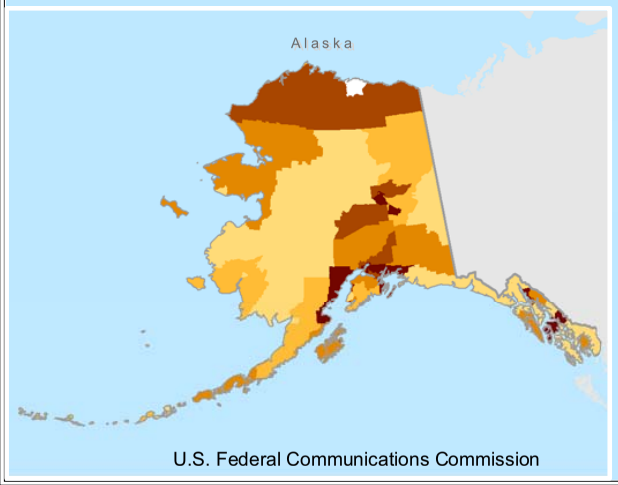
Residential Fixed High-Speed Connections per 1,000 Households by Census Tract

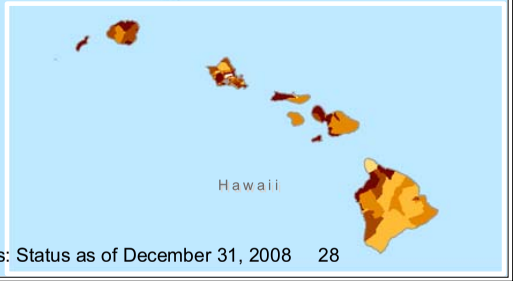
FCC Form 477 Data as of December 31, 2008



This map shows the number of residential connections per 1,000 households by census tract. Connections have information transfer rates greater than 200 kbps in at least one direction and include all technologies except terrestrial mobile wireless.

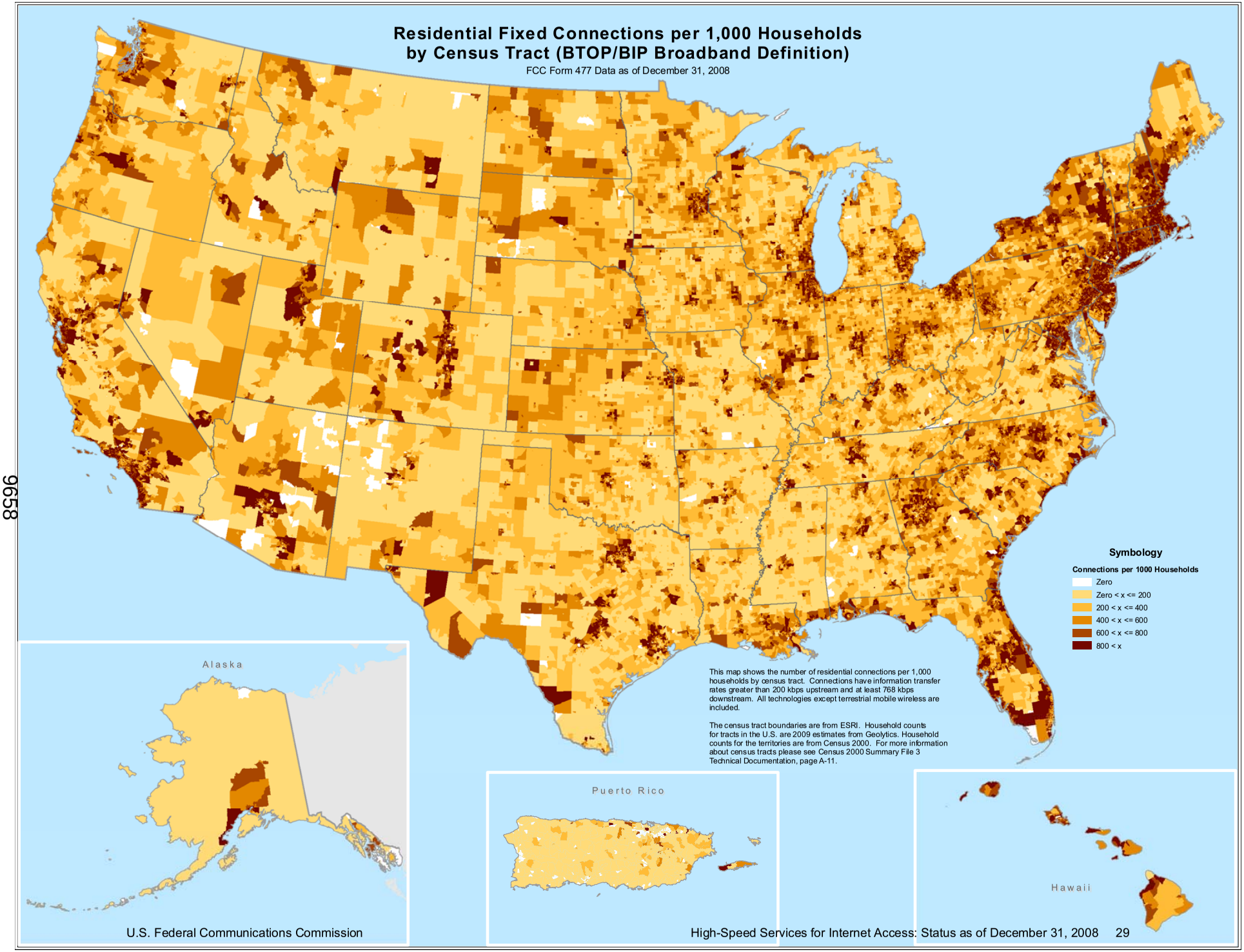
The census tract boundaries are from ESRI. Household counts for tracts in the U.S. are 2009 estimates from Geolytics. Household counts for the territories are from Census 2000. For more information about census tracts please see Census 2000 Summary File 3 Technical Documentation, page A-11.





Residential Fixed Connections per 1,000 Households by Census Tract (BTOP/BIP Broadband Definition)

FCC Form 477 Data as of December 31, 2008

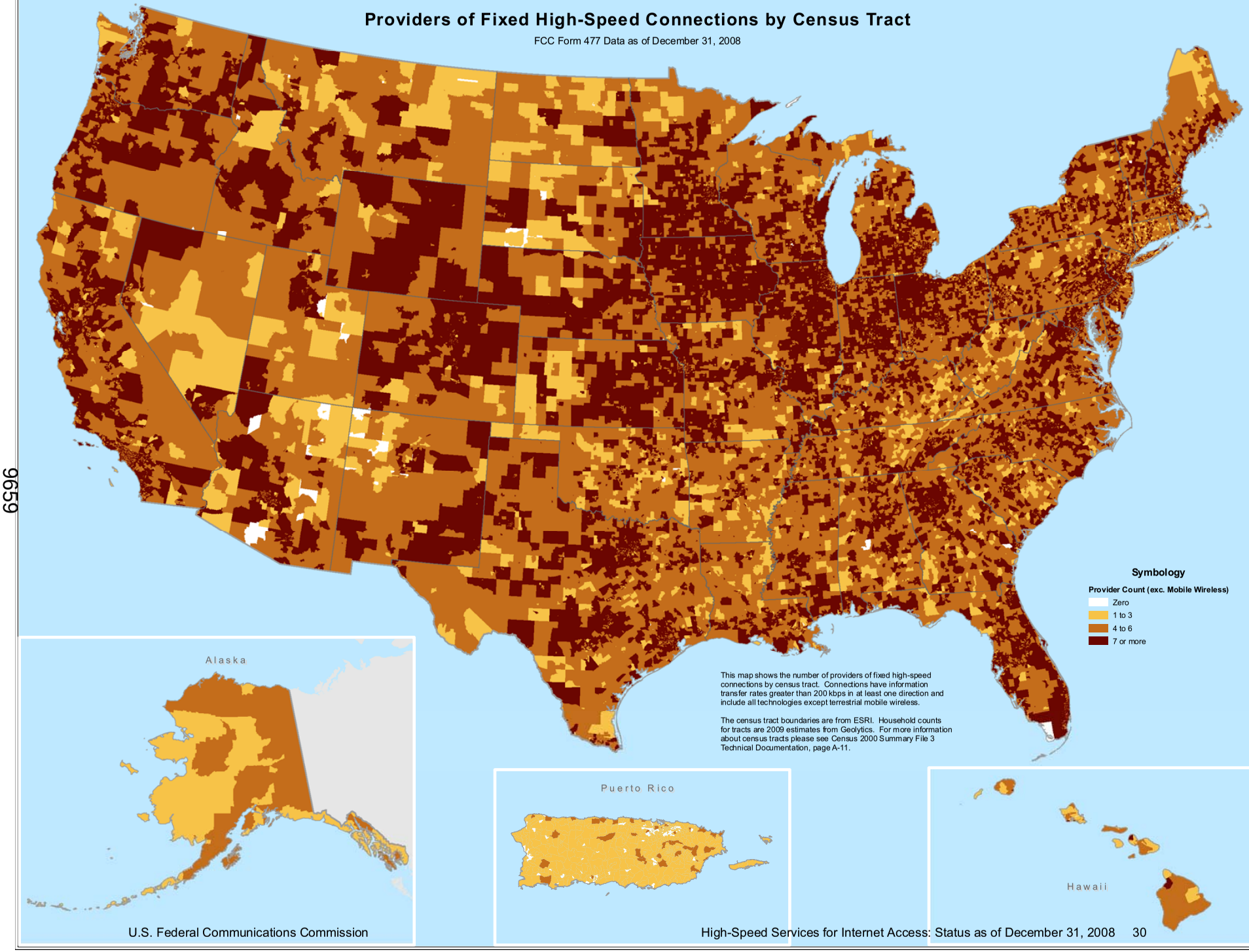


This map shows the number of residential connections per 1,000 households by census tract. Connections have information transfer rates greater than 200 kbps upstream and at least 768 kbps downstream. All technologies except terrestrial mobile wireless are included.

The census tract boundaries are from ESRI. Household counts for tracts in the U.S. are 2009 estimates from Geolytics. Household counts for the territories are from Census 2000. For more information about census tracts please see Census 2000 Summary File 3 Technical Documentation, page A-11.

Providers of Fixed High-Speed Connections by Census Tract

FCC Form 477 Data as of December 31, 2008

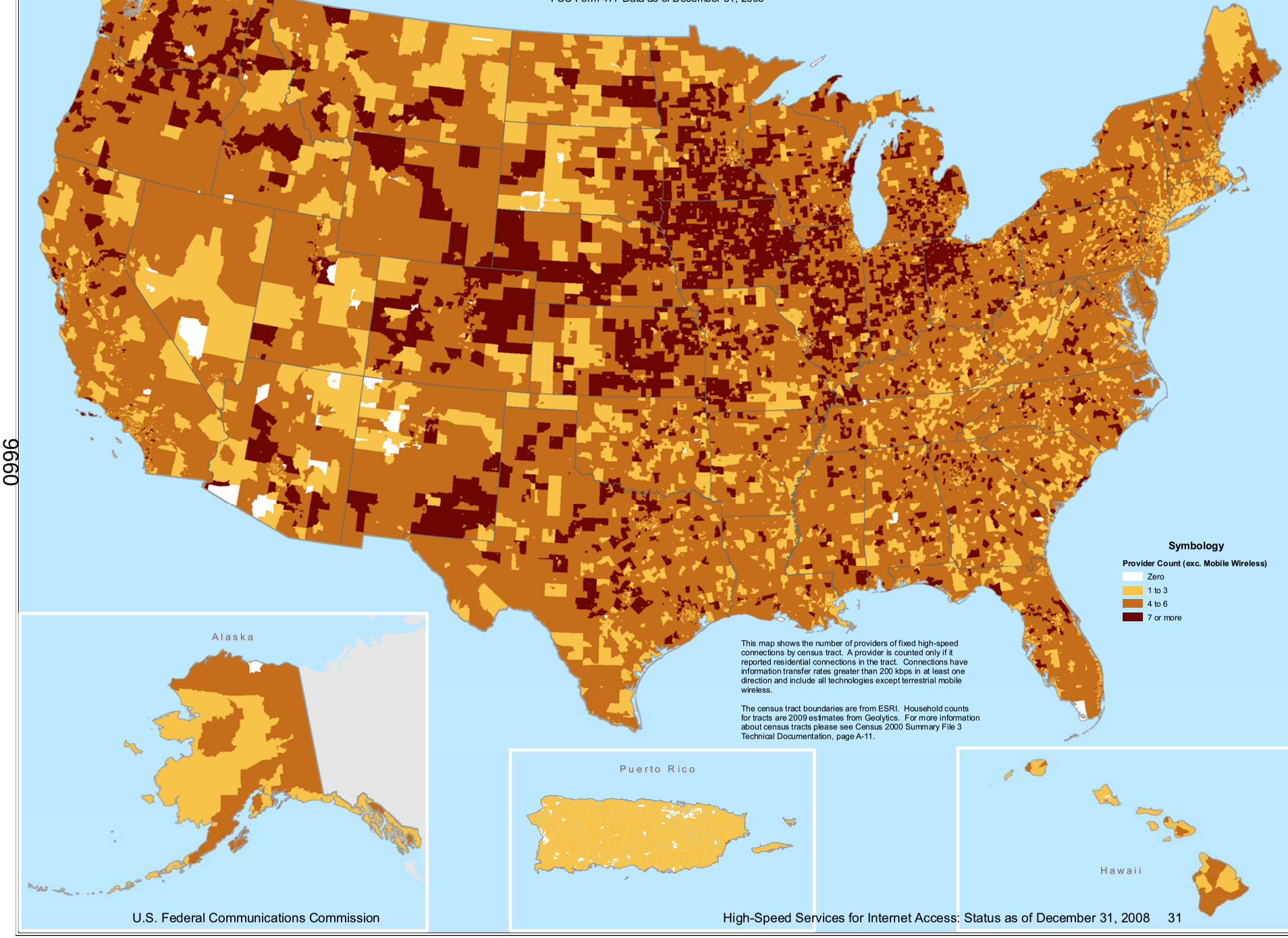


This map shows the number of providers of fixed high-speed connections by census tract. Connections have information transfer rates greater than 200 kbps in at least one direction and include all technologies except terrestrial mobile wireless.

The census tract boundaries are from ESRI. Household counts for tracts are 2009 estimates from Geolytics. For more information about census tracts please see Census 2000 Summary File 3 Technical Documentation, page A-11.

Providers of Residential Fixed High-Speed Connections by Census Tract

FCC Form 477 Data as of December 31, 2008



This map shows the number of providers of fixed high-speed connections by census tract. A provider is counted only if it reported residential connections in the tract. Connections have information transfer rates greater than 200 kbps in at least one direction and include all technologies except terrestrial mobile wireless.

The census tract boundaries are from ESRI. Household counts for tracts are 2009 estimates from Geolytics. For more information about census tracts please see Census 2000 Summary File 3 Technical Documentation, page A-11.

Providers of Mobile High-Speed Connections by Census Tract

FCC Form 477 Data as of December 31, 2008

Symbology

Providers (Mobile Wireless)

- Zero
- 1 to 3
- 4 to 6
- 7 or more

This map shows the number of potential providers of mobile high-speed connections by census tract. Providers are counted if they indicated that mobile high-speed service is available in a tract. Mobile high-speed service has information transfer rates greater than 200 kbps in at least one direction.

The census tract boundaries are from ESRI. Household counts for tracts are 2009 estimates from Geolytics. For more information about census tracts please see Census 2000 Summary File 3 Technical Documentation, page A-11.

Alaska

Puerto Rico

Hawaii

Table 13
Percentage of Census Tracts with Residential Fixed High-Speed Connections by Technology as of December 31, 2008
(Connections over 200 kbps in at least one direction)

	Number of Providers							
Technology	*Zero*	*One*	*Two*	*Three*	*Four*	*Five*	*Six*	*Seven or More*
aDSL	4.3	40.7	38.4	13.4	2.7	0.4	0.1	0.0
sDSL	96.0	3.8	0.2	0.0	0.0	0.0	0.0	0.0
Other Wireline	99.2	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Cable Modem	8.6	79.3	11.6	0.6	0.0	0.0	0.0	0.0
FTTP	86.7	13.0	0.2	0.0	0.0	0.0	0.0	0.0
Satellite	45.2	24.6	24.5	5.6	0.0	0.0	0.0	0.0
Fixed Wireless	87.3	10.2	2.0	0.4	0.1	0.0	0.0	0.0
Power Line	99.8	0.2	0.0	0.0	0.0	0.0	0.0	0.0
aDSL and/or Cable Modem and/or FTTP	1.5	6.6	34.7	35.7	16.2	4.3	0.8	0.2
Any Technology	1.1	2.6	15.1	25.7	26.1	16.7	7.9	4.8

Note: Figures may not sum to totals due to rounding.
Sources: FCC Form 477, Part VI and Census 2000.

Table 14
High-Speed Connections by Technology by State as of December 31, 2008
(Connections over 200 kbps in at least one direction, in thousands)

State	ADSL	SDSL	Other Wireline	Cable Modem	Fiber	Satellite	Fixed Wireless	Mobile Wireless	Power Line and Other	Total
Alabama	457	4	9	460	3	*	1	281	*	1,235
Alaska	75	4	#	*	#	*	4	43	0	224
American Samoa	*	*	0	0	0	0	*	0	0	*
Arizona	466	2	*	987	2	*	20	522	0	2,033
Arkansas	273	#	*	248	1	*	1	178	0	723
California	4,617	22	*	3,994	315	*	23	3,494	0	12,649
Colorado	624	2	*	659	3	*	28	461	0	1,816
Connecticut	*	2	5	615	2	*	*	338	0	1,402
Delaware	*	#	4	*	*	*	0	77	0	330
District of Columbia	*	2	4	*	1	*	*	181	0	375
Florida	2,005	5	*	2,825	247	*	5	1,542	0	6,729
Georgia	1,242	2	*	973	16	*	#	773	0	3,065
Guam	*	*	*	*	0	0	0	*	0	25
Hawaii	*	*	1	*	1	*	*	146	0	498
Idaho	160	1	*	121	1	*	21	133	0	448
Illinois	1,503	9	*	1,591	5	*	37	1,057	0	4,265
Indiana	672	4	9	626	55	*	24	384	*	1,796
Iowa	336	3	*	330	9	*	25	115	0	837
Kansas	243	1	*	425	13	*	16	207	0	924
Kentucky	421	7	*	452	4	*	3	246	0	1,154
Louisiana	385	1	*	518	19	*	2	395	0	1,346
Maine	114	4	1	288	1	*	*	40	0	454
Maryland	471	7	24	799	*	*	#	595	0	2,193
Massachusetts	*	3	17	1,307	*	*	1	566	0	2,600
Michigan	779	8	16	1,411	4	*	17	606	*	2,881
Minnesota	544	30	*	666	14	*	20	357	0	1,662
Mississippi	229	#	*	216	1	*	#	142	0	614
Missouri	727	1	13	553	4	*	12	364	*	1,711
Montana	108	3	1	92	1	*	13	*	0	320
Nebraska	151	1	*	278	2	*	16	152	0	607

Table 14 - Continued
High-Speed Connections by Technology by State as of December 31, 2008
(Connections over 200 kbps in at least one direction, in thousands)

State	*ADSL*	*SDSL*	*Other Wireline*	*Cable Modem*	*Fiber*	*Satellite*	*Fixed Wireless*	*Mobile Wireless*	*Power Line and Other*	*Total*
Nevada	222	1	8	*	1	*	7	257	0	918
New Hampshire	91	2	3	298	*	*	#	85	0	499
New Jersey	666	4	26	1,637	*	*	*	903	0	3,517
New Mexico	231	#	*	146	1	*	15	141	0	546
New York	1,122	17	38	4,139	*	*	3	1,708	0	7,405
North Carolina	891	1	*	1,551	5	*	1	701	0	3,203
North Dakota	62	1	*	85	10	*	5	41	0	206
Northern Mariana Isl	*	0	*	*	*	0	*	*	0	*
Ohio	1,069	9	15	1,943	6	*	20	816	*	3,910
Oklahoma	337	1	*	408	4	*	8	239	0	1,022
Oregon	371	11	*	516	54	*	7	267	0	1,252
Pennsylvania	1,232	12	23	1,807	*	*	1	871	0	4,225
Puerto Rico	*	*	3	*	#	*	*	126	0	464
Rhode Island	*	1	2	*	*	*	*	81	0	378
South Carolina	400	#	10	752	14	*	*	313	0	1,501
South Dakota	54	3	#	122	9	*	7	*	0	246
Tennessee	542	1	*	717	28	*	2	452	0	1,784
Texas	2,607	9	*	2,081	258	*	37	2,349	0	7,484
Utah	299	4	6	*	5	*	30	189	0	762
Vermont	61	*	1	71	*	*	*	*	0	168
Virgin Islands	*	*	*	0	0	*	*	*	0	21
Virginia	553	3	30	1,096	252	*	9	901	*	2,887
Washington	599	7	16	980	37	*	11	682	*	2,357
West Virginia	152	*	3	205	#	*	1	80	0	452
Wisconsin	556	16	5	810	5	*	15	306	*	1,739
Wyoming	57	2	*	64	#	*	3	43	0	175
Total	30,190	245	711	41,468	2,881	938	488	25,117	5	102,043

= Rounds to Zero.
* = Data withheld to maintain firm confidentiality.
Figures may not sum to totals due to rounding.
Source: FCC Form 477, Part I.

Table 15
Percentage of High-Speed Connections by Download Speed by State as of December 31, 2008
(Connections over 200 kbps in at least one direction)

			Over 200 kbps Upstream and		
State	*% Over 200 kbps Downstream*	*% at least 768 kbps Downstream*	*% at least 3 mbps Downstream*	*% at least 6 mbps Downstream*	*% at least 10 mbps Downstream*
Alabama	82.3	76.1	44.3	17.9	4.3
Alaska	76.0	58.9	*	*	*
American Samoa	*	*	*	*	*
Arizona	85.3	76.3	43.2	37.6	13.5
Arkansas	82.7	76.6	*	*	*
California	86.2	78.3	40.5	19.7	3.9
Colorado	87.8	77.5	44.5	39.0	1.5
Connecticut	87.9	80.8	46.5	37.5	*
Delaware	82.5	75.6	*	*	*
District of Columbia	62.6	55.7	39.6	22.6	5.0
Florida	86.0	82.2	51.8	40.3	8.6
Georgia	81.8	76.7	43.8	23.7	1.8
Guam	*	*	*	*	*
Hawaii	92.5	88.3	60.5	*	*
Idaho	81.6	72.4	35.1	*	*
Illinois	87.9	79.6	43.0	31.9	7.5
Indiana	84.3	76.2	45.8	32.6	13.9
Iowa	87.0	74.6	46.5	*	*
Kansas	83.3	77.0	42.8	33.7	3.8
Kentucky	88.5	76.7	49.3	31.2	26.2
Louisiana	85.3	81.7	39.0	*	*
Maine	86.0	82.9	69.4	57.6	4.0
Maryland	78.3	72.1	59.0	40.2	11.7
Massachusetts	81.5	76.4	65.2	46.9	11.0
Michigan	85.6	78.8	48.3	32.6	*
Minnesota	85.9	77.3	45.1	31.1	3.9
Mississippi	85.4	76.2	*	*	*
Missouri	85.4	77.4	36.6	16.8	5.2
Montana	72.9	57.9	31.7	*	*
Nebraska	81.5	71.1	45.2	*	*

Table 15 - Continued
Percentage of High-Speed Connections by Download Speed by State as of December 31, 2008
(Connections over 200 kbps in at least one direction)

			Over 200 kbps Upstream and		
State	*% Over 200 kbps Downstream*	*% at least 768 kbps Downstream*	*% at least 3 mbps Downstream*	*% at least 6 mbps Downstream*	*% at least 10 mbps Downstream*
Nevada	88.8	83.0	44.3	30.4	6.6
New Hampshire	81.1	75.7	66.8	54.6	3.7
New Jersey	80.9	75.6	64.0	53.4	35.1
New Mexico	81.1	70.3	*	*	*
New York	83.1	79.1	65.5	56.4	55.6
North Carolina	81.0	76.6	53.1	38.0	4.1
North Dakota	85.0	75.3	*	*	*
Northern Mariana Isl	*	*	*	*	*
Ohio	80.7	74.0	48.8	37.2	4.5
Oklahoma	90.2	84.8	40.2	28.0	3.0
Oregon	87.3	79.4	51.1	39.2	5.3
Pennsylvania	79.9	73.5	57.1	37.5	8.9
Puerto Rico	94.5	69.6	*	*	*
Rhode Island	85.5	80.9	*	*	*
South Carolina	80.2	75.9	54.9	33.1	3.5
South Dakota	81.0	72.6	*	*	*
Tennessee	81.2	73.5	46.6	29.0	2.9
Texas	86.3	78.1	37.6	24.3	5.2
Utah	88.6	78.5	39.5	33.2	2.9
Vermont	74.0	68.9	*	*	*
Virgin Islands	55.9	13.6	0.1	0.1	0.0
Virginia	78.8	69.5	52.6	38.0	21.5
Washington	85.7	78.5	48.0	40.6	4.8
West Virginia	83.5	75.8	*	*	*
Wisconsin	87.8	81.2	50.3	27.8	6.4
Wyoming	82.9	68.2	*	*	*
Total	84.1	77.2	48.6	33.8	11.4

* = Data withheld to maintain firm confidentiality.
Source: FCC Form 477, Part I.

Table 16
ADSL High-Speed Connections by State 2005-2008
(Connections over 200 kbps in at least one direction, in thousands)

	2005		*2006*		*2007*		*2008*	
State	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*
Alabama	177	221	269	315	357	403	431	**457**
Alaska	39	43	54	60	64	68	72	**75**
American Samoa	*	*	*	*	*	*	*	*
Arizona	153	208	276	365	406	437	454	**466**
Arkansas	127	150	181	200	227	249	267	**273**
California	3,079	3,592	4,002	4,343	4,626	4,780	4,755	**4,617**
Colorado	268	333	405	473	530	573	575	**624**
Connecticut	*	*	*	*	*	*	*	*
Delaware	*	*	*	*	*	*	*	*
District of Columbia	*	*	*	*	*	*	*	*
Florida	1,285	1,509	1,723	1,873	1,960	2,046	2,045	**2,005**
Georgia	758	890	1,009	1,126	1,219	1,307	1,361	**1,242**
Guam	*	*	*	*	*	*	*	*
Hawaii	*	*	*	*	*	*	*	*
Idaho	63	82	98	113	129	142	154	**160**
Illinois	848	980	1,094	1,212	1,300	1,382	1,419	**1,503**
Indiana	305	379	443	515	584	636	651	**672**
Iowa	119	151	189	233	271	298	322	**336**
Kansas	136	160	179	203	225	236	241	**243**
Kentucky	180	213	251	303	340	367	385	**421**
Louisiana	191	207	236	271	306	333	354	**385**
Maine	52	73	90	105	115	118	120	**114**
Maryland	306	379	450	490	512	514	495	**471**
Massachusetts	*	*	*	*	*	*	*	*
Michigan	375	463	534	607	690	733	749	**779**
Minnesota	228	276	331	395	449	496	529	**544**
Mississippi	88	106	129	154	180	202	220	**229**
Missouri	342	399	468	546	618	683	712	**727**
Montana	47	57	70	83	96	102	108	**108**
Nebraska	66	81	95	112	124	135	143	**151**

Table 16 - Continued
ADSL High-Speed Connections by State 2005-2008
(Connections over 200 kbps in at least one direction, in thousands)

	2005		2006		2007		2008	
State	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*
Nevada	116	140	168	190	207	220	225	**222**
New Hampshire	54	72	85	94	98	100	97	**91**
New Jersey	444	540	638	704	735	735	700	**666**
New Mexico	82	105	131	157	180	200	217	**231**
New York	737	861	1,003	1,104	1,182	1,184	1,169	**1,122**
North Carolina	413	489	561	648	725	820	870	**891**
North Dakota	27	32	39	46	51	56	60	**62**
Northern Mariana Isl	0	*	*	*	*	*	*	*****
Ohio	556	663	753	859	951	1,024	1,034	**1,069**
Oklahoma	189	222	247	277	302	324	334	**337**
Oregon	198	245	280	312	339	356	361	**371**
Pennsylvania	541	692	871	1,013	1,126	1,191	1,209	**1,232**
Puerto Rico	*	*	*	*	*	*	*	*****
Rhode Island	*	*	*	*	*	*	*	*****
South Carolina	155	206	243	285	323	359	386	**400**
South Dakota	21	26	33	40	46	48	53	**54**
Tennessee	237	294	348	397	447	499	535	**542**
Texas	1,301	1,514	1,733	1,997	2,294	2,464	2,475	**2,607**
Utah	130	160	189	222	250	270	284	**299**
Vermont	35	44	51	61	68	72	73	**61**
Virgin Islands	*	*	*	*	*	*	*	*****
Virginia	309	384	446	505	548	568	561	**553**
Washington	364	427	491	534	569	592	600	**599**
West Virginia	53	69	87	105	124	138	147	**152**
Wisconsin	243	298	360	418	484	528	556	**556**
Wyoming	24	33	39	44	50	53	55	**57**
Total	16,316	19,515	22,584	25,413	27,793	29,449	29,964	**30,190**

= Rounds to Zero.
* = Data withheld to maintain firm confidentiality.
Figures may not sum to totals due to rounding.
Source: FCC Form 477, Part I.

Table 17
Cable Modem High-Speed Connections by State 2005-2008
(Connections over 200 kbps in at least one direction, in thousands)

	2005		*2006*		*2007*		*2008*	
State	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*
Alabama	257	285	311	342	374	399	417	**460**
Alaska	*	*	*	*	*	*	*	*
American Samoa	0	0	0	0	0	0	0	**0**
Arizona	584	679	761	838	850	897	992	**987**
Arkansas	118	137	149	184	205	214	236	**248**
California	2,467	2,735	2,957	3,156	3,411	3,603	3,799	**3,994**
Colorado	383	433	476	523	561	604	626	**659**
Connecticut	372	404	441	454	513	550	576	**615**
Delaware	*	*	*	*	*	*	*	*
District of Columbia	*	*	*	*	*	*	*	*
Florida	1,560	1,758	1,939	2,178	2,344	2,543	2,631	**2,825**
Georgia	523	584	650	743	802	862	904	**973**
Guam	0	0	0	0	0	*	*	*
Hawaii	*	*	*	*	*	*	*	*
Idaho	78	74	75	109	116	123	127	**121**
Illinois	842	956	1,042	1,332	1,466	1,570	1,625	**1,591**
Indiana	397	445	490	370	410	439	456	**626**
Iowa	187	220	225	234	268	287	309	**330**
Kansas	259	273	317	321	351	369	380	**425**
Kentucky	217	269	306	333	384	435	482	**452**
Louisiana	329	255	379	420	446	485	481	**518**
Maine	116	132	146	152	169	179	197	**288**
Maryland	547	592	637	781	829	865	871	**799**
Massachusetts	826	886	955	1,044	1,088	1,136	1,159	**1,307**
Michigan	892	954	1,019	1,103	1,197	1,265	1,307	**1,411**
Minnesota	441	494	517	541	571	608	622	**666**
Mississippi	96	104	114	136	152	166	188	**216**
Missouri	323	353	401	444	473	498	517	**553**
Montana	36	45	54	65	74	83	90	**92**
Nebraska	177	201	218	239	238	252	262	**278**

Table 17 - Continued
Cable Modem High-Speed Connections by State 2005-2008
(Connections over 200 kbps in at least one direction, in thousands)

	2005		*2006*		*2007*		*2008*	
State	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*	*Jun*	*Dec*
Nevada	*	*	*	*	*	*	*	*****
New Hampshire	176	188	202	210	230	240	250	**298**
New Jersey	1,108	1,205	1,312	1,386	1,474	1,538	1,586	**1,637**
New Mexico	78	89	100	109	117	127	137	**146**
New York	2,216	2,445	2,765	2,967	3,164	3,342	3,548	**4,139**
North Carolina	762	862	964	1,041	1,134	1,196	1,266	**1,551**
North Dakota	51	55	58	71	76	80	83	**85**
Northern Mariana Isl	0	0	0	0	0	*	*	*****
Ohio	961	1,065	1,185	1,303	1,406	1,498	1,627	**1,943**
Oklahoma	234	262	284	313	348	373	382	**408**
Oregon	336	375	407	453	490	531	554	**516**
Pennsylvania	962	1,075	1,164	1,256	1,271	1,399	1,492	**1,807**
Puerto Rico	*	*	*	*	*	*	*	*****
Rhode Island	*	*	*	*	*	*	*	*****
South Carolina	290	326	368	418	459	496	517	**752**
South Dakota	84	89	93	100	101	111	115	**122**
Tennessee	422	460	506	602	663	703	715	**717**
Texas	1,468	1,618	1,692	1,944	2,082	2,183	2,214	**2,081**
Utah	*	*	*	*	*	*	212	*****
Vermont	*	*	*	*	*	*	*	**71**
Virgin Islands	0	0	0	0	0	0	0	**0**
Virginia	749	817	893	877	906	921	941	**1,096**
Washington	585	660	726	806	862	909	944	**980**
West Virginia	118	128	145	145	156	159	167	**205**
Wisconsin	447	497	543	592	637	676	711	**810**
Wyoming	*	*	*	*	*	*	*	**64**
Total	24,017	26,558	29,173	31,982	34,404	36,507	38,190	**41,468**

= Rounds to Zero.
* = Data withheld to maintain firm confidentiality.
Figures may not sum to totals due to rounding.
Source: FCC Form 477, Part I.

Table 18
High-Speed Connections by Type of End User by State as of December 31, 2008
(Connections over 200 kbps in at least one direction, in thousands)

	Connections		*Percentages*		
State	*Residential*	*Business*	*Residential*	*Business*	*Total*
Alabama	1,044	191	84.5	15.5	1,235
Alaska	191	33	85.4	14.6	224
American Samoa	*	*	*	*	*
Arizona	1,737	296	85.5	14.5	2,033
Arkansas	603	120	83.4	16.6	723
California	10,538	2,111	83.3	16.7	12,649
Colorado	1,514	302	83.4	16.6	1,816
Connecticut	1,176	226	83.9	16.1	1,402
Delaware	273	57	82.7	17.3	330
District of Columbia	231	144	61.6	38.4	375
Florida	5,684	1,045	84.5	15.5	6,729
Georgia	2,541	525	82.9	17.1	3,065
Guam	22	3	89.0	11.0	25
Hawaii	421	77	84.6	15.4	498
Idaho	381	67	85.1	14.9	448
Illinois	3,601	664	84.4	15.6	4,265
Indiana	1,534	262	85.4	14.6	1,796
Iowa	730	108	87.2	12.8	837
Kansas	790	134	85.5	14.5	924
Kentucky	996	158	86.3	13.7	1,154
Louisiana	1,114	232	82.8	17.2	1,346
Maine	415	39	91.5	8.5	454
Maryland	1,851	343	84.4	15.6	2,193
Massachusetts	2,240	360	86.1	13.9	2,600
Michigan	2,455	427	85.2	14.8	2,881
Minnesota	1,407	255	84.6	15.4	1,662
Mississippi	518	96	84.4	15.6	614
Missouri	1,443	268	84.3	15.7	1,711
Montana	279	42	87.0	13.0	320
Nebraska	522	85	86.0	14.0	607
Nevada	780	138	84.9	15.1	918
New Hampshire	447	52	89.5	10.5	499
New Jersey	2,946	572	83.7	16.3	3,517
New Mexico	468	77	85.8	14.2	546
New York	6,382	1,023	86.2	13.8	7,405
North Carolina	2,733	470	85.3	14.7	3,203
North Dakota	175	31	84.8	15.2	206
Northern Mariana Isl	*	*	*	*	*
Ohio	3,336	574	85.3	14.7	3,910
Oklahoma	860	163	84.1	15.9	1,022
Oregon	1,060	191	84.7	15.3	1,252
Pennsylvania	3,578	646	84.7	15.3	4,225
Puerto Rico	404	61	86.9	13.1	464
Rhode Island	320	58	84.6	15.4	378
South Carolina	1,300	201	86.6	13.4	1,501
South Dakota	214	32	87.0	13.0	246
Tennessee	1,472	313	82.5	17.5	1,784
Texas	6,159	1,325	82.3	17.7	7,484
Utah	626	136	82.2	17.8	762
Vermont	151	17	89.8	10.2	168
Virgin Islands	19	2	91.1	8.9	21
Virginia	2,399	488	83.1	16.9	2,887
Washington	1,933	424	82.0	18.0	2,357
West Virginia	396	56	87.7	12.3	452
Wisconsin	1,517	222	87.2	12.8	1,739
Wyoming	150	25	85.7	14.3	175
Total	86,078	15,965	84.4	15.6	102,043

= Rounds to Zero.
* = Data withheld to maintain firm confidentiality.
Figures may not sum to totals due to rounding.
Source: FCC Form 477, Part I and VI.

Table 19
Percentage of Residential End-User Premises with Access to High-Speed Services by State
(Connections over 200 kbps in at least one direction)

State	*xDSL Availability Where ILECs Offer Local Telephone Service*	*Cable Modem Availability Where Cable Systems Offer Cable TV Service*
Alabama	80	92
Alaska	79	*
American Samoa	*	0
Arizona	86	93
Arkansas	78	72
California	89	98
Colorado	89	96
Connecticut	*	100
Delaware	*	*
District of Columbia	*	*
Florida	92	97
Georgia	96	90
Guam	*	*
Hawaii	*	*
Idaho	80	99
Illinois	86	97
Indiana	81	94
Iowa	87	91
Kansas	84	95
Kentucky	86	93
Louisiana	84	97
Maine	73	96
Maryland	76	95
Massachusetts	*	100
Michigan	74	91
Minnesota	88	97
Mississippi	76	91
Missouri	81	95
Montana	80	80
Nebraska	87	94
Nevada	90	*
New Hampshire	63	98
New Jersey	88	100
New Mexico	87	80
New York	79	99
North Carolina	89	96
North Dakota	87	92
Northern Mariana Isl	*	*
Ohio	85	98
Oklahoma	80	89
Oregon	83	96
Pennsylvania	85	98
Puerto Rico	*	*
Rhode Island	*	*
South Carolina	85	93
South Dakota	83	87
Tennessee	84	98
Texas	81	96
Utah	90	*
Vermont	72	91
Virgin Islands	*	0
Virginia	69	96
Washington	84	95
West Virginia	66	88
Wisconsin	83	96
Wyoming	78	85
Total	84	96

* = Data withheld to maintain firm confidentiality.
Note: This table summarizes responses to Form 477 questions about service availability, as opposed to subscribership. xDSL includes both asymmetric and symmetric DSL. Each state-specific estimate is a weighted average of the availability percentages that ILECs or cable system operators report for the areas they serve. Reported xDSL availability is weighted by ILEC end-user switched access lines and VoIP lines. Reported cable modem availability is weighted by cable TV subscribers. The weighted averages include ILECs or cable system operators that report no availability.
Figures are presented to the nearest percent.
Source: FCC Form 477, Parts I and II; Warren Communications News, Inc., Television & Cable Factbook: Online (Cable General Information, June 2007).

Table 20
Providers of High-Speed Connections by Technology by State as of December 31, 2008
(Connections over 200 kbps in at least one direction)

State	*ADSL*	*SDSL*	*Other Wireline*	*Cable Modem*	*Fiber*	*Satellite*	*Fixed Wireless*	*Mobile Wireless*	*Power Line and Other*	*Total*
Alabama	28	11	23	21	16	*	12	7	*	78
Alaska	12	5	6	*	5	*	7	5	0	21
American Samoa	*	*	0	0	0	0	*	0	0	*
Arizona	22	7	21	10	18	*	15	7	0	66
Arkansas	21	9	13	15	8	*	8	6	0	57
California	29	19	37	17	19	*	27	9	0	95
Colorado	34	13	28	15	19	*	29	9	0	88
Connecticut	8	8	21	6	10	*	*	4	0	36
Delaware	8	8	21	*	5	*	0	4	0	32
District of Columbia	12	10	23	*	9	*	*	4	0	35
Florida	27	17	47	19	31	*	13	6	0	93
Georgia	40	15	30	33	36	*	10	6	0	103
Guam	*	*	*	*	0	0	0	*	0	6
Hawaii	*	*	7	*	7	*	*	6	0	18
Idaho	25	11	19	9	15	*	17	8	0	62
Illinois	59	27	38	20	16	*	46	9	0	132
Indiana	40	16	30	14	25	*	39	6	*	105
Iowa	125	41	29	38	42	*	65	6	0	197
Kansas	42	14	23	30	32	*	28	10	0	96
Kentucky	28	10	23	23	17	*	16	8	0	87
Louisiana	20	9	20	14	14	*	7	5	0	57
Maine	13	10	15	6	8	*	*	4	0	34
Maryland	17	12	26	11	9	*	4	5	0	52
Massachusetts	14	10	26	7	11	*	6	4	0	47
Michigan	42	19	34	12	17	*	25	8	*	94
Minnesota	65	24	26	18	38	*	23	6	0	108
Mississippi	21	6	19	15	7	*	6	7	0	59
Missouri	40	16	25	20	18	*	32	6	*	99
Montana	21	9	13	4	8	*	13	*	0	44
Nebraska	36	10	15	17	15	*	25	5	0	73

Table 20 - Continued
Providers of High-Speed Connections by Technology by State as of December 31, 2008
(Connections over 200 kbps in at least one direction)

State	*ADSL*	*SDSL*	*Other Wireline*	*Cable Modem*	*Fiber*	*Satellite*	*Fixed Wireless*	*Mobile Wireless*	*Power Line and Other*	*Total*
Nevada	20	10	20	5	10	*	9	7	0	50
New Hampshire	14	7	17	5	10	*	4	4	0	39
New Jersey	17	13	41	6	13	*	*	4	0	55
New Mexico	23	8	15	8	8	*	14	9	0	51
New York	42	18	43	20	21	4	12	6	0	97
North Carolina	29	13	32	16	17	*	7	8	0	77
North Dakota	25	12	12	7	11	*	12	4	0	42
Northern Mariana Isl	*	0	*	*	*	0	*	*	0	*
Ohio	41	22	33	24	25	*	22	8	*	104
Oklahoma	41	8	23	13	14	*	15	12	0	84
Oregon	43	13	26	15	22	*	13	6	0	78
Pennsylvania	37	19	39	24	21	4	11	6	0	87
Puerto Rico	*	*	7	*	4	*	*	6	0	15
Rhode Island	7	6	14	*	5	*	*	4	0	24
South Carolina	22	5	23	16	11	*	*	6	0	52
South Dakota	27	10	15	8	14	*	16	*	0	53
Tennessee	29	13	29	16	15	*	12	8	0	84
Texas	68	25	52	28	36	*	52	13	0	161
Utah	15	10	18	*	12	*	11	8	0	50
Vermont	11	4	13	4	4	*	*	*	0	31
Virgin Islands	*	*	*	0	0	*	*	*	0	8
Virginia	28	17	35	16	20	*	14	7	*	79
Washington	28	12	29	18	23	*	24	7	*	81
West Virginia	10	*	14	10	7	*	5	6	0	37
Wisconsin	46	14	22	14	16	*	22	9	*	89
Wyoming	13	7	9	4	4	*	7	8	0	37
Total	879	262	290	341	430	5	617	46	5	1,554

* Indicates one to three providers.
Source: FCC Form 477, Part I.

Table 21
Residential Fixed High-Speed Connections and Households by State as of December 31, 2008
(Connections over 200 kbps in at least one direction and Households, in thousands)

State	*Connections*	*Households*	*Subscribership Ratio*
Alabama	861	1,821	0.47
Alaska	155	248	0.62
American Samoa	*	9	*
Arizona	1,403	2,436	0.58
Arkansas	487	1,119	0.44
California	8,311	12,646	0.66
Colorado	1,230	1,886	0.65
Connecticut	973	1,362	0.71
Delaware	236	337	0.70
District of Columbia	170	263	0.65
Florida	4,697	7,436	0.63
Georgia	2,062	3,628	0.57
Guam	*	39	*
Hawaii	*	450	*
Idaho	283	562	0.50
Illinois	2,943	4,775	0.62
Indiana	1,299	2,457	0.53
Iowa	654	1,180	0.55
Kansas	648	1,077	0.60
Kentucky	829	1,687	0.49
Louisiana	851	1,609	0.53
Maine	392	540	0.73
Maryland	1,461	2,140	0.68
Massachusetts	1,892	2,493	0.76
Michigan	2,081	3,869	0.54
Minnesota	1,188	2,011	0.59
Mississippi	418	1,076	0.39
Missouri	1,220	2,323	0.53
Montana	192	385	0.50
Nebraska	411	698	0.59
Nevada	603	1,015	0.59
New Hampshire	389	514	0.76
New Jersey	2,408	3,202	0.75
New Mexico	365	748	0.49
New York	5,260	7,297	0.72
North Carolina	2,277	3,617	0.63
North Dakota	146	255	0.57
Northern Mariana Isl	*	14	*
Ohio	2,844	4,495	0.63
Oklahoma	701	1,423	0.49
Oregon	890	1,489	0.60
Pennsylvania	3,113	4,831	0.64
Puerto Rico	301	1,262	0.24
Rhode Island	274	418	0.66
South Carolina	1,084	1,721	0.63
South Dakota	176	310	0.57
Tennessee	1,197	2,455	0.49
Texas	4,655	8,730	0.53
Utah	518	858	0.60
Vermont	135	247	0.55
Virgin Islands	14	41	0.34
Virginia	1,824	3,003	0.61
Washington	1,533	2,533	0.61
West Virginia	343	737	0.47
Wisconsin	1,310	2,200	0.60
Wyoming	112	206	0.54
Total	70,148	116,181	0.60

= Rounds to Zero; * = Data withheld to maintain firm confidentiality.
Note: Figures may not sum to totals due to rounding.
Sources: FCC Form 477, Part VI (Connections); Geolytics 2009 Block-Level Estimates (Households for U.S. and District of Columbia); Census 2000 (Households for Puerto Rico, American Samoa, Guam, Northern Mariana Islands and U.S. Virgin Islands).

Table 22

Distribution of Counties by Ratio of Residential Fixed High-Speed Connections to County Households by State as of December 31, 2008

(Connections over 200 kbps in at least one direction)

			Ratio of Residential Fixed High-Speed Connections to County Households									
State	*Counties*	*Zero*	*Greater than 0 and no more than 5%*	*Greater than 5 and no more than 10%*	*Greater than 10 and no more than 20%*	*Greater than 20 and no more than 30%*	*Greater than 30 and no more than 40%*	*Greater than 40 and no more than 50%*	*Greater than 50 and no more than 60%*	*Greater than 60 and no more than 75%*	*Greater than 75 and no more than 100%*	*100% or more*
Alabama	67	0	0	1	4	23	17	10	7	5	0	0
Alaska	27	0	0	2	7	3	3	2	4	6	0	0
American Samoa	5	3	0	1	1	0	0	0	0	0	0	0
Arizona	15	0	0	0	1	2	2	4	3	3	0	0
Arkansas	75	0	0	0	4	25	28	12	6	0	0	0
California	58	0	1	0	0	1	12	9	12	16	7	0
Colorado	64	0	0	0	0	8	11	12	15	9	7	2
Connecticut	8	0	0	0	0	0	0	0	0	3	5	0
Delaware	3	0	0	0	0	0	0	0	0	3	0	0
District of Columbia	1	0	0	0	0	0	0	0	0	1	0	0
Florida	67	0	0	0	0	9	10	7	10	28	3	0
Georgia	159	0	0	1	8	16	44	35	29	23	3	0
Guam	1	0	0	0	0	0	0	1	0	0	0	0
Hawaii	5	0	1	0	0	0	0	0	1	1	2	0
Idaho	44	0	0	2	2	5	10	11	11	2	1	0
Illinois	102	0	1	1	0	11	22	24	23	14	6	0
Indiana	92	0	0	0	0	7	30	35	10	9	1	0
Iowa	99	0	0	0	0	2	11	47	31	7	1	0
Kansas	105	0	0	0	0	4	17	42	28	12	2	0
Kentucky	120	0	0	0	6	21	43	27	11	12	0	0
Louisiana	64	0	0	0	2	12	16	10	17	5	1	1
Maine	16	0	0	0	0	1	0	2	4	6	3	0
Maryland	24	0	0	0	1	0	2	3	3	10	5	0
Massachusetts	14	0	0	0	0	0	0	0	0	7	4	3
Michigan	83	0	0	1	7	12	17	25	13	8	0	0
Minnesota	87	0	0	0	0	2	13	34	25	12	1	0
Mississippi	82	0	0	0	21	34	13	6	4	4	0	0
Missouri	115	0	0	2	9	25	37	22	13	4	3	0
Montana	56	0	0	0	1	7	15	18	13	2	0	0
Nebraska	93	0	0	0	1	4	25	36	21	5	1	0

Table 22 - Continued

Distribution of Counties by Ratio of Residential Fixed High-Speed Connections to County Households by State as of December 31, 2008

(Connections over 200 kbps in at least one direction)

			Ratio of Residential Fixed High-Speed Connections to County Households									
State	*Counties*	*Zero*	*Greater than 0 and no more than 5%*	*Greater than 5 and no more than 10%*	*Greater than 10 and no more than 20%*	*Greater than 20 and no more than 30%*	*Greater than 30 and no more than 40%*	*Greater than 40 and no more than 50%*	*Greater than 50 and no more than 60%*	*Greater than 60 and no more than 75%*	*Greater than 75 and no more than 100%*	*100% or more*
Nevada	17	0	0	0	0	4	6	1	3	3	0	0
New Hampshire	10	0	0	0	0	0	0	0	2	4	4	0
New Jersey	21	0	0	0	0	0	0	2	1	6	11	1
New Mexico	33	0	0	0	1	9	8	7	7	1	0	0
New York	62	0	0	0	0	0	1	4	8	22	20	7
North Carolina	100	0	0	0	0	9	23	19	26	15	8	0
North Dakota	53	0	1	0	5	4	8	14	10	10	1	0
Northern Mariana Isl	4	2	1	0	0	0	0	0	0	0	0	1
Ohio	88	0	0	0	0	5	7	22	24	26	4	0
Oklahoma	77	0	0	0	3	22	16	22	9	5	0	0
Oregon	36	0	0	0	0	3	7	11	9	5	1	0
Pennsylvania	67	0	0	0	0	0	6	14	20	19	7	1
Puerto Rico	78	0	1	12	34	16	11	2	2	0	0	0
Rhode Island	5	0	0	0	0	0	0	0	1	1	3	0
South Carolina	46	0	0	0	2	7	9	11	7	2	6	2
South Dakota	66	0	0	1	1	6	18	22	12	4	2	0
Tennessee	95	0	0	1	5	24	33	15	12	4	1	0
Texas	254	0	1	1	11	55	76	59	35	9	7	0
Utah	29	0	0	0	0	1	2	12	4	9	1	0
Vermont	14	0	0	0	0	1	4	4	2	3	0	0
Virgin Islands	3	0	0	0	0	1	2	0	0	0	0	0
Virginia	134	0	0	4	16	24	22	26	16	14	12	0
Washington	39	0	0	0	1	3	7	8	12	7	1	0
West Virginia	55	0	0	1	2	6	15	18	10	3	0	0
Wisconsin	72	0	0	0	1	1	15	21	19	12	3	0
Wyoming	23	0	0	0	0	1	4	5	9	4	0	0
Total	3,232	5	7	31	157	436	698	753	574	405	148	18

Note: Figures may not sum to totals due to rounding. See Technical Notes at the end of the report.
Source: FCC Form 477, Part VI.

Table 23

Distribution of Census Tracts by Ratio of Residential Fixed High-Speed Connections to Tract Households by State as of December 31, 2008

(Connections over 200 kbps in at least one direction)

			Ratio of Residential Fixed High-Speed Connections to Tract Households									
State	*Tracts*	*Zero*	*Greater than 0 and no more than 5%*	*Greater than 5 and no more than 10%*	*Greater than 10 and no more than 20%*	*Greater than 20 and no more than 30%*	*Greater than 30 and no more than 40%*	*Greater than 40 and no more than 50%*	*Greater than 50 and no more than 60%*	*Greater than 60 and no more than 75%*	*Greater than 75 and no more than 100%*	*100% or more*
Alabama	1,081	3	14	30	134	191	205	136	111	104	93	60
Alaska	158	1	1	10	13	4	14	16	18	41	32	8
American Samoa	21	18	0	0	0	0	0	1	0	1	0	1
Arizona	1,107	16	23	31	72	125	114	147	143	181	146	109
Arkansas	624	2	11	29	79	139	116	79	49	53	49	18
California	7,049	40	26	59	269	447	733	786	850	1,358	1,597	884
Colorado	1,075	12	1	3	22	84	138	146	160	186	181	142
Connecticut	815	3	1	1	9	29	36	63	92	184	333	64
Delaware	197	1	0	2	6	20	20	22	24	22	38	42
District of Columbia	188	6	1	1	2	10	17	18	24	40	47	22
Florida	3,153	10	4	8	87	235	387	447	428	582	560	405
Georgia	1,618	6	7	16	100	210	265	254	231	214	179	136
Guam	56	11	1	2	5	8	7	8	3	5	0	6
Hawaii	286	8	2	0	4	6	7	26	52	85	67	29
Idaho	280	2	1	8	15	39	61	54	27	35	20	18
Illinois	2,964	20	16	18	73	253	378	453	447	577	509	220
Indiana	1,412	3	5	10	55	171	277	302	231	173	128	57
Iowa	793	2	1	3	11	41	130	204	184	130	65	22
Kansas	727	7	2	2	10	54	119	146	113	127	85	62
Kentucky	994	2	8	15	78	123	194	191	138	132	73	40
Louisiana	1,106	5	8	10	68	174	150	162	142	182	150	55
Maine	344	0	2	2	12	21	16	27	50	71	98	45
Maryland	1,216	8	14	8	66	92	92	118	133	197	275	213
Massachusetts	1,361	5	0	0	52	102	89	94	92	216	433	278
Michigan	2,716	14	17	34	205	297	347	362	414	467	425	134
Minnesota	1,300	6	4	3	14	85	170	238	238	261	201	80
Mississippi	605	0	5	22	132	125	108	66	41	47	40	19
Missouri	1,320	9	14	23	109	175	224	197	153	178	171	67
Montana	270	6	9	1	15	34	48	56	47	26	22	6
Nebraska	503	4	0	2	10	38	91	97	84	88	52	37

Table 23 - Continued

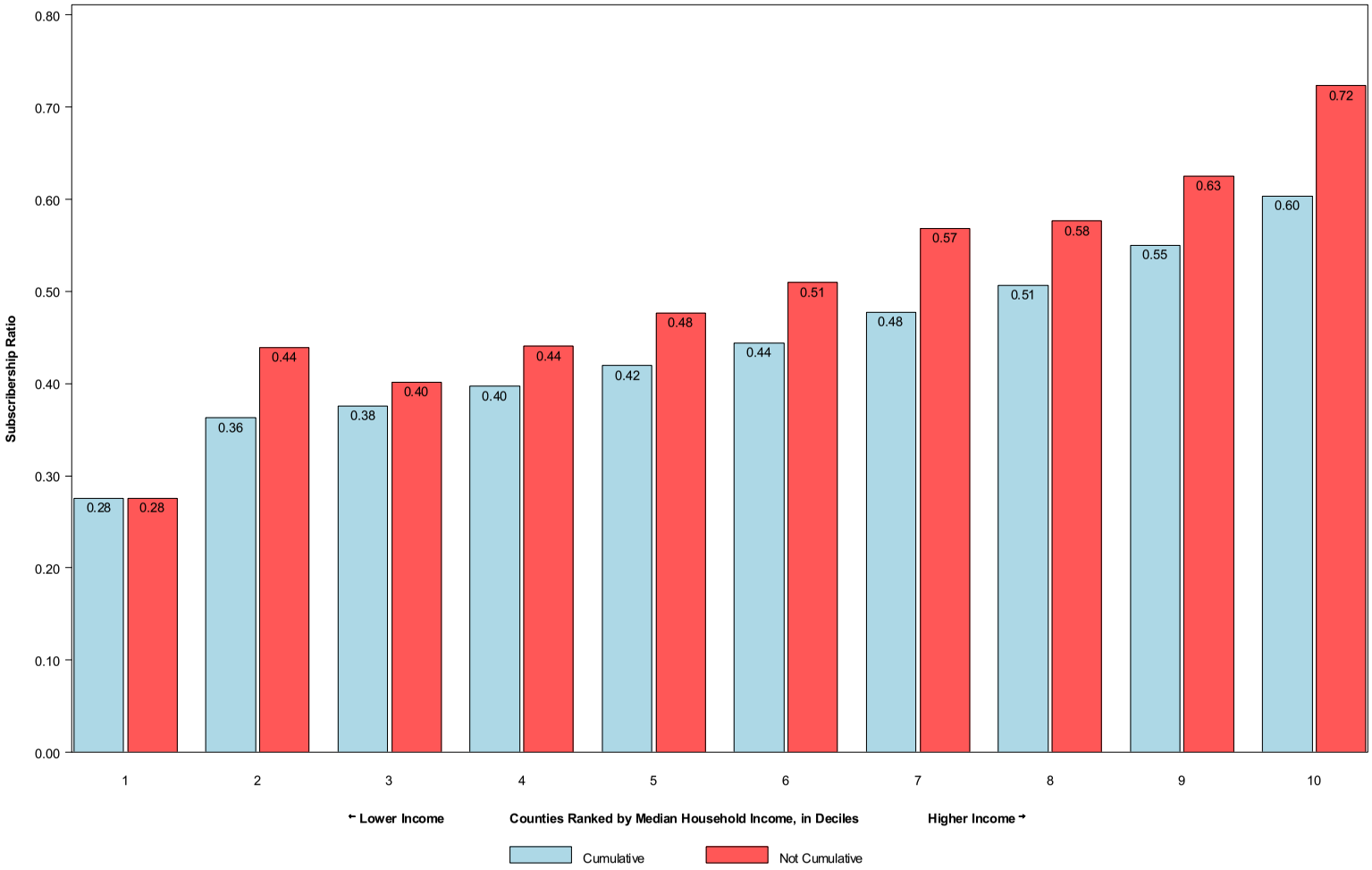
Distribution of Census Tracts by Ratio of Residential Fixed High-Speed Connections to Tract Households by State as of December 31, 2008

(Connections over 200 kbps in at least one direction)

			Ratio of Residential Fixed High-Speed Connections to Tract Households									
State	*Tracts*	*Zero*	*Greater than 0 and no more than 5%*	*Greater than 5 and no more than 10%*	*Greater than 10 and no more than 20%*	*Greater than 20 and no more than 30%*	*Greater than 30 and no more than 40%*	*Greater than 40 and no more than 50%*	*Greater than 50 and no more than 60%*	*Greater than 60 and no more than 75%*	*Greater than 75 and no more than 100%*	*100% or more*
Nevada	487	9	6	8	34	50	75	60	59	70	66	50
New Hampshire	272	0	0	0	2	5	6	20	35	70	92	42
New Jersey	1,944	16	27	10	55	114	149	156	146	292	553	426
New Mexico	456	22	12	17	36	57	82	57	50	58	44	21
New York	4,898	112	130	13	66	187	516	654	524	722	1,022	952
North Carolina	1,555	2	1	5	53	149	224	266	203	241	221	190
North Dakota	227	6	5	5	13	23	32	39	33	41	22	8
Northern Mariana Isl	21	4	15	1	0	0	0	0	0	0	0	1
Ohio	2,934	14	1	8	84	214	332	377	490	643	557	214
Oklahoma	990	5	18	17	92	115	190	143	126	122	110	52
Oregon	755	1	1	1	12	46	83	135	140	164	128	44
Pennsylvania	3,134	20	19	18	195	281	317	335	391	480	666	412
Puerto Rico	823	171	74	122	212	85	47	31	23	13	21	24
Rhode Island	233	0	0	0	7	23	21	24	21	41	67	29
South Carolina	867	6	4	15	63	123	125	101	99	93	108	130
South Dakota	235	17	5	4	13	23	34	48	27	28	24	12
Tennessee	1,261	9	11	25	117	226	231	191	141	125	113	72
Texas	4,388	23	63	114	466	697	691	573	424	491	468	378
Utah	496	7	5	5	11	27	50	75	98	95	74	49
Vermont	179	1	2	0	13	16	23	22	41	34	21	6
Virgin Islands	32	27	0	0	0	0	0	0	0	1	0	4
Virginia	1,530	6	19	38	105	145	172	176	182	215	304	168
Washington	1,318	3	3	5	37	81	131	188	233	294	251	92
West Virginia	466	0	9	10	47	60	81	77	66	69	41	6
Wisconsin	1,320	7	4	5	30	106	176	209	234	285	179	85
Wyoming	127	1	0	1	4	7	17	21	29	33	13	1
Total	66,287	719	632	800	3,494	6,192	8,358	8,894	8,534	10,683	11,234	6,747

Note: Figures may not sum to totals due to rounding. See Technical Notes at the end of the report.
Source: FCC Form 477, Part VI.

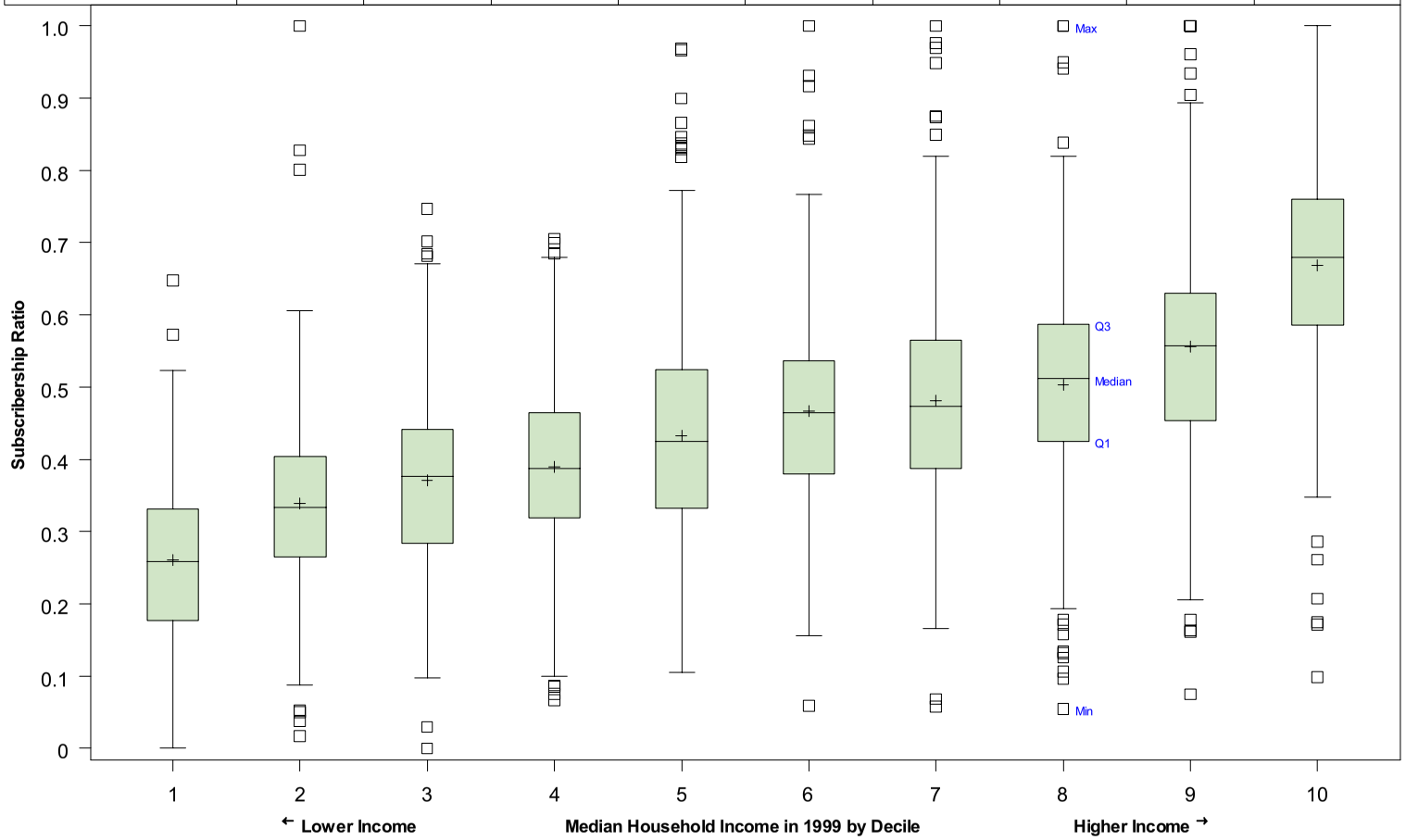
Chart 19
Ratio of Residential Fixed High-Speed Connections to Households by Income Decile
(County Data)



This chart shows cumulative and non-cumulative subscribership ratios by income deciles. Counties were grouped into income deciles based on county median household income in 1999, as reported by the Census Bureau. For each decile, the height of any red, non-cumulative bar represents the ratio of the sum of residential fixed connections across counties in the decile to the sum of households across counties in the decile. The height of the blue, cumulative bar for decile N represents the ratio of the sum of residential fixed connections across all counties in decile N and all deciles less than N to the number of households in all the counties in decile N and deciles less than N.
Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates (Households in 2009); and Census 2000 (Median household income in 1999).

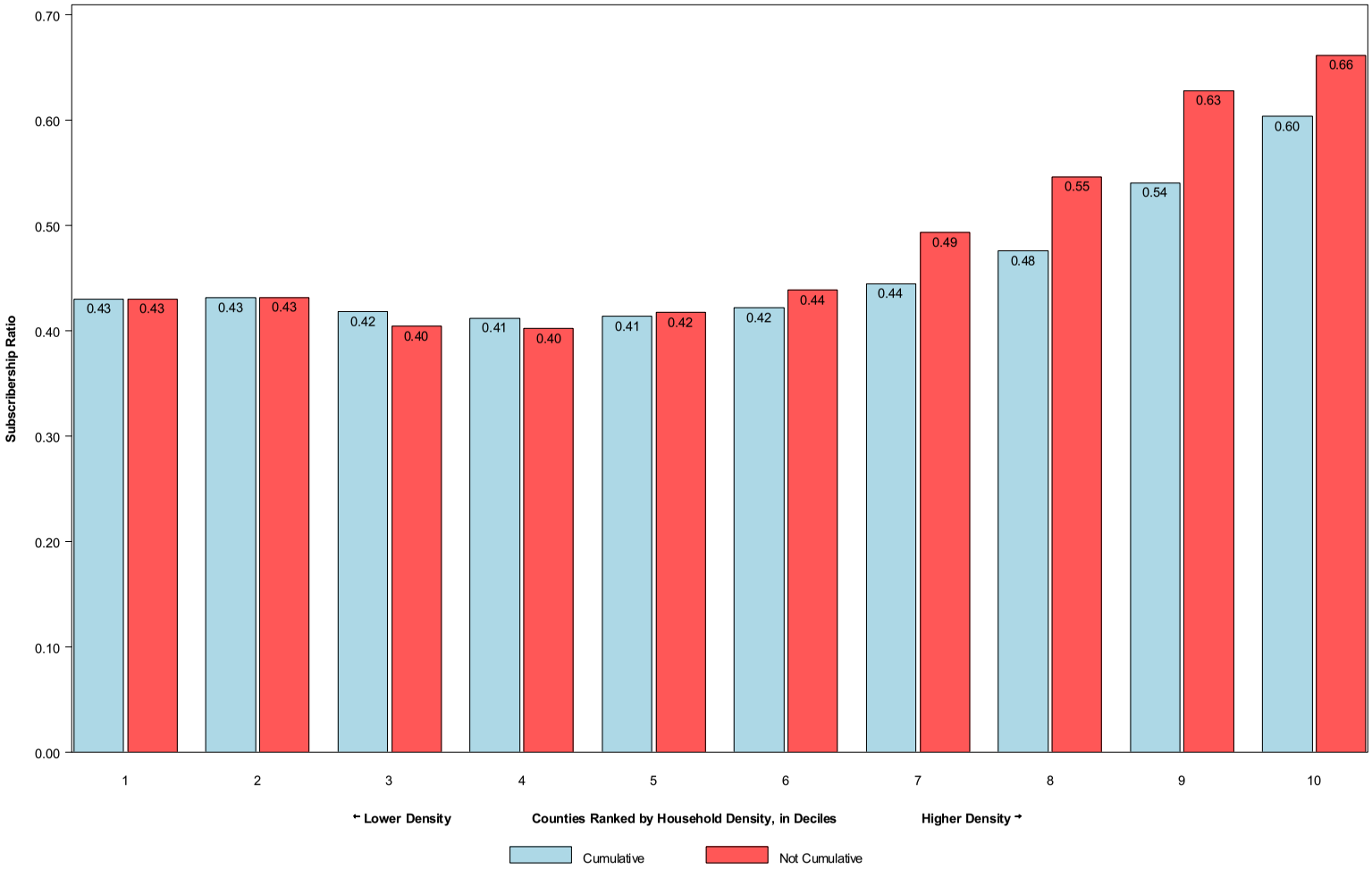
Chart 20
Subscribership Ratio Distributions by Income Deciles as of December 31, 2008

Subscribership Ratio										
Average	0.26	0.34	0.37	0.39	0.43	0.47	0.48	0.50	0.56	0.67
Median	0.26	0.33	0.38	0.39	0.42	0.46	0.47	0.51	0.56	0.68



Note: Each box plot shows the distribution of residential subscribership for counties in the income decile. Some of the features are labeled, but note also that + denotes the position of the average residential subscribership ratio taken across all counties in the decile; ⊥ is the minimum observation above Q1-1.5(Q3-Q1); T is the maximum observation below Q3+1.5(Q3-Q1); and □ is any data point beyond Q1-1.5(Q3-Q1) or Q3+1.5(Q3-Q1). Ratios greater than 1 were set to 1.
Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates (Households in 2009); and Census 2000 (Median household income in 1999).

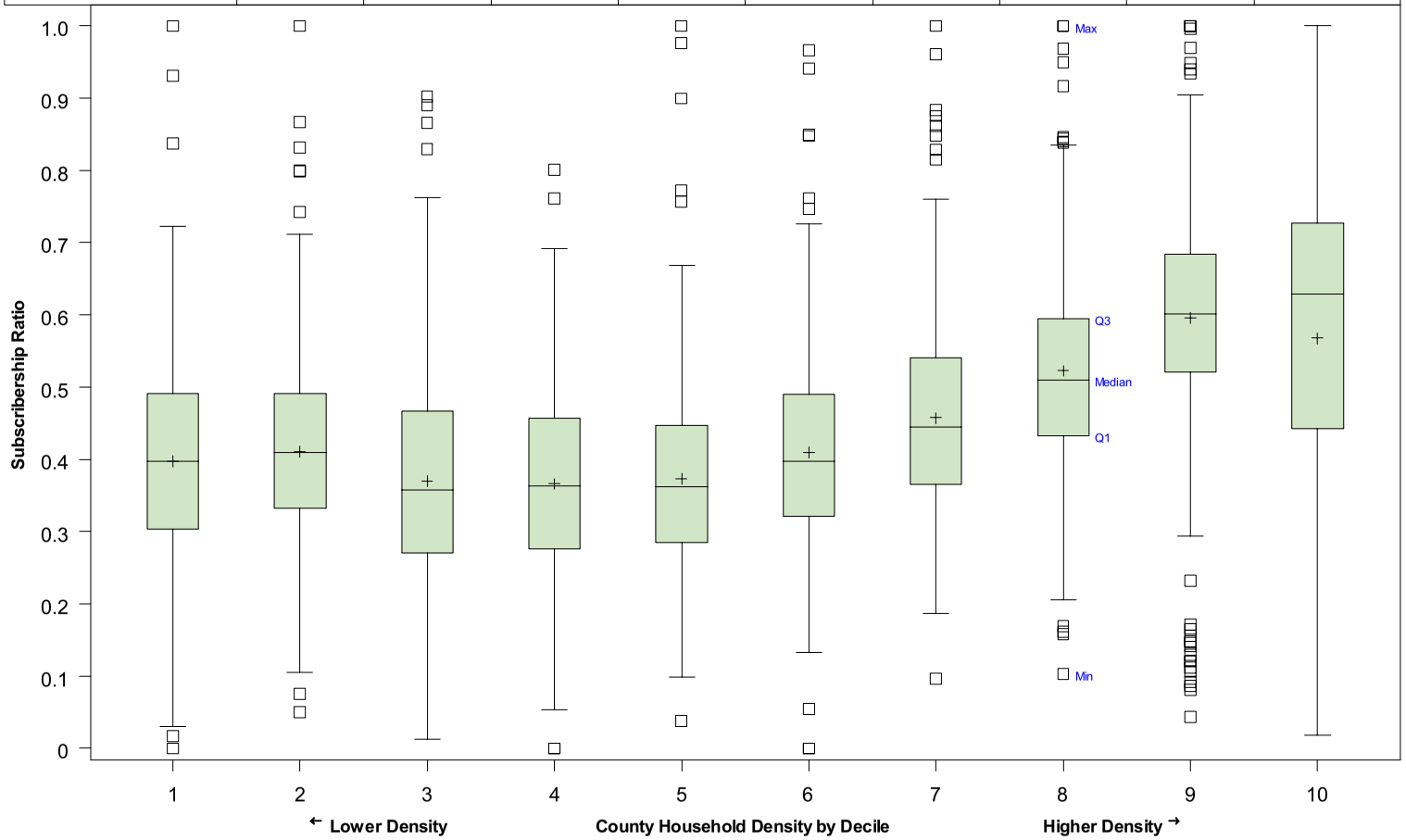
Chart 21
Ratio of Residential Fixed High-Speed Connections to Households by Density Decile
(County Data)



This chart shows cumulative and non-cumulative subscribership ratios by density deciles. Counties were grouped into density deciles based on households per square mile, calculated as the ratio of estimated county households in 2009 to county land area from the Census Bureau. For each decile, the height of any red, non-cumulative bar represents the ratio of the sum of residential fixed connections across counties in the decile to the sum of households across counties in the decile. The height of the blue, cumulative bar for decile N represents the ratio of the sum of residential fixed connections across all counties in decile N and all deciles less than N to the number of households in all the counties in decile N and deciles less than N.
Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates (Households in 2009); and Census 2000 (County land area).

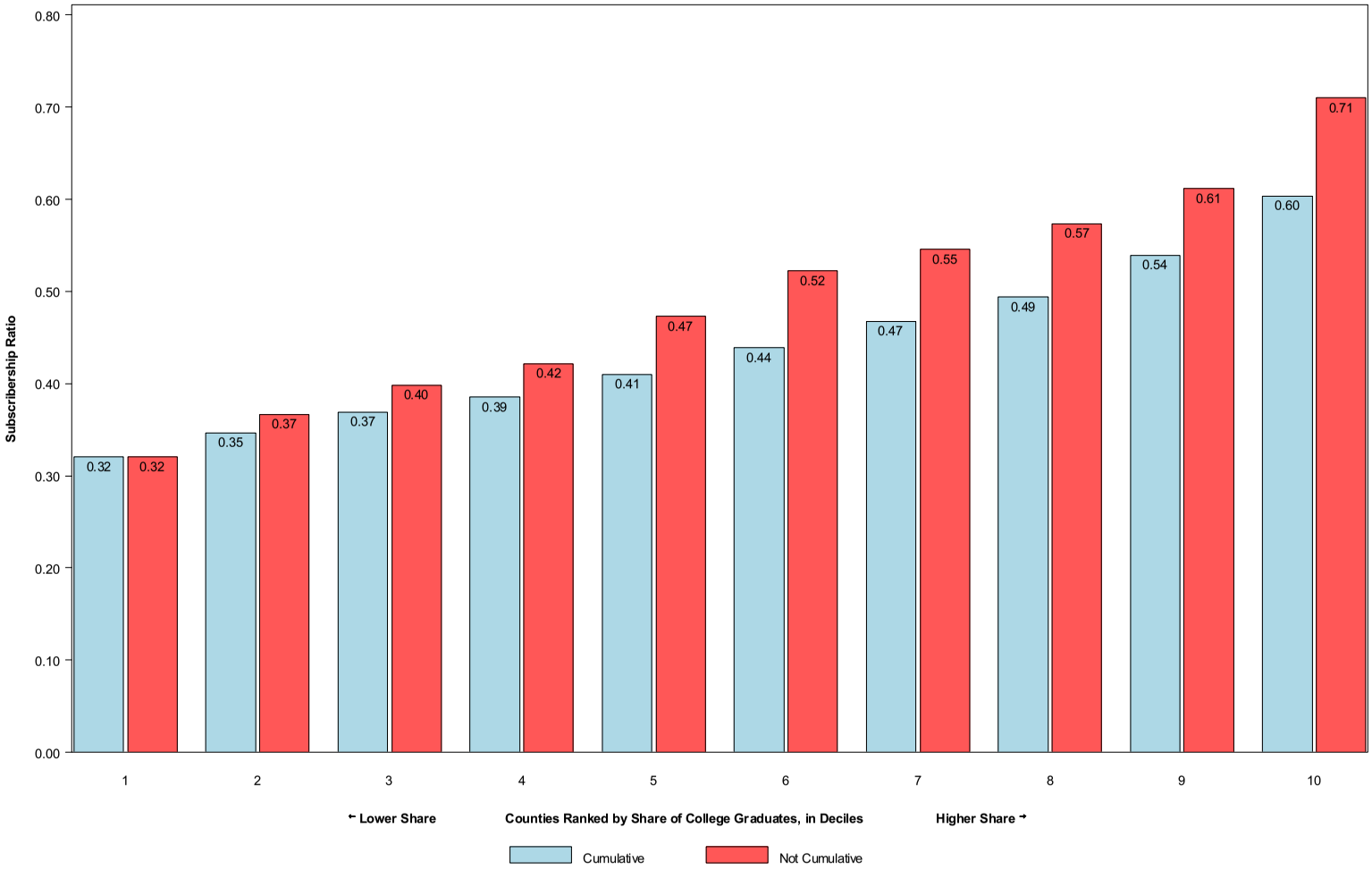
Chart 22
Subscribership Ratio Distributions by Density Deciles as of December 31, 2008

Subscribership Ratio										
Average	0.40	0.41	0.37	0.37	0.37	0.41	0.46	0.52	0.60	0.57
Median	0.40	0.41	0.36	0.36	0.36	0.40	0.44	0.51	0.60	0.63



Note: Each box plot shows the distribution of residential subscribership for counties in the density decile. Some of the features are labeled, but note also that + denotes the position of the average residential subscribership ratio taken across all counties in the decile; ⊥ is the minimum observation above Q1-1.5(Q3-Q1); T is the maximum observation below Q3+1.5(Q3-Q1); and □ is any data point beyond Q1-1.5(Q3-Q1) or Q3+1.5(Q3-Q1). Ratios greater than 1 were set to 1.
Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates (Households in 2009); and Census 2000 (County land area).

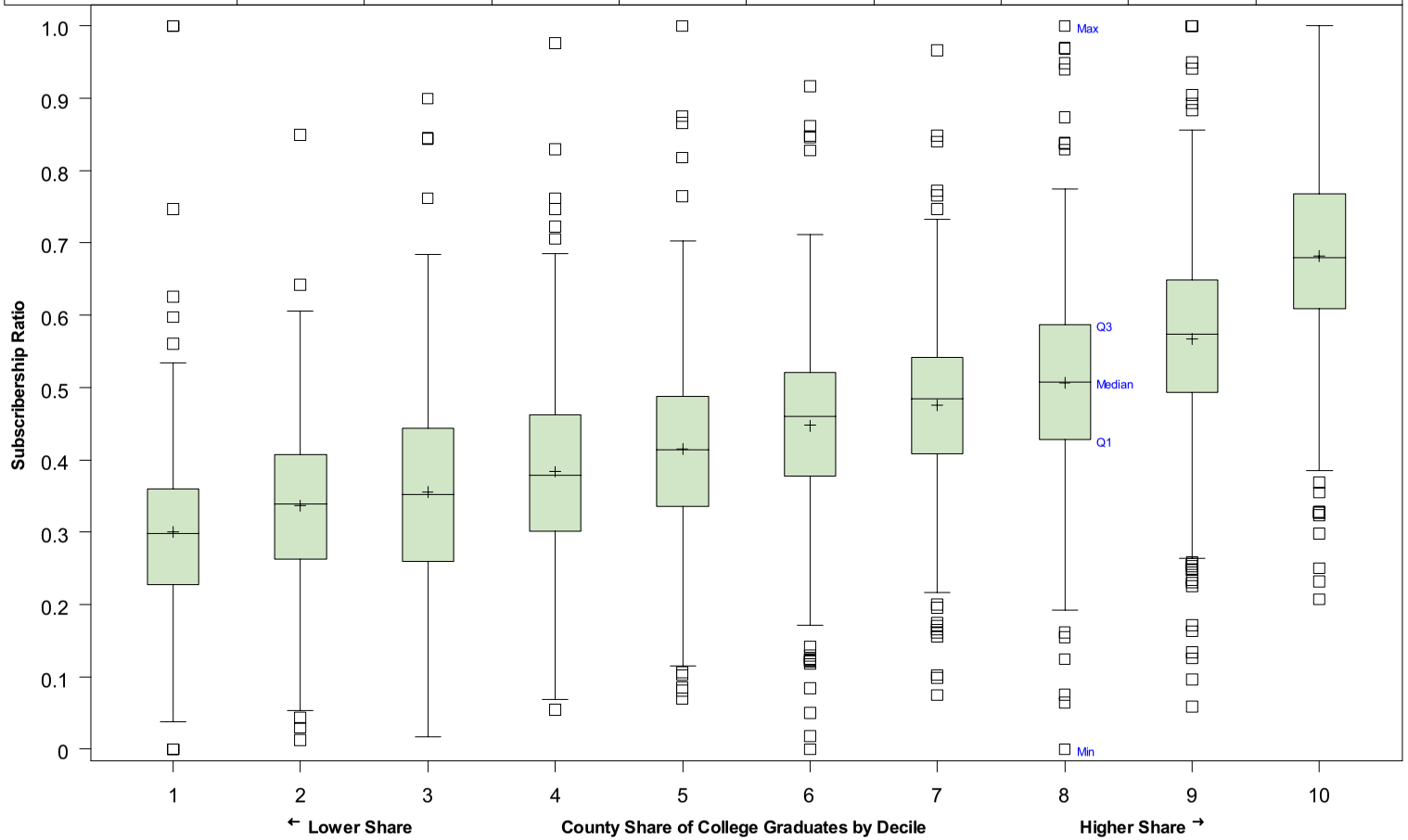
Chart 23
Ratio of Residential Fixed High-Speed Connections to Households by Share of College Graduates in Deciles
(County Data)



This chart shows cumulative and non-cumulative subscribership ratios by county share of college graduates in deciles. Counties were grouped into deciles based on the share of the county population at least 25 years of age with a college degree or higher educational attainment. For each decile, the height of any red, non-cumulative bar represents the ratio of the sum of residential fixed connections across counties in the decile to the sum of households across counties in the decile. The height of the blue, cumulative bar for decile N represents the ratio of the sum of residential fixed connections across all counties in decile N and all deciles less than N, to the number of households in all the counties in decile N and deciles less than N.
Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates (Households in 2009); and Census 2000 (County educational attainment).

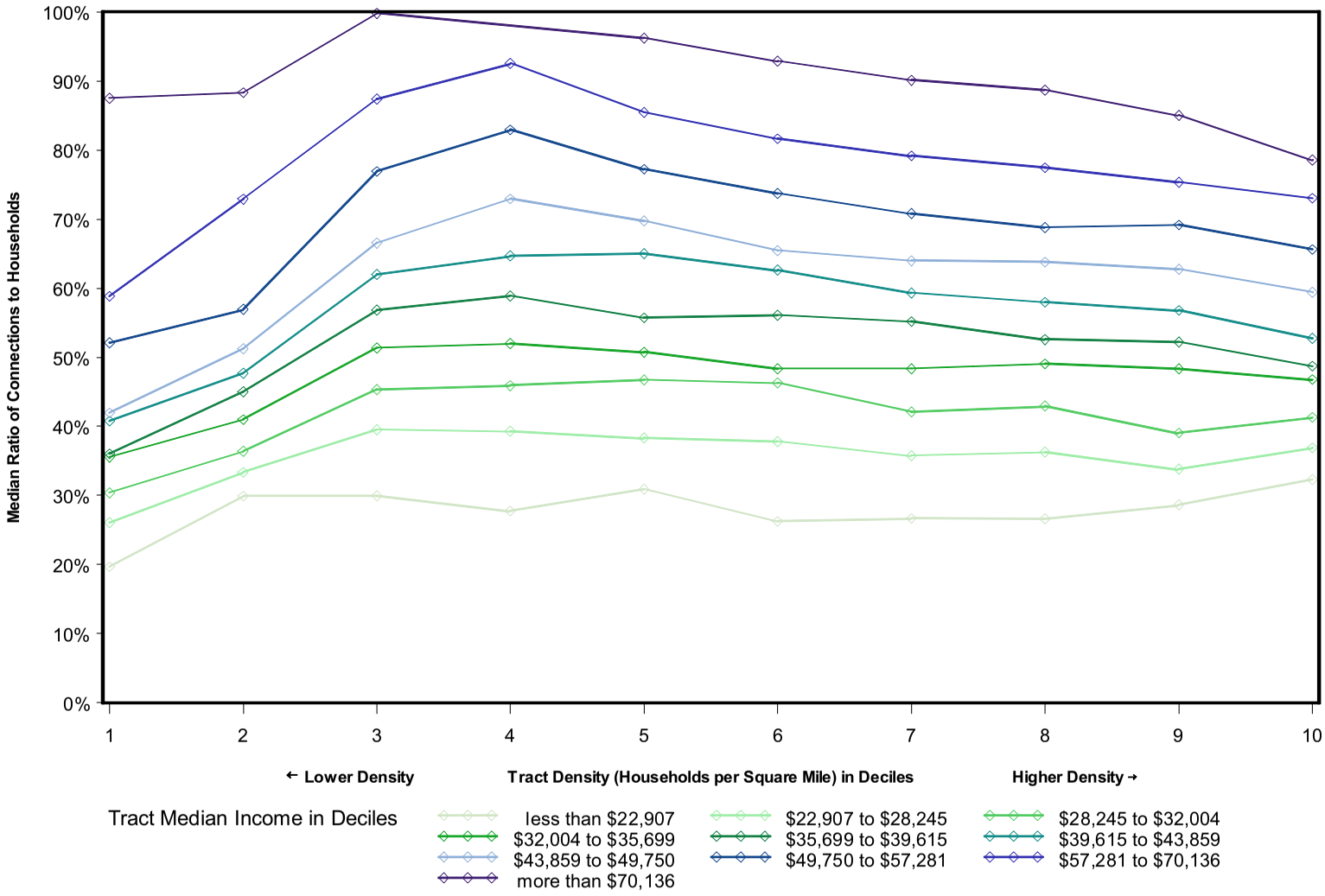
Chart 24
Subscribership Ratio Distributions by Share of Population with a College Degree (in Deciles) as of December 31, 2008

Subscribership Ratio										
Average	0.30	0.34	0.36	0.38	0.41	0.45	0.48	0.51	0.57	0.68
Median	0.30	0.34	0.35	0.38	0.41	0.46	0.48	0.51	0.57	0.68



Note: Each box plot shows the distribution of residential subscribership for counties in the share decile. Some of the features are labeled, but note also that + denotes the position of the average residential subscribership ratio taken across all counties in the decile; ⊥ is the minimum observation above Q1-1.5(Q3-Q1); T is the maximum observation below Q3+1.5(Q3-Q1); and □ is a data point beyond Q1-1.5(Q3-Q1) or Q3+1.5(Q3-Q1). Ratios greater than 1 were set to 1.
Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates (Households in 2009); and Census 2000 (County educational attainment).

Chart 25
Median Ratios of Residential Fixed High-Speed Connections to Households by Income and Density
Tract Data as of December 31, 2008



Sources: FCC Form 477, Part VI; Geolytics 2009 Block-Level Estimates (Households in 2009); and Census 2000 (Median household income in 1999).

Technical Notes

General

Detailed information about FCC Form 477 reporting requirements is available at http://www.fcc.gov/form477/.

Wherever a number of providers is cited in this report, multiple Form 477 filers within a holding company structure count as one provider.

Form 477 collects information about Internet access connections in service to end-user locations that are advertised to deliver information to and/or from the end user – that is, in at least one direction – at transfer rates ("speeds") above 200 kilobits per second (kbps). Information is collected about connections in 72 speed tiers defined by ranges of upstream speeds and downstream speeds. *See* report Table 8 for specifications of the speed tiers. Connections are further categorized by the technology employed by the part of the connection that terminates at the end-user location (see below). To provide continuity with published historical data, this particular report uses the term "high-speed" to describe all reported connections and, additionally, uses the term "advanced services" to describe the subset of connections with advertised speeds above 200 kbps both to and from the end user (but not necessarily the same speed in each direction). (Consistent with the Form 477 data collection orders, "broadband" and "high-speed" are synonyms when these Technical Notes are discussing particular elements of those orders.)

"End users" are residential, business, institutional, or government entities who use services for their own purposes and who do not resell such services to other entities. Facilities-based providers report information about connections they provide directly to their own end-user customers and also connections that they provide to Internet Service Providers for resale to end users. For Form 477 purposes, the facilities-based provider of a connection is the entity that owns the portion of the physical facility that terminates at the end-user location, obtains an unbundled network element (UNE), special access line, or other leased facility that terminates at the end-user location and provisions/equips it as broadband, or provisions/equips a broadband wireless channel to the end-user location over licensed spectrum or over spectrum that the provider uses on an unlicensed basis.

The mutually exclusive Form 477 technology categories are: asymmetric Digital Subscriber Line ("aDSL" in this report), symmetric Digital Subscriber Line ("sDSL"), other wireline, cable modem, optical fiber to the end-user premises ("FTTP"), satellite, fixed wireless (using licensed or unlicensed spectrum), mobile wireless (using licensed or unlicensed spectrum), electric power line, and all other (which is included to capture deployment of additional technologies over time). In the Form 477 data collection, aDSL-based services delivered over fiber-to-the-node architecture are reported in the aDSL category. The other wireline category comprises T1/DS1, T3/DS3, and other copper-based connections, not elsewhere categorized, that deliver *Internet access* service at the end-user location. Ethernet connections delivering Internet access service are reported in the other wireline category if the connection terminates over copper and in the FTTP category if the connection terminates over fiber. Connections deployed over hybrid fiber-coax (HFC) architecture are reported in the cable modem category. Wireless ISPs ("WISPs") report in the fixed wireless category if providing service to dispersed, fixed end-user locations and report in the mobile wireless category if providing a commercial service that can be received at any location within a service footprint. Wireless local area networks (such as Wi-Fi hotspots) that only enable local distribution and sharing of a premises connection are not included, although the shared premises connection is included.

Numbers of connections presented in this report are not adjusted for the number of persons at a single end-user location who have access to, or who use, the Internet access services delivered over the connection to that location.

Numbers of residential connections are estimated based on the total connections and percentage-residential connections information reported on Form 477.

Census tracts

Starting with data as of December 31, 2008, facilities-based providers of fixed-location high-speed Internet access connections must report connection counts and percentage residential information at the census tract level of detail. Because of the inherent mobility of their service, facilities-based mobile wireless providers do not report subscriber counts by census tract. Instead, they report the census tracts in the state that best represent the areas where service is available over the provider's own network, for each of the speed tiers in which the provider offers service.

For the 2000 decennial census, the Census Bureau assigned a default census tract code of 000000 to some coastal and Great Lakes water and territorial sea. These default-code tracts are not included in the statistics presented in this report, which therefore summarize data for 66,287 census tracts.

According to GeoLytics, Inc. estimates for 2009, fewer than 200 census tracts have population but no households because the population resides in group living quarters. For the purpose of estimating residential subscribership rates by census tract, we assume these census tracts have no *residential* high-speed Internet access service because persons residing in group quarters would have Internet access over a business connection provided to the operator of the group quarters. Therefore, these census tracts are included in the "zero" column (*see*, for example, Table 12).

Tables 1 – 4 (December 2008 vs. June 2008)

See pp. 3-4 of this report for a discussion of the changed reporting requirements for mobile wireless providers.

Charts 17-18, Tables 11-12 and 21-22 (ratios above 100%)

Possible explanations of ratios above 100% include (1) geocoding misallocations in this first collection of data for census tracts (an unfamiliar geography for many filers), with unresolved service locations attributed to a single census tract; (2) proper allocation of connections to the county level by some filers, but improper allocation of all connections to a single tract in the county; (3) possible overestimation of residential connections in service plans for which the customer base is primarily residential; and (4) connections at seasonally or occasionally occupied housing units, such as vacation homes, while the household is counted elsewhere. The numbers of households in census tracts that were used to generate the estimated ratios are themselves estimates (for 2009, from GeoLytics, Inc.), which could have an independent effect.

Maps showing number of providers by census tract

Readers of previous reports in this series may note certain differences in the provider-count maps in this report as compared to the previous maps, which showed the number of providers by 5-digit geographical ZIP Code. The ZIP Code-based maps counted (at the holding company level) each provider with any fixed-location connections (wired, terrestrial fixed wireless, or satellite) reported for the ZIP Code and also any mobile wireless service provider who listed the ZIP Code as part of its broadband service area. By contrast, in this report we provide separate maps for providers (counted at the holding company level) of fixed-location connections and for mobile wireless providers. Second, in this report we present an entirely new map showing the number of providers that reported any *residential* fixed-location connections, thereby excluding any providers of exclusively business fixed-location connections in the census tract.

Maps showing residential subscribership rates by census tract

The two maps based on estimated high-speed Internet access connections per 1,000 households (that is, estimated household subscribership, or *adoption*, rates) are entirely new and are not comparable to the ZIP Code-based maps in earlier reports in this series. These maps present information that could not be presented in earlier reports because *numbers* of connections were never reported for individual ZIP Codes. Readers should note that these particular maps (1) exclude all connections identified as business connections and (2) necessarily exclude residential mobile wireless connections (which are reported for the state but not for individual census tracts).

Customer Response

Publication: *High-Speed Services for Internet Access: Status as of December 31, 2008*

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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; A National Broadband Plan for Our Future*, GN Docket Nos. 09-137, 09-51, Sixth Broadband Deployment Report

Broadband is critical 21st century infrastructure, to which every American household and small business must have access to maximize our nation's economic growth, catalyze investment, spur job creation, and ensure our global competitiveness. Accordingly, Congress has instructed the FCC to periodically determine whether broadband is being deployed in a reasonable and timely fashion to *all* Americans.

The report we release today uses new data and improved analysis to take an honest look at the current state of broadband in America. Consistent with the findings of the National Broadband Plan, the report points out the great broadband successes in the United States, including as many as 290 million Americans who have gained access to broadband over the past decade. But the statute requires more. It requires the agency to reach a conclusion about whether *all*—not some, not most—Americans are being served in a reasonable and timely fashion. In other words, it requires a conclusion about whether the United States is on the road to achieving truly universal broadband availability, of the kind that our country achieved in the previous century with respect to traditional telephone service.

On Congress's question of universality—whether all Americans are on track to being served—the best available data shows that between 14 and 24 million Americans live in areas where they cannot get broadband. These are mostly expensive-to-serve areas with low population density. Without substantial reforms to the agency's universal service programs, these areas will continue to be unserved, denied access to the transformative power of broadband.

So, taking account of the millions of Americans who, despite years of waiting, still have little prospect of getting broadband deployed to their homes, we must conclude that broadband is not being deployed to *all* Americans in a reasonable and timely fashion. Fortunately, the National Broadband Plan has charted a course to accelerate broadband investment and help ensure that all Americans can connect to the vital infrastructure of the 21st century. These policies include reforming the Universal Service Fund to support broadband through public-private partnerships, without increasing the projected size of the Fund; unleashing additional spectrum to enable build out of mobile broadband networks; removing red tape and barriers to infrastructure investment; and collecting better data on broadband availability, penetration, pricing, and performance to help policymakers and consumers alike.

As a unanimous Commission held in its Joint Statement on Broadband earlier this year: "Working to make sure that America has world-leading high-speed broadband networks—both wired and wireless—lies at the very core of the FCC's mission in the 21st century." As numerous studies show, America is behind where it needs to be on broadband to maintain its global competitiveness and drive economic growth. Today's report is a reminder that we must move swiftly to implement the recommendations of the National Broadband Plan. I look forward to working with my colleagues to fulfill our responsibility.

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, as Amended by the Broadband Data Improvement Act; A National Broadband Plan for Our Future*, GN Docket Nos. 09-137, 09-51, Sixth Broadband Deployment Report

The sixth time is the charm. At last—a section 706 Report where broadband is really broadband, where zip codes are not surrogates for subscribers, and where the documented failure to connect millions upon millions of Americans disproves previous FCC findings that broadband is being reasonably and timely deployed. I am pleased to support the Broadband Deployment Report that we issue today.

Pursuant to section 706 of the Telecommunications Act of 1996, as amended by the Broadband Data Improvement Act—now section 1302(b) of Title 47 of the United States Code—the Commission is tasked with determining whether advanced telecommunications capability is being made available to ***all*** Americans in a reasonable and timely fashion. With that statutory mandate, Congress recognized how critical access to broadband is to the well-being of our country. Last year, Congress and the Administration reaffirmed the importance of broadband by charging the FCC to develop a national strategy for deployment and adoption. For all of the challenges this country faces—whether it's job creation, education, energy, climate change and the environment, international competitiveness, health care or equal opportunity—there is no solution that does not have a broadband component to it.

So while this may technically be the Sixth Report, it is—in my opinion—the first really credible effort by the Commission to deliver a report based on data of the quality and granularity needed to be truly responsive to Congress. With this Report, we have a much more comprehensive view of where our country stands when it comes to broadband availability, and we have measures for assessing our progress nationally and as compared with our global competitors.

By relying on an inadequate and unrefined approach to data collection for the previous five reports, the Commission seriously defaulted on its statutory responsibility. Going down the same old path here would have done a further injustice to this country's reinvigorated commitment to broadband. In early data collection exercises, the Commission used information from service providers that simply reported on which zip codes had at least one subscriber to broadband service at a speed of 200 kbps or higher. I still fail to see how anyone ever viewed this approach as indicative of anything useful. The false impression left by that approach was that everyone in a zip code was fully connected to high-speed broadband when all we really knew was that one person or business somewhere—perhaps on the very fringe of a zip code—subscribed to a minimum-speed service. That told us nothing about the extent to which broadband was available within a zip code or the quality of that service. Even though the majority of the Commission recognized the limited usefulness of the data in previous reports, it nonetheless concluded that the information was accurate enough to make a judgment about the state of broadband deployment for all Americans. As such, it found that the percentage of zip codes with at least one broadband subscriber—97% of the zip codes—adequately reflected the percentage of the population with access to broadband, and found, therefore, that all broadband was being deployed to all Americans in a reasonable and timely fashion.

Good data is a prerequisite to good policy choices. The five preceding reports lacked such data and the results were … poor policy choices. This is even clearer now than it was at the time of those reports, given the depth of data we that has been mined as part of the lengthy, fact-driven process that resulted in the National Broadband Plan, including input collected from the newly-revised FCC Form 477

requiring providers to report broadband subscribership by Census Tract instead of zip code. The National Broadband Plan observed that in the United States today there are digital divides when it comes to access to high-quality, value-laden, affordable broadband, between the haves and have-nots, between those living in big cities and those living in rural areas or on tribal lands, between the able-bodied and persons with disabilities. Today's Report sadly confirms the existence of those digital divides. With these data-reliant observations, how could the Commission possibly continue to conclude that all is well and good when it comes to broadband deployment to ***all*** Americans? With our heads in the sand for so many years, is it any surprise other nations catapulted ahead of the United States in the broadband race?

To remedy the negative findings of the Report, the next step—as mandated by statute—is for the Commission to take immediate action to accelerate deployment of such capability through the removal of barriers to infrastructure investment and the promotion of competition in the market. Fortunately, through the recommendations of the National Broadband Plan, we have a sound path available to us. The findings of today's Report summon us to implement those recommendations and thereby address our statutory responsibilities. This Commission stands poised to move forward on such a path. As with all great infrastructure challenges this country has faced, we must move forward in a collaborative effort, where the Commission and industry, along with consumers, are working together for an America with ubiquitous, affordable, high-speed, value-laden broadband. While there is no doubt that broadband deployment and adoption have grown significantly over the last decade, we still have a long way to go to ensure that all Americans have broadband access.

While I support today's Report as one that is light years ahead of its prior iterations, there is still room for improvement. We must strive to make future reports even more detailed and thorough, particularly as broadband mapping information becomes available pursuant to the Broadband Data Improvement Act. In addition, it is critical that the United States understand, track and compare its approaches to broadband with those of our global competitors even more deeply than we do here. To that end, I hope to see a more in-depth global dimension to future reports. I am confident that the course we start down with today's Report will lead us to just such an outcome.

I commend everyone at the Commission—and they are many—who contributed their expertise and analysis to the production of this much-improved Report.

DISSENTING 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; A National Broadband Plan for Our Future*, GN Docket Nos. 09-137, 09-51, Sixth Broadband Deployment Report

Section 706 of 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." In all previous reports dating back to 1999, the FCC has answered "yes" to that question. In this Report, however, the answer is "no" for the first time. This 180 degree reversal is unsettling considering that since the issuance of the Commission's first Section 706 Report, America has made impressive improvements in developing and deploying broadband infrastructure and services. In fact, referencing findings from the National Broadband Plan, this Report even states 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." I am concerned that this Report fails to provide sufficient justification as to why the Commission is reversing course from previous reports.

Instead of focusing on the great strides that America has made in broadband *deployment*, as the Act requires, this Report emphasizes subscribership. Collecting granular data, including subscribership numbers, is important. But, subscribership data does not equate to the "*availability"* of broadband, which is what Congress requires the Commission to assess under Section 706. In many instances the Report confuses the facts by substituting the terms "deployment" and "subscribership" as if they were synonymous and interchangeable. They are not. "Deployment" and "subscribership" are two distinct concepts with different attributes and areas for improvement. Our task is to focus on Congress' explicit directive to analyze deployment progress for purposes of the Section 706 Report. Today, however, the majority is sidelining the deployment figure of 95 percent in favor of a seemingly smaller subscribership number. It is only reasonable to question the rationale behind this confusing pivot.

The plain language of Section 706 was written with a deregulatory bent, but I am concerned that regulating with a light touch is not what this current Report will be used for in the future. In Section 706(b), Congress stated that "[i]f the Commission's determination is negative, it shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market." Today's Report concludes that the Commission will meet this statutory requirement by addressing the National Broadband Plan's proposals. It is unclear where that conclusion will lead, however. As a result of proceedings recently initiated by the Commission – such as the Notice of Inquiry asking whether the Commission should regulate 21st Century broadband Internet access services under old common carrier rules – I question whether this Report will be used to justify additional regulation, contrary to the Act's goal of "removing barriers to infrastructure investment."

The Commission should focus its resources and energy on connecting the 7 million households that currently do not have access to high-speed Internet. Although broadband has proliferated across America faster than any other transformative modern technology, the small percentage of Americans who do not have access to it deserve our highest priority. Not only does connecting the unserved make for sound public policy, it is also Congress' mandate to us as explicitly called for in the Act. Reforming our Universal Service subsidy program coupled with opening windows of opportunity for the construction of new delivery platforms, such as wireless broadband, can be accomplished without contorting data and

conclusions or laying a predicate for more regulation. Doing the latter only undermines the pursuit of our Congressional directives.

Therefore, I respectfully dissent.

STATEMENT OF
COMMISSIONER MIGNON L. CLYBURN

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; A National Broadband Plan for Our Future*, GN Docket Nos. 09-137, 09-51, Sixth Broadband Deployment Report

Access to broadband at home is no longer a convenience, it is a necessity. Without broadband, it is more difficult for citizens to participate in our economy, communicate with others, and obtain access to critical information that is available only online. Most parents cannot search for employment without using the Internet, and children who use the Internet during the school day often need access to it at home to complete their homework, research term papers, and apply to college. Yet our most recent data indicates that 14 to 24 million Americans lack access to broadband in their homes. For those Americans who lack access, it does not matter to them that 95% of Americans have access. What matters to them is that *they* do not have access in *their homes*. Not long ago, one mother shared her experience on broadband.gov and expressed frustration that not less than half a mile away, her neighbors have broadband. They can work from home when needed. Their children can access the Internet to improve their educational experience from home. As a nation, we should not be content when a segment of our population is left behind. Indeed, Section 706 contemplates that *all* Americans obtain the benefits of broadband.

Accordingly, I believe that it is appropriate for the Commission to conclude that broadband has not been deployed in a reasonable and timely fashion to all Americans, especially given the additional broadband availability data from the National Broadband Plan that we rely upon in this Sixth Report. In addition, I believe that where companies have had a business case to offer broadband service, they have done so. Nonetheless, there are many geographic areas in the U.S. where broadband still is not available because it is not economical for the private sector to deploy broadband and offer service. In order to remedy the lack of broadband availability, it is appropriate that the Commission fully consider the recommendations made in the National Broadband Plan to encourage broadband deployment, including for example, comprehensive reform of the universal service fund.

Universal availability, however, will be in vain unless we have universal adoption of broadband as well. Nearly 93 million Americans have not adopted broadband at home. Cost is the most cited reason for not subscribing to broadband service. The National Broadband Plan made a number of recommendations on how to make broadband affordable for all Americans, no matter where they live or what their income may be. Other commonly cited barriers to adoption include digital literacy and relevancy. I support the development of a Digital Literacy Corps – a group that will be dedicated to ensuring all Americans recognize the many benefits of broadband and are comfortable with digital technology. I am committed to doing my part in addressing these issues as expeditiously as possible so we can achieve an America where every citizen has access to and has adopted broadband.

DISSENTING STATEMENT OF
COMMISSIONER MEREDITH A. BAKER

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; A National Broadband Plan for Our Future*, GN Docket Nos. 09-137, 09-51, Sixth Broadband Deployment Report

The Commission's obligation under section 706 is to evaluate broadband infrastructure deployment. By every possible metric, wired, wireless, and satellite companies continue to pour billions of dollars into our nation's broadband network. From 2003 to 2009, under a consistent minimal regulatory framework, broadband providers have invested $27 billion annually in networks and infrastructure.[1] Each year networks go further and faster. The National Broadband Plan found that 95 percent of the U.S. population has access to a 4 Mbps/1 Mbps terrestrial broadband service, and 80 percent have choice of broadband offerings.[2]

In every prior Section 706 Report, the Commission concluded that broadband deployment was timely and reasonable. In a striking departure from that decade of consistent Commission findings, the Commission has changed course by concluding that broadband deployment now is not reasonable and timely. I cannot support this decision. Broadband infrastructure deployment and investment are a remarkable and continuing success story, and I am troubled by giving such significant efforts a failing grade.

The goal encapsulated by section 706 is universal broadband availability. Nowhere in section 706 does it require that goal to be reached definitively in 2010. Rather, the question is whether network providers continue to make demonstrable progress towards that goal. All evidence suggests that answer be made in the affirmative. A finding of timely and reasonable need not—nor should it be—a congratulatory one. Nor is it a finding that the government has no role to promote broadband deployment in areas in which market forces will not likely result in deployment. Chairman Kennard explained that a finding of timely and reasonable does not "let[] us off the hook" from our oversight role.[3] He explained, "[w]e must always be looking for ways to remove barriers to investment and promote competition."[4] I agree, and believe that the same rationale and approach applies equally to this Report. Broadband deployment continues to be timely and reasonable, but the job is far from complete.

Moreover, I have a number of concerns with the manner in which the Commission reached this inopportune decision. First, the Report focuses almost exclusively on terrestrial broadband options. Section 706 is not technology specific, yet this Report limits its findings to terrestrial solutions even when

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[1] Robert W. Crandall & Hal J. Singer, *The Economic Impact of Broadband Investment*, at 2 (Feb. 23, 2010) (available at http://www.broadbandforamerica.com/press-releases/broadband-america-study-shows-importance-investment-0) (last visited July 20, 2010).

[2] FCC, Omnibus Broadband Initiative (OBI), *Connecting America: The National Broadband Plan*, GN Docket No. 09-51, at 20 (2010).

[3] *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 1999*, Separate Statement of Chairman William E. Kennard, Report, 14 FCC Rcd 2398 (1999).

[4] *Id.*

discussing relatively low speeds of service easily reached by today's wireless and satellite offerings.[5] The Commission should not make consumer judgments about the viability and utility of satellite and wireless solutions that provide clear facilities-based competition opportunities. Current technologies may not allow competition at higher speeds, but satellite broadband, 3G and 4G wireless solutions do provide a level of connectivity that is "broadband" to most consumers, as well as the additional functionality of mobility.

Second, I am troubled by our decision as a regulatory agency to decide a fixed definition of broadband speed as 4 Mbps downstream, 1 Mbps upstream. It is true that prior Section 706 Reports have focused on slower "first generation" broadband services, and a fresh look at broadband speed is appropriate. I would have preferred a more fulsome evaluation of broadband deployment based on the five tiers of broadband speeds adopted by the Commission to provide fuller context as to how broadband services are deployed and used across different speed tiers.[6] I share concerns expressed in prior Section 706 Reports that our speed measurements should be "designed for data collection and as points of reference."[7] We should not use our broadband speed measurements as "an ultimate goal," nor should it be used "to drive the market."[8] I also have concerns with the merits of selecting 4 Mbps/1Mbps as the broadband speed with which to evaluate deployment. The National Broadband Plan reports that more than half of consumers that could purchase 4 Mbps/1 Mbps broadband have concluded that a slower offering is more than sufficient for their broadband needs.[9] Even if we were to adopt a new higher speed, greater context as to how 4 Mbps-capable broadband networks have been deployed over time would greatly inform this analysis. We should not select a new speed and then judge the reasonableness of deployment based upon a snapshot of current conditions.

Third, the Commission should not adopt National Broadband Plan findings and recommendations without opportunity for notice and comment as well as Commission deliberation. The Plan's findings and recommendations relied upon in this Report may or may not be the correct ones, but we should not adopt the 4Mbps/1Mbps speed threshold as the definition of "broadband" without conducting our own due diligence. Indeed, the Technical Paper describing the model relied upon by the Plan has only recently been placed out for comment in the context of universal service reform.[10] Regardless of the conclusion the Commission ultimately reaches in that context, this Report prematurely accepts the Model's results today in concluding deployment is not timely and reasonable.

Lastly, the Commission's finding of nationwide untimely and unreasonable deployment is overly broad. Our analysis should be significantly more granular to identify particular geographic areas or communities for which deployment has lagged. A more granular and focused analysis could help target commercial and community investment going forward and bring public attention to the affected communities.

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[5] *Sixth Broadband Deployment Report*, FCC 10-129, *supra*, at n.19 (detailing access to terrestrial 768 kbps services).

[6] *Local Telephone Competition and Broadband Reporting,* Report and Order, 19 FCC Rcd 22340 (2004).

[7] *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*, Third Report, 17 FCC Rcd 2844, para. 10 (2002).

[8] *Id.*

[9] *Sixth Broadband Deployment Report*, *supra*, at n.81.

[10] *Connect America Fund; A National Broadband Plan for Our Future; High-Cost Universal Service Support*, Notice of Inquiry and Notice of Proposed Rulemaking, 25 FCC Rcd 6657, at App. C (2010).

The Commission should redouble its effort to promote and create incentives for private investment in networks and technologies that can drive broadband further and faster throughout the nation. I am troubled, however, by recent developments at the Commission that appear to be moving us in the opposite direction. Specifically, I have concerns that the proposals to shift broadband Internet access services to monopoly-era Title II requirements will undermine the regulatory certainty and stable foundation that has attracted capital to this sector to date, and will be necessary to fund tomorrow's broadband networks. The Commission should maintain the existing minimal regulatory approach under Title I and work proactively with carriers and investors to target actions to attract more capital and resources to support broadband networks, particularly in unserved and underserved communities.