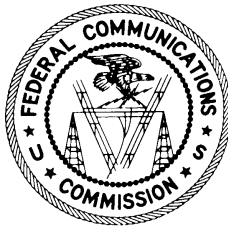


Internet Access Services: Status as of December 31, 2012

Industry Analysis and Technology Division
Wireline Competition Bureau
December 2013



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Internet Access Services: Status as of December 31, 2012

Introduction. This report summarizes information about Internet access connections over 200 kilobits per second (kbps) in at least one direction in service in the United States on December 31, 2012, as collected by FCC Form 477. Form 477 gathers standardized information about *subscriber*ship to Internet access services in the fifty states, District of Columbia, and inhabited insular areas (American Samoa, Guam, Northern Mariana Islands, Puerto Rico, and U.S. Virgin Islands). The information is reported by telephone companies, cable system operators, terrestrial wireless service providers, satellite service providers, and other facilities-based providers of advanced telecommunications capability.¹ This is the ninth report to include details about subscriber differences among census tracts and counties, as well as subscriber differences among the states.²

Notable developments between December 2011 and December 2012 include:

- Internet connections overall are growing. The number of connections over 200 kbps in at least one direction increased by 14% year-over-year to nearly 262 million.
- At year-end 2012, there were almost 65 million fixed and 64 million mobile connections with download speeds at or above 3 megabits per second (Mbps) and upload speeds at or above 768 kbps as compared to 51 million fixed and 31 million mobile connections a year earlier. Figure 1 illustrates the trend in connections speeds from December 2009 through December 2012, and Figure 2 presents a side-by-side comparison of fixed and mobile connection speeds in December 2012.³

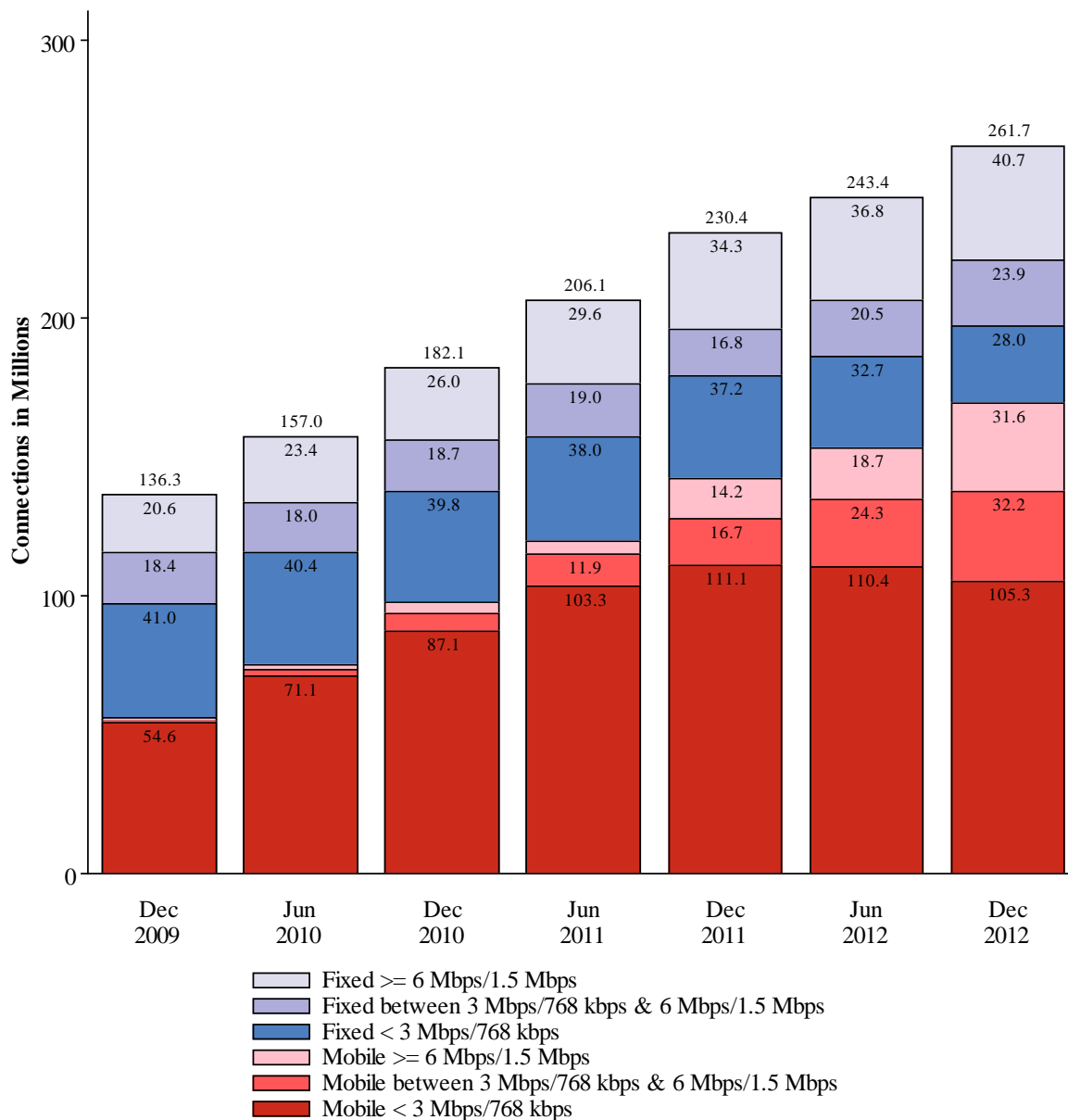
¹ See the Technical Notes and the Glossary that appear at the end of this report for more-detailed information about the Form 477 data collection and the meaning of terms used in this report.

Readers should note two key aspects of the Form 477 data. First, if service connections of different speeds are *available* to a particular consumer for purchase – from one or more suppliers – then only the purchased connection is counted by Form 477. Second, the reported connection speed is typically the advertised speed of the purchased service, and it is possible that the purchased service will not operate at its advertised speed at all times. The Commission has sponsored tests of actual consumer broadband speeds. See, e.g., Federal Communications Commission, Office of Engineering and Technology and Consumer and Governmental Affairs Bureau, *2013 Measuring Broadband America: A Report on Consumer Wireline Broadband Performance in the U.S.* (February 2013), available at www.fcc.gov/measuring-broadband-america.

² Census tract-level data were first collected for December 2008. For an overview of program history, see *High-Speed Services for Internet Access: Status as of December 31, 2008* (February 2010) (*December 2008 High-Speed Report*) at pp. 1-4, available at www.fcc.gov/wcb/iadt/comp.html. Readers who are interested in historical trends in the Form 477 data should note the changes in reporting requirements that were effective in 2008 and earlier, in 2005.

³ Reporting entities place connections into speed tiers defined by predetermined ranges of upload and download speeds. Note that the Commission has decided to implement a different approach starting with data as of June 30, 2014. For each fixed product subscribed to in a census tract, the provider will report connections by the maximum advertised upload and download speeds of the product in that census tract. For each mobile product subscribed to in a state, the provider will report connections by the minimum advertised upload and download speeds of the product in that state. As the Commission explained, while the maximum advertised speed is a reasonably reliable indicator of the speed of fixed service that subscribers receive, a wireless service provider's targeted minimum data speed in a market typically is a primary driver of the wireless network design that determines the market coverage boundaries. See *Modernizing the FCC Form 477 Data Program*, WC Docket No. 11-10, Report and Order, 28 FCC Rcd 9887, 9908-09, 9915, paras. 42 n.138, 62 (2013) (*June 2013 Form 477 Modernization Order*).

Figure 1
Fixed Connections and Mobile Connections by Speed 2009-2012*



* Some previously published data have been revised. Figures may not sum to totals elsewhere in this report due to rounding. Connections include both residential and business connections. In December 2012, total connections were reported as 32% residential fixed connections, 3% business fixed connections, 50% mobile connections to non-business subscribers, and 15% mobile connections to business subscribers.

Figure 2
Speed Composition of Fixed Connections and Mobile Connections
as of December 31, 2012



- The number of connections with downstream speeds of at least 10 Mbps increased by 35% over December 2011, to 60 million connections.⁴
- Growth is particularly high in mobile Internet subscriptions. The number of mobile subscriptions with speeds over 200 kbps in at least one direction grew to more than 169 million – up 19% from December 2011. The number of fixed-location connections at speeds over 200 kbps in at least one direction increased by 5% year-over-year to nearly 93 million.

Connection speeds in detail. The Form 477 program categorizes reportable connections into 72 speed tiers defined by eight ranges of downstream and nine ranges of upstream speed. In this overview discussion, we organize the extensive information collected for December 2012 into three groups of downstream speeds and three groups of upstream speeds. We do this separately for fixed-location connections and for mobile connections. As in previous reports, we use the Form 477 speed tier breakpoints of 3 Mbps and 6 Mbps to organize the information about downstream speeds, and we use the Form 477 speed tier breakpoints of 768 kbps and 1.5 Mbps to organize the information about upstream speeds.⁵

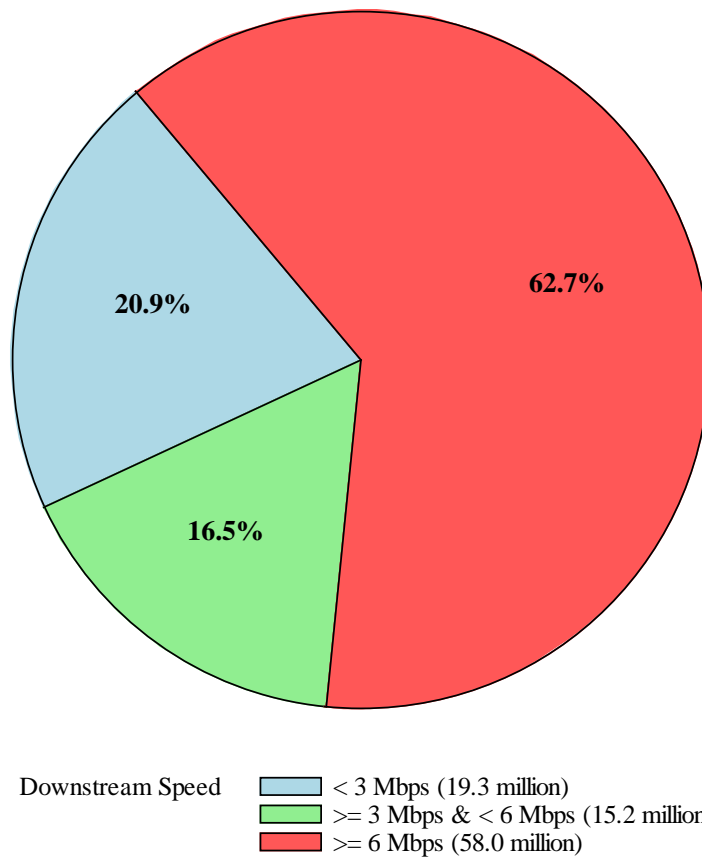
Fixed connections – downstream speeds. Figure 3(a) illustrates how the nearly 93 million fixed connections reported for December 2012 were distributed across the three ranges of *downstream speed* defined by breakpoints at 3 Mbps and at 6 Mbps.

⁴ Compare Table 10 of this report with Table 10 of *Internet Access Services: Status as of December 31, 2011* (February 2013), available at www.fcc.gov/wcb/iatd/comp.html.

⁵ Our narrative discussion of the speeds of fixed connections is summarized more concisely in Chart 2, at p. 19, and our narrative discussion of the speeds of mobile connections is summarized more concisely in Chart 5, at p. 22.

The Commission benchmarked broadband as a transmission service that enables an end user actually to download Internet content at 4 Mbps and to upload Internet content at 1 Mbps over the service provider's network. That benchmark does not exactly match any Form 477 speed tier, and the Commission decided to evaluate the evidence of broadband availability using the Form 477-defined breakpoints of 3 Mbps downstream and 768 kbps upstream to proxy the speed benchmark of 4 Mbps downstream and 1 Mbps upstream. 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, Amended by the Broadband Data Improvement Act*, GN Docket Nos. 09-137, 09-51, Report, 25 FCC Rcd 95560, 9563, 9568, paras. 11, 20 (2010) (*Sixth Broadband Deployment Report*).

Figure 3(a)
Distribution of Reportable Fixed Connections (92.6 million) by
Downstream Speed as of December 31, 2012

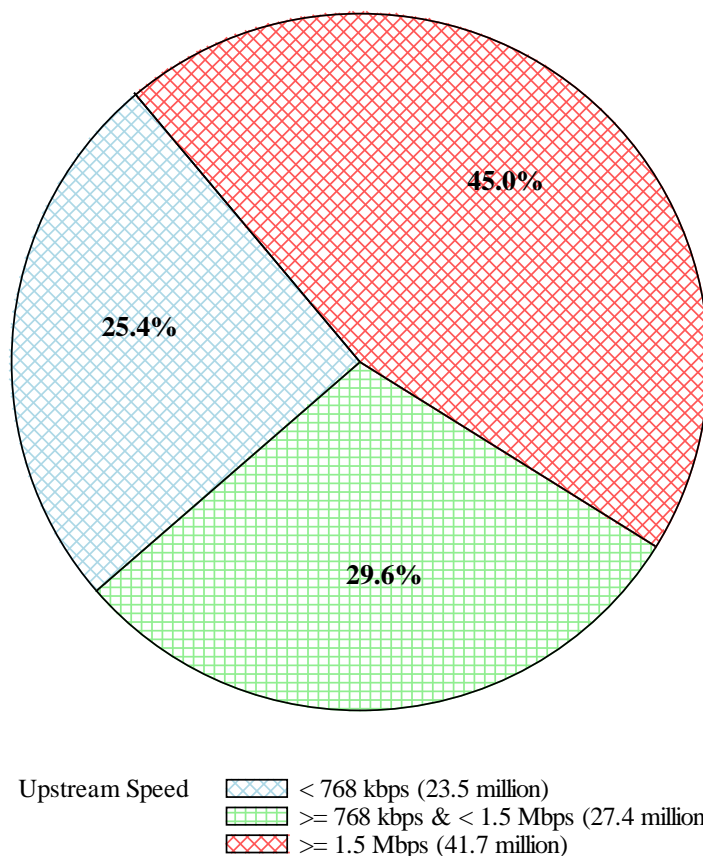


- In December 2012, 21% of reportable fixed connections (or 19.3 million connections) were slower than 3 Mbps in the downstream direction, 16% (or 15.2 million connections) were at least 3 Mbps in the downstream direction but slower than 6 Mbps, and 63% (or 58.0 million connections) were at least 6 Mbps in the downstream direction.⁶

Fixed connections – upstream speeds. Figure 3(b) illustrates how the nearly 93 million fixed connections reported for December 2012 were distributed across the three ranges of *upstream speed* defined by breakpoints at 768 kbps and at 1.5 Mbps.

⁶ See Chart 2, at p. 19.

Figure 3(b)
Distribution of Reportable Fixed Connections (92.6 million) by
Upstream Speed as of December 31, 2012

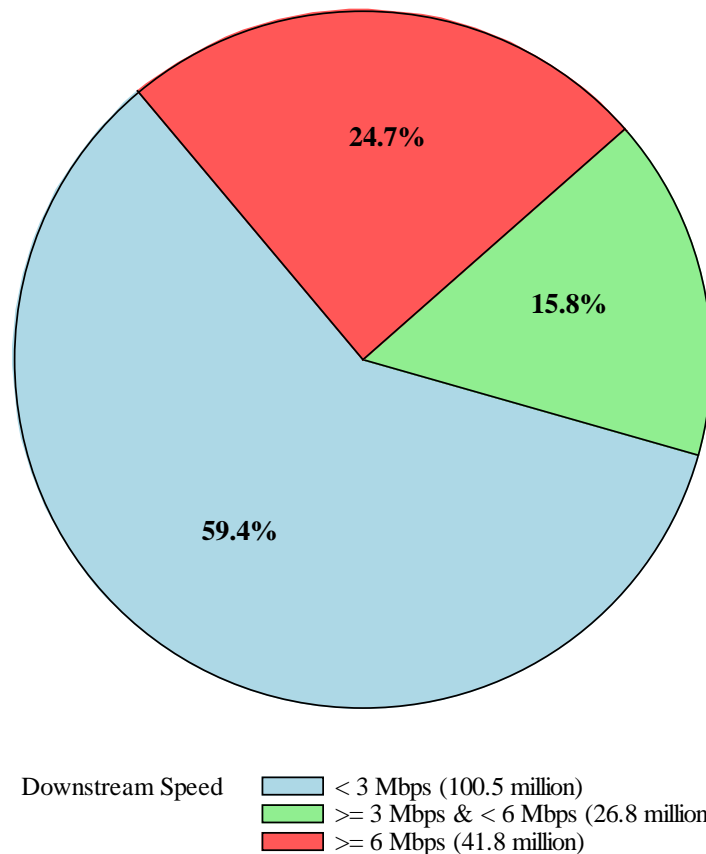


- In December 2012, 25% of reportable fixed connections (or 23.5 million connections) were slower than 768 kbps in the upstream direction, 30% (or 27.4 million connections) were at least 768 kbps in the upstream direction but slower than 1.5 Mbps, and 45% (or 41.7 million connections) were at least 1.5 Mbps in the upstream direction.⁷

⁷ *Ibid.*

Mobile connections – downstream speeds. Figure 4(a) illustrates how the more than 169 million mobile connections reported for December 2012 were distributed across the three ranges of *downstream speed* defined by breakpoints at 3 Mbps and at 6 Mbps.

Figure 4(a)
Distribution of Reportable Mobile Connections (169.2 million) by
Downstream Speed as of December 31, 2012

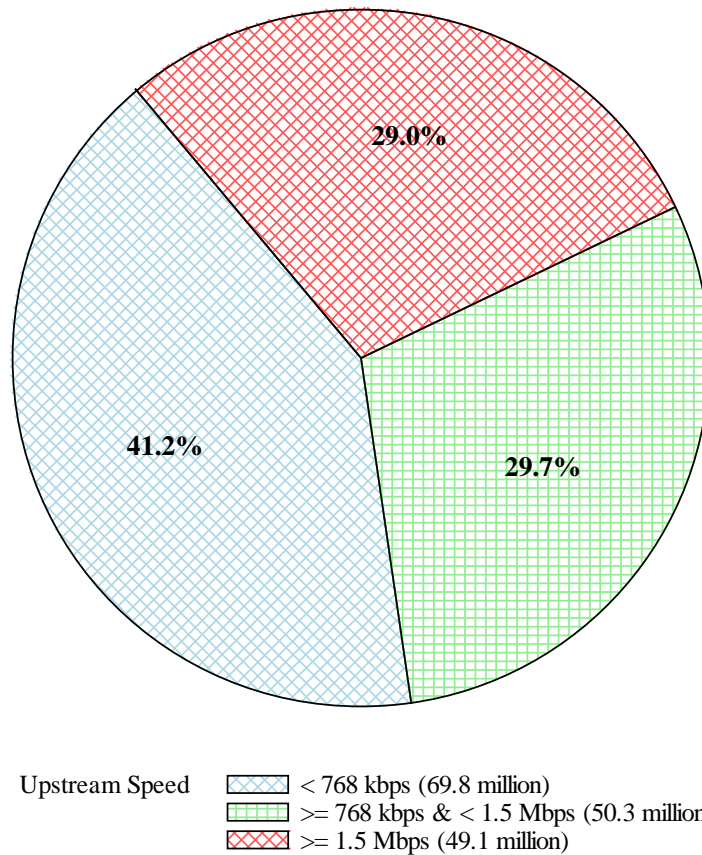


- In December 2012, 59% of reportable mobile connections (or 100.6 million connections) were slower than 3 Mbps in the downstream direction, 16% (or 26.8 million connections) were at least 3 Mbps in the downstream direction but slower than 6 Mbps, and 25% (or 41.8 million connections) were at least 6 Mbps in the downstream direction.⁸

Mobile connections – upstream speeds. Figure 4(b) illustrates how the more than 169 million mobile connections reported for December 2012 were distributed across the three ranges of *upstream speed* defined by breakpoints at 768 kbps and at 1.5 Mbps.

⁸ See Chart 5, at p. 22.

Figure 4(b)
Distribution of Reportable Mobile Connections (169.2 million) by
Upstream Speed as of December 31, 2012

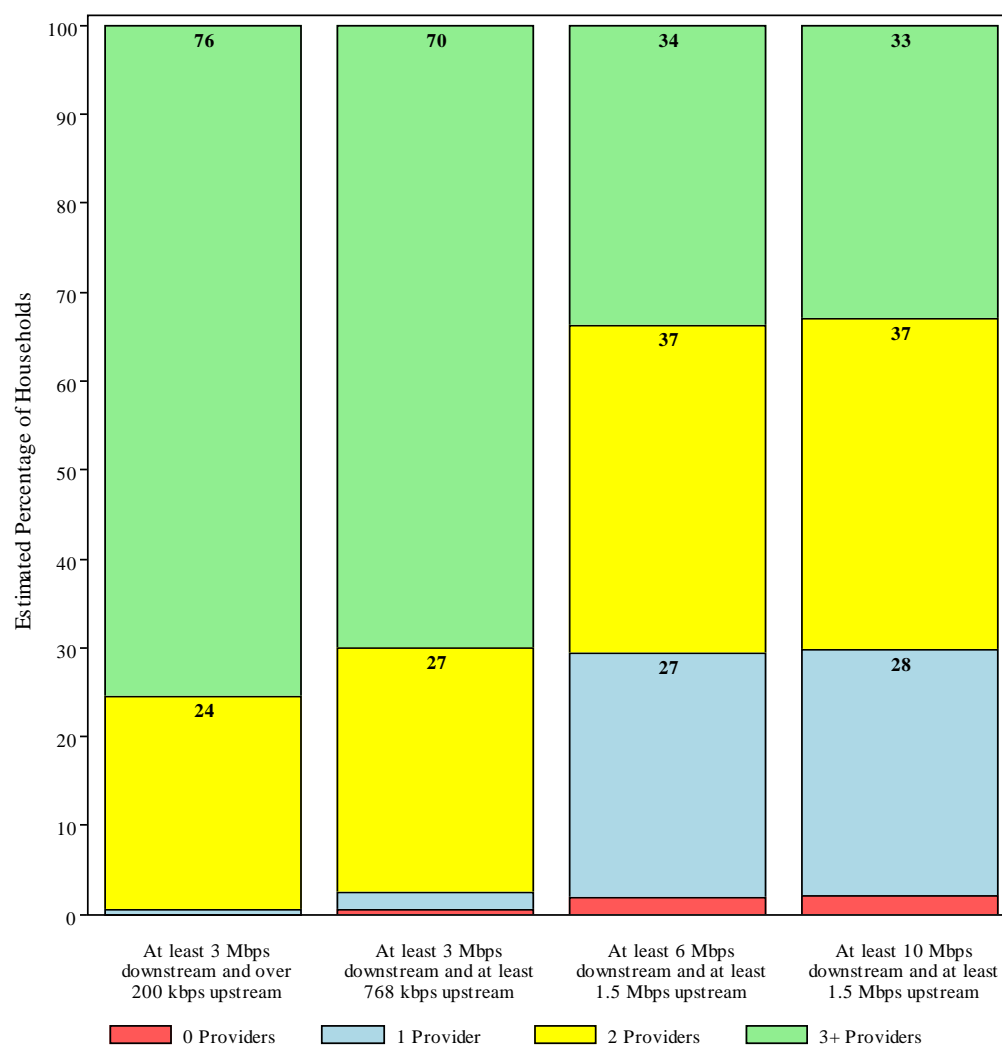


- In December 2012, about 41% of reportable mobile connections (or 69.8 million connections) were slower than 768 kbps in the upstream direction, 30% (or 50.3 million connections) were at least 768 kbps in the upstream direction but slower than 1.5 Mbps, and 29% (or 49.1 million connections) were at least 1.5 Mbps in the upstream direction.⁹

⁹ *Ibid.*

Providers by census tract by connection speed. In Figure 5(a), we estimate the percentages of households located in census tracts where zero, one, two, or three or more providers reported residential fixed-location connections of several different speeds in December 2012. In doing so, however, we emphasize that a provider that reports residential fixed-location connections of a particular speed in a particular census tract may not necessarily offer service at that speed everywhere in the census tract. Accordingly, the number of providers shown in Figure 5(a) does not necessarily reflect the number of choices available to a particular household, and does not purport to measure competition. We note that the Commission has adopted changes to Form 477 that will enable a more precise analysis in future.¹⁰

Figure 5(a)
Percentages of Households Located in Census Tracts Where Providers Report Residential Fixed-Location Connections of Various Speeds as of December 31, 2012

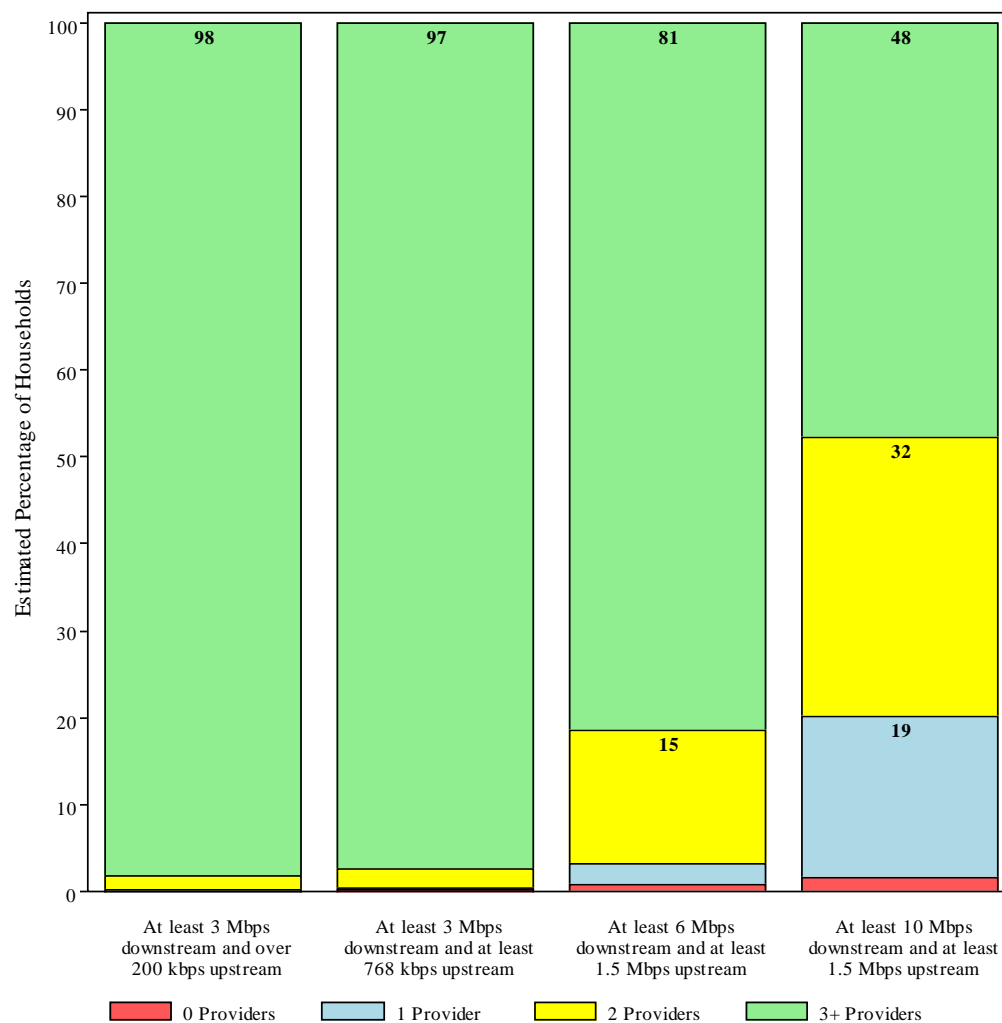


Figures may not sum to 100% due to rounding.

¹⁰ The Commission has decided to add deployment information to Form 477 starting with data as of June 30, 2014, and the information about fixed broadband deployment will be reported by census block. (There are approximately 11 million census blocks and approximately 74,000 census tracts, although not all contain households.) See *June 2013 Form 477 Modernization Order*, 28 FCC Rcd at 9902-05, paras. 32-35.

In Figure 5(b), we estimate the percentages of households in census tracts where providers reported purchased residential fixed-location connections of different speeds *or* reported operating a mobile wireless network capable of sending or receiving data at the indicated speeds. Again, we emphasize that such providers may not necessarily offer services at those speeds everywhere in the census tract, and that these data do not necessarily reflect competition.

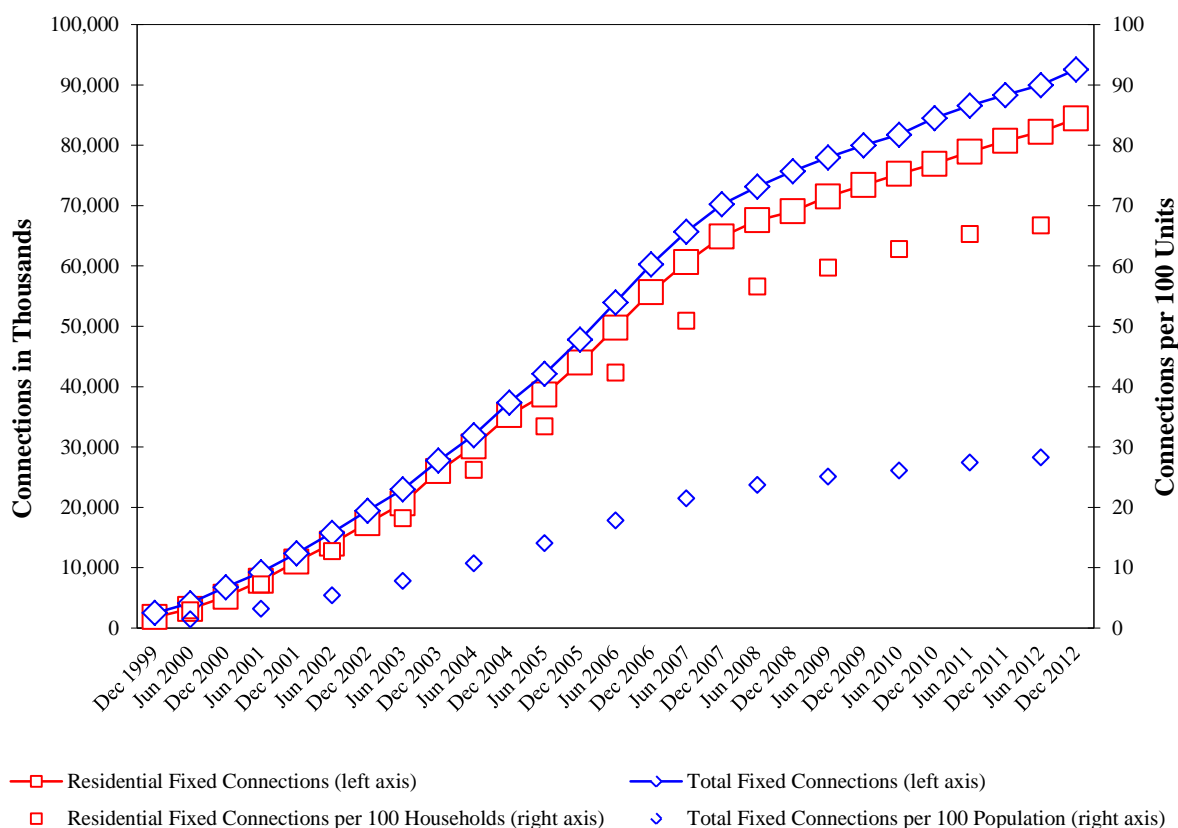
Figure 5(b)
Percentages of Households Located in Census Tracts Where Providers Report Residential Fixed-Location Connections of Various Speeds or Operate a Mobile Wireless Network Capable of Delivering Service of Various Speeds as of December 31, 2012



Figures may not sum to 100% due to rounding.

Internet access adoption. The Commission has systematically collected, compiled, and published data about the adoption of fixed-location Internet access connections faster than 200 kbps in at least one direction for more than a decade. Figure 6 illustrates the adoption of fixed-location Internet access connections (that is, all reportable connections over 200 kbps in at least one direction except mobile wireless connections) since 1999.¹¹

Figure 6
Fixed-Location Connections 1999-2012
(Connections over 200 kbps in at least one direction)



- Between December 2002 and December 2012, total (business and residential) reportable fixed-location connections grew from 19 million connections to 93 million connections – at a compound annual growth rate of 17% per year.¹²
- Over the same ten-year period, residential fixed-location connections grew from 17 million connections to 84 million connections – also at a compound annual growth rate of 17% per year.

¹¹ For data through December 2004, only those providers with at least 250 connections in a state were required to report. Historical fixed-location connection counts not included in this report may be found in *June 2008 High-Speed Report* at Tables 1 and 3, available in Excel format at www.fcc.gov/wcb/iatd/comp.html.

¹² The compound annual growth rate (CAGR) is a smoothed rate of growth calculated in three steps. First, divide the ending (December 2012) value by the beginning (December 2002) value. Second, raise the result of that division to a power equal to one divided by the number of years in the period (in this case, 10 years, so the power is 1/10). Third, subtract the number one from the result of the second step.

- As we reported previously, between June 2002 and June 2012, household adoption – which we track in Figure 6 by comparing the number of residential fixed-location connections over 200 kbps in at least one direction to the number of households – increased from 13 connections per 100 households to 67 connections per 100 households.¹³

Other report highlights.

Residential subscribership

- Residential fixed-location Internet access connections over 200 kbps in at least one direction increased by 5% between December 2011 and December 2012, to 84 million. See Table 3.
- Reported residential mobile wireless service subscribers with mobile devices and data plans for full Internet access increased by 24%, to 131 million, between December 2011 and December 2012. See Table 3.
- The reported data show a 18% annual increase in the number of residential fixed-location connections that are at least 6 Mbps downstream and 1.5 Mbps upstream (from 32.3 million to 38.1 million) and a 20% annual increase in the number of connections that are at least 10 Mbps downstream and 1.5 Mbps upstream (from 31.6 million to 38.0 million). See Chart 12.

Household adoption of faster speeds

- As a national average in December 2012, there were 50 residential fixed-location connections per 100 households for connections with speeds that were reported to be at least 3 Mbps downstream and 768 kbps upstream.¹⁴ See Table 13.

¹³ See *Internet Access Services: Status as of June 30, 2012* (May 2013) at p. 12, available at www.fcc.gov/wcb/iatd/comp.html. We calculated residential fixed connections per 100 *households* using, in the denominator, U.S. household estimates from the Census Bureau's Current Population Survey (CPS) for July of each year and, for Puerto Rico and the other inhabited island areas, Census 2010 households for 2010 and later years and Census 2000 households for the earlier years. (The CPS also estimates U.S. households for March and November of each year.) Ratios calculated for different dates or by using alternative household estimates will differ somewhat from the ratios reported in Figure 6.

We also show total (including business as well as residential) fixed-location connections per 100 *population* in Figure 6, which we calculated using U.S. Census Bureau population estimates for the United States and Puerto Rico – which are as of July 1 each year – and, for the remaining inhabited island areas, Census 2010 population for 2010 and later years and Census 2000 population for the earlier years. This statistic, which is routinely reported by the Organization for Economic Cooperation and Development (OECD), incorporates connections to business locations into a comparison to persons. A more accurately measured indicator of this type would include only connections to residential locations, but OECD does not have comprehensive, consistent information about residential connections in the member countries. (We note that the ratio of accurately measured *residential* fixed-location connections to population has a maximum value for any given country and point in time – the value when *every* household is connected – if we assume that no household would have more than one fixed connection to its premises. For the United States in June 2012, for example, the maximum value would be 39 because there were about 123 million households in the United States and inhabited insular areas and a population of about 318 million according to the sources used for Figure 6.)

¹⁴ Increases over time in the ratio of residential fixed-location connections to households indicate that increasing shares of households are connected at home. The ratio is somewhat different from the “take rate” of offered service (which may also be called an “adoption rate”) because, as discussed in connection with Figure 5(a), some households may be located in areas where no fixed-location service is offered. These methodological differences

Census tract and county shares of households with reportable connections

- We estimate the share of households with fixed-location Internet access connections over 200 kbps in at least one direction in individual census tracts and counties as of December 31, 2012. We continue to observe substantial variation among these estimates. See Charts 15 and 16.
- For both census tracts and counties, we continue to find estimates above 100% for the share of households with reportable fixed-location Internet access connections. While this is likely to occur more frequently in areas where the number of housing units is substantially greater than the number of households, such as resort areas and beach communities, these results suggest that some filers are not accurately assigning customer connections to census tracts, and anecdotal evidence supports that conclusion.¹⁵

Household adoption rates and subscribership demographics

- The report includes charts that illustrate correlations between household subscribership, or *adoption*, rates and demographic measures. We update charts based on income, household density, education, age, and race. The data indicate that some demographic variables are correlated with the adoption of Internet access service. See Charts 17-29.

Maps of providers by census tract

- Maps depict the number of providers of reportable connections by census tract: (1) providers of total (combined residential and business) reportable fixed-location connections, (2) providers of *residential* reportable fixed-location connections, (3) providers of *residential* fixed-location connections at least 3 Mbps downstream and 768 kbps upstream, and (4) providers making reportable mobile wireless service *available*.¹⁶

Remainder of the report. The remainder of the report consists of tables, charts, and maps that highlight different aspects of Internet access service subscriptions. This information is organized into four sections, as described below. As always, publicly accessible data that are too voluminous to include in this report are available online at www.fcc.gov/wcb/iatd/comp.html.

- Detailed Summary Statistics: The Nation. Tables 1-12 and Charts 1-14 focus in order on: number of connections, speed of connections, technology of connections, and number of providers.

are discussed in greater detail in *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, Amended by the Broadband Data Improvement Act*, GN Docket No.11-121, Eighth Broadband Progress Report, 27 FCC Rcd 10342, 10386, para. 94 (2012).

¹⁵ For example, while contacting Form 477 filers with questions about reported data, FCC staff continue to find situations in which all connections reported for a county have been assigned to a single, anomalous census tract.

¹⁶ As discussed in the Technical Notes, a mobile wireless provider should only report service availability in census tracts where the provider operates a network capable of sending or receiving data at speeds above 200 kbps.

- Detailed Summary Statistics: The States. Tables 13-21 present comparable information for the individual states and our estimates of the shares of households that are connected at different speeds.
- Detailed Summary Statistics: Counties and Census Tracts. Charts 15-16 and Tables 22-26 present information about differences among counties and census tracts. This section concludes with two maps that illustrate differences among census tracts in the estimated share of connected households and the four maps (discussed above) that illustrate providers by census tract.
- Detailed Correlation Results: Demographic Measures. Charts 17-29 present details of the correlations observed between the estimated share of connected households and demographic measures.

* * * *

We invite users of this information to suggest improvements in the data analysis by using the attached customer response form or sending comments to IATDreports@fcc.gov for subject: December 2012 Internet services data, and to participate in proceedings the Commission undertakes to improve the data collection.

Detailed Summary Statistics: The Nation

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Table 1
Connections over 200 kbps in at Least One Direction 2008-2012
(In thousands)

<i>Technology</i>	2008	2009		2010		2011		2012	
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>
Total	102,239	119,433	136,294	157,017	182,065	206,131	230,394	243,397	261,731
Total Fixed	75,707	77,997	79,994	81,764	84,521	86,575	88,327	89,966	92,566
Mobile Wireless ¹	26,532	41,436	56,300	75,253	97,544	119,556	142,066	153,432	169,165

Table 2
Connections at Least 3 Mbps Downstream and 768 kbps Upstream 2008-2012
(In thousands)

<i>Technology</i>	2008	2009		2010		2011		2012	
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>
Total	31,120	33,332	40,669	45,552	55,110	64,819	82,019	100,277	128,472
Total Fixed	30,987	33,108	38,963	41,364	44,694	48,577	51,101	57,252	64,596
Mobile Wireless ¹	133	224	1,706	4,188	10,416	16,242	30,918	43,025	63,876

Table 3
Residential Connections over 200 kbps in at Least One Direction 2008-2012
(In thousands)

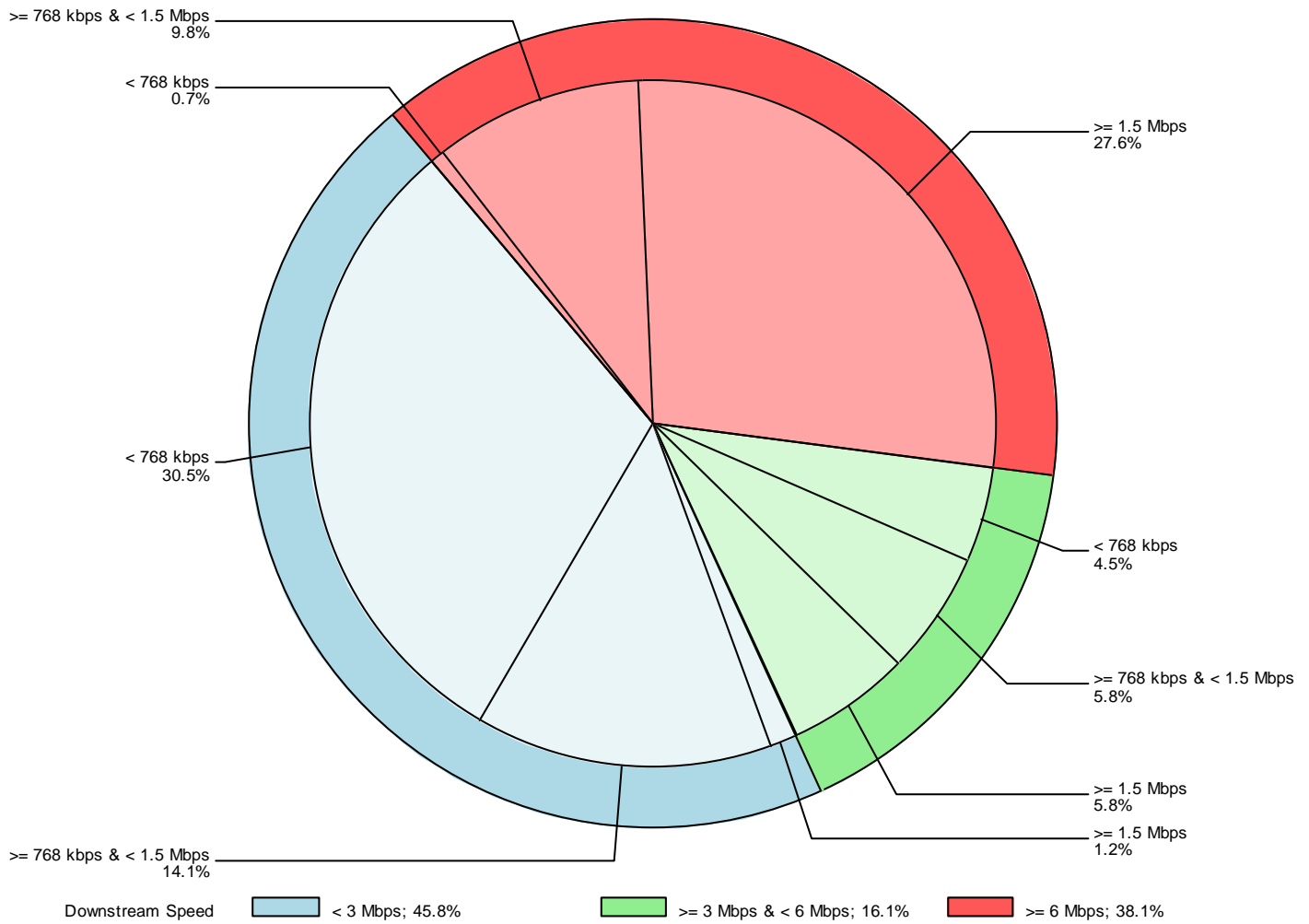
<i>Technology</i>	2008	2009		2010		2011		2012	
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>
Total	88,190	103,300	117,089	132,567	149,441	171,773	186,709	196,702	215,441
Total Fixed	69,047	71,509	73,394	75,251	76,918	78,906	80,716	82,236	84,421
Mobile Wireless ¹	19,142	31,791	43,695	57,316	72,523	92,867	105,993	114,466	131,019

Table 4
Residential Connections at Least 3 Mbps Downstream and 768 kbps Upstream 2008-2012
(In thousands)

<i>Technology</i>	2008	2009		2010		2011		2012	
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>
Total	29,127	31,356	38,426	42,243	47,632	51,783	63,740	78,618	105,192
Total Fixed	29,013	31,161	36,844	39,037	41,769	45,263	47,432	53,078	59,849
Mobile Wireless ¹	114	196	1,582	3,206	5,863	6,520	16,309	25,539	45,342

Note: Some historical data have been revised. Figures may not sum to totals due to rounding.
Source: FCC Form 477, Parts I and VI.

Chart 1
Distribution of Connections over 200 kbps in at Least One Direction
as of December 31, 2012



Connections over 200 kbps in at Least One Direction (in thousands)

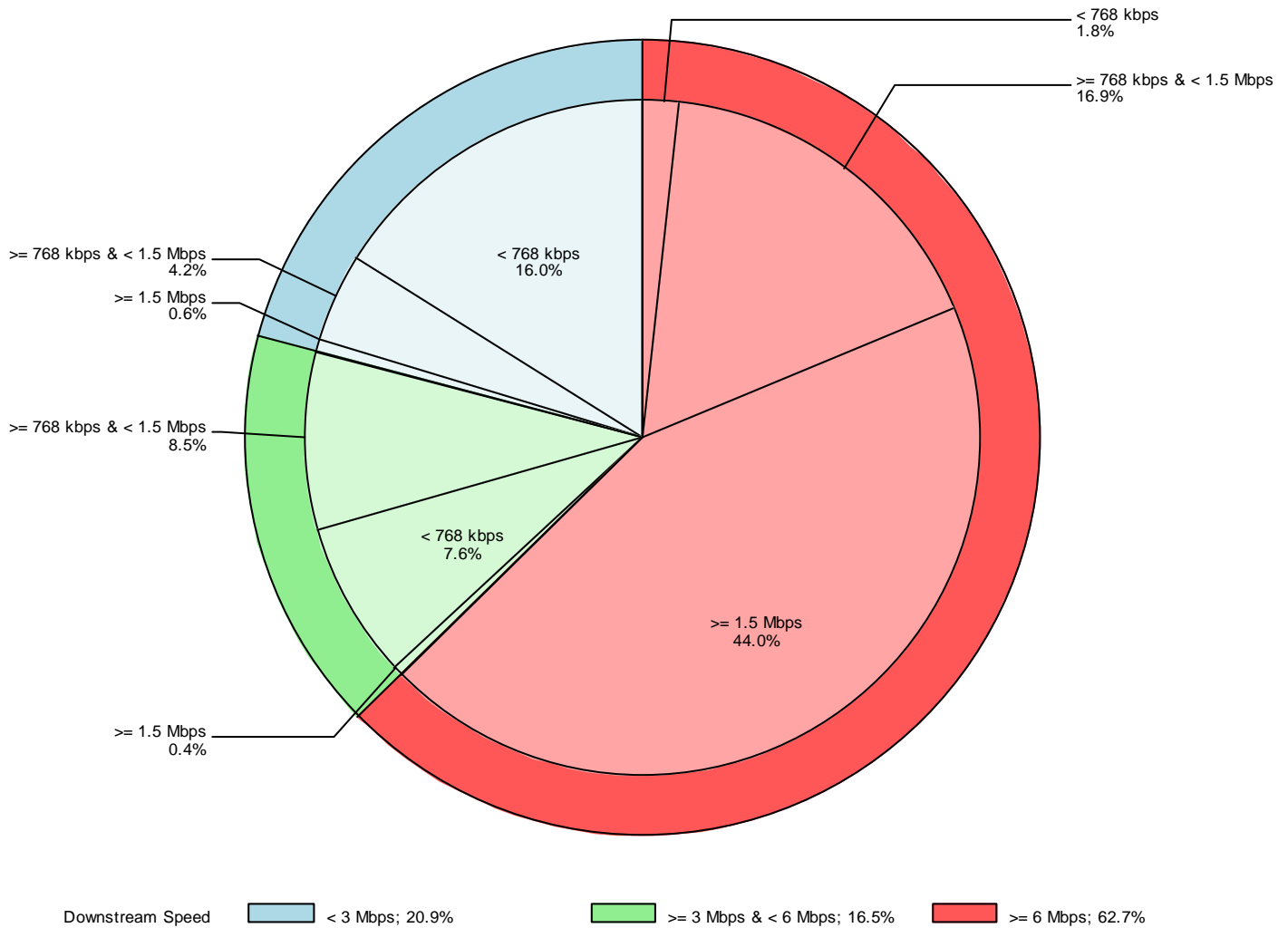
Upstream Speed	Downstream Speed			Total
	Less than 3 Mbps	At least 3 Mbps and less than 6 Mbps	At least 6 Mbps	
Less than 768 kbps	79,854	11,662	1,729	93,245
At least 768 kbps & Less than 1.5 Mbps	36,807	15,109	25,759	77,674
At least 1.5 Mbps	3,207	15,281	72,324	90,812
Total	119,868	42,052	99,812	261,731

Percentages

Less than 768 kbps	30.5	4.5	0.7	35.6
At least 768 kbps & Less than 1.5 Mbps	14.1	5.8	9.8	29.7
At least 1.5 Mbps	1.2	5.8	27.6	34.7
Total	45.8	16.1	38.1	100.0

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

Chart 2
Distribution of Fixed Connections over 200 kbps in at Least One Direction
as of December 31, 2012



Fixed Connections over 200 kbps in at Least One Direction (in thousands)

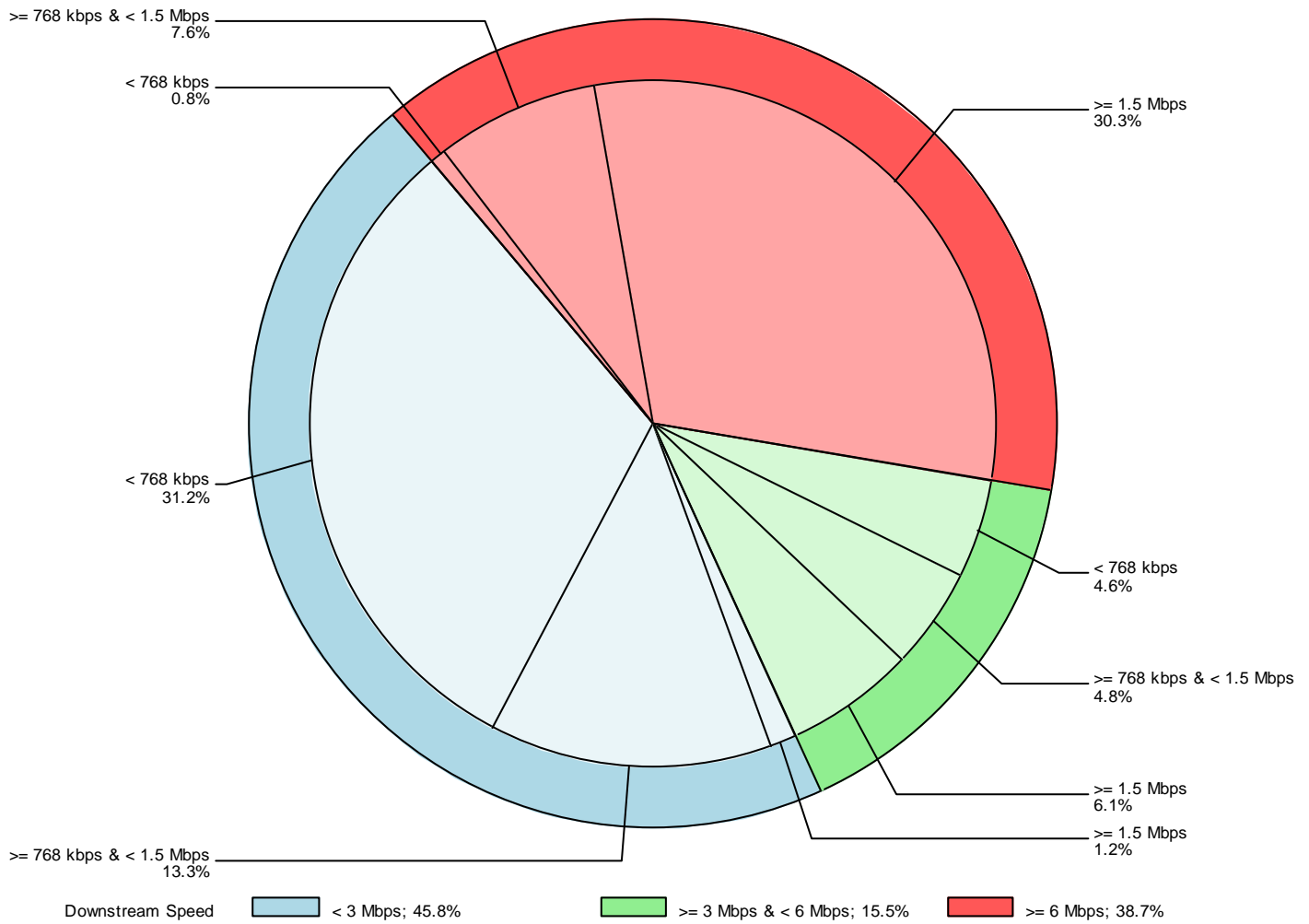
Upstream Speed	Downstream Speed			Total
	Less than 3 Mbps	At least 3 Mbps and less than 6 Mbps	At least 6 Mbps	
Less than 768 kbps	14,830	6,990	1,663	23,483
At least 768 kbps & Less than 1.5 Mbps	3,904	7,850	15,652	27,407
At least 1.5 Mbps	583	406	40,688	41,677
Total	19,318	15,246	58,002	92,566

Percentages

Less than 768 kbps	16.0	7.6	1.8	25.4
At least 768 kbps & Less than 1.5 Mbps	4.2	8.5	16.9	29.6
At least 1.5 Mbps	0.6	0.4	44.0	45.0
Total	20.9	16.5	62.7	100.0

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

Chart 3
Distribution of Residential Connections over 200 kbps in at Least One Direction
as of December 31, 2012



Residential Connections over 200 kbps in at Least One Direction (in thousands)

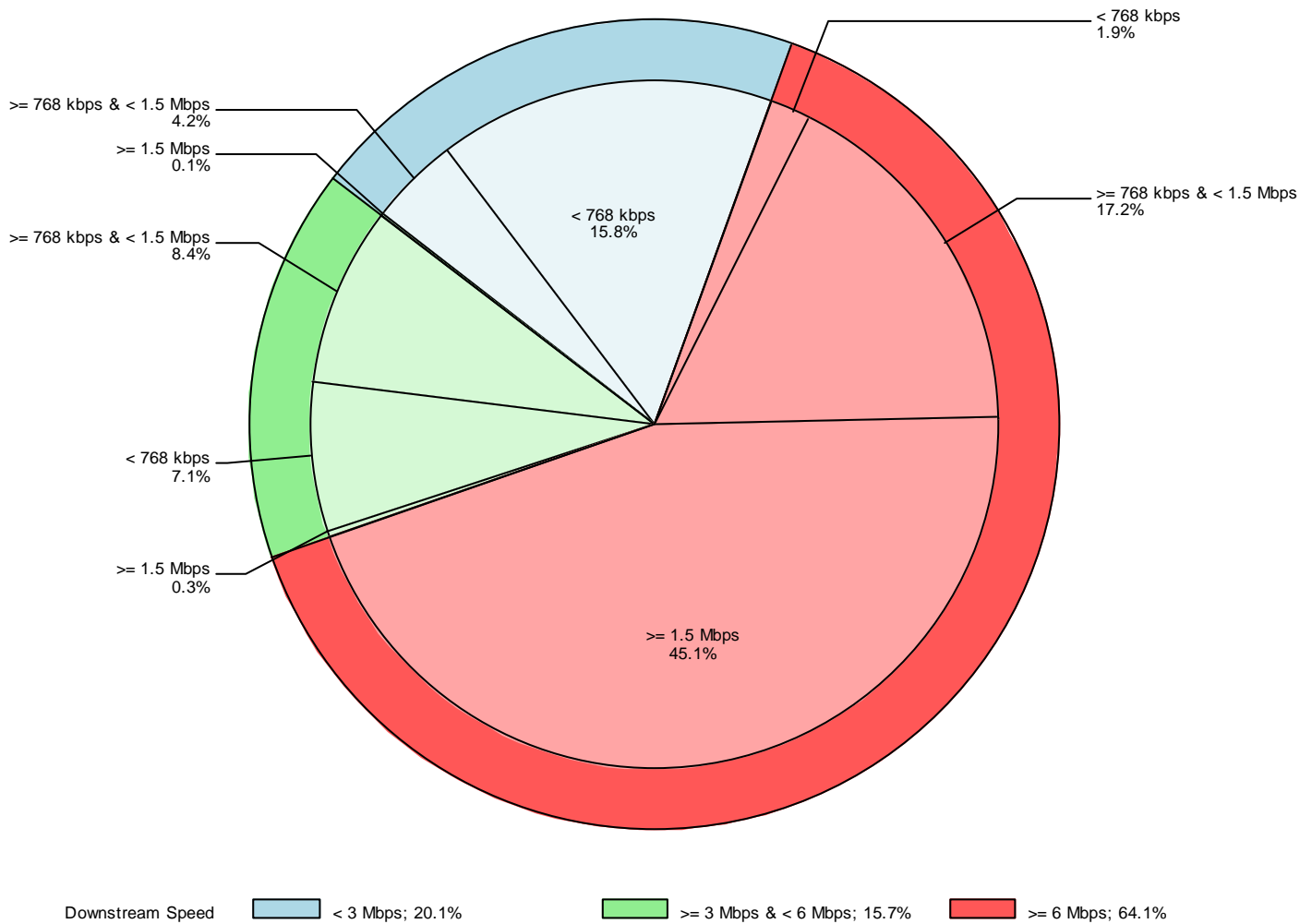
Upstream Speed	Downstream Speed			Total
	Less than 3 Mbps	At least 3 Mbps and less than 6 Mbps	At least 6 Mbps	
Less than 768 kbps	67,248	10,006	1,650	78,905
At least 768 kbps & Less than 1.5 Mbps	28,652	10,249	16,421	55,322
At least 1.5 Mbps	2,692	13,168	65,354	81,214
Total	98,592	33,423	83,425	215,441

Percentages

Less than 768 kbps	31.2	4.6	0.8	36.6
At least 768 kbps & Less than 1.5 Mbps	13.3	4.8	7.6	25.7
At least 1.5 Mbps	1.2	6.1	30.3	37.7
Total	45.8	15.5	38.7	100.0

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

Chart 4
Distribution of Residential Fixed Connections over 200 kbps in at Least One Direction
as of December 31, 2012



Note: Inner circle (light shading) represents upstream speeds.

Residential Fixed Connections over 200 kbps in at Least One Direction (in thousands)

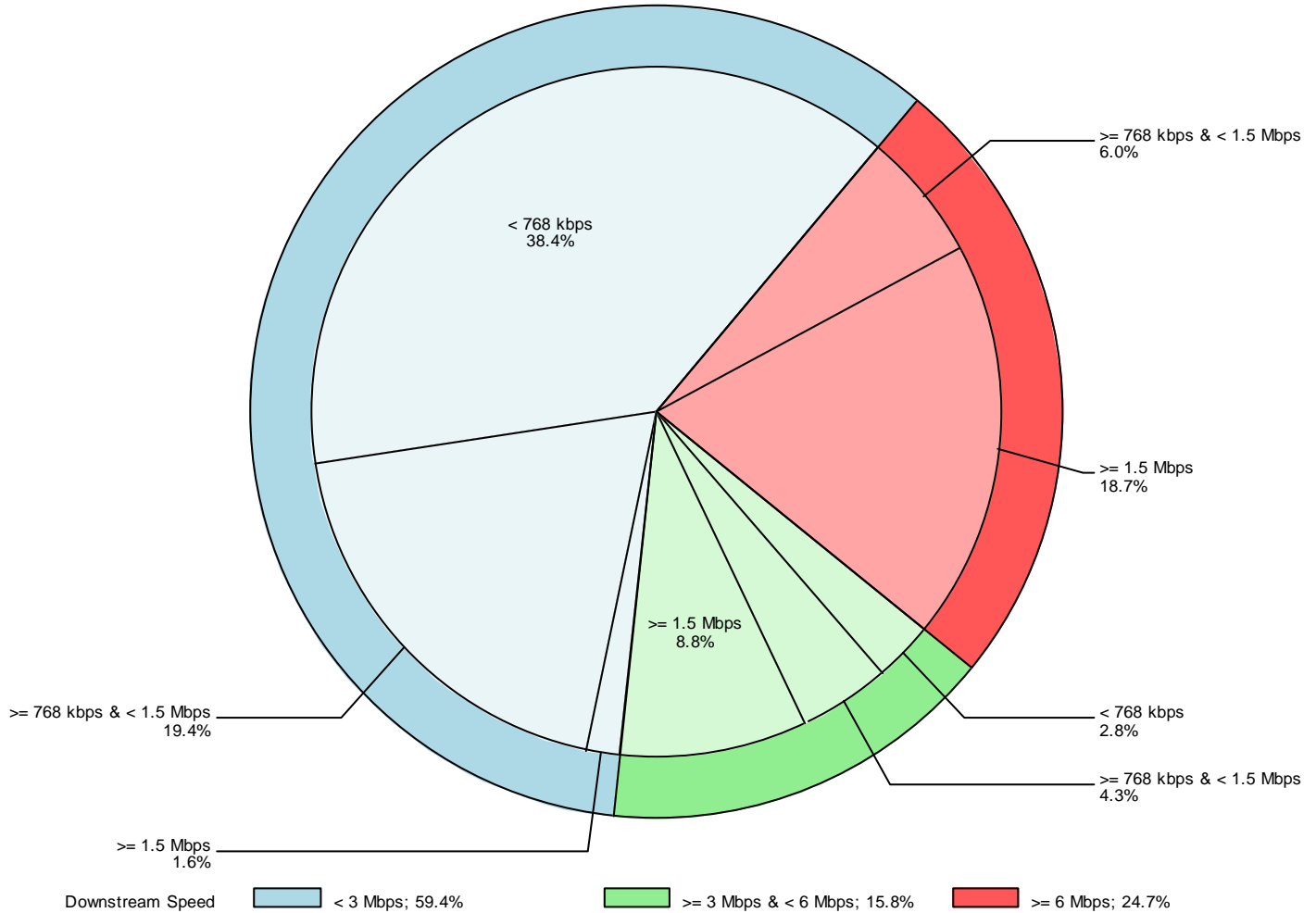
Upstream Speed	Downstream Speed			Total
	Less than 3 Mbps	At least 3 Mbps and less than 6 Mbps	At least 6 Mbps	
Less than 768 kbps	13,341	5,982	1,591	20,914
At least 768 kbps & Less than 1.5 Mbps	3,564	7,058	14,490	25,113
At least 1.5 Mbps	93	232	38,068	38,394
Total	16,999	13,273	54,149	84,421

Percentages

Less than 768 kbps	15.8	7.1	1.9	24.8
At least 768 kbps & Less than 1.5 Mbps	4.2	8.4	17.2	29.7
At least 1.5 Mbps	0.1	0.3	45.1	45.5
Total	20.1	15.7	64.1	100.0

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

Chart 5
Distribution of Mobile Wireless Connections over 200 kbps in at Least One Direction
as of December 31, 2012



Mobile Wireless Connections over 200 kbps in at Least One Direction (in thousands)

Upstream Speed	Downstream Speed			Total
	Less than 3 Mbps	At least 3 Mbps and less than 6 Mbps	At least 6 Mbps	
Less than 768 kbps	65,024	4,672	67	69,762
At least 768 kbps & Less than 1.5 Mbps	32,902	7,258	10,107	50,267
At least 1.5 Mbps	2,624	14,875	31,636	49,135
Total	100,550	26,805	41,810	169,165

Percentages

Less than 768 kbps	38.4	2.8	0.0	41.2
At least 768 kbps & Less than 1.5 Mbps	19.4	4.3	6.0	29.7
At least 1.5 Mbps	1.6	8.8	18.7	29.0
Total	59.4	15.8	24.7	100.0

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

Table 5
Connections over 200 kbps in at Least One Direction by Technology 2008-2012
(In thousands)

<i>Technology</i>	2008	2009		2010		2011		2012	
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>
Total	102,239	119,433	136,294	157,017	182,065	206,131	230,394	243,397	261,731
Total Fixed	75,707	77,997	79,994	81,764	84,521	86,575	88,327	89,966	92,566
aDSL	30,198	30,631	30,987	30,759	31,470	31,611	31,341	31,194	31,010
sDSL	241	217	225	191	167	159	148	139	132
Other Wireline ¹	709	689	719	755	795	778	795	770	822
Cable Modem	40,251	41,434	42,439	43,923	45,334	46,698	48,263	49,663	51,649
FTTP ²	2,884	3,548	3,980	4,441	4,993	5,477	5,898	6,300	6,728
Satellite	938	990	1,116	1,144	1,176	1,204	1,190	1,217	1,454
Fixed Wireless	485	488	527	551	587	649	693	682	771
Mobile Wireless	26,532	41,436	56,300	75,253	97,544	119,556	142,066	153,432	169,165

¹ Power Line and Other are summarized with Other Wireline to maintain firm confidentiality. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.

² Fiber to the premises.

Note: Some historical data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

Chart 6
Connections by Technology as of December 31, 2012

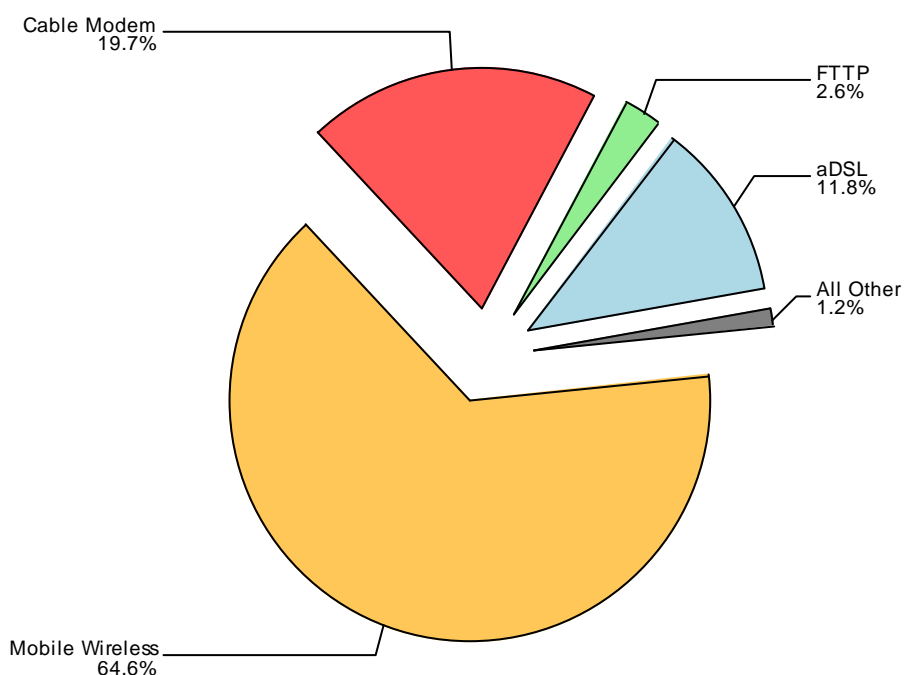


Table 6
Residential Connections over 200 kbps in at Least One Direction by Technology 2008-2012
(In thousands)

<i>Technology</i>	2008	2009		2010		2011		2012	
	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>	<i>Jun</i>	<i>Dec</i>
Total	88,190	103,300	117,089	132,567	149,441	171,773	186,709	196,702	215,441
Total Fixed	69,047	71,509	73,394	75,251	76,918	78,906	80,716	82,236	84,421
aDSL	26,488	27,047	27,402	27,488	27,467	27,754	27,767	27,652	27,426
sDSL	74	71	85	65	53	52	54	49	50
Other Wireline ¹	47	49	56	61	76	45	40	14	35
Cable Modem	38,681	39,909	40,872	42,178	43,295	44,480	45,832	47,033	48,719
FTTP ²	2,717	3,348	3,758	4,185	4,704	5,118	5,521	5,892	6,265
Satellite	630	668	767	787	811	885	886	998	1,242
Fixed Wireless	410	417	454	486	513	572	616	599	683
Mobile Wireless	19,142	31,791	43,695	57,316	72,523	92,867	105,993	114,466	131,019

¹ Power Line and Other are summarized with Other Wireline to maintain firm confidentiality. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.

² Fiber to the premises.

Note: Some historical data have been revised. Figures may not sum to totals due to rounding.
Source: FCC Form 477, Part I.

Chart 7
Residential Connections by Technology as of December 31, 2012

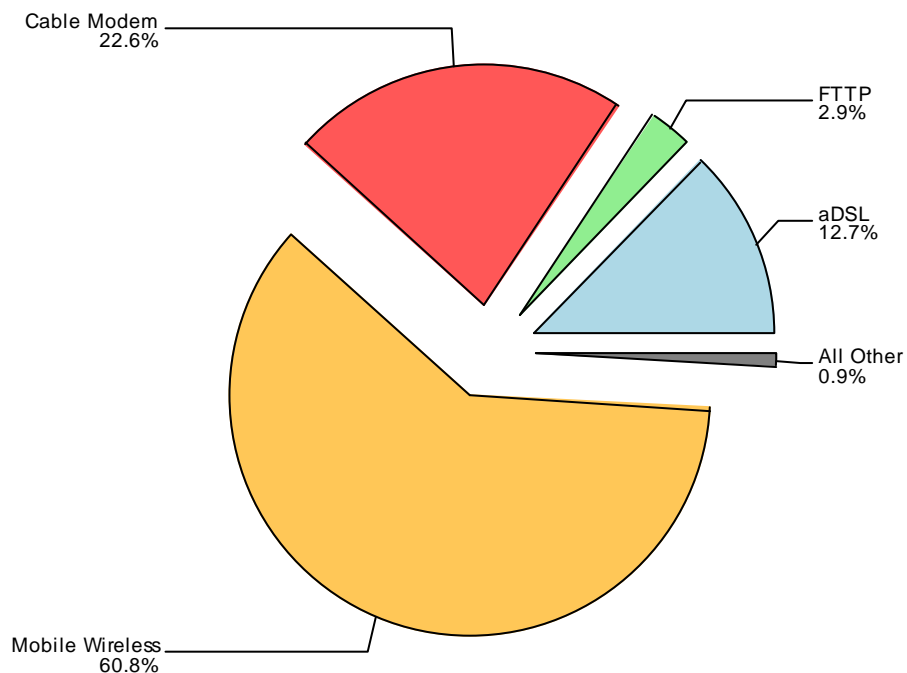


Table 7
Connections at Least 3 Mbps Downstream and 768 kbps Upstream by Technology 2008-2012
(In thousands)

	2008	2009	2010	2011	2012				
Technology	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec
Total	31,120	33,332	40,669	45,552	55,110	64,819	82,019	100,277	128,472
Total Fixed	30,987	33,108	38,963	41,364	44,694	48,577	51,101	57,252	64,596
aDSL	5,403	5,614	6,389	6,275	7,302	8,909	10,355	12,884	13,049
sDSL	5	9	19	13	14	16	26	30	33
Other Wireline ¹	122	129	150	177	211	204	228	239	279
Cable Modem	22,708	23,958	28,583	30,616	32,338	34,113	34,699	37,798	44,134
FTTP ²	2,694	3,333	3,739	4,192	4,725	5,188	5,606	6,001	6,425
Satellite	#	#	#	#	#	#	#	87	394
Fixed Wireless	54	64	82	92	105	145	186	214	282
Mobile Wireless	133	224	1,706	4,188	10,416	16,242	30,918	43,025	63,876

= Rounds to Zero.

¹ Power Line and Other are summarized with Other Wireline to maintain firm confidentiality. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.

² Fiber to the premises.

Note: Some historical data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

Chart 8
Connections at Least 3 Mbps Downstream and 768 kbps Upstream
by Technology as of December 31, 2012

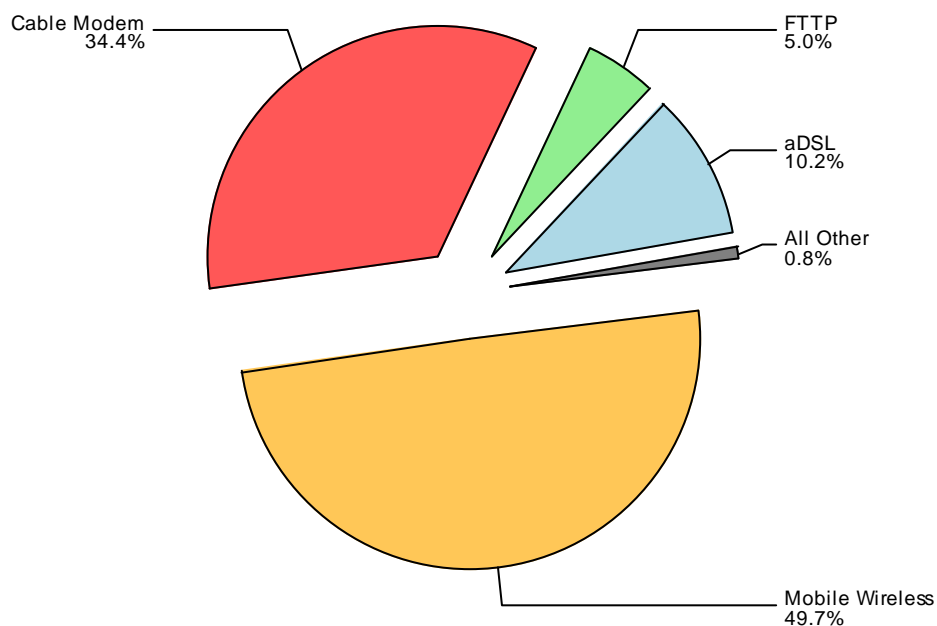


Table 8
Residential Connections at Least 3 Mbps Downstream and 768 kbps Upstream by Technology 2008-2012
(In thousands)

Technology	2008	2009		2010		2011		2012	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec
Total	29,127	31,356	38,426	42,243	47,632	51,783	63,740	78,618	105,192
Total Fixed	29,013	31,161	36,844	39,037	41,769	45,263	47,432	53,078	59,849
aDSL	4,613	4,895	5,633	5,557	6,421	7,909	9,278	11,572	11,609
sDSL	1	2	10	2	2	4	12	12	13
Other Wireline ¹	11	12	19	20	36	15	16	7	21
Cable Modem	21,776	23,025	27,548	29,398	30,742	32,321	32,693	35,583	41,563
FTTP ²	2,571	3,177	3,566	3,982	4,482	4,894	5,271	5,632	6,008
Satellite	0	0	0	0	0	0	#	86	393
Fixed Wireless	42	50	68	77	86	121	161	185	243
Mobile Wireless	114	196	1,582	3,206	5,863	6,520	16,309	25,539	45,342

= Rounds to Zero.

¹ Power Line and Other are summarized with Other Wireline to maintain firm confidentiality. See Technical Notes at the end of the report for a description of Form 477 technology categories and other reporting requirements.

² Fiber to the premises.

Note: Some historical data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

Chart 9
Residential Connections at Least 3 Mbps Downstream and 768 kbps Upstream
by Technology as of December 31, 2012

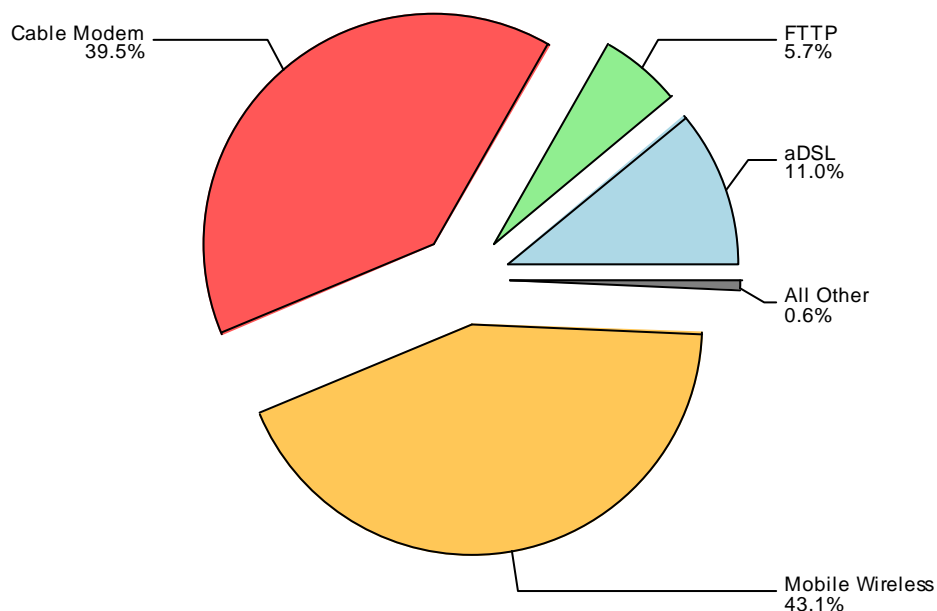


Chart 10
Residential Fixed Connections over 200 kbps in at Least One Direction 2008-2012
 (Shares of selected technologies)

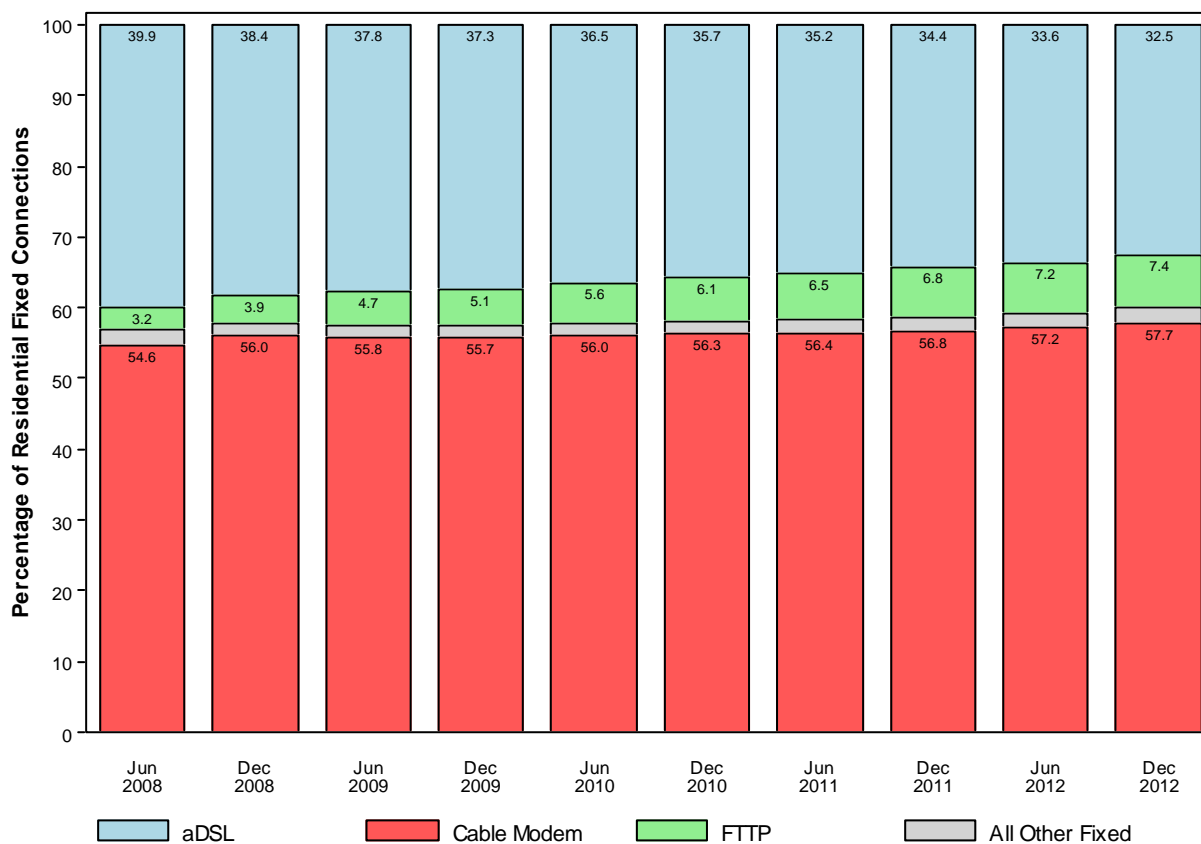


Chart 11
Residential Fixed Connections over 200 kbps in at Least One Direction 2008-2012
 (Net adds for selected technologies)

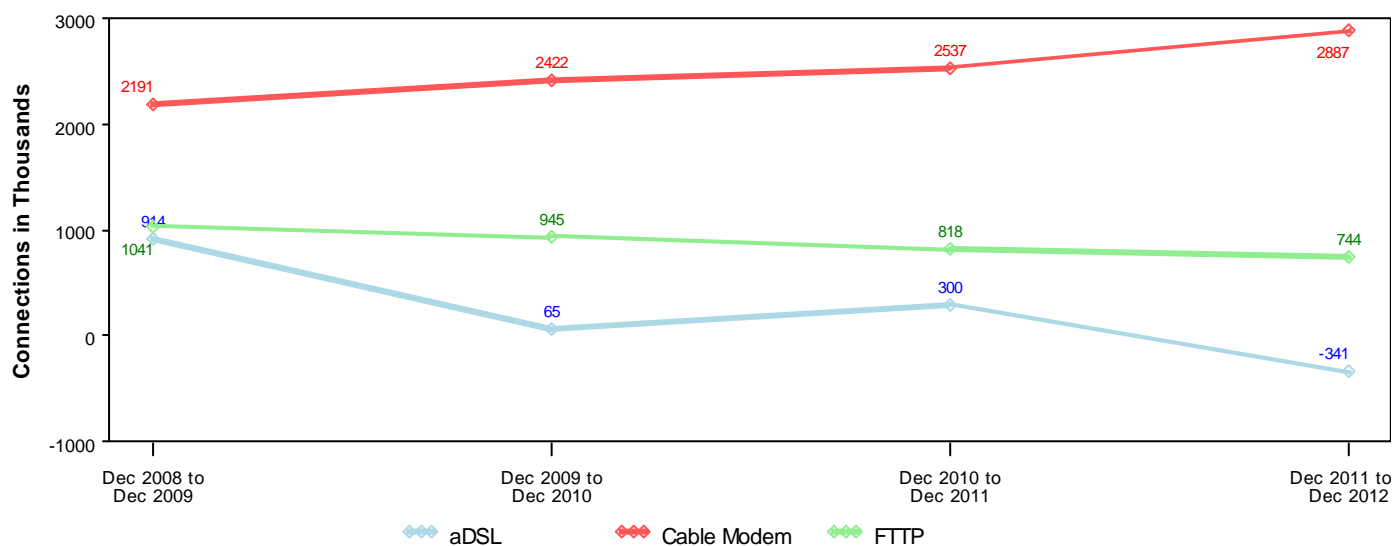


Chart 12
Residential Fixed Connections by Technology as of December 31, 2012
 (Shares of selected technologies for selected speeds, connections in thousands)

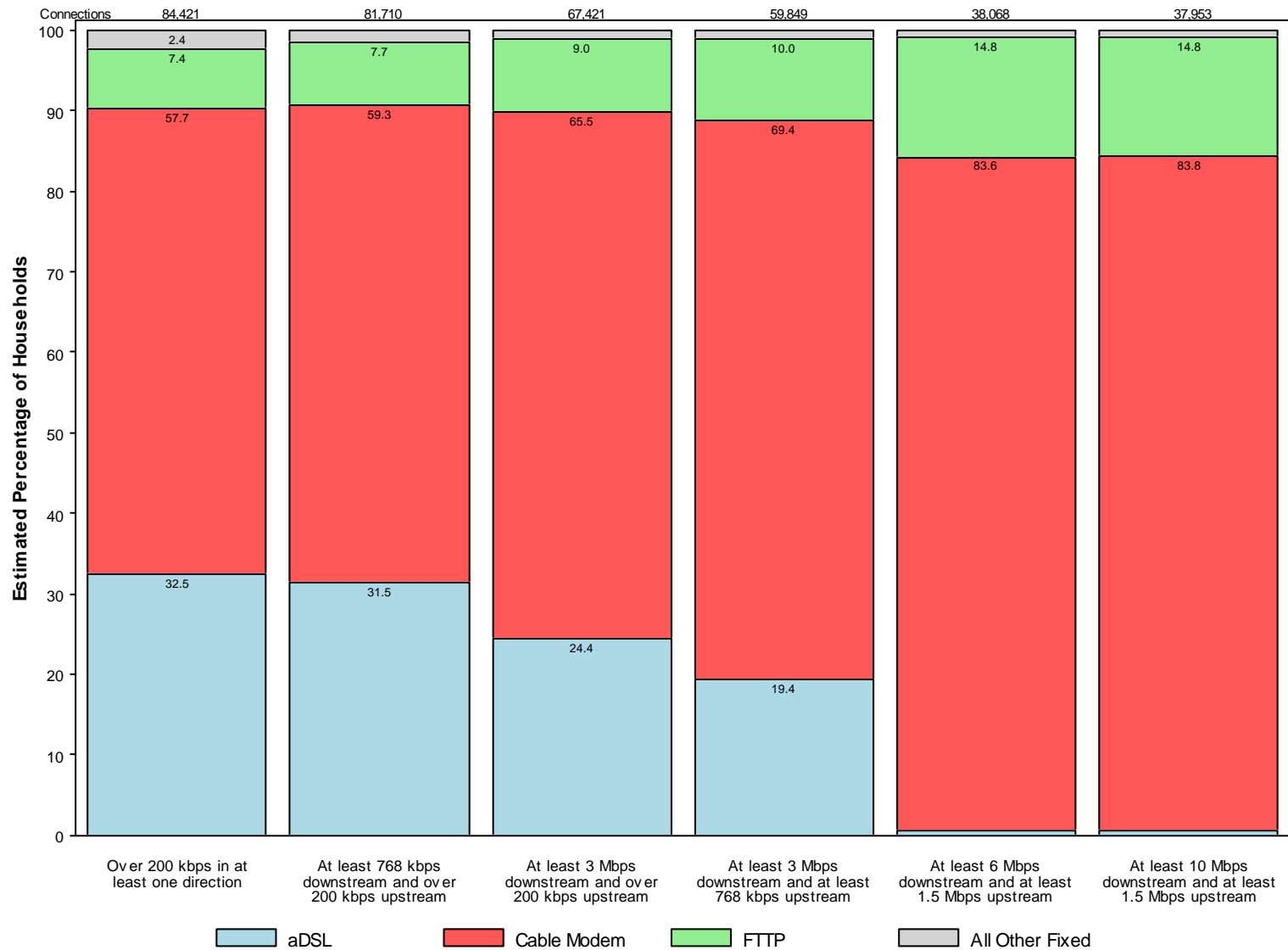
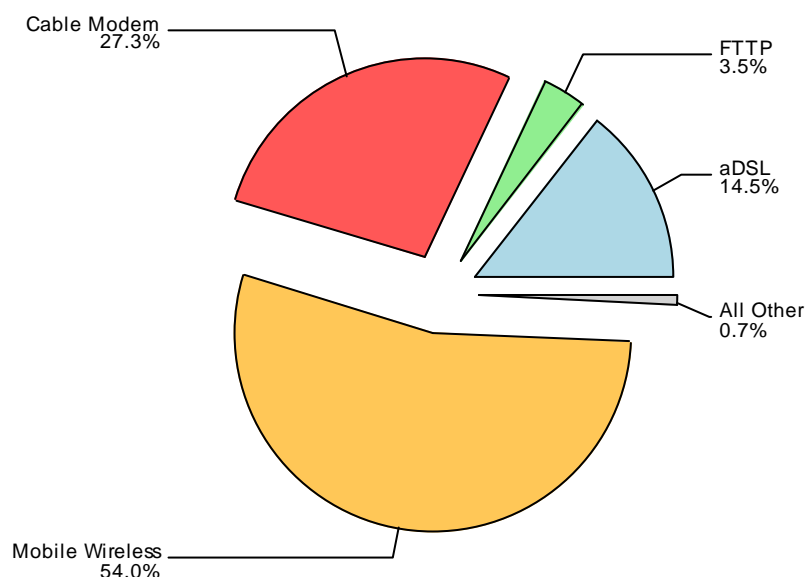


Table 9
Residential Connections by Technology and Speed (BTOP/BIP Definition)
as of December 31, 2012
(In thousands)

<i>Technology</i>	<i>At Most 200 kbps Upstream or less than 768 kbps Downstream</i>	<i>Over 200 kbps Upstream and at least 768 kbps Downstream</i>	<i>Total</i>
aDSL	1,714	25,712	27,426
sDSL	10	40	50
Other Wireline	3	33	35
Cable Modem	281	48,438	48,719
FTTP	12	6,253	6,265
Satellite	602	640	1,242
Fixed Wireless	88	595	683
Mobile Wireless	35,160	95,859	131,019
Total	37,871	177,570	215,441

= Rounds to Zero. Power Line and Other are combined with Other Wireline to maintain firm confidentiality.
Note: Figures may not sum to totals due to rounding.
Source: FCC Form 477, Parts I and VI.

Chart 13
Residential Connections (BTOP/BIP Definition) by Technology
as of December 31, 2012



Note: The BTOP/BIP definition is advertised speeds of at least 768 kbps downstream and 200 kbps upstream to end users.
Source: FCC Form 477, Parts I and VI.

Table 10
Connections by Downstream Speed Tier and Technology as of December 31, 2012
(In thousands)

Technology	Downstream Speed								Total
	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	
aDSL	1,497	3,936	6,856	10,222	5,074	3,290	134	#	31,010
sDSL	30	45	24	*	*	*	3	#	132
Other Wireline	44	71	428	113	28	59	45	33	822
Cable Modem	141	1,009	3,513	4,374	1,520	31,079	9,930	86	51,649
FTTP	14	83	116	248	172	4,262	1,751	80	6,728
Satellite	282	474	295	*	*	*	0	0	1,454
Fixed Wireless	80	173	205	214	59	36	2	1	771
Mobile Wireless	41,667	10,232	48,651	26,805	33,159	97	8,554	0	169,165
Total	43,756	16,024	60,089	42,052	40,016	39,177	20,418	201	261,731

Percentages									
aDSL	0.6	1.5	2.6	3.9	1.9	1.3	0.1	0.0	11.8
sDSL	0.0	0.0	0.0	*	*	*	0.0	0.0	0.1
Other Wireline	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.3
Cable Modem	0.1	0.4	1.3	1.7	0.6	11.9	3.8	0.0	19.7
FTTP	0.0	0.0	0.0	0.1	0.1	1.6	0.7	0.0	2.6
Satellite	0.1	0.2	0.1	*	*	*	0.0	0.0	0.6
Fixed Wireless	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.3
Mobile Wireless	15.9	3.9	18.6	10.2	12.7	0.0	3.3	0.0	64.6
Total	16.7	6.1	23.0	16.1	15.3	15.0	7.8	0.1	100.0

= Rounds to Zero. Power Line and Other are combined with Other Wireline to maintain firm confidentiality.

* = Data withheld to maintain firm confidentiality.

Note: Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

Table 11
Residential Connections by Downstream Speed Tier and Technology as of December 31, 2012
(In thousands)

Technology	Downstream Speed								Total
	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	
aDSL	1,389	3,577	6,006	8,753	4,536	3,040	125	#	27,426
sDSL	10	24	3	*	*	*	2	0	50
Other Wireline	3	6	6	5	3	11	1	1	35
Cable Modem	127	982	3,434	4,054	1,180	29,434	9,444	63	48,719
FTTP	12	74	88	216	159	4,036	1,648	32	6,265
Satellite	151	437	258	*	*	*	0	0	1,242
Fixed Wireless	74	157	182	188	51	30	1	1	683
Mobile Wireless	33,441	9,197	38,955	20,150	21,184	85	8,007	0	131,019
Total	35,206	14,454	48,932	33,423	27,114	36,986	19,228	97	215,441

Percentages									
aDSL	0.6	1.7	2.8	4.1	2.1	1.4	0.1	0.0	12.7
sDSL	0.0	0.0	0.0	*	*	*	0.0	0.0	0.0
Other Wireline	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cable Modem	0.1	0.5	1.6	1.9	0.5	13.7	4.4	0.0	22.6
FTTP	0.0	0.0	0.0	0.1	0.1	1.9	0.8	0.0	2.9
Satellite	0.1	0.2	0.1	*	*	*	0.0	0.0	0.6
Fixed Wireless	0.0	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.3
Mobile Wireless	15.5	4.3	18.1	9.4	9.8	0.0	3.7	0.0	60.8
Total	16.3	6.7	22.7	15.5	12.6	17.2	8.9	0.0	100.0

= Rounds to Zero. Power Line and Other are combined with Other Wireline to maintain firm confidentiality.

* = Data withheld to maintain firm confidentiality.

Note: Figures may not sum to totals due to rounding.

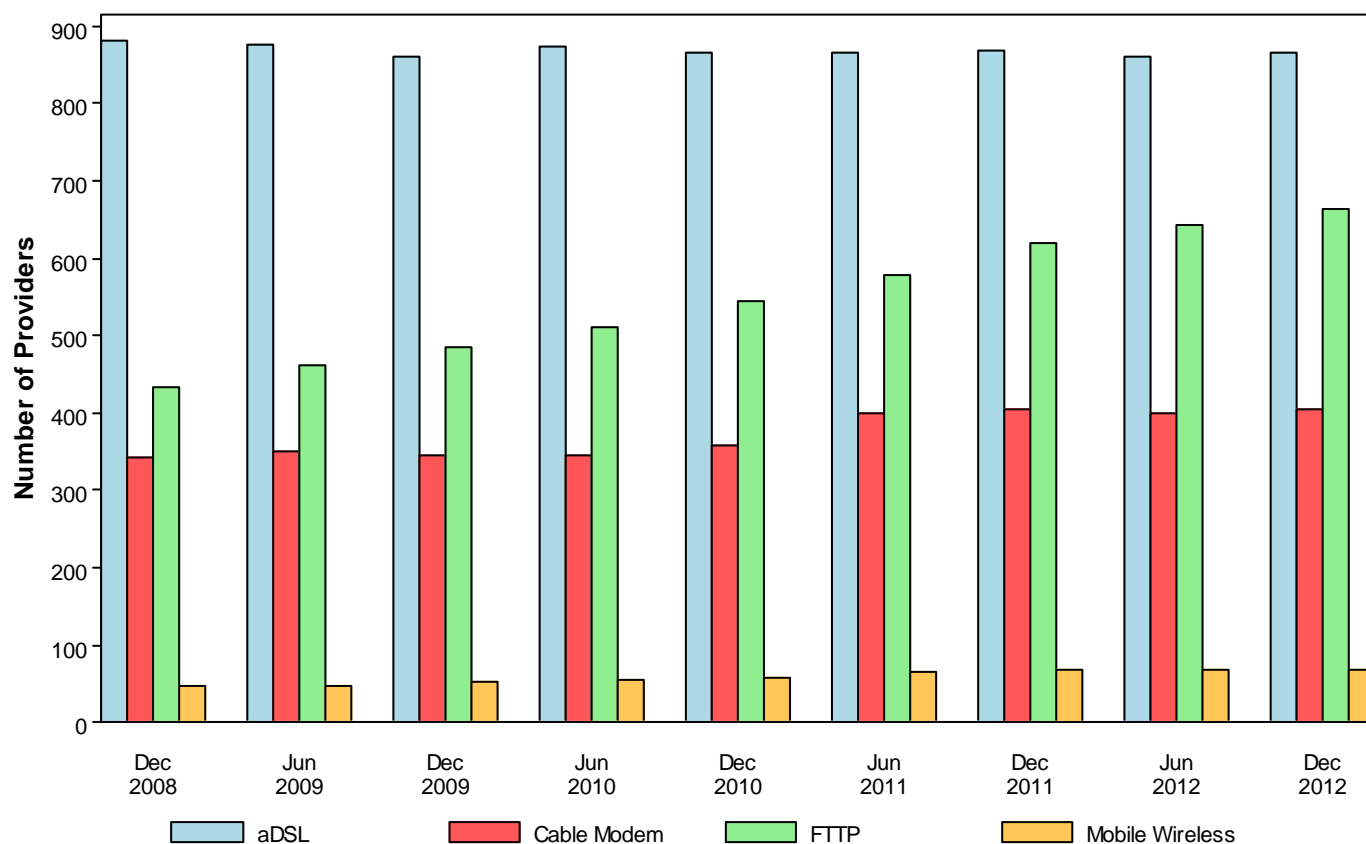
Source: FCC Form 477, Part I.

Table 12
Nationwide Number of Providers of Connections over 200 kbps in at Least One Direction
by Technology 2008-2012

	2008		2009		2010		2011		2012	
Technology	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	
aDSL	881	876	862	875	865	867	868	861	865	
sDSL	264	257	261	251	247	252	255	250	254	
Other Wireline	292	283	274	267	270	265	275	258	261	
Cable Modem	342	351	345	345	357	400	405	400	404	
FTTP	432	462	485	510	545	579	621	642	665	
Satellite	5	4	4	4	4	5	6	5	6	
Fixed Wireless	620	621	607	625	646	672	712	710	757	
Mobile Wireless	47	48	51	55	57	64	69	67	69	
Power Line and Other	5	6	6	5	7	4	5	*	*	
Total	1,562	1,551	1,526	1,536	1,566	1,624	1,686	1,669	1,712	

Note: Some historical data have been revised. Multiple Form 477 filers within a holding company structure count as one provider. * = 1-3 providers.
Source: FCC Form 477, Part I.

Chart 14
Nationwide Number of Providers of Connections over 200 kbps in at Least One Direction
Selected Technologies 2008-2012



Detailed Summary Statistics: The States

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Table 13
Residential Fixed Connections at Least 3 Mbps Downstream / 768 kbps Upstream
and Households by State as of December 31, 2012
(Connections and households, in thousands)

<i>State</i>	<i>Connections</i>	<i>Households</i>	<i>Subscribership Ratio</i>
Alabama	637	1,907	0.33
Alaska	99	266	0.37
American Samoa	0	11	0.00
Arizona	1,377	2,457	0.56
Arkansas	331	1,165	0.28
California	6,054	12,812	0.47
Colorado	1,289	2,029	0.64
Connecticut	841	1,381	0.61
Delaware	245	351	0.70
District of Columbia	186	274	0.68
Florida	4,237	7,631	0.56
Georgia	1,655	3,688	0.45
Guam	*	51	*
Hawaii	*	465	*
Idaho	186	596	0.31
Illinois	2,206	4,863	0.45
Indiana	1,012	2,529	0.40
Iowa	326	1,231	0.26
Kansas	488	1,124	0.43
Kentucky	762	1,742	0.44
Louisiana	580	1,742	0.33
Maine	353	559	0.63
Maryland	1,541	2,194	0.70
Massachusetts	1,971	2,567	0.77
Michigan	1,851	3,861	0.48
Minnesota	1,034	2,115	0.49
Mississippi	265	1,123	0.24
Missouri	898	2,400	0.37
Montana	173	417	0.41
Nebraska	336	730	0.46
Nevada	530	1,045	0.51
New Hampshire	380	523	0.73
New Jersey	2,463	3,238	0.76
New Mexico	324	809	0.40
New York	4,494	7,350	0.61
North Carolina	2,024	3,855	0.52
North Dakota	132	286	0.46
Northern Mariana Isl	*	21	*
Ohio	2,323	4,609	0.50
Oklahoma	464	1,486	0.31
Oregon	862	1,551	0.56
Pennsylvania	3,002	5,046	0.59
Puerto Rico	*	1,230	*
Rhode Island	297	413	0.72
South Carolina	876	1,848	0.47
South Dakota	170	328	0.52
Tennessee	1,058	2,542	0.42
Texas	3,338	9,241	0.36
Utah	538	909	0.59
Vermont	167	257	0.65
Virgin Islands	5	56	0.08
Virginia	1,938	3,124	0.62
Washington	1,596	2,691	0.59
West Virginia	262	766	0.34
Wisconsin	1,074	2,302	0.47
Wyoming	109	232	0.47
Total	59,849	120,039	0.50

= 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 2012 Block-Level Estimates (Households for U.S. and District of Columbia); Census 2010 (Housing Units for Puerto Rico, American Samoa, Guam, Northern Mariana Islands and U.S. Virgin Islands).

Table 14
Residential Fixed Connections and Households by State as of December 31, 2012
(Connections over 200 kbps in at least one direction and households, in thousands)

<i>State</i>	<i>Connections</i>	<i>Households</i>	<i>Subscribership Ratio</i>
Alabama	1,112	1,907	0.58
Alaska	181	266	0.68
American Samoa	*	11	*
Arizona	1,775	2,457	0.72
Arkansas	635	1,165	0.55
California	9,778	12,812	0.76
Colorado	1,557	2,029	0.77
Connecticut	1,085	1,381	0.79
Delaware	273	351	0.78
District of Columbia	203	274	0.74
Florida	5,768	7,631	0.76
Georgia	2,430	3,688	0.66
Guam	*	51	*
Hawaii	378	465	0.81
Idaho	382	596	0.64
Illinois	3,366	4,863	0.69
Indiana	1,637	2,529	0.65
Iowa	827	1,231	0.67
Kansas	775	1,124	0.69
Kentucky	1,113	1,742	0.64
Louisiana	1,065	1,742	0.61
Maine	414	559	0.74
Maryland	1,660	2,194	0.76
Massachusetts	2,086	2,567	0.81
Michigan	2,574	3,861	0.67
Minnesota	1,483	2,115	0.70
Mississippi	562	1,123	0.50
Missouri	1,519	2,400	0.63
Montana	278	417	0.67
Nebraska	503	730	0.69
Nevada	704	1,045	0.67
New Hampshire	425	523	0.81
New Jersey	2,623	3,238	0.81
New Mexico	483	809	0.60
New York	5,753	7,350	0.78
North Carolina	2,755	3,855	0.71
North Dakota	206	286	0.72
Northern Mariana Isl	*	21	*
Ohio	3,238	4,609	0.70
Oklahoma	877	1,486	0.59
Oregon	1,095	1,551	0.71
Pennsylvania	3,667	5,046	0.73
Puerto Rico	540	1,230	0.44
Rhode Island	311	413	0.75
South Carolina	1,218	1,848	0.66
South Dakota	225	328	0.69
Tennessee	1,500	2,542	0.59
Texas	6,058	9,241	0.66
Utah	676	909	0.74
Vermont	201	257	0.78
Virgin Islands	23	56	0.40
Virginia	2,219	3,124	0.71
Washington	1,963	2,691	0.73
West Virginia	470	766	0.61
Wisconsin	1,576	2,302	0.68
Wyoming	157	232	0.68
Total	84,421	120,039	0.70

= 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 2012 Block-Level Estimates (Households for U.S. and District of Columbia); Census 2010 (Housing Units for Puerto Rico, American Samoa, Guam, Northern Mariana Islands and U.S. Virgin Islands).

Table 15
Connections by Type of End User by State as of December 31, 2012
(Connections over 200 kbps in at least one direction, in thousands)

State	Connections		Percentages		Total
	Residential	Business	Residential	Business	
Alabama	2,983	421	87.6	12.4	3,404
Alaska	531	91	85.4	14.6	622
American Samoa	*	*	*	*	*
Arizona	4,272	715	85.7	14.3	4,987
Arkansas	1,846	272	87.1	12.9	2,118
California	26,841	5,904	82.0	18.0	32,745
Colorado	3,825	838	82.0	18.0	4,664
Connecticut	2,668	567	82.5	17.5	3,235
Delaware	662	130	83.6	16.4	792
District of Columbia	611	619	49.7	50.3	1,230
Florida	13,979	3,109	81.8	18.2	17,088
Georgia	6,691	1,438	82.3	17.7	8,129
Guam	62	19	76.2	23.8	82
Hawaii	1,043	174	85.7	14.3	1,217
Idaho	980	195	83.4	16.6	1,176
Illinois	8,759	2,032	81.2	18.8	10,792
Indiana	4,048	664	85.9	14.1	4,712
Iowa	1,768	318	84.8	15.2	2,086
Kansas	1,811	579	75.8	24.2	2,390
Kentucky	2,743	499	84.6	15.4	3,241
Louisiana	3,175	512	86.1	13.9	3,687
Maine	798	121	86.9	13.1	918
Maryland	4,327	872	83.2	16.8	5,199
Massachusetts	4,923	1,036	82.6	17.4	5,959
Michigan	6,139	1,713	78.2	21.8	7,852
Minnesota	3,499	900	79.5	20.5	4,400
Mississippi	1,819	240	88.3	11.7	2,059
Missouri	3,759	934	80.1	19.9	4,692
Montana	655	93	87.6	12.4	748
Nebraska	1,142	259	81.5	18.5	1,401
Nevada	1,986	377	84.0	16.0	2,363
New Hampshire	914	154	85.5	14.5	1,068
New Jersey	6,805	1,433	82.6	17.4	8,238
New Mexico	1,237	195	86.4	13.6	1,432
New York	14,370	3,064	82.4	17.6	17,434
North Carolina	6,200	1,350	82.1	17.9	7,550
North Dakota	501	91	84.6	15.4	592
Northern Mariana Isl	*	*	*	*	*
Ohio	7,672	1,660	82.2	17.8	9,332
Oklahoma	2,434	400	85.9	14.1	2,834
Oregon	2,678	534	83.4	16.6	3,211
Pennsylvania	8,685	1,613	84.3	15.7	10,298
Puerto Rico	1,906	209	90.1	9.9	2,114
Rhode Island	723	146	83.2	16.8	870
South Carolina	2,833	451	86.3	13.7	3,284
South Dakota	535	73	88.0	12.0	608
Tennessee	4,084	844	82.9	17.1	4,929
Texas	18,183	4,511	80.1	19.9	22,694
Utah	1,740	420	80.6	19.4	2,160
Vermont	404	75	84.4	15.6	479
Virgin Islands	78	9	89.5	10.5	87
Virginia	5,589	1,302	81.1	18.9	6,890
Washington	4,815	1,170	80.5	19.5	5,984
West Virginia	1,011	146	87.4	12.6	1,157
Wisconsin	3,301	739	81.7	18.3	4,040
Wyoming	388	59	86.9	13.1	447
Total	215,441	46,290	82.3	17.7	261,731

= 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 16
Connections by Technology by State as of December 31, 2012
(Connections over 200 kbps in at least one direction, in thousands)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Total</i>
Alabama	546	5	*	615	9	*	5	2,171	3,404
Alaska	79	2	0	*	1	*	5	398	622
American Samoa	*	*	0	*	*	0	*	0	*
Arizona	625	#	*	1,210	5	*	31	3,076	4,987
Arkansas	345	#	*	313	8	*	4	1,416	2,118
California	4,285	12	*	5,414	744	*	41	22,020	32,745
Colorado	*	1	0	899	7	*	48	2,959	4,664
Connecticut	*	1	0	761	5	*	0	2,046	3,235
Delaware	*	#	0	174	*	*	0	497	792
District of Columbia	*	2	0	*	18	*	*	997	1,230
Florida	1,977	1	*	3,803	425	*	6	10,769	17,088
Georgia	1,300	2	*	1,291	34	*	1	5,429	8,129
Guam	*	*	*	*	*	0	*	*	82
Hawaii	*	*	0	*	4	*	*	808	1,217
Idaho	208	#	*	161	4	*	30	757	1,176
Illinois	1,504	6	*	2,020	19	*	53	7,105	10,792
Indiana	754	2	*	868	75	*	32	2,936	4,712
Iowa	396	2	*	407	48	*	27	1,180	2,086
Kansas	278	1	*	468	53	*	28	1,538	2,390
Kentucky	507	3	*	637	20	*	11	2,024	3,241
Louisiana	446	2	*	644	43	*	5	2,499	3,687
Maine	140	4	0	297	5	*	*	460	918
Maryland	*	2	0	873	*	*	1	3,404	5,199
Massachusetts	*	2	0	1,503	*	*	2	3,687	5,959
Michigan	907	6	*	1,756	11	*	35	5,046	7,852
Minnesota	633	16	*	874	42	*	20	2,777	4,400
Mississippi	313	#	*	273	2	*	1	1,427	2,059
Missouri	863	1	*	688	17	*	24	3,025	4,692
Montana	122	1	0	150	8	*	16	*	748
Nebraska	176	#	*	338	12	*	16	847	1,401

Table 16 - Continued
Connections by Technology by State as of December 31, 2012
(Connections over 200 kbps in at least one direction, in thousands)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Total</i>
Nevada	255	#	0	*	4	*	4	1,594	2,363
New Hampshire	91	1	*	358	14	*	#	596	1,068
New Jersey	346	1	0	1,847	*	*	#	5,335	8,238
New Mexico	291	#	*	203	4	*	17	899	1,432
New York	777	7	0	4,459	*	*	2	11,084	17,434
North Carolina	1,063	1	*	1,851	34	*	2	4,545	7,550
North Dakota	73	2	*	116	34	*	6	356	592
Northern Mariana Isl	*	0	*	*	*	0	*	*	*
Ohio	1,178	4	*	2,171	54	*	31	5,834	9,332
Oklahoma	393	#	*	502	15	*	15	1,861	2,834
Oregon	373	3	*	711	67	*	16	2,014	3,211
Pennsylvania	1,017	4	0	2,286	*	*	4	6,314	10,298
Puerto Rico	*	0	0	*	*	*	*	1,528	2,114
Rhode Island	*	#	0	*	*	*	*	530	870
South Carolina	477	5	*	780	38	*	1	1,950	3,284
South Dakota	65	*	0	143	22	*	12	*	608
Tennessee	607	1	*	911	80	*	5	3,264	4,929
Texas	2,983	5	*	2,888	457	*	86	16,022	22,694
Utah	317	#	*	339	23	*	45	1,422	2,160
Vermont	98	#	*	113	6	*	1	250	479
Virgin Islands	*	0	*	*	0	*	*	62	87
Virginia	453	1	0	1,238	*	*	4	4,477	6,890
Washington	598	2	*	1,400	68	*	15	3,850	5,984
West Virginia	*	*	0	306	2	*	2	644	1,157
Wisconsin	651	18	*	948	24	*	33	2,325	4,040
Wyoming	63	#	*	92	2	*	11	268	447
Total	31,010	132	822	51,649	6,728	1,454	771	169,165	261,731

= Rounds to Zero. Power Line and Other are summarized with Other Wireline to maintain firm confidentiality.

* = Data withheld to maintain firm confidentiality.

Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

Table 17
Connections by Technology by State as of December 31, 2012
(Connections at least 3 Mbps downstream and 768 kbps upstream, in thousands)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Total</i>
Alabama	162	#	3	501	7	*	1	*	1,196
Alaska	35	*	1	*	1	*	*	*	158
American Samoa	0	*	0	0	*	0	0	0	*
Arizona	*	*	6	1,045	4	*	7	*	2,294
Arkansas	119	*	2	223	5	*	1	*	507
California	1,736	2	*	3,937	724	*	20	6,079	12,562
Colorado	*	#	9	892	4	*	32	942	2,327
Connecticut	*	*	2	751	4	*	0	*	1,437
Delaware	*	0	1	*	*	*	0	155	419
District of Columbia	*	*	3	*	*	*	*	580	790
Florida	846	#	*	3,248	414	*	3	5,850	10,400
Georgia	503	#	*	1,215	27	*	#	2,783	4,548
Guam	*	*	*	*	*	0	*	*	24
Hawaii	*	*	#	*	3	*	*	*	654
Idaho	114	*	1	79	2	*	11	*	473
Illinois	476	3	*	1,858	16	*	11	3,964	6,351
Indiana	229	#	*	778	68	*	8	767	1,866
Iowa	185	1	1	129	34	*	11	*	728
Kansas	93	#	*	382	34	*	3	609	1,126
Kentucky	230	*	1	553	11	*	3	474	1,284
Louisiana	*	1	2	470	29	*	1	*	882
Maine	99	1	#	280	5	*	*	*	493
Maryland	*	#	6	857	*	*	#	1,771	3,423
Massachusetts	*	#	10	1,494	*	*	1	1,882	4,014
Michigan	314	2	*	1,607	9	*	16	1,766	3,740
Minnesota	289	10	*	778	29	*	3	1,093	2,215
Mississippi	65	*	1	211	1	*	*	*	394
Missouri	338	#	*	581	11	*	4	1,792	2,749
Montana	41	#	1	*	6	*	5	*	306
Nebraska	103	*	1	249	8	*	2	*	569

Table 17 - Continued
Connections by Technology by State as of December 31, 2012
(Connections at least 3 Mbps downstream and 768 kbps upstream, in thousands)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Total</i>
Nevada	104	*	3	*	3	*	4	896	1,454
New Hampshire	52	#	1	348	13	*	*	173	589
New Jersey	210	*	12	1,817	*	*	*	1,494	4,196
New Mexico	158	#	2	188	3	*	2	*	592
New York	439	1	22	3,525	*	*	1	*	8,609
North Carolina	402	#	*	1,716	26	*	#	2,186	4,347
North Dakota	32	#	1	95	19	*	2	*	244
Northern Mariana Isl	*	0	0	0	*	0	*	0	*
Ohio	531	*	5	1,870	50	*	4	2,044	4,517
Oklahoma	124	#	*	344	11	*	6	305	802
Oregon	155	#	*	699	64	*	9	624	1,559
Pennsylvania	551	*	10	2,077	*	*	3	1,873	5,135
Puerto Rico	*	0	*	*	*	0	*	512	631
Rhode Island	*	*	1	*	*	*	*	278	598
South Carolina	164	*	4	730	30	*	#	614	1,550
South Dakota	38	*	#	130	17	*	2	*	275
Tennessee	173	#	*	883	66	*	#	956	2,099
Texas	1,259	1	*	1,814	416	*	46	9,559	13,165
Utah	185	*	4	327	22	*	40	509	1,088
Vermont	69	*	#	111	6	*	*	*	226
Virgin Islands	0	0	*	*	0	*	*	0	6
Virginia	258	#	9	1,172	*	*	2	1,439	3,523
Washington	263	*	8	1,372	63	*	4	1,251	2,969
West Virginia	18	0	*	267	2	*	2	67	362
Wisconsin	218	2	*	886	17	*	3	672	1,811
Wyoming	25	*	1	*	2	*	2	*	194
Total	13,049	33	279	44,134	6,425	394	282	63,876	128,472

= Rounds to Zero. Power Line and Other are summarized with Other Wireline to maintain firm confidentiality.

* = Data withheld to maintain firm confidentiality.

Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

Table 18
Percentage of Connections by Downstream Speed by State as of December 31, 2012
(Connections over 200 kbps in at least one direction)

State	Over 200 kbps Upstream and				
	% 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	95.9	79.5	42.2	35.5	18.2
Alaska	83.6	80.6	29.8	23.7	14.5
American Samoa	*	*	*	*	*
Arizona	96.4	79.0	48.6	41.8	27.5
Arkansas	97.0	84.5	29.0	21.7	11.8
California	96.6	81.9	40.4	32.5	17.4
Colorado	96.8	81.7	50.8	44.1	27.5
Connecticut	97.2	80.6	46.2	39.3	25.5
Delaware	96.3	79.2	54.8	48.5	31.5
District of Columbia	95.2	77.4	67.5	49.5	18.6
Florida	97.3	85.0	70.5	40.7	26.4
Georgia	96.1	79.4	66.4	35.9	19.7
Guam	100.0	94.3	29.2	15.9	10.8
Hawaii	98.1	87.3	54.5	43.9	23.1
Idaho	94.5	74.6	48.1	34.9	13.4
Illinois	97.2	85.3	68.0	38.9	23.3
Indiana	96.5	81.4	46.0	35.3	20.0
Iowa	96.4	79.0	50.1	34.6	19.1
Kansas	95.2	82.8	51.6	40.6	16.9
Kentucky	95.9	86.8	44.9	30.4	17.6
Louisiana	95.6	86.5	31.3	22.7	15.1
Maine	96.0	83.3	54.5	41.1	31.0
Maryland	96.2	80.6	69.9	46.3	28.9
Massachusetts	96.8	79.5	71.6	47.9	35.0
Michigan	96.3	79.2	50.6	41.4	22.9
Minnesota	96.4	81.4	54.8	45.1	27.2
Mississippi	96.8	67.0	26.6	17.9	11.5
Missouri	96.7	88.8	70.9	33.3	15.9
Montana	91.8	66.4	43.4	38.3	16.9
Nebraska	94.2	70.4	43.4	33.1	15.7

Table 18 - Continued
Percentage of Connections by Downstream Speed by State as of December 31, 2012
(Connections over 200 kbps in at least one direction)

State	Over 200 kbps Upstream and				
	% 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	97.5	87.0	69.9	36.7	23.8
New Hampshire	95.3	73.6	56.1	48.0	33.9
New Jersey	96.2	77.3	51.1	45.9	33.1
New Mexico	95.6	77.7	43.9	38.3	21.9
New York	96.5	79.8	50.3	44.1	30.9
North Carolina	96.2	78.8	66.1	43.2	26.5
North Dakota	95.6	73.4	48.1	39.2	20.8
Northern Mariana Isl	*	*	*	*	*
Ohio	94.5	75.9	52.4	40.8	21.6
Oklahoma	97.5	92.4	35.3	23.0	16.0
Oregon	97.2	84.0	51.7	43.3	27.9
Pennsylvania	96.2	80.7	51.9	43.2	26.0
Puerto Rico	95.3	88.0	42.4	7.5	6.3
Rhode Island	96.9	82.0	72.4	50.1	37.7
South Carolina	95.8	76.7	52.3	41.5	27.4
South Dakota	95.1	74.2	47.5	43.3	25.3
Tennessee	95.5	76.8	46.8	37.6	19.3
Texas	97.5	88.1	67.4	30.8	14.9
Utah	97.2	83.6	52.9	44.2	26.2
Vermont	94.8	79.6	48.4	37.2	24.3
Virgin Islands	97.9	87.8	10.8	0.1	*
Virginia	96.0	78.7	51.9	43.6	27.4
Washington	97.1	84.2	52.7	44.7	29.8
West Virginia	96.1	89.7	45.7	28.5	21.8
Wisconsin	97.0	85.8	49.1	38.8	23.6
Wyoming	95.1	69.8	45.3	40.6	18.5
Total	96.5	81.8	54.1	38.1	22.8

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

Table 19
ADSL Connections by State 2008-2012
(Connections over 200 kbps in at least one direction, in thousands)

State	2008	2009		2010		2011		2012	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec
Alabama	457	473	496	498	523	536	538	546	546
Alaska	75	77	77	77	78	79	77	78	79
American Samoa	*	*	*	*	*	*	*	*	*
Arizona	466	487	518	527	552	557	590	600	625
Arkansas	273	298	308	314	330	337	343	344	345
California	4,617	4,587	4,568	4,456	4,538	4,471	4,416	4,370	4,285
Colorado	624	641	651	658	663	*	*	*	*
Connecticut	*	*	*	*	*	*	*	*	*
Delaware	*	*	*	*	*	*	*	*	*
District of Columbia	*	*	*	*	*	*	*	*	*
Florida	2,005	1,962	1,988	2,006	2,070	2,104	1,998	1,955	1,977
Georgia	1,240	1,251	1,256	1,129	1,413	1,435	1,282	1,291	1,300
Guam	*	*	*	*	*	*	*	*	*
Hawaii	*	*	*	*	*	*	*	*	*
Idaho	160	169	174	177	181	185	191	201	208
Illinois	1,503	1,538	1,556	1,537	1,577	1,576	1,549	1,519	1,504
Indiana	672	699	721	725	754	763	765	760	754
Iowa	336	351	362	373	376	381	389	393	396
Kansas	243	250	260	264	271	273	275	275	278
Kentucky	421	431	454	459	473	481	501	502	507
Louisiana	385	390	404	397	396	407	437	444	446
Maine	114	123	125	126	125	134	136	139	140
Maryland	471	440	405	*	350	*	*	*	*
Massachusetts	*	*	*	*	*	*	*	*	*
Michigan	780	835	857	860	902	922	906	909	907
Minnesota	544	573	590	611	618	629	623	627	633
Mississippi	229	240	255	240	263	267	299	309	313
Missouri	727	767	805	811	846	862	870	864	863
Montana	108	111	115	119	119	123	122	123	122
Nebraska	151	158	164	167	169	173	175	175	176

Table 19 - Continued
ADSL Connections by State 2008-2012
(Connections over 200 kbps in at least one direction, in thousands)

State	2008	2009		2010		2011		2012	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec
Nevada	222	225	229	232	242	245	250	255	255
New Hampshire	91	91	86	84	85	87	88	89	91
New Jersey	666	624	568	530	486	449	415	387	346
New Mexico	231	242	250	259	266	271	278	285	291
New York	1,122	1,100	1,046	1,010	957	928	875	841	777
North Carolina	891	918	969	985	995	1,026	1,050	1,059	1,063
North Dakota	65	64	67	67	69	71	71	72	73
Northern Mariana Isl	*	*	*	*	*	*	*	*	*
Ohio	1,069	1,109	1,127	1,145	1,177	1,190	1,184	1,175	1,178
Oklahoma	338	349	359	361	379	384	387	391	393
Oregon	371	367	367	362	359	360	364	375	373
Pennsylvania	1,231	1,246	1,232	1,202	1,159	1,131	1,098	1,063	1,017
Puerto Rico	*	*	*	*	*	*	*	*	*
Rhode Island	*	*	*	*	*	*	*	*	*
South Carolina	400	412	428	437	434	452	471	477	477
South Dakota	56	58	58	60	58	60	63	65	65
Tennessee	541	549	559	570	557	576	593	603	607
Texas	2,608	2,706	2,784	2,797	2,898	2,943	2,952	2,967	2,983
Utah	299	280	309	312	311	309	310	314	317
Vermont	61	79	81	84	85	87	94	97	98
Virgin Islands	*	*	*	*	*	*	*	*	*
Virginia	553	547	536	527	507	498	486	471	453
Washington	599	596	593	589	582	583	591	598	598
West Virginia	152	160	161	162	*	*	*	*	*
Wisconsin	556	586	612	615	646	658	657	651	651
Wyoming	57	58	58	59	59	59	62	62	63
Total	30,198	30,631	30,987	30,759	31,470	31,611	31,341	31,194	31,010

= Rounds to Zero.

* = Data withheld to maintain firm confidentiality.

Note: Some historical data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

Table 20
Cable Modem Connections by State 2008-2012
(Connections over 200 kbps in at least one direction, in thousands)

State	2008	2009		2010		2011		2012	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec
Alabama	460	478	497	513	539	556	576	592	615
Alaska	*	*	*	*	*	*	*	*	*
American Samoa	0	0	0	0	*	*	*	*	*
Arizona	1,044	1,039	1,104	1,096	1,161	1,104	1,169	1,156	1,210
Arkansas	227	252	262	267	278	288	301	308	313
California	3,990	4,144	4,224	4,418	4,639	4,853	5,034	5,222	5,414
Colorado	659	693	709	744	787	817	848	870	899
Connecticut	615	626	640	672	673	713	723	744	761
Delaware	*	*	*	158	156	164	*	*	174
District of Columbia	*	*	*	*	*	*	*	*	*
Florida	2,825	2,859	2,992	3,076	3,292	3,313	3,549	3,557	3,803
Georgia	974	1,020	1,022	1,052	1,114	1,151	1,190	1,245	1,291
Guam	*	*	*	*	*	*	*	*	*
Hawaii	*	*	*	*	*	*	*	*	*
Idaho	121	130	133	137	145	150	158	160	161
Illinois	1,591	1,575	1,577	1,630	1,696	1,768	1,857	1,936	2,020
Indiana	626	641	669	697	728	766	801	835	868
Iowa	330	344	360	376	389	395	397	403	407
Kansas	415	419	435	434	441	447	456	455	468
Kentucky	452	483	497	512	530	565	597	614	637
Louisiana	518	544	559	562	586	593	612	625	644
Maine	202	224	237	259	269	286	282	300	297
Maryland	801	757	768	778	773	797	826	842	873
Massachusetts	1,291	1,253	1,250	1,339	1,343	1,401	1,415	1,454	1,503
Michigan	1,394	1,431	1,451	1,517	1,537	1,603	1,643	1,687	1,756
Minnesota	666	685	701	739	776	800	820	846	874
Mississippi	216	227	232	241	246	258	263	270	273
Missouri	560	561	586	599	604	617	623	653	688
Montana	92	102	108	113	119	127	*	*	150
Nebraska	278	286	295	293	309	316	324	331	338

Table 20 - Continued
Cable Modem Connections by State 2008-2012
(Connections over 200 kbps in at least one direction, in thousands)

State	2008	2009		2010		2011		2012	
	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec
Nevada	*	*	*	*	*	*	*	*	*
New Hampshire	285	295	303	329	325	340	342	354	358
New Jersey	1,637	1,604	1,623	1,698	1,702	1,759	1,775	1,830	1,847
New Mexico	146	155	158	168	176	190	193	198	203
New York	3,749	3,850	3,886	3,982	4,013	4,091	4,116	4,253	4,459
North Carolina	1,344	1,392	1,444	1,513	1,554	1,566	1,653	1,729	1,851
North Dakota	85	88	93	90	101	96	108	111	116
Northern Mariana Isl	*	*	*	*	*	*	*	*	*
Ohio	1,705	1,757	1,813	1,862	1,895	1,943	2,025	2,057	2,171
Oklahoma	408	429	432	436	468	474	487	490	502
Oregon	517	528	542	576	608	640	662	683	711
Pennsylvania	1,800	1,777	1,835	1,915	1,983	2,057	2,135	2,200	2,286
Puerto Rico	*	*	*	*	*	*	*	*	*
Rhode Island	*	*	*	*	*	*	*	*	*
South Carolina	555	582	598	627	660	664	691	730	780
South Dakota	122	122	127	118	134	124	138	141	143
Tennessee	718	739	751	784	795	824	853	881	911
Texas	1,971	2,280	2,383	2,456	2,459	2,577	2,686	2,804	2,888
Utah	*	243	253	268	283	303	316	325	339
Vermont	71	80	83	93	97	104	106	109	113
Virgin Islands	0	0	0	0	0	0	*	*	*
Virginia	1,096	1,097	1,105	1,114	1,124	1,141	1,154	1,187	1,238
Washington	998	1,102	1,106	1,186	1,239	1,296	1,329	1,362	1,400
West Virginia	205	215	226	220	255	274	285	297	306
Wisconsin	759	779	802	823	846	870	897	914	948
Wyoming	64	70	74	76	80	82	85	89	92
Total	40,251	41,434	42,439	43,923	45,334	46,698	48,263	49,663	51,649

= Rounds to Zero.

* = Data withheld to maintain firm confidentiality.

Note: Some historical data have been revised. Figures may not sum to totals due to rounding.

Source: FCC Form 477, Part I.

Table 21
Providers of Connections by Technology by State as of December 31, 2012
(Connections over 200 kbps in at least one direction)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Power Line and Other</i>	<i>Total</i>
Alabama	25	12	22	22	27	*	18	7	0	81
Alaska	13	4	8	4	7	4	9	7	0	27
American Samoa	*	*	0	*	*	0	*	0	0	*
Arizona	25	5	31	11	25	4	23	6	0	77
Arkansas	21	7	14	16	16	*	11	6	0	59
California	38	18	50	23	27	*	45	10	0	128
Colorado	36	9	35	17	28	*	36	11	0	101
Connecticut	8	8	22	8	11	*	0	5	0	37
Delaware	6	4	19	4	5	*	0	6	0	30
District of Columbia	11	8	23	*	9	*	*	5	0	36
Florida	30	15	49	19	34	*	18	7	0	98
Georgia	34	14	43	31	40	*	8	9	0	106
Guam	*	*	*	*	*	0	*	*	0	5
Hawaii	4	*	8	*	7	*	*	5	0	23
Idaho	24	4	19	14	22	*	16	8	0	60
Illinois	61	19	53	21	37	*	56	10	0	155
Indiana	38	10	34	14	37	*	43	8	0	105
Iowa	127	30	28	44	83	*	75	11	0	211
Kansas	39	14	24	28	39	*	31	11	0	98
Kentucky	28	9	24	29	27	*	18	9	*	95
Louisiana	17	9	22	18	21	*	9	7	0	63
Maine	12	9	16	5	12	*	*	5	0	32
Maryland	17	12	34	12	16	*	8	8	0	67
Massachusetts	14	9	36	11	12	*	9	5	0	64
Michigan	39	19	38	20	25	*	33	9	0	109
Minnesota	50	18	31	17	45	*	34	6	0	108
Mississippi	17	5	22	13	13	4	5	6	0	53
Missouri	37	14	32	19	33	*	44	8	0	112
Montana	22	8	16	8	14	*	17	*	0	48
Nebraska	35	8	14	20	32	*	28	8	0	77

Table 21 - Continued
Providers of Connections by Technology by State as of December 31, 2012
(Connections over 200 kbps in at least one direction)

<i>State</i>	<i>ADSL</i>	<i>SDSL</i>	<i>Other Wireline</i>	<i>Cable Modem</i>	<i>Fiber</i>	<i>Satellite</i>	<i>Fixed Wireless</i>	<i>Mobile Wireless</i>	<i>Power Line and Other</i>	<i>Total</i>
Nevada	18	9	27	8	15	*	11	7	0	62
New Hampshire	14	8	17	5	12	*	5	6	0	39
New Jersey	20	12	40	7	17	*	4	6	0	58
New Mexico	23	10	18	7	12	*	19	9	0	56
New York	43	17	39	21	28	*	16	6	0	94
North Carolina	27	10	30	21	30	*	9	11	0	82
North Dakota	31	10	16	7	16	*	13	4	0	48
Northern Mariana Isl	*	0	*	*	*	0	*	*	0	*
Ohio	39	10	35	28	34	*	24	8	*	110
Oklahoma	41	9	23	16	20	*	18	9	0	83
Oregon	41	13	30	13	35	*	23	6	0	86
Pennsylvania	35	12	47	26	27	*	13	8	0	99
Puerto Rico	*	0	6	*	*	*	*	5	0	13
Rhode Island	7	4	11	4	6	*	*	5	0	25
South Carolina	20	7	20	15	16	*	5	9	0	50
South Dakota	31	*	11	7	20	*	20	5	0	57
Tennessee	24	11	25	18	25	*	17	7	0	81
Texas	70	23	59	33	50	*	63	10	0	171
Utah	23	8	16	9	18	*	12	7	0	52
Vermont	10	4	15	6	9	*	4	4	0	35
Virgin Islands	*	0	*	*	0	*	4	4	0	8
Virginia	26	12	37	17	24	*	18	8	0	83
Washington	31	7	35	17	28	*	29	7	0	92
West Virginia	7	*	17	13	11	*	6	8	0	46
Wisconsin	48	21	26	18	33	*	32	8	0	102
Wyoming	15	5	7	4	6	*	14	7	0	38
Total	865	254	261	404	665	6	757	69	*	1,712

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

Detailed Summary Statistics: Counties and Census Tracts

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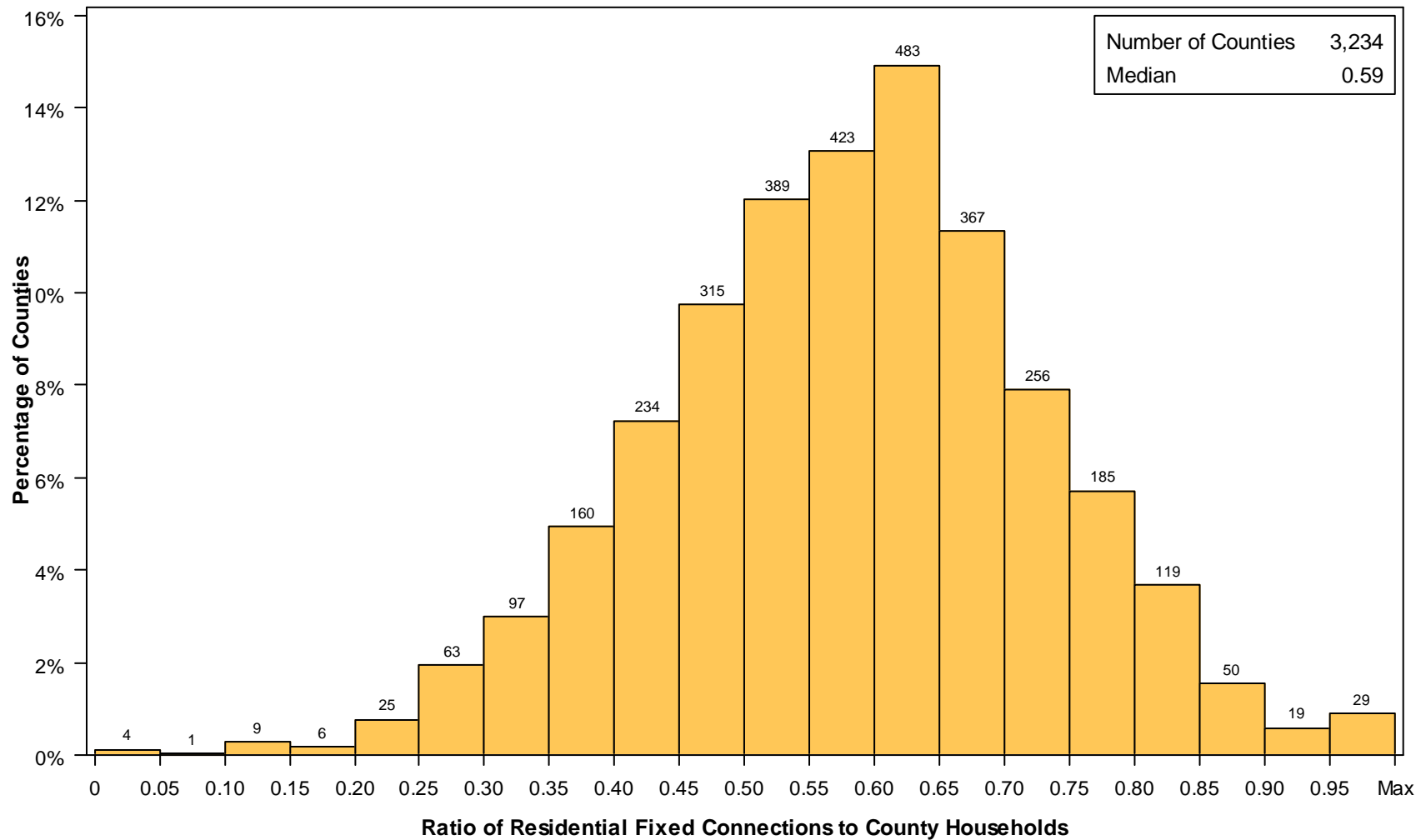
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Chart 15
Distribution of Counties by Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to County Households as of December 31, 2012



Note: Ratios over 1 were set to 1. See Technical Notes at the end of the report.

Sources: FCC Form 477, Part VI: Geolytics 2012 Block-Level Estimates; and Census 2010. 2010 housing units proxv households in island area counties.

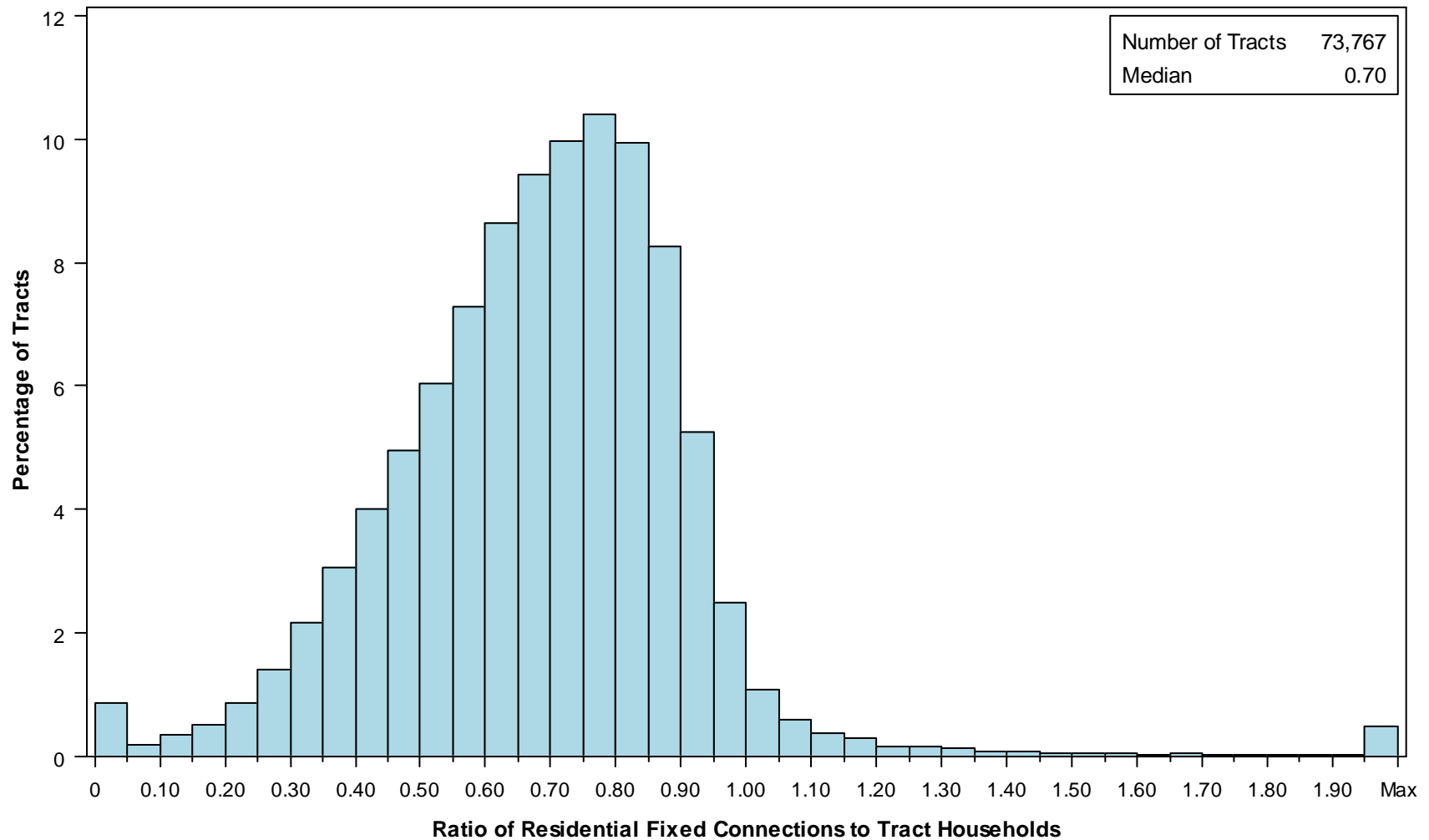
Table 22
Distribution of Counties by Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction
to County Households by Technology as of December 31, 2012

<i>Technology</i>	<i>Ratio of Residential Fixed Connections to County Households</i>										<i>100% or more</i>
	<i>Zero</i>	<i>Greater than 0 and no more than 5%</i>	<i>Greater than 5 and no more than 10%</i>	<i>Greater than 10 and no more than 20%</i>	<i>Greater than 20 and no more than 30%</i>	<i>Greater than 30 and no more than 40%</i>	<i>Greater than 40 and no more than 50%</i>	<i>Greater than 50 and no more than 60%</i>	<i>Greater than 60 and no more than 80%</i>	<i>Greater than 80 and no more than 100%</i>	
aDSL	0.5	2.1	5.2	25.8	30.7	21.3	9.2	3.6	1.3	0.3	0.1
sDSL	83.1	16.2	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Other Wireline	96.8	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cable Modem	12.7	8.8	9.1	17.9	16.9	14.9	11.6	5.4	2.4	0.3	0.1
FTTP	55.3	30.7	4.8	4.0	2.4	1.4	0.6	0.4	0.5	0.0	0.0
Satellite	0.7	76.5	17.1	5.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0
Fixed Wireless	41.9	44.6	8.4	4.1	0.7	0.2	0.0	0.1	0.0	0.0	0.0
Power Line	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
All Other	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total	0.1	0.0	0.0	0.5	2.7	7.9	17.0	25.1	39.9	6.0	0.7

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 2012 Block-Level Estimates; and Census 2010. 2010 housing units proxy households in island area counties.

Chart 16
Distribution of Census Tracts by Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Tract Households as of December 31, 2012



Note: Ratios over 2 were set to 2. See Technical Notes at the end of the report.
 Sources: FCC Form 477, Part VI: Geolytics 2012 Block-Level Estimates; and Census 2000.

Table 23
Distribution of Census Tracts by Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction
to Tract Households by Technology as of December 31, 2012

<i>Technology</i>	<i>Ratio of Residential Fixed Connections to Tract Households</i>										
	<i>Zero</i>	<i>Greater than 0 and no more than 5%</i>	<i>Greater than 5 and no more than 10%</i>	<i>Greater than 10 and no more than 20%</i>	<i>Greater than 20 and no more than 30%</i>	<i>Greater than 30 and no more than 40%</i>	<i>Greater than 40 and no more than 50%</i>	<i>Greater than 50 and no more than 60%</i>	<i>Greater than 60 and no more than 80%</i>	<i>Greater than 80 and no more than 100%</i>	<i>100% or more</i>
aDSL	1.4	9.2	11.1	27.6	23.4	15.0	7.5	2.9	1.3	0.3	0.3
sDSL	96.6	3.2	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Wireline	99.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cable Modem	5.7	3.3	2.4	7.8	14.5	18.5	17.7	14.2	13.1	2.0	0.9
FTTP	72.3	11.1	2.0	3.1	3.2	3.6	2.6	1.3	0.6	0.1	0.1
Satellite	35.3	57.6	4.4	2.2	0.4	0.1	0.0	0.0	0.0	0.0	0.0
Fixed Wireless	83.2	13.1	1.8	1.3	0.4	0.1	0.1	0.0	0.0	0.0	0.0
Power Line	99.9	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	0.7	0.1	0.2	0.9	2.3	5.2	9.0	13.3	38.4	26.0	3.8

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 2012 Block-Level Estimates; and Census 2000.

Table 24
Percentage of Census Tracts with Residential Fixed Connections by Technology as of December 31, 2012
(Connections over 200 kbps in at least one direction)

<i>Technology</i>	<i>Number of Providers</i>							
	<i>Zero</i>	<i>One</i>	<i>Two</i>	<i>Three</i>	<i>Four</i>	<i>Five</i>	<i>Six</i>	<i>Seven or More</i>
aDSL	1.4	48.7	35.3	12.4	1.9	0.3	0.1	0.0
sDSL	96.6	3.2	0.1	0.0	0.0	0.0	0.0	0.0
Other Wireline	99.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0
Cable Modem	5.7	81.4	12.3	0.5	0.0	0.0	0.0	0.0
FTTP	72.3	26.9	0.7	0.1	0.0	0.0	0.0	0.0
Satellite	35.3	24.1	38.3	2.3	0.0	0.0	0.0	0.0
Fixed Wireless	83.2	12.4	3.4	0.8	0.1	0.0	0.0	0.0
Power Line	99.9	0.1	0.0	0.0	0.0	0.0	0.0	0.0
aDSL and/or Cable Modem and/or FTTP	0.9	2.8	41.6	34.9	15.8	3.3	0.6	0.1
Any Technology	0.7	0.5	14.1	23.7	28.6	18.7	8.6	5.0

Note: Figures may not sum to totals due to rounding. The number of providers in a census tract does not necessarily reflect the number of choices available to a particular household, and does not purport to measure competition.

Sources: FCC Form 477, Part VI and Census 2010.

Table 25
Distribution of Counties by Ratio of Residential Fixed Connections to County Households by State as of December 31, 2012
(Connections over 200 kbps in at least one direction)

Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction 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 80%	Greater than 80 and no more than 100%	100% or more	
Alabama	67	0	0	0	0	3	9	26	16	13	0	0	
Alaska	29	0	0	0	1	2	3	6	4	12	0	1	
American Samoa	5	2	1	0	1	1	0	0	0	0	0	0	
Arizona	15	0	0	0	0	0	1	1	4	9	0	0	
Arkansas	75	0	0	0	0	2	19	35	11	8	0	0	
California	58	0	0	0	1	0	2	1	9	35	9	1	
Colorado	64	0	0	0	0	1	0	3	19	24	11	6	
Connecticut	8	0	0	0	0	0	0	0	0	4	4	0	
Delaware	3	0	0	0	0	0	0	0	0	2	1	0	
District of Columbia	1	0	0	0	0	0	0	0	0	1	0	0	
Florida	67	0	0	0	0	3	0	11	10	32	10	1	
Georgia	159	0	0	0	1	10	15	36	40	49	8	0	
Guam	1	0	0	0	0	0	0	0	0	1	0	0	
Hawaii	5	0	0	0	0	0	0	0	0	3	2	0	
Idaho	44	0	0	1	0	1	4	6	11	18	2	1	
Illinois	102	0	0	0	1	2	4	14	35	40	3	3	
Indiana	92	0	0	0	0	0	5	15	42	28	2	0	
Iowa	99	0	0	0	0	0	0	4	34	60	1	0	
Kansas	105	0	0	0	0	0	1	13	26	54	11	0	
Kentucky	120	0	0	0	0	2	7	28	38	44	1	0	
Louisiana	64	0	0	0	0	1	11	14	21	17	0	0	
Maine	16	0	0	0	0	0	0	0	2	12	2	0	
Maryland	24	0	0	0	0	0	0	4	1	14	5	0	
Massachusetts	14	0	0	0	0	0	0	0	0	7	4	3	
Michigan	83	0	0	0	0	2	5	11	26	37	2	0	
Minnesota	87	0	0	0	0	0	1	3	23	58	2	0	
Mississippi	82	0	0	0	0	11	35	19	11	6	0	0	
Missouri	115	0	0	0	1	3	10	36	38	26	1	0	
Montana	56	0	0	0	0	1	0	8	13	33	1	0	
Nebraska	93	0	0	0	0	0	5	10	28	49	1	0	

Table 25 - Continued
Distribution of Counties by Ratio of Residential Fixed Connections to County Households by State as of December 31, 2012
(Connections over 200 kbps in at least one direction)

Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction 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 80%	Greater than 80 and no more than 100%	100% or more	
Nevada	17	0	0	0	0	0	3	3	3	8	0	0	
New Hampshire	10	0	0	0	0	0	0	0	0	5	5	0	
New Jersey	21	0	0	0	0	0	0	0	0	11	9	1	
New Mexico	33	0	0	0	0	1	6	6	10	8	2	0	
New York	62	0	0	0	0	0	0	0	4	46	11	1	
North Carolina	100	0	0	0	0	0	3	19	28	36	13	1	
North Dakota	53	0	0	0	0	0	0	4	6	38	4	1	
Northern Mariana Isl	4	1	0	0	3	0	0	0	0	0	0	0	
Ohio	88	0	0	0	0	0	1	8	23	53	3	0	
Oklahoma	77	0	0	0	0	4	13	27	18	14	1	0	
Oregon	36	0	0	0	0	0	0	3	10	21	2	0	
Pennsylvania	67	0	0	0	0	0	1	2	11	40	12	1	
Puerto Rico	78	0	0	0	0	14	20	31	11	2	0	0	
Rhode Island	5	0	0	0	0	0	0	0	0	4	1	0	
South Carolina	46	0	0	0	0	0	10	8	13	12	3	0	
South Dakota	66	0	0	0	0	1	1	7	10	43	4	0	
Tennessee	95	0	0	0	1	3	12	35	29	14	1	0	
Texas	254	0	0	0	1	6	29	58	77	73	9	1	
Utah	29	0	0	0	0	1	1	1	5	16	4	1	
Vermont	14	0	0	0	0	0	0	0	1	7	6	0	
Virgin Islands	3	0	0	0	0	0	2	0	1	0	0	0	
Virginia	134	0	0	0	4	12	13	17	41	32	14	1	
Washington	39	0	0	0	0	1	2	0	9	27	0	0	
West Virginia	55	0	0	0	0	0	3	11	20	20	1	0	
Wisconsin	72	0	0	0	0	0	0	2	14	52	4	0	
Wyoming	23	0	0	0	0	0	0	4	5	13	1	0	
Total	3,234	3	1	1	15	88	257	550	811	1291	193	24	

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 (Connections); Geolytics 2012 Block-Level Estimates (Households for U.S. and District of Columbia); Census 2010 (Housing units for Puerto Rico, American Samoa, Guam, Northern Mariana Islands and U.S. Virgin Islands).

Table 26
Distribution of Census Tracts by Ratio of Residential Fixed Connections to Tract Households by State as of December 31, 2012
(Connections over 200 kbps in at least one direction)

<i>Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Tract Households</i>												
<i>State</i>	<i>Tracts</i>	<i>Zero</i>	<i>Greater than 0 and no more than 5%</i>	<i>Greater than 5 and no more than 10%</i>	<i>Greater than 10 and no more than 20%</i>	<i>Greater than 20 and no more than 30%</i>	<i>Greater than 30 and no more than 40%</i>	<i>Greater than 40 and no more than 50%</i>	<i>Greater than 50 and no more than 60%</i>	<i>Greater than 60 and no more than 80%</i>	<i>Greater than 80 and no more than 100%</i>	<i>100% or more</i>
Alabama	1,179	5	2	1	13	80	164	255	207	329	103	20
Alaska	167	2	0	2	4	8	8	15	27	72	18	11
American Samoa	18	3	6	1	1	2	1	2	0	1	1	0
Arizona	1,526	20	9	9	17	23	60	121	181	537	461	88
Arkansas	686	2	1	1	13	63	113	156	125	167	36	9
California	8,036	53	10	13	37	72	177	418	736	3,025	3,209	286
Colorado	1,249	13	0	2	1	6	17	61	134	505	438	72
Connecticut	829	3	0	0	0	2	12	39	57	290	405	21
Delaware	215	1	0	0	1	0	1	17	24	78	76	17
District of Columbia	179	1	0	0	0	0	3	16	31	77	39	12
Florida	4,199	37	3	0	5	41	92	268	458	1,730	1,278	287
Georgia	1,964	11	2	2	14	57	172	268	345	686	358	49
Guam	56	6	0	1	3	2	0	2	2	3	4	33
Hawaii	326	11	0	1	2	0	3	8	21	124	114	42
Idaho	298	0	0	1	2	3	17	23	77	147	23	5
Illinois	3,121	9	3	1	20	45	191	328	473	1,291	690	70
Indiana	1,508	5	2	2	7	15	67	235	370	598	195	12
Iowa	825	2	1	0	1	4	13	62	177	475	81	9
Kansas	770	9	0	0	3	13	38	78	141	326	134	28
Kentucky	1,115	12	0	1	8	31	74	155	237	428	145	24
Louisiana	1,136	14	0	0	7	40	128	191	228	391	114	23
Maine	351	0	0	0	1	1	3	20	35	194	80	17
Maryland	1,394	7	0	0	2	15	68	87	110	484	568	53
Massachusetts	1,471	11	0	0	2	1	5	34	84	534	727	73
Michigan	2,767	29	1	1	22	96	231	298	376	1,096	594	23
Minnesota	1,335	4	2	1	1	8	25	77	219	705	280	13
Mississippi	661	4	0	2	10	80	161	120	109	135	34	6
Missouri	1,393	6	1	4	8	77	123	183	266	485	214	26
Montana	271	2	2	1	3	4	4	22	61	132	32	8
Nebraska	532	2	0	0	0	0	16	48	102	244	105	15

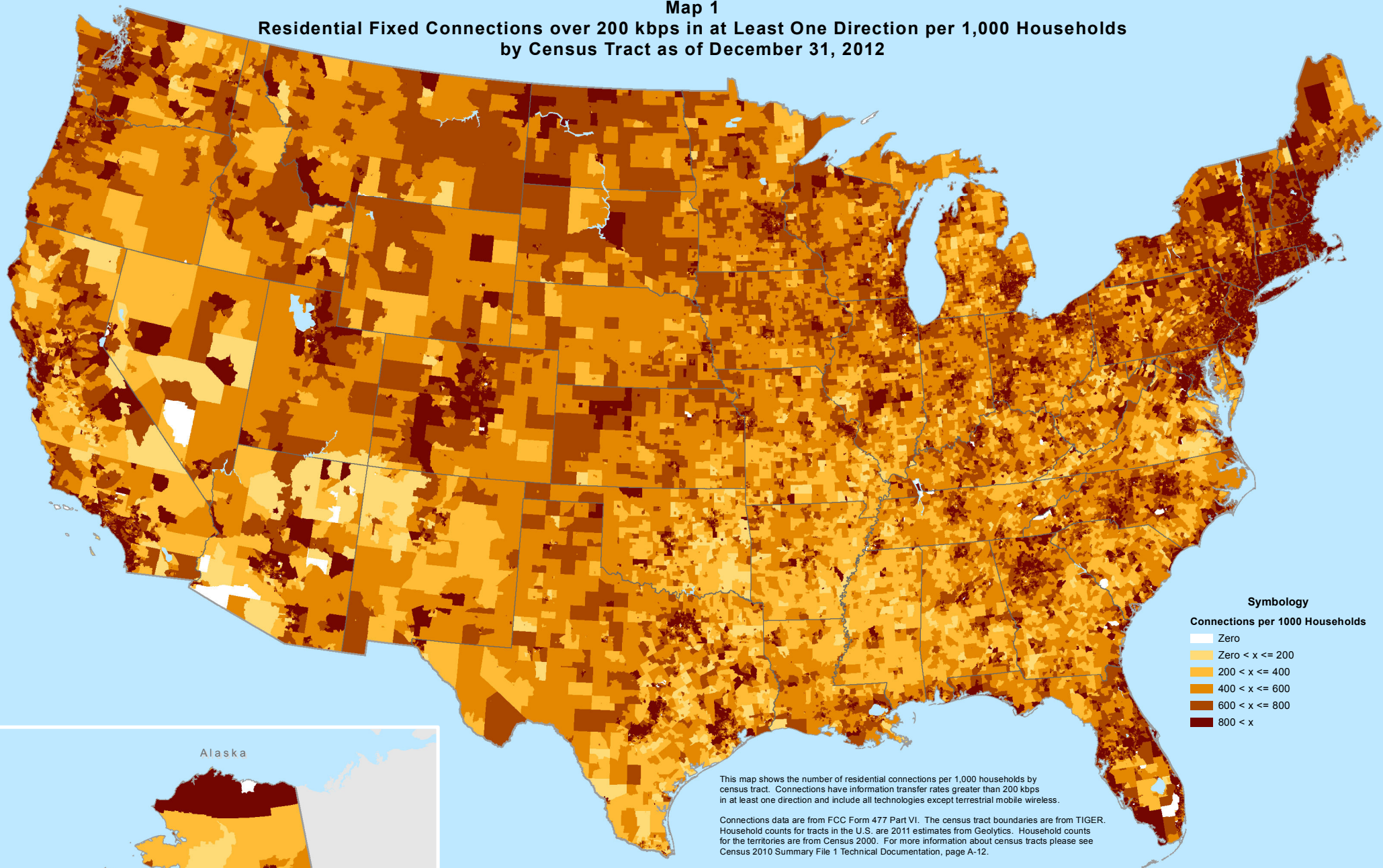
Table 26 - Continued
Distribution of Census Tracts by Ratio of Residential Fixed Connections to Tract Households by State as of December 31, 2012
(Connections over 200 kbps in at least one direction)

Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction 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 80%	Greater than 80 and no more than 100%	100% or more
Nevada	683	6	0	0	10	16	34	72	79	301	141	24
New Hampshire	294	2	0	0	1	0	0	1	10	113	158	9
New Jersey	2,004	9	1	0	2	1	6	27	106	770	987	95
New Mexico	499	3	11	5	8	19	55	73	92	167	52	14
New York	4,900	73	0	2	21	19	66	142	330	2,213	1,795	239
North Carolina	2,183	19	1	0	4	38	106	263	360	730	448	214
North Dakota	205	0	0	0	0	1	4	15	29	110	35	11
Northern Mariana Isl	22	3	1	1	1	2	1	0	3	0	1	9
Ohio	2,946	7	0	1	8	47	164	281	476	1,244	633	85
Oklahoma	1,046	1	6	5	33	72	121	170	188	279	145	26
Oregon	827	2	0	0	1	1	9	34	118	475	178	9
Pennsylvania	3,217	22	1	4	23	27	57	186	461	1,444	841	151
Puerto Rico	903	14	3	22	157	176	163	118	83	64	33	70
Rhode Island	241	1	0	0	1	0	0	2	16	140	77	4
South Carolina	1,097	10	0	0	9	41	115	172	179	328	166	77
South Dakota	222	0	1	0	1	2	8	9	33	131	34	3
Tennessee	1,497	21	2	2	12	76	177	278	306	456	149	18
Texas	5,253	39	9	25	81	243	539	753	773	1,558	1,025	208
Utah	588	5	2	3	1	3	5	21	60	298	156	34
Vermont	184	1	0	0	0	0	1	1	11	101	54	15
Virgin Islands	29	0	0	1	3	4	3	2	4	3	3	6
Virginia	1,895	22	2	5	38	63	101	164	224	482	706	88
Washington	1,446	2	1	2	6	14	28	78	151	690	448	26
West Virginia	484	0	1	4	13	19	36	56	88	184	62	21
Wisconsin	1,393	3	2	1	5	13	65	102	218	723	242	19
Wyoming	132	1	0	0	1	4	3	12	18	69	21	3
Total	73,767	550	89	130	648	1,690	3,854	6,639	9,829	28,362	19,146	2,830

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 (Connections); Geolytics 2012 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).

Map 1
Residential Fixed Connections over 200 kbps in at Least One Direction per 1,000 Households
by Census Tract as of December 31, 2012

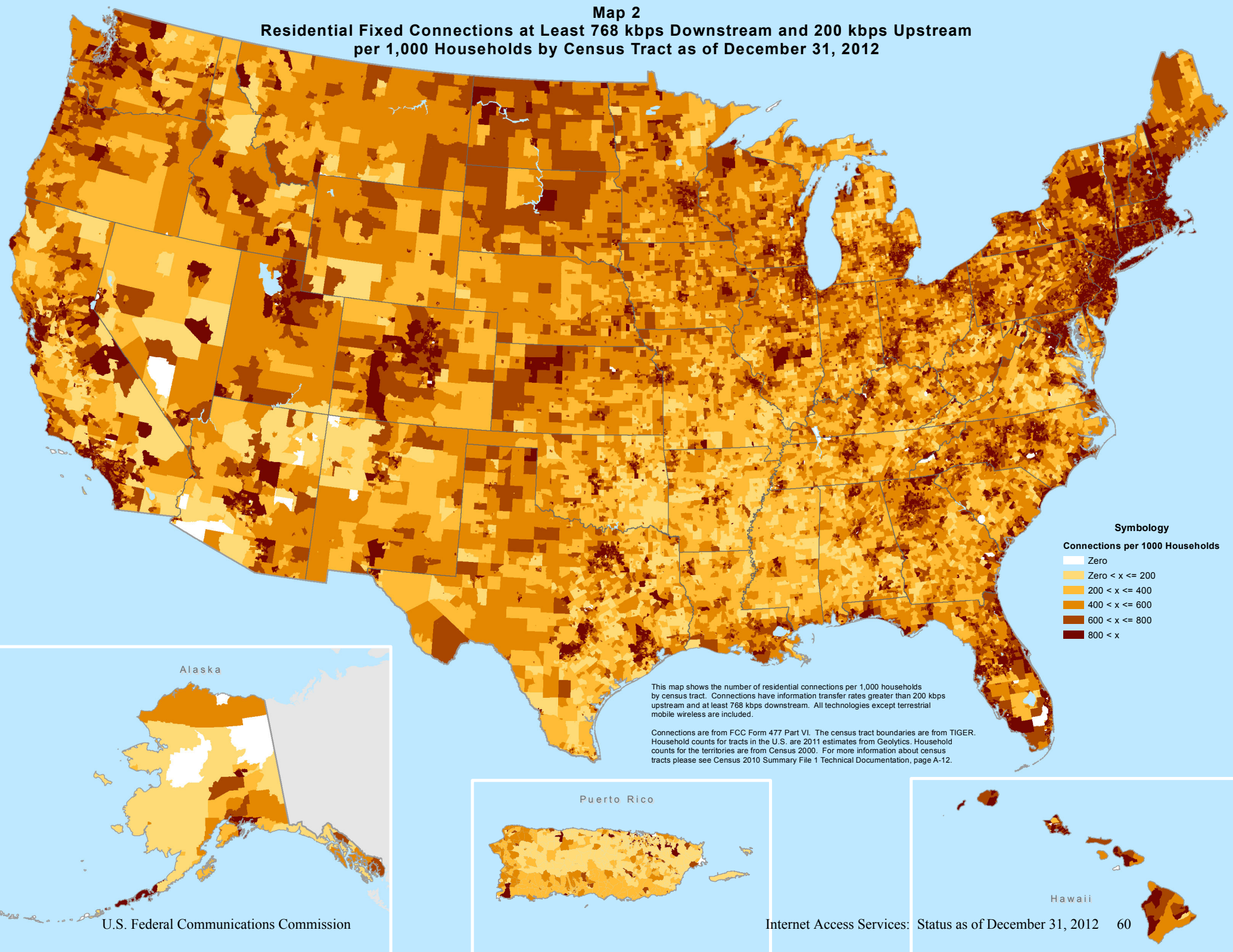


Alaska

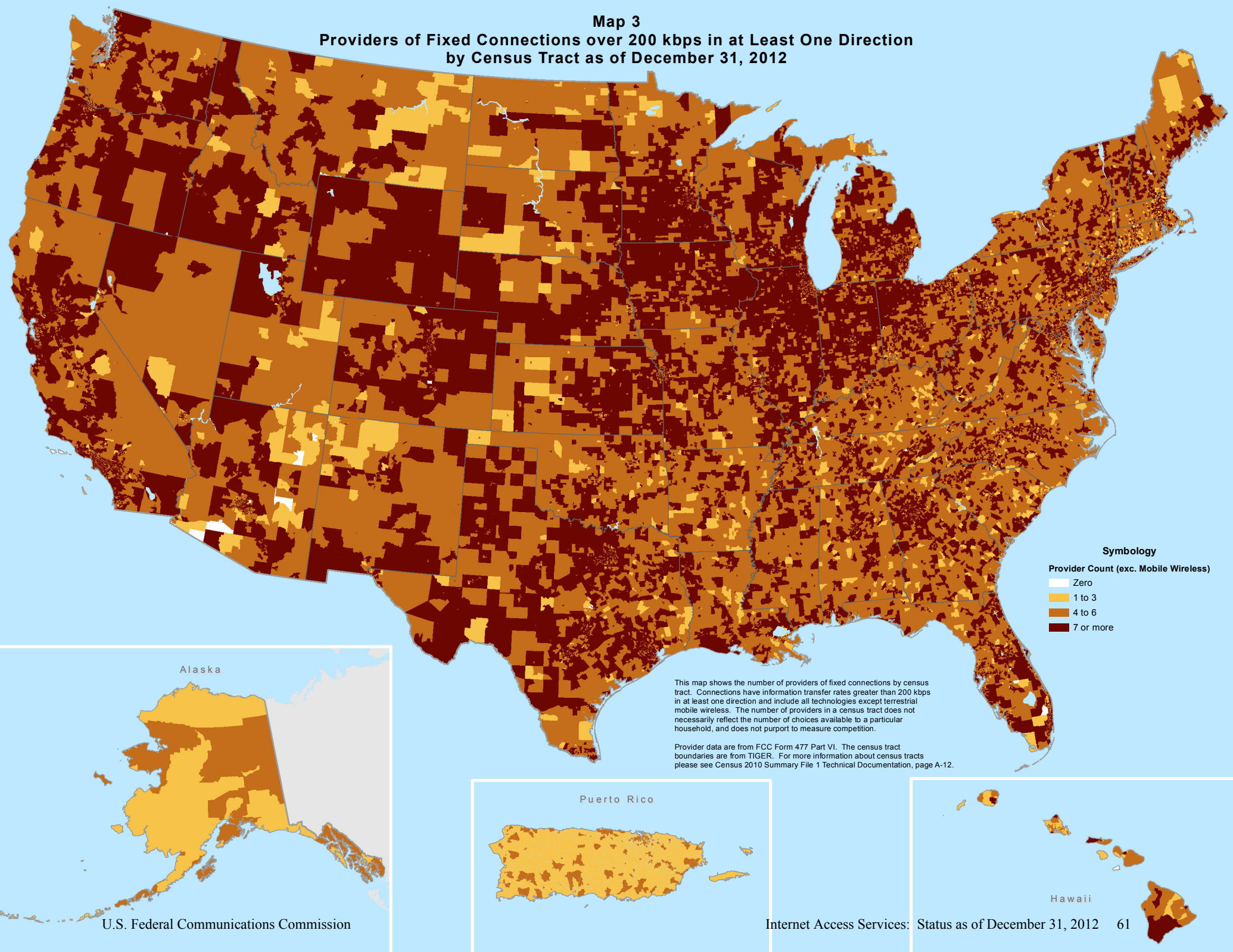
Puerto Rico

Hawaii

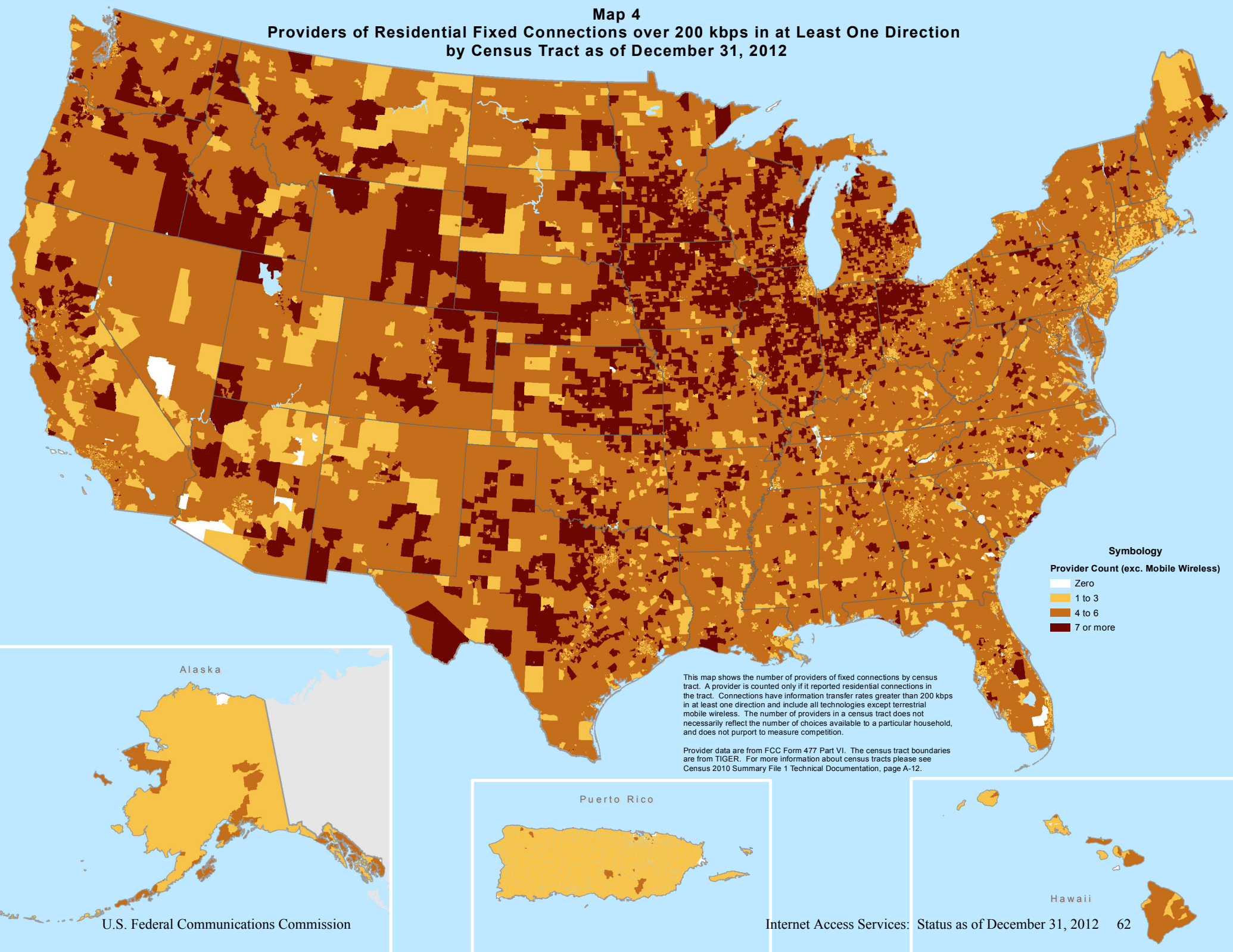
Map 2
Residential Fixed Connections at Least 768 kbps Downstream and 200 kbps Upstream
per 1,000 Households by Census Tract as of December 31, 2012



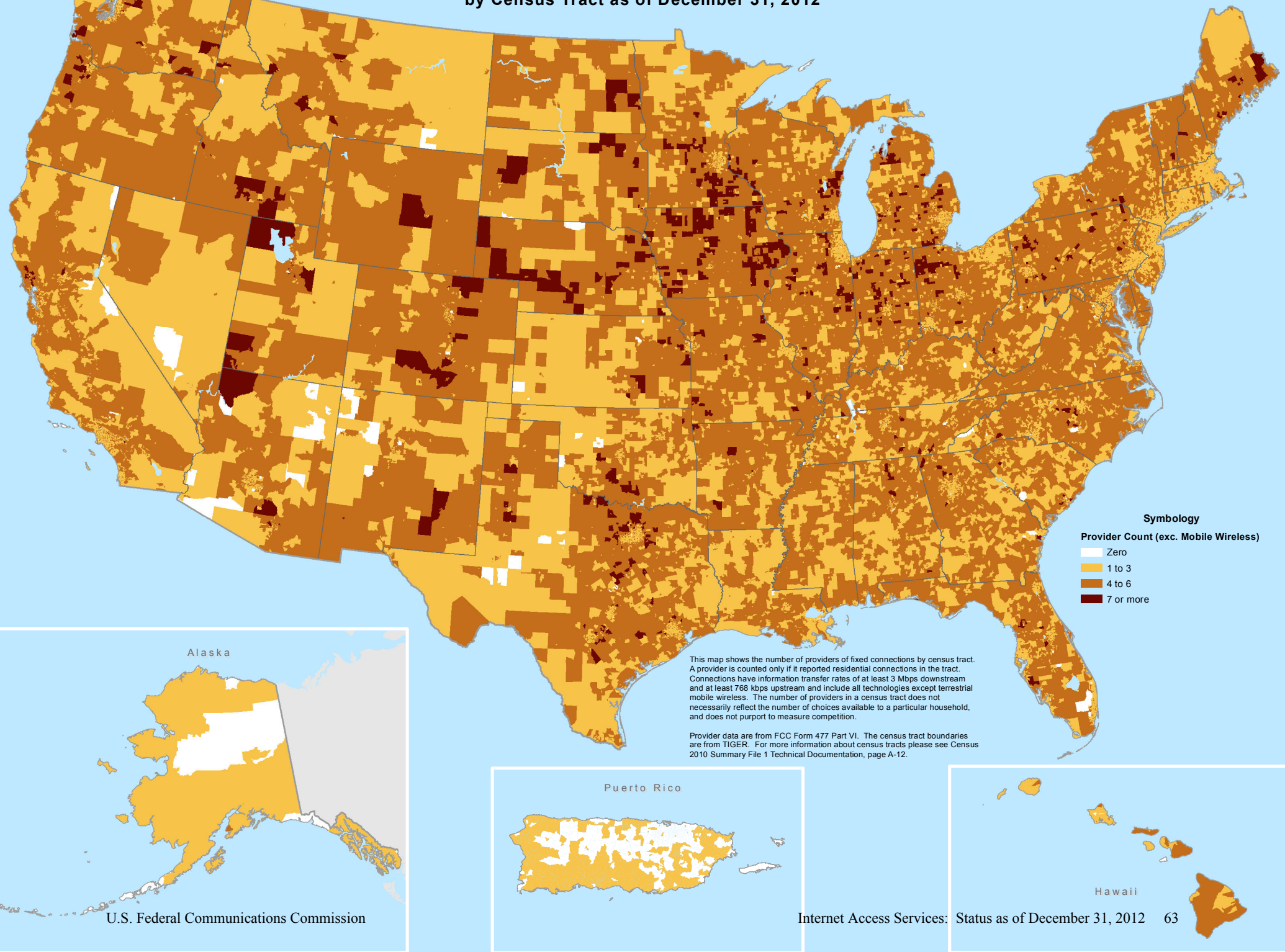
Map 3
Providers of Fixed Connections over 200 kbps in at Least One Direction
by Census Tract as of December 31, 2012



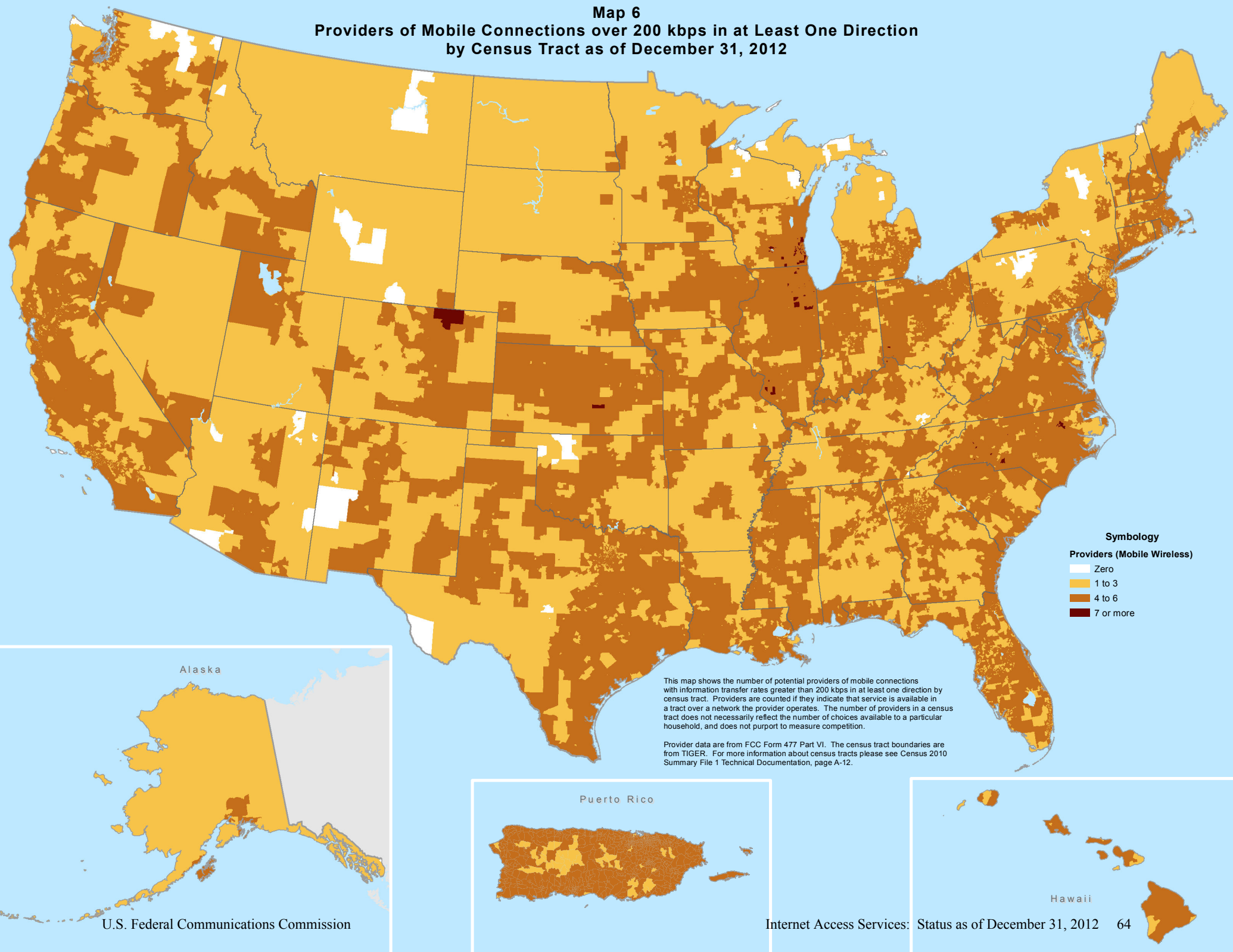
Map 4
Providers of Residential Fixed Connections over 200 kbps in at Least One Direction
by Census Tract as of December 31, 2012



Map 5
Providers of Residential Fixed Connections at Least 3 Mbps Downstream and 768 kbps Upstream
by Census Tract as of December 31, 2012



Map 6
Providers of Mobile Connections over 200 kbps in at Least One Direction
by Census Tract as of December 31, 2012



Detailed Correlation Results: Demographic Measures

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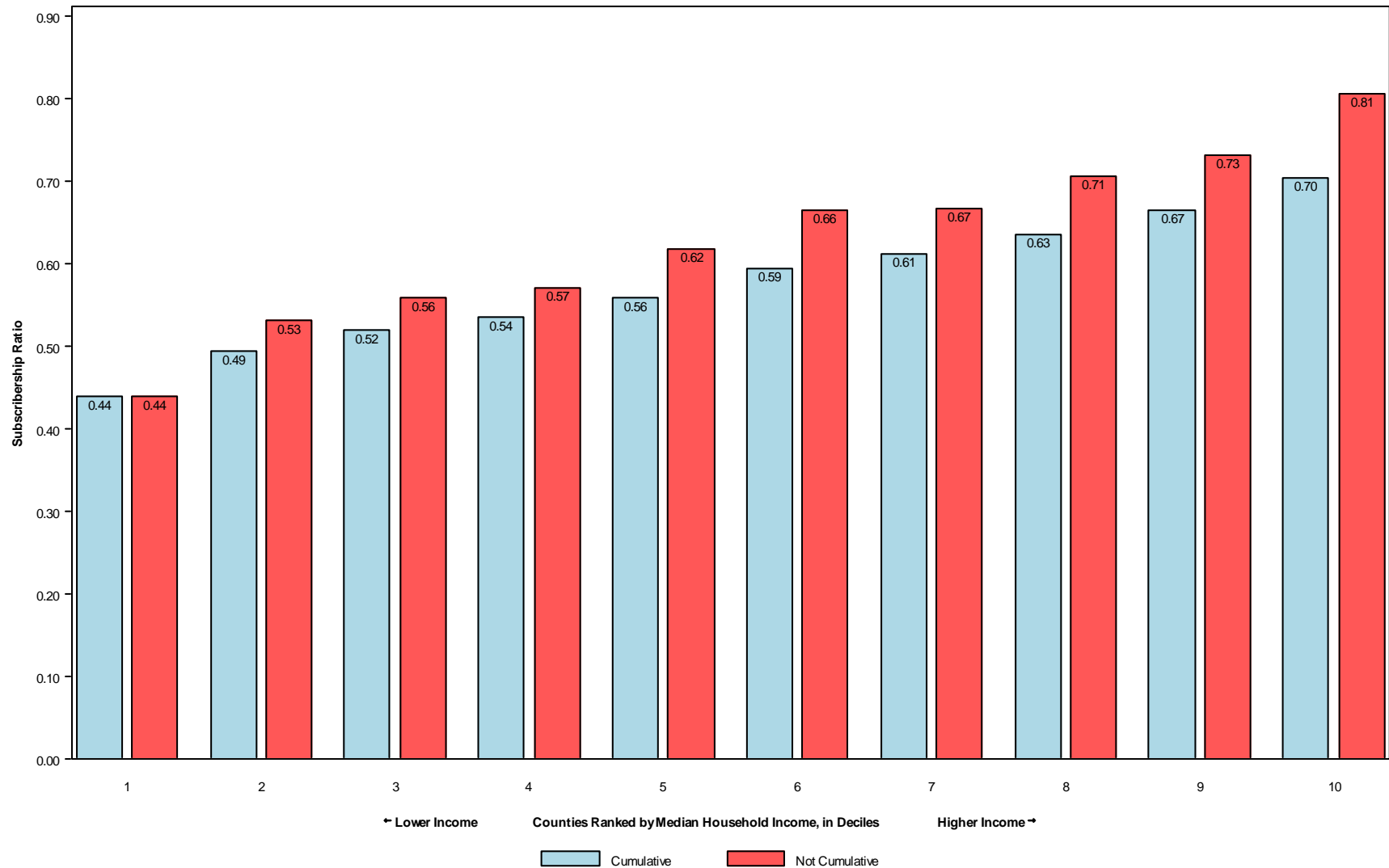
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Income and household density

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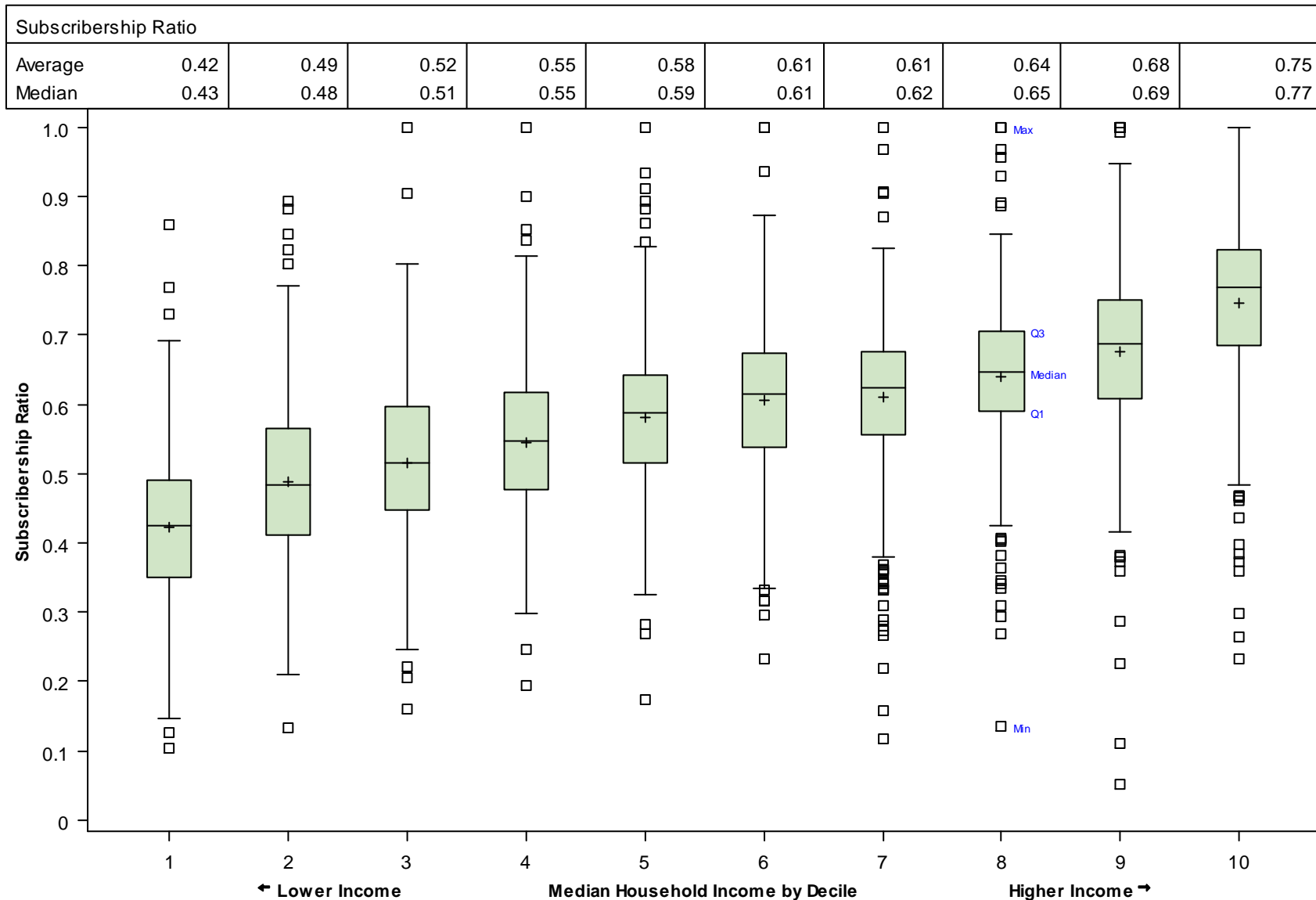
Chart 17
Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Households
by Income Deciles as of December 31, 2012
(County Data)



This chart shows cumulative and non-cumulative subscriber ratios by income deciles. Counties were grouped into income deciles based on county median household income in 2009, 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 over 200 kbps in at least one direction 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 over 200 kbps in at least one direction 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 2012 Block-Level Estimates (Households in 2012); and 2007-2011 ACS 5-year Estimates (Median household income).

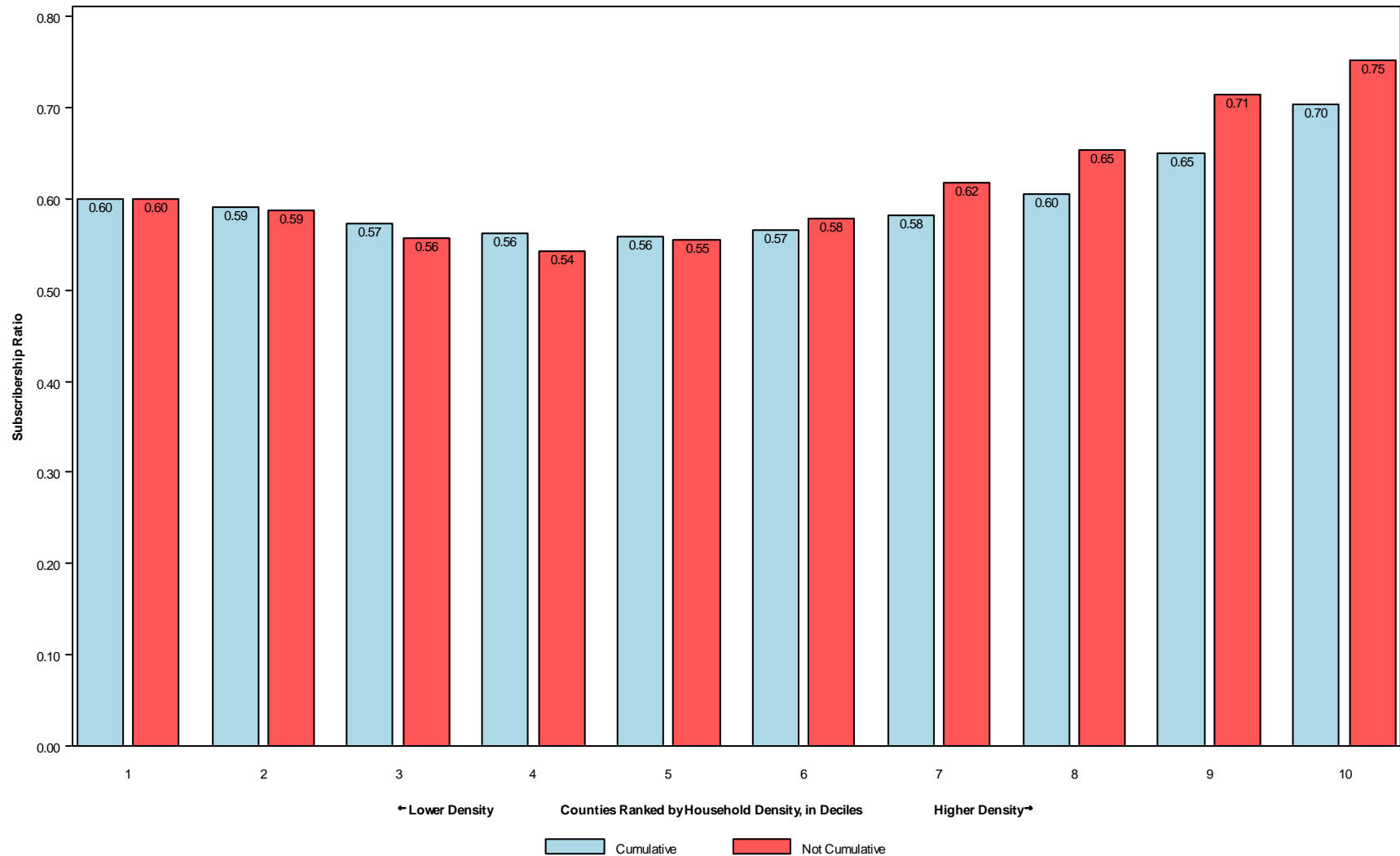
Chart 18
Subscriberhip Ratio Distributions by Income Deciles as of December 31, 2012



Note: Each box plot shows the distribution of residential subscribership to connections over 200 kbps in at least one direction 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; L is the minimum observation above $Q1 - 1.5(Q3 - Q1)$; T is the maximum observation below $Q3 + 1.5(Q3 - Q1)$; and \square 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 2012 Block-Level Estimates (Households in 2012); and 2007-2011 ACS 5-year Estimates (Median household income).

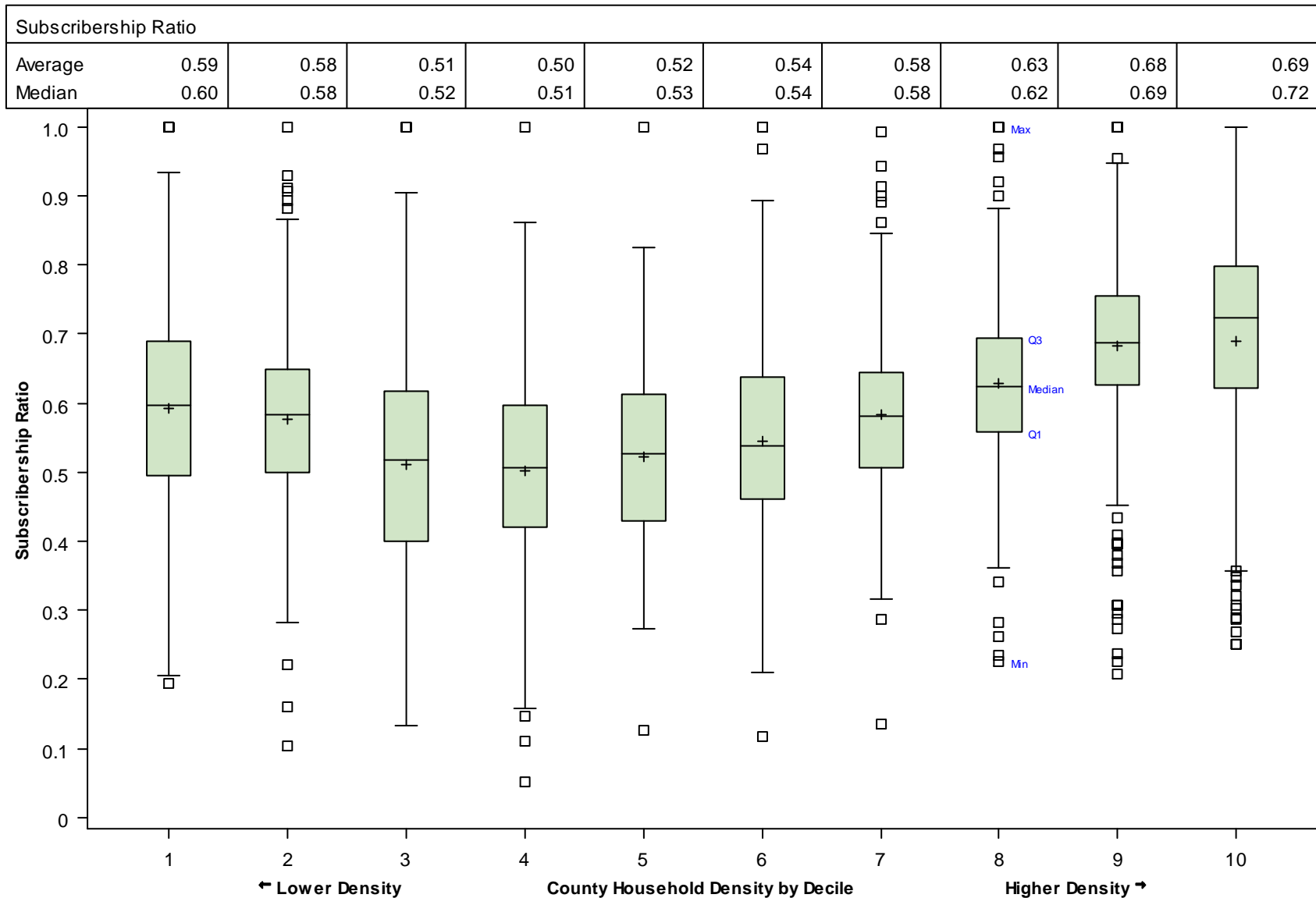
Chart 19
Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Households
by Density Deciles as of December 31, 2012
(County Data)



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 2010 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 over 200 kbps in at least one direction 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 over 200 kbps in at least one direction 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.

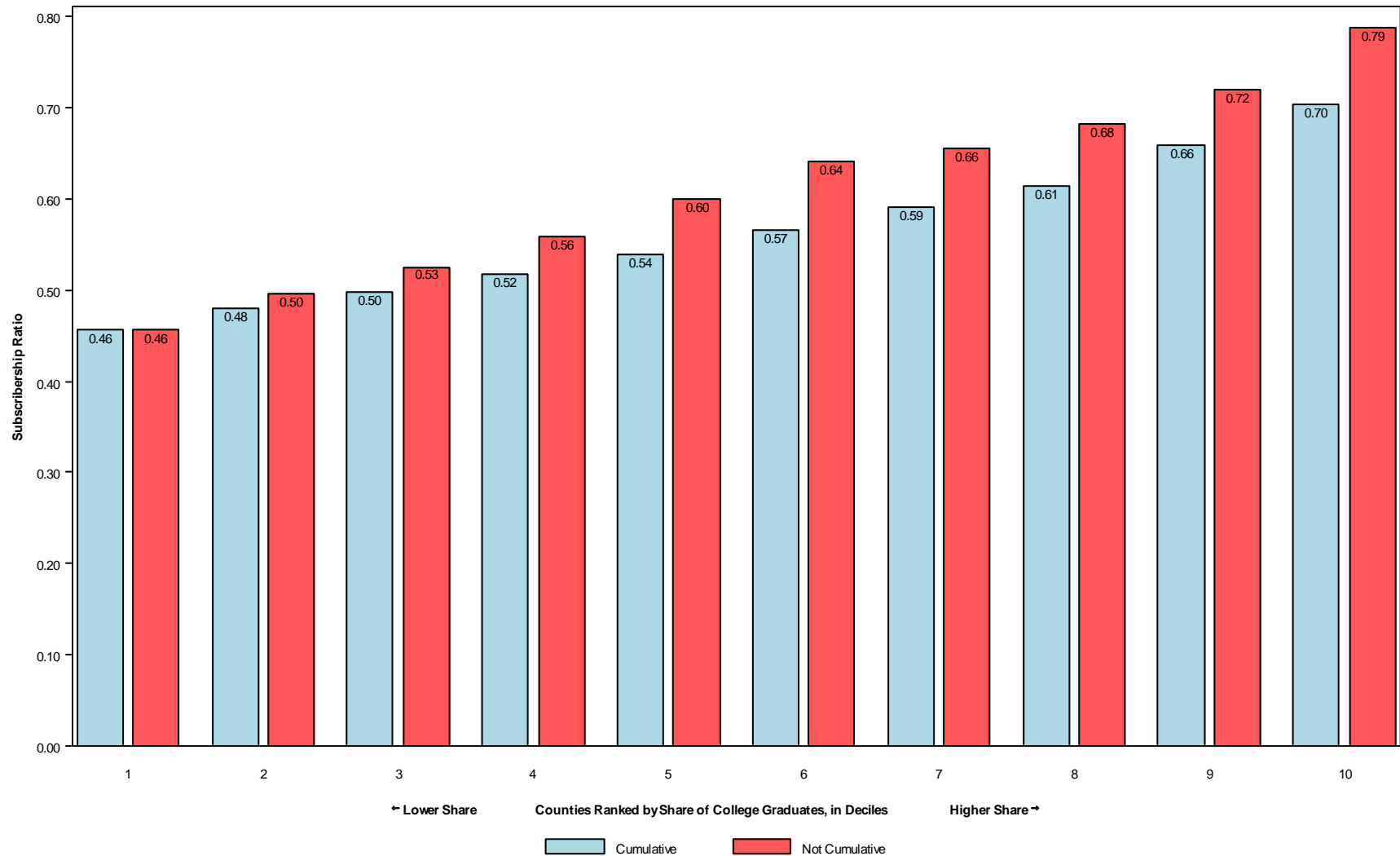
Sources: FCC Form 477, Part VI: Geolitics 2012 Block-Level Estimates (Households in 2012); and Census 2010 (County land area).

Chart 20
Subscriber Ratio Distributions by Density Deciles as of December 31, 2012



Note: Each box plot shows the distribution of residential subscribership to connections over 200 kbps in at least one direction 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; L 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 2012 Block-Level Estimates (Households in 2012); and Census 2010 (County land area).

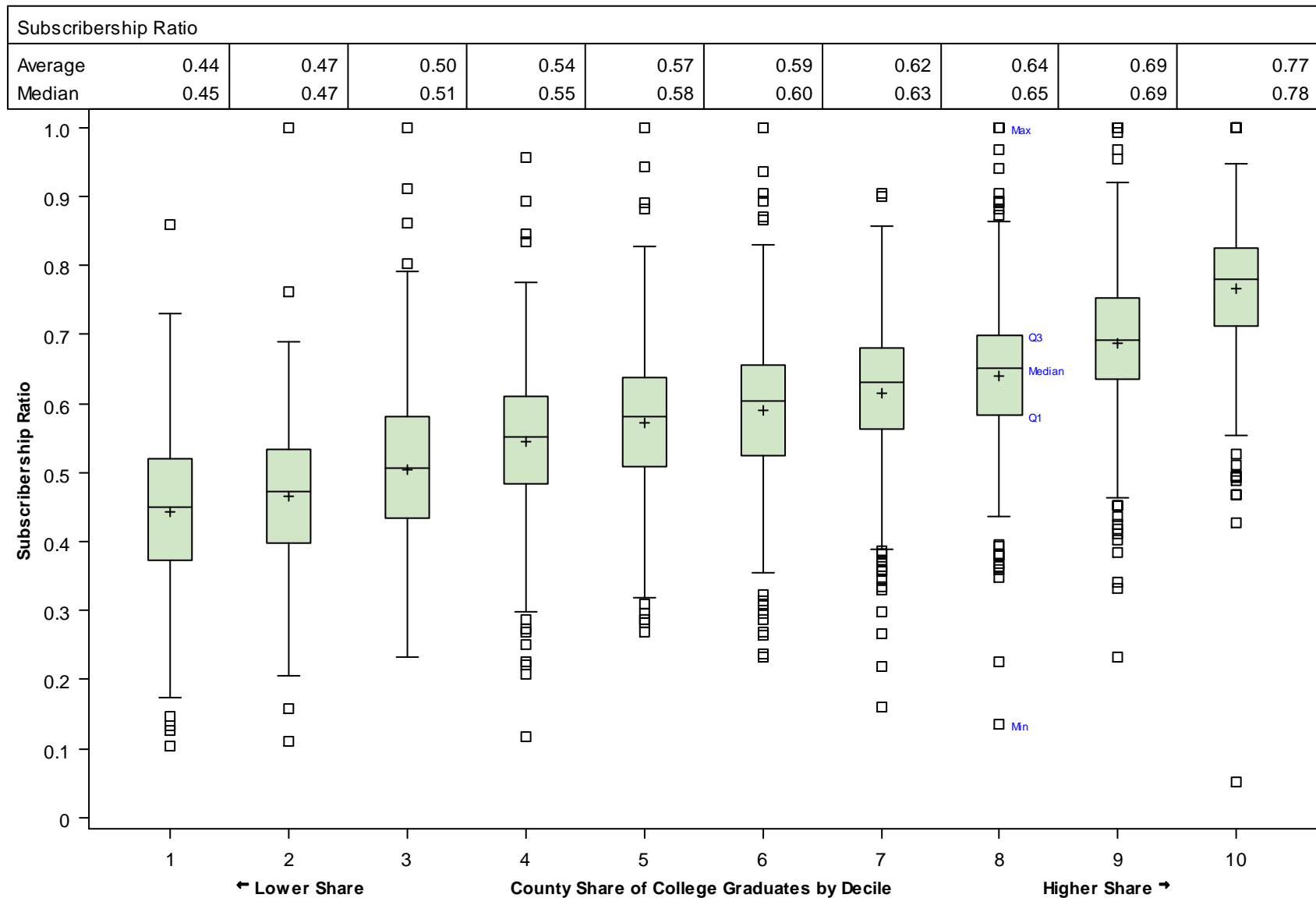
Chart 21
Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Households
by Share of College Graduates in Deciles as of December 31, 2012
(County Data)



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 over 200 kbps in at least one direction 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 over 200 kbps in at least one direction 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.

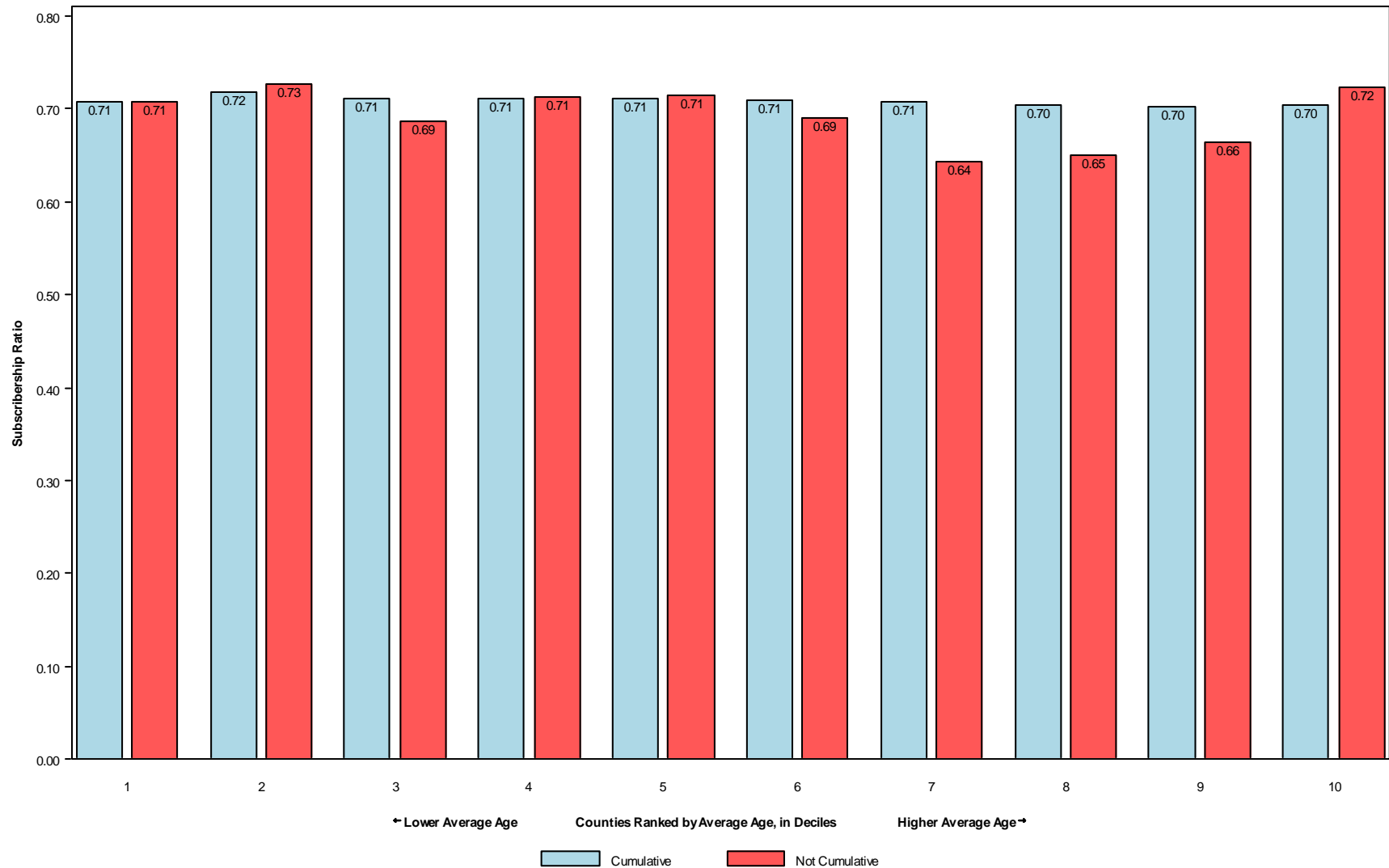
Sources: FCC Form 477, Part VI: Geolitics 2012 Block-Level Estimates (Households in 2012); and 2007-2011 ACS 5-year Estimates (County educational attainment).

Chart 22
Subscribership Ratio Distributions by Share of Population with a College Degree (in Deciles) as of December 31, 2012



Note: Each box plot shows the distribution of residential subscribership to connections over 200 kbps in at least one direction 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; L 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 2012 Block-Level Estimates (Households in 2012); and 2007-2011 ACS 5-year Estimates (County educational attainment).

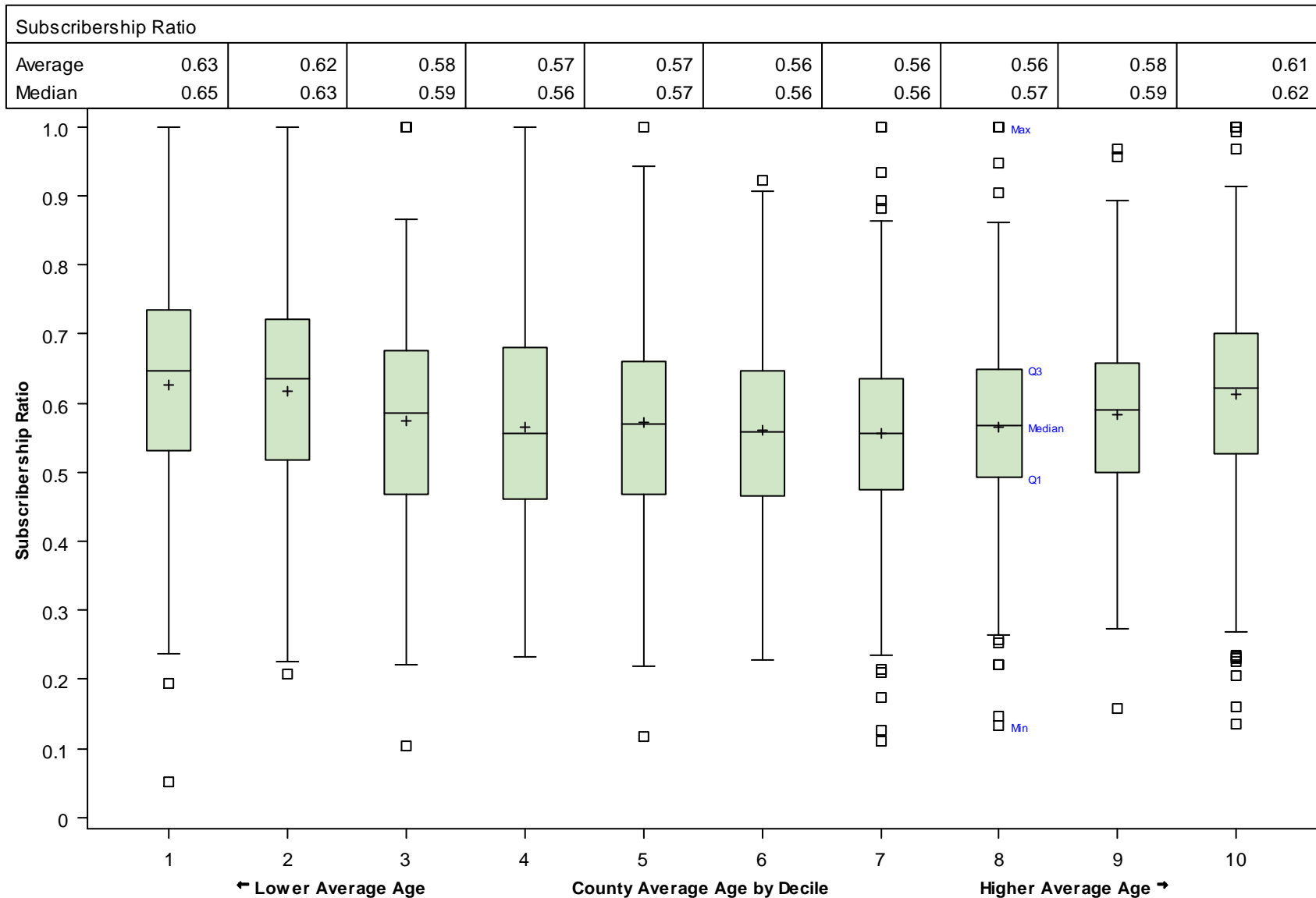
Chart 23
Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Households
by Average Age in Deciles as of December 31, 2012
(County Data)



This chart shows cumulative and non-cumulative subscribership ratios by county average age in deciles. Counties were grouped into deciles based on the average age of the county population. For each decile, the height of any red, non-cumulative bar represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction 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 over 200 kbps in at least one direction 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.

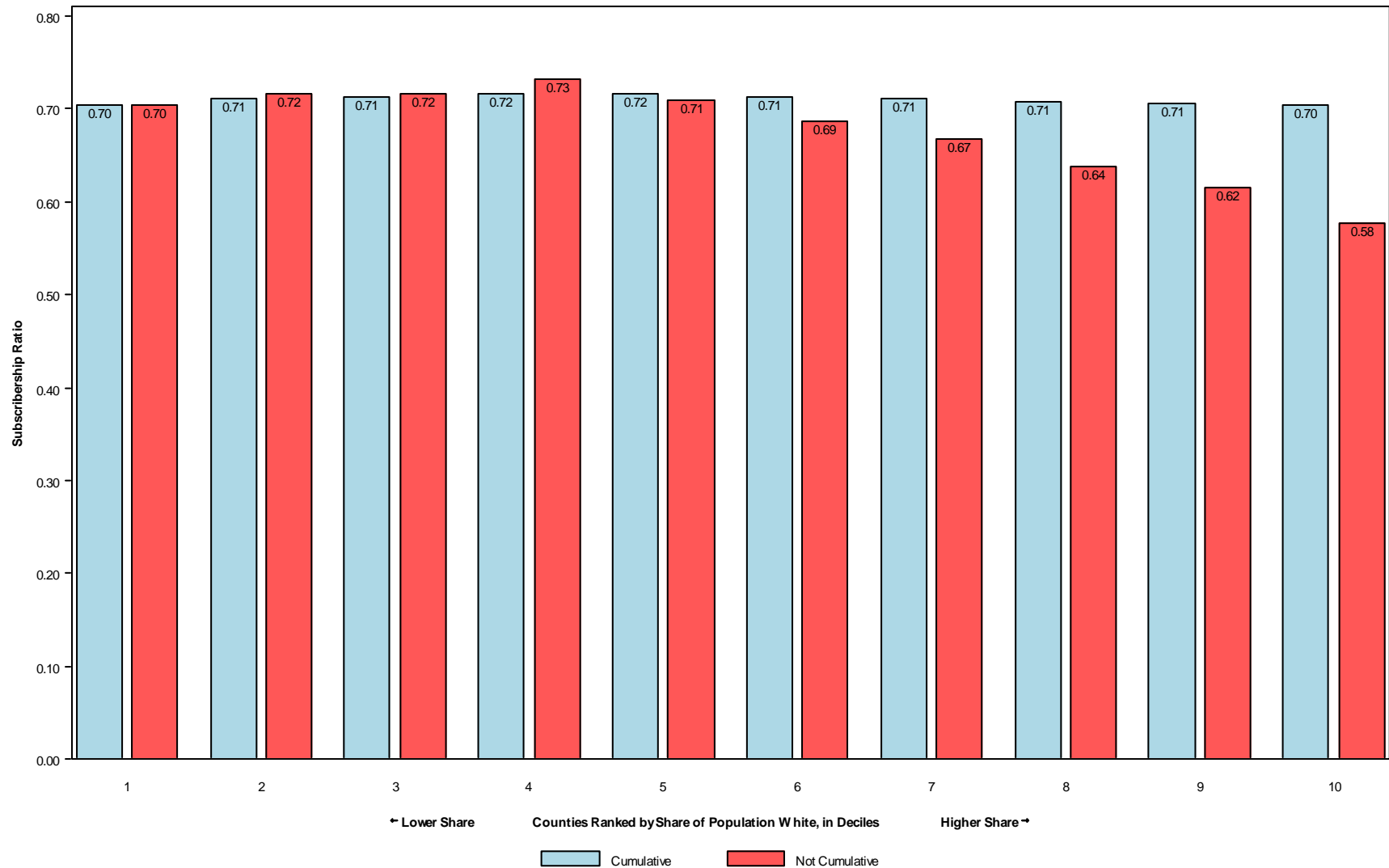
Sources: FCC Form 477, Part VI: Geolytics 2012 Block-Level Estimates (Households in 2012); and 2007-2011 ACS 5-year Estimates (County average age).

Chart 24
Subscribership Ratio Distributions by Average Age of County Population (in Deciles) as of December 31, 2012



Note: Each box plot shows the distribution of residential subscribership to connections over 200 kbps in at least one direction for counties in the average age 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; L 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 2012 Block-Level Estimates (Households in 2012); and 2007-2011 ACS 5-year Estimates (County average age).

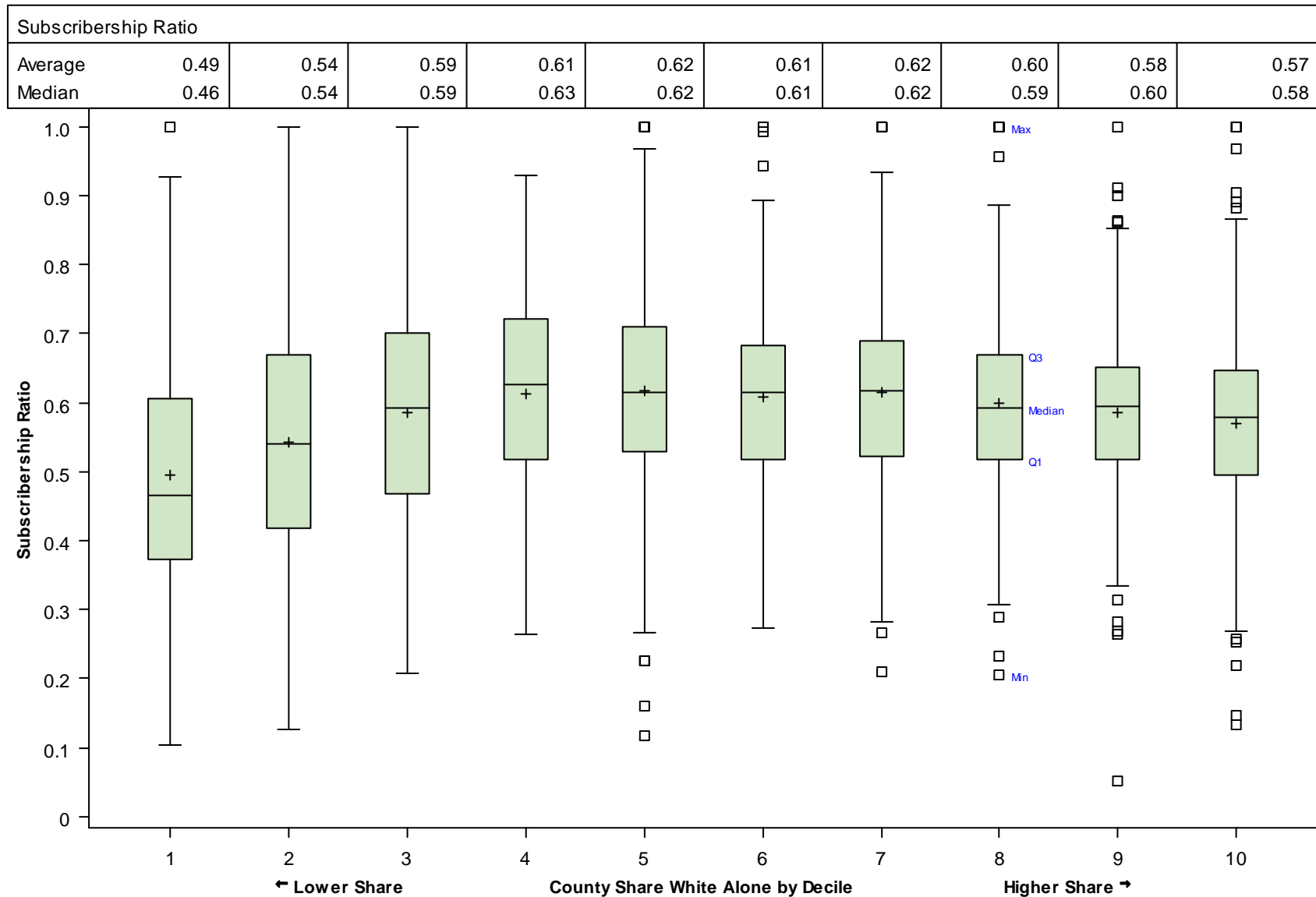
Chart 25
Ratio of Residential Fixed Connections over 200 kbps in at Least One Direction to Households
by Share White Alone in Deciles as of December 31, 2012
(County Data)



This chart shows cumulative and non-cumulative subscribership ratios by the share of county population white alone in deciles. Counties were grouped into deciles based on the share of the county population that reported their race as white alone. For each decile, the height of any red, non-cumulative bar represents the ratio of the sum of residential fixed connections over 200 kbps in at least one direction 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 over 200 kbps in at least one direction 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.

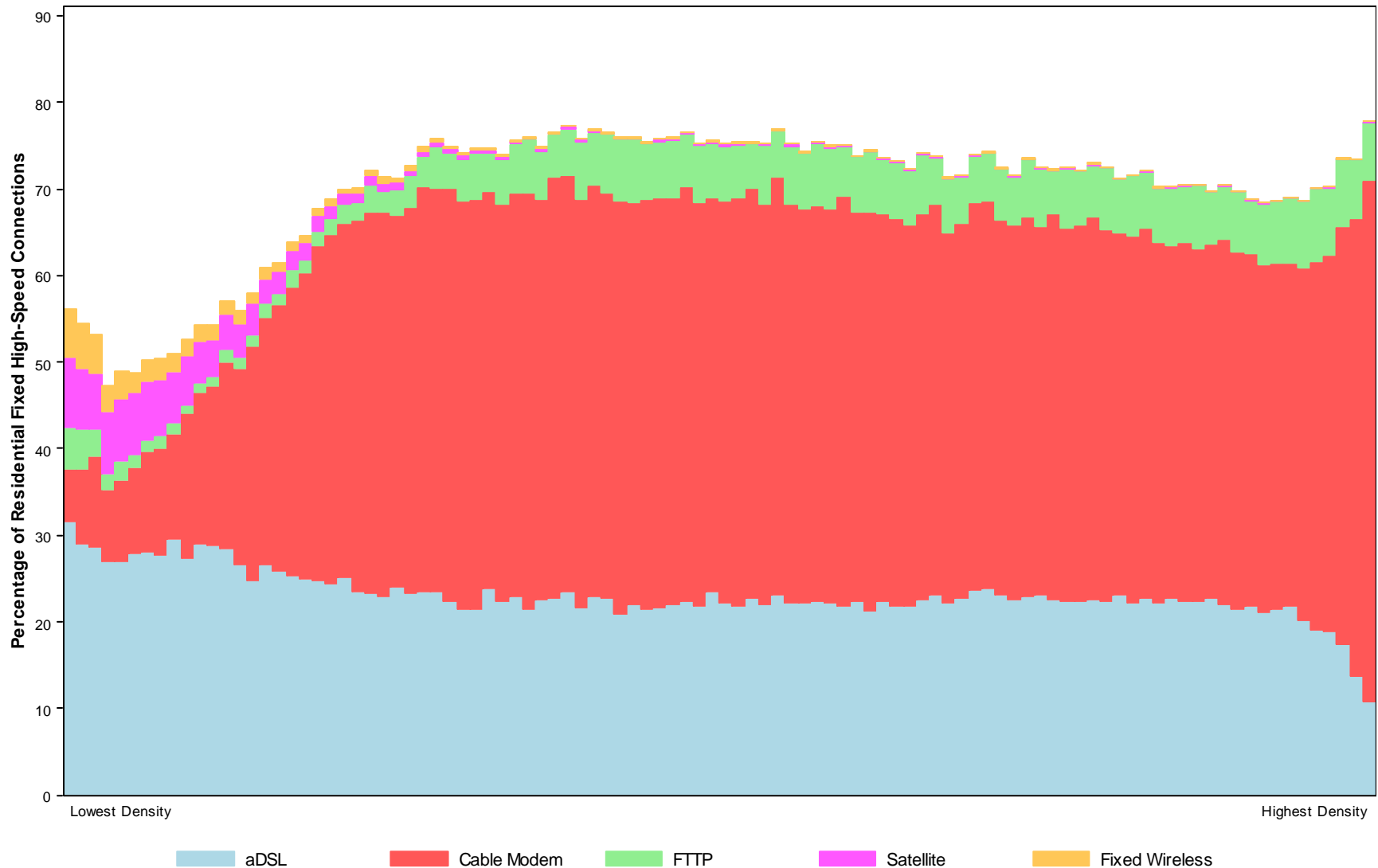
Sources: FCC Form 477, Part VI: Geolytics 2012 Block-Level Estimates (Households in 2012); and 2007-2011 ACS 5-year Estimates (Race).

Chart 26
Subscriber Ratio Distributions by Share White Alone (in Deciles) as of December 31, 2012



Note: Each box plot shows the distribution of residential subscriptions to connections over 200 kbps in at least one direction for counties in each race decile. Counties were grouped into deciles based on the share of the county population that reported their race as white alone. Some of the features are labeled, but note also that + denotes the position of the average residential subscription ratio taken across all counties in the decile; \perp is the minimum observation above $Q1-1.5(Q3-Q1)$; \top is the maximum observation below $Q3+1.5(Q3-Q1)$; and \square 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 2012 Block-Level Estimates (Households in 2012); and 2007-2011 ACS 5-year Estimates (Race).

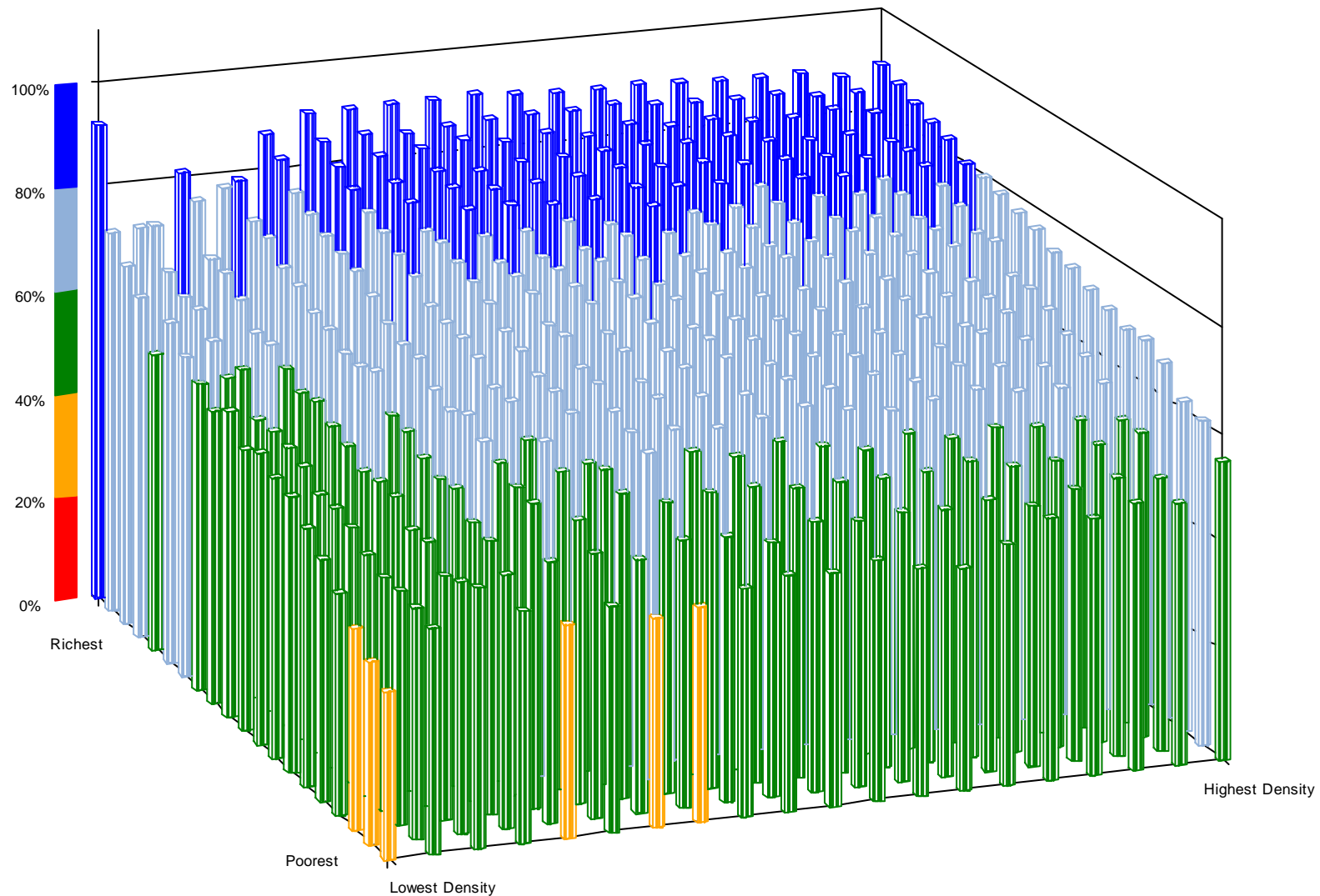
Chart 27
Subscribership Ratios by Technology and Tract Household Density as of December 31, 2012
 (Residential fixed connections over 200 kbps in at least one direction)



This chart shows subscribership ratios by technology and household density. Tracts were grouped into 100 density percentiles based on households per square mile, calculated as the ratio of estimated tract households in 2011 to tract land area from the Census Bureau. For each percentile, the height of the bar represents the household-weighted average ratio of residential fixed connections to households across tracts in the percentile.

Sources: FCC Form 477, Part VI: Geolitics 2012 Block-Level Estimates (Households in 2012); and Census 2010 (Tract land area).

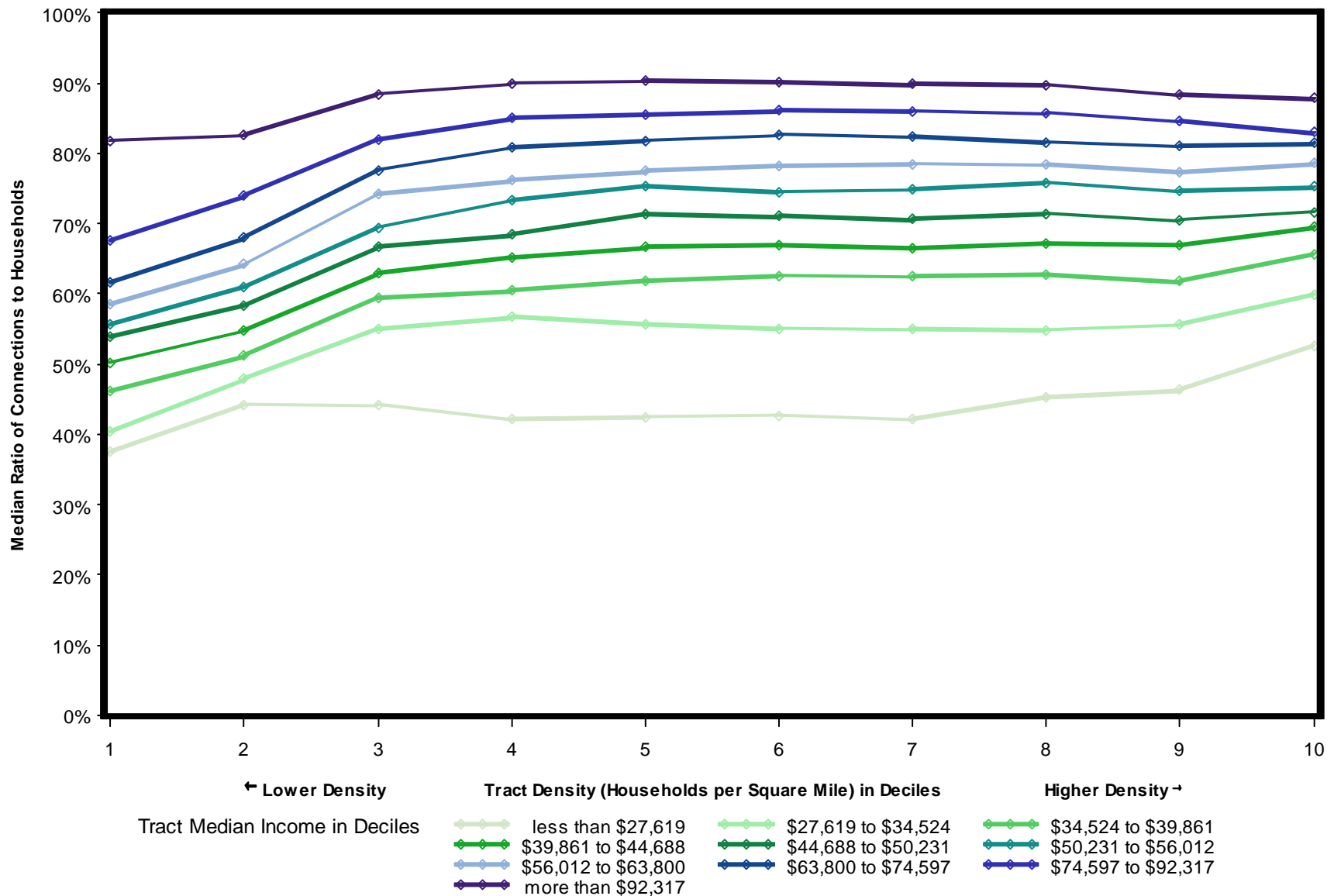
Chart 28
Average Subscriber Ratios by Income and Household Density as of December 31, 2012
(Residential fixed connections over 200 kbps in at least one direction by Tract)



This chart shows subscriber ratios by household density and income quantiles. Tracts were grouped into 400 density/income quantiles based on households per square mile, calculated as the ratio of estimated tract households in 2011 to tract land area from the Census Bureau, and median household income. For each quantile, the height of the bar represents the household-weighted average ratio of residential fixed connections to households across tracts in the decile.

Sources: FCC Form 477, Part VI: Geolitics 2012 Block-Level Estimates (Households in 2012); Census 2010 (Tract land area); 2007-2011 ACS 5-year Estimates (Median household income).

Chart 29
Median Ratios of Residential Fixed Connections over 200 kbps in at Least One Direction to Households by Income and Density
Tract Data as of December 31, 2012



Sources: FCC Form 477, Part VI: Geolitics 2012 Block-Level Estimates (Households in 2012); and 2007-2011 ACS 5-year Estimates (Median household income).

Technical Notes

General

Detailed information about FCC Form 477 reporting requirements is available at 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 (nine upstream tiers and eight downstream) 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.

“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 a connection that transfers information at rates over 200 kbps in at least one direction, or provisions/equips a wireless channel that transfers information at rates over 200 kbps in at least one direction 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 reportable fixed-location 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.

The census tract-level data summarized in this report were collected for tracts in the 2010 decennial census. For the purposes of this report, there are 73,767 census tracts because we exclude census tracts delineated specifically to cover large bodies of water.

About 110 of the 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 reportable *residential* 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.

Ratios of residential fixed-location connections to households that exceed 100%

We estimate the share of households with fixed-location connections in individual census tracts by taking the ratio of the reported number of fixed-location residential service connections to the estimated number of households. We continue to find "outlier" estimates at or above 100% and to find that the number of outliers is substantially reduced when estimates are made for individual counties rather than for individual census tracts.

Possible explanations of ratios at or above 100% include (1) geocoding misallocations of service locations to census tracts; (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. Most of the numbers of households in census tracts that were used to generate the estimated ratios are themselves estimates (from GeoLytics, Inc.), which could have an independent effect.

Maps showing residential subscribership rates by census tract

The two maps based on estimated Internet access connections over 200 kbps in at least one direction per 1,000 households (that is, estimated household subscribership rates) exclude all connections identified as business connections and necessarily exclude residential mobile wireless connections (which are reported for the state but not for individual census tracts).

Glossary

Term	Definition
aDSL	Asymmetric Digital Subscriber Line: A digital local loop typically using copper facilities and providing greater bandwidth in one direction than the other.
Cable modem service	A service which offers customers access to the Internet over a cable system.
Downstream speed	Speed of transmission from the Internet to the end user.
End users	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 provider	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 a connection that transfers information at rates over 200 kbps in at least one direction, or provisions/equips a wireless channel that transfers information at rates over 200 kbps in at least one direction to the end-user location over licensed spectrum or over spectrum that the provider uses on an unlicensed basis.
Fixed wireless	A radio communication service between specified fixed points.
Fixed-location technologies	All technologies other than terrestrial mobile wireless.
FTTH or FTTP	Fiber to the Home (Premises): A network access architecture in which optical fiber is deployed all the way to the customer's home (premises).
Internet access service	Service that provides end users access to the Internet.
ISPs	Internet Service Providers: Companies or organizations that provide Internet access service (see above).
iVoIP	Interconnected Voice Over Internet Protocol: A service that enables real-time, two-way voice communications; requires a broadband connection from the user's location; requires Internet-protocol compatible customer premises equipment; and permits users generally to receive calls that originate on the public switched telephone network and to terminate calls to the public switched telephone network.
Mobile wireless service	A radio communication service between mobile and fixed stations, or between mobile stations.
Mobile wireless provider	Provider of mobile wireless service (see above).
Other wireline	All copper-wire based technologies other than DSL technologies; Ethernet over copper and T-1 are examples.
Power line	Internet access service delivered over electric power transmission lines.
Satellite communications	A telecommunications service provided via one or more satellite relays and their associated uplinks and downlinks.
sDSL	Symmetric Digital Subscriber Line: DSL technology that provides equal bandwidth for both uploads and downloads.

Speed tiers	Sub-groupings defined by ranges of upstream speeds and downstream speeds.
Upstream speed	Speed of transmission from the end user to the Internet.
Wi-Fi hotspot	Wireless Fidelity: Generic term referring to any type of IEEE 802.11 wireless network. A hotspot is a small geographic area in which users can gain access to a Wi-Fi network which in turn connects to the Internet.
Wireless service	Telephone, Internet, data, and other services provided to customers through the transmission of signals over networks of radio towers.
Wireless service provider	Provider of wireless service (see above).
Wireless telecommunications	Any means of electronic data transfer using electromagnetic means, most commonly radio waves.
WISP	Wireless ISP: A company that provides end users with wireless access to the Internet, most commonly by using radio spectrum designated for unlicensed use.
WLAN	Wireless local area network: A WLAN uses radio waves to connect user devices to a local area network (LAN), thereby extending an existing wired LAN.

Customer Response

Publication: *Internet Access Services: Status as of December 31, 2012*

You can help us provide the best possible information to the public by completing this form and returning it to the Industry Analysis and Technology Division of the FCC's Wireline Competition Bureau.

1. Please check the category that best describes you:

- ☐ press
- ☐ current telecommunications carrier
- ☐ potential telecommunications carrier
- ☐ business customer evaluating vendors/service options
- ☐ consultant, law firm, lobbyist
- ☐ other business customer
- ☐ academic/student
- ☐ residential customer
- ☐ FCC employee
- ☐ other federal government employee
- ☐ state or local government employee
- ☐ Other (please specify)

2. Please rate the report: Excellent Good Satisfactory Poor No opinion

Data accuracy	()	()	()	()	()
Data presentation	()	()	()	()	()
Timeliness of data	()	()	()	()	()
Completeness of data	()	()	()	()	()
Text clarity	()	()	()	()	()
Completeness of text	()	()	()	()	()

3. Overall, how do you rate this report? Excellent Good Satisfactory Poor No opinion

() () () () ()

4. How can this report be improved?

5. May we contact you to discuss possible improvements?

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To discuss the information in this report, contact: 202-418-0940 or for users of TTY equipment, call 202-418-0484		
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