**Figure 6**

**Connections over 200 kbps in at Least One Direction 2014-2018**

**(In thousands)**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 338,202 | 357,613 | 375,895 | 395,604 | 404,971 | 408,816 | 420,973 | 428,983 | 441,397 |
| Total Fixed | 98,245 | 100,179 | 102,216 | 104,088 | 105,715 | 106,254 | 108,200 | 109,207 | 110,866 |
| Mobile Wireless | 239,957 | 257,434 | 273,679 | 291,516 | 299,256 | 302,562 | 312,773 | 319,776 | 330,531 |

**Figure 7**

**Residential Connections over 200 kbps in at Least One Direction 2014-2018**

**(In thousands)**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 290,696 | 306,292 | 322,557 | 330,987 | 337,978 | 341,094 | 351,964 | 358,851 | 368,473 |
| Total Fixed | 89,530 | 91,439 | 93,434 | 95,001 | 96,607 | 97,072 | 98,843 | 99,742 | 101,283 |
| Mobile Wireless | 201,166 | 214,853 | 229,122 | 235,985 | 241,371 | 244,022 | 253,121 | 259,109 | 267,191 |

Some previously published data may have been revised. Figures may not sum to totals due to rounding.





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

|  | *Downstream Speed* | | | | |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Upstream Speed* | *Less than 3 Mbps* | *At least 3 Mbps and less than 10 Mbps* | *At least 10 Mbps and less than 25 Mbps* | *At least 25 Mbps and less than 100 Mbps* | *At least 100 Mbps* | *Total* |
| Less than 1 Mbps | 1,883 | 4,826 | 1,961 | # | # | 8,669 |
| At least 1 Mbps & Less than 3 Mbps | 511 | 4,040 | 9,728 | 1,560 | 6 | 15,846 |
| At least 3 Mbps | 5 | 285 | 3,085 | 22,843 | 60,131 | 86,350 |
| Total | 2,399 | 9,151 | 14,774 | 24,404 | 60,137 | 110,866 |

Percentages

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Less than 1 Mbps | 1.7 | 4.4 | 1.8 | 0.0 | 0.0 | 7.8 |
| At least 1 Mbps & Less than 3 Mbps | 0.5 | 3.6 | 8.8 | 1.4 | 0.0 | 14.3 |
| At least 3 Mbps | 0.0 | 0.3 | 2.8 | 20.6 | 54.2 | 77.9 |
| Total | 2.2 | 8.3 | 13.3 | 22.0 | 54.2 | 100.0 |

Note: Figures may not sum to totals due to rounding. # = Rounds to zero.

Source: FCC Form 477.



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

|  | *Downstream Speed* | | | | |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Upstream Speed* | *Less than 3 Mbps* | *At least 3 Mbps and less than 10 Mbps* | *At least 10 Mbps and less than 25 Mbps* | *At least 25 Mbps and less than 100 Mbps* | *At least 100 Mbps* | *Total* |
| Less than 1 Mbps | 1,441 | 4,078 | 1,845 | # | # | 7,364 |
| At least 1 Mbps & Less than 3 Mbps | 261 | 3,682 | 8,804 | 1,502 | 6 | 14,254 |
| At least 3 Mbps | 5 | 157 | 2,676 | 19,458 | 57,368 | 79,665 |
| Total | 1,707 | 7,916 | 13,325 | 20,961 | 57,374 | 101,283 |

Percentages

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Less than 1 Mbps | 1.4 | 4.0 | 1.8 | 0.0 | 0.0 | 7.3 |
| At least 1 Mbps & Less than 3 Mbps | 0.3 | 3.6 | 8.7 | 1.5 | 0.0 | 14.1 |
| At least 3 Mbps | 0.0 | 0.2 | 2.6 | 19.2 | 56.6 | 78.7 |
| Total | 1.7 | 7.8 | 13.2 | 20.7 | 56.6 | 100.0 |

Note: Figures may not sum to totals due to rounding. # = Rounds to zero.

Source: FCC Form 477.

**Figure 11**

**Connections over 200 kbps in at Least One Direction by Technology 2014-2018**

**(In thousands)**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 338,202 | 357,613 | 375,895 | 395,604 | 404,971 | 408,816 | 420,973 | 428,983 | 441,397 |
| Total Fixed | 98,245 | 100,179 | 102,216 | 104,088 | 105,715 | 106,254 | 108,200 | 109,207 | 110,866 |
| aDSL | 29,533 | 29,351 | 28,134 | 27,488 | 26,527 | 25,506 | 24,193 | 23,072 | 21,932 |
| sDSL | 72 | 77 | 60 | 55 | 42 | 44 | 28 | 28 | 20 |
| Other Wireline1 | 773 | 706 | 694 | 674 | 655 | 668 | 630 | 610 | 600 |
| Cable Modem | 55,785 | 57,244 | 59,706 | 61,456 | 63,325 | 64,060 | 66,196 | 67,163 | 68,857 |
| FTTP2 | 9,077 | 9,688 | 10,498 | 11,143 | 12,053 | 12,906 | 13,978 | 14,982 | 16,021 |
| Satellite | 2,006 | 2,058 | 2,071 | 2,079 | 1,864 | 1,826 | 1,872 | 1,939 | 1,971 |
| Fixed Wireless | 999 | 1,056 | 1,054 | 1,192 | 1,250 | 1,245 | 1,304 | 1,414 | 1,465 |
| Mobile Wireless | 239,957 | 257,434 | 273,679 | 291,516 | 299,256 | 302,562 | 312,773 | 319,776 | 330,531 |

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.

Some previously published data may have been revised. Figures may not sum to totals due to rounding.



**Figure 13**

**Residential Connections over 200 kbps in at Least One Direction by Technology 2014-2018**

**(In thousands)**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 290,696 | 306,292 | 322,557 | 330,987 | 337,978 | 341,094 | 351,964 | 358,851 | 368,473 |
| Total Fixed | 89,530 | 91,439 | 93,434 | 95,001 | 96,607 | 97,072 | 98,843 | 99,742 | 101,283 |
| aDSL | 26,442 | 26,157 | 25,139 | 24,486 | 23,691 | 22,775 | 21,653 | 20,670 | 19,691 |
| sDSL | 19 | 18 | 16 | 10 | 8 | 12 | 9 | 9 | 4 |
| Other Wireline1 | 59 | 59 | 54 | 51 | 32 | 74 | 67 | 74 | 74 |
| Cable Modem | 52,061 | 53,544 | 55,799 | 57,358 | 59,145 | 59,687 | 61,567 | 62,318 | 63,788 |
| FTTP2 | 8,262 | 8,842 | 9,592 | 10,140 | 10,956 | 11,776 | 12,702 | 13,661 | 14,621 |
| Satellite | 1,803 | 1,875 | 1,891 | 1,897 | 1,676 | 1,637 | 1,688 | 1,751 | 1,787 |
| Fixed Wireless | 884 | 944 | 943 | 1,059 | 1,099 | 1,111 | 1,156 | 1,260 | 1,318 |
| Mobile Wireless | 201,166 | 214,853 | 229,122 | 235,985 | 241,371 | 244,022 | 253,121 | 259,109 | 267,191 |

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.

Some previously published data may have been revised. Figures may not sum to totals due to rounding.



**Figure 15**

**Fixed Connections at Least 3 Mbps Downstream and 768 kbps Upstream by Technology 2014-2018**

**(In thousands)**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 83,872 | 89,011 | 92,356 | 95,517 | 98,761 | 100,098 | 102,047 | 104,054 | 106,183 |
| aDSL | 18,557 | 20,947 | 20,744 | 21,147 | 21,042 | 20,621 | 19,257 | 18,874 | 18,123 |
| sDSL | 28 | 24 | 20 | 20 | 20 | 24 | 16 | 17 | 11 |
| Other Wireline1 | 308 | 297 | 330 | 336 | 328 | 355 | 369 | 376 | 386 |
| Cable Modem | 53,853 | 55,819 | 58,423 | 60,343 | 62,855 | 63,719 | 65,906 | 66,959 | 68,681 |
| FTTP2 | 8,974 | 9,552 | 10,383 | 11,030 | 11,953 | 12,813 | 13,870 | 14,889 | 15,929 |
| Satellite | 1,558 | 1,690 | 1,744 | 1,775 | 1,609 | 1,586 | 1,563 | 1,722 | 1,770 |
| Fixed Wireless | 594 | 681 | 712 | 865 | 954 | 981 | 1,065 | 1,216 | 1,285 |

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.

# = Rounds to zero.

Some previously published data may have been revised. Figures may not sum to totals due to rounding.

**Figure 16**

**Residential Fixed Connections at Least 3 Mbps Downstream and 768 kbps Upstream by Technology 2014-2018**

**(In thousands)**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 77,540 | 82,320 | 85,439 | 88,198 | 91,258 | 92,355 | 93,987 | 95,741 | 97,637 |
| aDSL | 16,867 | 18,988 | 18,866 | 19,207 | 19,133 | 18,719 | 17,480 | 17,127 | 16,461 |
| sDSL | 2 | 1 | 2 | 2 | 2 | 7 | 6 | 6 | 2 |
| Other Wireline1 | 50 | 45 | 47 | 49 | 31 | 73 | 66 | 72 | 71 |
| Cable Modem | 50,308 | 52,254 | 54,650 | 56,353 | 58,784 | 59,411 | 61,335 | 62,165 | 63,657 |
| FTTP2 | 8,246 | 8,750 | 9,512 | 10,063 | 10,883 | 11,704 | 12,616 | 13,588 | 14,548 |
| Satellite | 1,552 | 1,682 | 1,734 | 1,764 | 1,596 | 1,571 | 1,545 | 1,700 | 1,745 |
| Fixed Wireless | 516 | 599 | 628 | 759 | 830 | 870 | 940 | 1,082 | 1,154 |

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.

# = Rounds to zero.

Some previously published data may have been revised. Figures may not sum to totals due to rounding.

**Figure 17**

**Fixed Connections at Least 10 Mbps Downstream and 1 Mbps Upstream by Technology 2014-2018**

**(In thousands)**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 68,238 | 72,713 | 76,939 | 80,458 | 84,112 | 86,967 | 90,703 | 94,148 | 97,354 |
| aDSL | 8,560 | 9,471 | 9,799 | 10,349 | 10,810 | 11,321 | 11,595 | 11,817 | 11,861 |
| sDSL | 6 | 9 | 8 | 8 | 10 | 14 | 9 | 11 | 6 |
| Other Wireline1 | 186 | 182 | 203 | 210 | 217 | 253 | 273 | 282 | 302 |
| Cable Modem | 49,837 | 52,658 | 55,710 | 57,951 | 60,349 | 61,704 | 63,978 | 65,807 | 67,691 |
| FTTP2 | 8,320 | 8,874 | 9,575 | 10,143 | 11,001 | 11,884 | 12,954 | 13,988 | 15,074 |
| Satellite | 1,136 | 1,298 | 1,393 | 1,467 | 1,342 | 1,373 | 1,402 | 1,595 | 1,677 |
| Fixed Wireless | 193 | 221 | 252 | 330 | 383 | 418 | 492 | 649 | 743 |

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.

# = Rounds to zero.

Some previously published data may have been revised. Figures may not sum to totals due to rounding.



**Figure 19**

**Residential Fixed Connections at Least 10 Mbps Downstream and 1 Mbps Upstream**

**by Technology 2014-2018**

**(In thousands)**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 63,732 | 67,898 | 71,784 | 74,841 | 78,202 | 80,671 | 84,164 | 86,959 | 89,815 |
| aDSL | 7,970 | 8,743 | 9,069 | 9,526 | 9,963 | 10,415 | 10,657 | 10,859 | 10,902 |
| sDSL | # | # | 1 | 2 | 2 | 6 | 5 | 6 | 2 |
| Other Wireline1 | 36 | 38 | 43 | 47 | 30 | 71 | 64 | 65 | 66 |
| Cable Modem | 46,772 | 49,487 | 52,294 | 54,274 | 56,538 | 57,617 | 59,864 | 61,141 | 62,786 |
| FTTP2 | 7,653 | 8,144 | 8,776 | 9,248 | 10,004 | 10,835 | 11,762 | 12,739 | 13,742 |
| Satellite | 1,133 | 1,293 | 1,386 | 1,460 | 1,333 | 1,362 | 1,387 | 1,575 | 1,655 |
| Fixed Wireless | 167 | 191 | 213 | 283 | 332 | 365 | 426 | 574 | 661 |

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.

# = Rounds to zero.

Some previously published data may have been revised. Figures may not sum to totals due to rounding.



**Figure 21**

**Fixed Connections at Least 25 Mbps Downstream and 3 Mbps Upstream by Technology 2014-2018**

**(In thousands)**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 42,713 | 48,784 | 54,335 | 58,753 | 62,907 | 68,041 | 73,331 | 78,175 | 81,956 |
| aDSL | 587 | 762 | 938 | 1,239 | 1,476 | 2,530 | 3,586 | 4,297 | 4,837 |
| sDSL | 1 | 1 | \* | \* | \* | \* | \* | \* | \* |
| Other Wireline1 | 125 | 125 | 141 | 158 | 170 | 207 | 224 | 209 | 233 |
| Cable Modem | 36,383 | 40,979 | 45,530 | 48,696 | 51,740 | 54,829 | 57,870 | 60,858 | 62,853 |
| FTTP2 | 5,589 | 6,871 | 7,691 | 8,609 | 9,449 | 10,374 | 11,525 | 12,609 | 13,792 |
| Satellite | # | # | \* | \* | \* | \* | \* | \* | \* |
| Fixed Wireless | 28 | 47 | 55 | 72 | 92 | 120 | 146 | 222 | 261 |

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.

\* = Data withheld to maintain firm confidentiality.

# = Rounds to zero.

Some previously published data may have been revised. Figures may not sum to totals due to rounding.



**Figure 23**

**Residential Fixed Connections at Least 25 Mbps Downstream and 3 Mbps Upstream**

**by Technology 2014-2018**

**(In thousands)**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 40,916 | 46,532 | 51,788 | 55,694 | 59,463 | 64,253 | 68,871 | 72,480 | 75,829 |
| aDSL | 556 | 727 | 897 | 1,173 | 1,408 | 2,418 | 3,410 | 4,067 | 4,563 |
| sDSL | # | # | \* | \* | \* | \* | \* | \* | \* |
| Other Wireline1 | 26 | 26 | 31 | 41 | 27 | 67 | 59 | 54 | 59 |
| Cable Modem | 35,202 | 39,416 | 43,746 | 46,527 | 49,300 | 52,154 | 54,748 | 56,619 | 58,316 |
| FTTP2 | 5,111 | 6,323 | 7,089 | 7,916 | 8,674 | 9,532 | 10,553 | 11,569 | 12,682 |
| Satellite | 0 | 0 | \* | \* | \* | \* | \* | \* | \* |
| Fixed Wireless | 22 | 40 | 46 | 57 | 75 | 101 | 121 | 192 | 229 |

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.

\* = Data withheld to maintain firm confidentiality.

# = Rounds to zero.

Some previously published data may have been revised. Figures may not sum to totals due to rounding.









**Figure 28**

**Fixed Connections by Downstream Speed Tier and Technology as of December 31, 2018**

**(In thousands)**

|  | *Downstream Speed* | | | | | |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Less than 1.5 Mbps* | *At least 1.5 Mbps and less than 3 Mbps* | *At least 3 Mbps and less than 10 Mbps* | *At least 10 Mbps and less than 25 Mbps* | *At least 25 Mbps and less than 100 Mbps* | *At least 100 Mbps* | *Total* |
| aDSL | 544 | 1,130 | 6,779 | 8,010 | 5,189 | 281 | 21,932 |
| sDSL | 4 | 5 | 5 | 3 | \* | \* | 20 |
| Other Wireline1 | 27 | 186 | 85 | 67 | 36 | 199 | 600 |
| Cable Modem | 37 | 56 | 1,044 | 3,991 | 13,102 | 50,625 | 68,857 |
| FTTP | 40 | 34 | 564 | 1,543 | 4,882 | 8,958 | 16,021 |
| Satellite | 179 | 20 | 95 | 683 | \* | \* | 1,971 |
| Fixed Wireless | 45 | 92 | 579 | 477 | 202 | 70 | 1,465 |
| Total | 877 | 1,522 | 9,151 | 14,774 | 24,404 | 60,137 | 110,866 |

Percentages

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| aDSL | 0.5 | 1.0 | 6.1 | 7.2 | 4.7 | 0.3 | 19.8 |
| sDSL | 0.0 | 0.0 | 0.0 | 0.0 | \* | \* | 0.0 |
| Other Wireline1 | 0.0 | 0.2 | 0.1 | 0.1 | 0.0 | 0.2 | 0.5 |
| Cable Modem | 0.0 | 0.1 | 0.9 | 3.6 | 11.8 | 45.7 | 62.1 |
| FTTP | 0.0 | 0.0 | 0.5 | 1.4 | 4.4 | 8.1 | 14.5 |
| Satellite | 0.2 | 0.0 | 0.1 | 0.6 | \* | \* | 1.8 |
| Fixed Wireless | 0.0 | 0.1 | 0.5 | 0.4 | 0.2 | 0.1 | 1.3 |
| Total | 0.8 | 1.4 | 8.3 | 13.3 | 22.0 | 54.2 | 100.0 |

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.

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

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

Source: FCC Form 477.

**Figure 29**

**Residential Fixed Connections by Downstream Speed Tier and Technology as of December 31, 2018**

**(In thousands)**

|  | *Downstream Speed* | | | | | |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Less than 1.5 Mbps* | *At least 1.5 Mbps and less than 3 Mbps* | *At least 3 Mbps and less than 10 Mbps* | *At least 10 Mbps and less than 25 Mbps* | *At least 25 Mbps and less than 100 Mbps* | *At least 100 Mbps* | *Total* |
| aDSL | 485 | 934 | 5,859 | 7,251 | 4,902 | 260 | 19,691 |
| sDSL | 2 | # | # | # | \* | \* | 4 |
| Other Wireline1 | 1 | 3 | 5 | 7 | 12 | 46 | 74 |
| Cable Modem | 31 | 30 | 915 | 3,639 | 10,544 | 48,629 | 63,788 |
| FTTP | 31 | 27 | 517 | 1,321 | 4,349 | 8,376 | 14,621 |
| Satellite | 34 | 6 | 91 | 679 | \* | \* | 1,787 |
| Fixed Wireless | 40 | 83 | 528 | 428 | 179 | 60 | 1,318 |
| Total | 624 | 1,083 | 7,916 | 13,325 | 20,961 | 57,374 | 101,283 |

Percentages

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| aDSL | 0.5 | 0.9 | 5.8 | 7.2 | 4.8 | 0.3 | 19.4 |
| sDSL | 0.0 | 0.0 | 0.0 | 0.0 | \* | \* | 0.0 |
| Other Wireline1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| Cable Modem | 0.0 | 0.0 | 0.9 | 3.6 | 10.4 | 48.0 | 63.0 |
| FTTP | 0.0 | 0.0 | 0.5 | 1.3 | 4.3 | 8.3 | 14.4 |
| Satellite | 0.0 | 0.0 | 0.1 | 0.7 | \* | \* | 1.8 |
| Fixed Wireless | 0.0 | 0.1 | 0.5 | 0.4 | 0.2 | 0.1 | 1.3 |
| Total | 0.6 | 1.1 | 7.8 | 13.2 | 20.7 | 56.6 | 100.0 |

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.

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

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

Source: FCC Form 477.

**Figure 30**

**Nationwide Number of Providers of Connections over 200 kbps in at Least One Direction**

**by Technology 2014-2018**

|  | *2014* | *2015* | | *2016* | | *2017* | | *2018* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| aDSL | 793 | 792 | 778 | 769 | 774 | 769 | 743 | 738 | 719 |
| sDSL | 187 | 177 | 180 | 171 | 160 | 161 | 150 | 136 | 125 |
| Other Wireline1 | 245 | 240 | 250 | 244 | 236 | 243 | 235 | 249 | 239 |
| Cable Modem | 402 | 393 | 392 | 388 | 385 | 384 | 383 | 371 | 374 |
| FTTP | 910 | 931 | 990 | 1,017 | 1,067 | 1,103 | 1,148 | 1,176 | 1,243 |
| Satellite | 14 | 10 | 10 | 6 | 6 | 5 | 6 | 6 | 6 |
| Fixed Wireless | 922 | 948 | 982 | 1,026 | 1,070 | 1,094 | 1,157 | 1,176 | 1,209 |
| Mobile Wireless | 98 | 100 | 96 | 99 | 98 | 98 | 83 | 73 | 71 |
| Power Line and Other1 | - | - | - | - | - | - | - | - | - |
| Total | 1,872 | 1,881 | 1,917 | 1,956 | 2,000 | 2,030 | 2,087 | 2,113 | 2,165 |

1 For this Figure, the categories Power Line and All Other were combined with Other Wireline.

Multiple Form 477 filers within a holding company structure count as one provider. \* = 1-3 providers.

Some previously published data may have been revised.



**Figure 32**

**Residential Fixed Connections and Households by State as of December 31, 2018**

**(Connections and households, in thousands)**

|  | | *At least 200 kbps in at least One Direction* | | *At least 10 Mbps Down and 1 Mbps Up* | | *At least 25 Mbps Down and 3 Mbps Up* | | *At least 100 Mbps Down and 10 Mbps Up* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Households* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* |
| Alabama | 1,860 | 1,381 | 0.74 | 1,150 | 0.62 | 912 | 0.49 | 647 | 0.35 |
| Alaska | 253 | 201 | 0.79 | 169 | 0.67 | 125 | 0.49 | \* | \* |
| American Samoa | 10 | \* | \* | \* | \* | \* | \* | 0 | 0.00 |
| Arizona | 2,524 | 2,201 | 0.87 | 1,873 | 0.74 | 1,625 | 0.64 | 1,070 | 0.42 |
| Arkansas | 1,152 | 787 | 0.68 | 619 | 0.54 | 429 | 0.37 | 205 | 0.18 |
| California | 12,965 | 11,427 | 0.88 | 10,450 | 0.81 | 9,028 | 0.70 | 5,717 | 0.44 |
| Colorado | 2,113 | 1,940 | 0.92 | 1,635 | 0.77 | 1,487 | 0.70 | 643 | 0.30 |
| Connecticut | 1,367 | 1,218 | 0.89 | 1,137 | 0.83 | 947 | 0.69 | 625 | 0.46 |
| Delaware | 358 | 344 | 0.96 | 331 | 0.93 | 319 | 0.89 | 171 | 0.48 |
| District of Columbia | 281 | 253 | 0.90 | 241 | 0.86 | 228 | 0.81 | 144 | 0.51 |
| Florida | 7,622 | 7,229 | 0.95 | 6,688 | 0.88 | 5,724 | 0.75 | 4,257 | 0.56 |
| Georgia | 3,709 | 3,124 | 0.84 | 2,756 | 0.74 | 2,203 | 0.59 | 1,605 | 0.43 |
| Guam | 42 | \* | \* | \* | \* | \* | \* | \* | \* |
| Hawaii | 457 | 429 | 0.94 | 409 | 0.89 | \* | \* | \* | \* |
| Idaho | 618 | 507 | 0.82 | 349 | 0.56 | 273 | 0.44 | 73 | 0.12 |
| Illinois | 4,830 | 3,918 | 0.81 | 3,516 | 0.73 | 2,799 | 0.58 | 2,021 | 0.42 |
| Indiana | 2,554 | 1,992 | 0.78 | 1,706 | 0.67 | 1,338 | 0.52 | 924 | 0.36 |
| Iowa | 1,257 | 959 | 0.76 | 734 | 0.58 | 602 | 0.48 | 269 | 0.21 |
| Kansas | 1,125 | 900 | 0.80 | 765 | 0.68 | 590 | 0.52 | 391 | 0.35 |
| Kentucky | 1,729 | 1,312 | 0.76 | 1,083 | 0.63 | 831 | 0.48 | 599 | 0.35 |
| Louisiana | 1,736 | 1,302 | 0.75 | 1,133 | 0.65 | 889 | 0.51 | 599 | 0.35 |
| Maine | 557 | 498 | 0.89 | 395 | 0.71 | 311 | 0.56 | 229 | 0.41 |
| Maryland | 2,193 | 1,964 | 0.90 | 1,881 | 0.86 | 1,758 | 0.80 | 1,006 | 0.46 |
| Massachusetts | 2,602 | 2,389 | 0.92 | 2,277 | 0.88 | 2,196 | 0.84 | 1,277 | 0.49 |
| Michigan | 3,910 | 3,104 | 0.79 | 2,769 | 0.71 | 2,291 | 0.59 | 1,729 | 0.44 |
| Minnesota | 2,168 | 1,763 | 0.81 | 1,449 | 0.67 | 1,261 | 0.58 | 656 | 0.30 |
| Mississippi | 1,106 | 713 | 0.64 | 562 | 0.51 | 367 | 0.33 | 170 | 0.15 |
| Missouri | 2,396 | 1,846 | 0.77 | 1,506 | 0.63 | 1,200 | 0.50 | 883 | 0.37 |
| Montana | 423 | 342 | 0.81 | 264 | 0.62 | 216 | 0.51 | \* | \* |
| Nebraska | 754 | 590 | 0.78 | 496 | 0.66 | 404 | 0.54 | 304 | 0.40 |

**Figure 32 - Continued**

**Residential Fixed Connections and Households by State as of December 31, 2018**

**(Connections and households, in thousands)**

|  | | *At least 200 kbps in at least One Direction* | | *At least 10 Mbps Down and 1 Mbps Up* | | *At least 25 Mbps Down and 3 Mbps Up* | | *At least 100 Mbps Down and 10 Mbps Up* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Households* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* |
| Nevada | 1,076 | 949 | 0.88 | 867 | 0.81 | 740 | 0.69 | 590 | 0.55 |
| New Hampshire | 528 | 502 | 0.95 | 448 | 0.85 | 413 | 0.78 | 204 | 0.39 |
| New Jersey | 3,213 | 3,022 | 0.94 | 2,915 | 0.91 | 2,824 | 0.88 | 1,987 | 0.62 |
| New Mexico | 776 | 581 | 0.75 | 412 | 0.53 | 338 | 0.44 | 109 | 0.14 |
| New York | 7,317 | 6,313 | 0.86 | 6,005 | 0.82 | 5,623 | 0.77 | 4,686 | 0.64 |
| North Carolina | 3,919 | 3,271 | 0.83 | 2,783 | 0.71 | 2,460 | 0.63 | 1,972 | 0.50 |
| North Dakota | 315 | 257 | 0.82 | 238 | 0.76 | 213 | 0.68 | 159 | 0.50 |
| Northern Mariana Isl | 16 | \* | \* | \* | \* | \* | \* | 0 | 0.00 |
| Ohio | 4,654 | 3,719 | 0.80 | 3,249 | 0.70 | 2,572 | 0.55 | 1,780 | 0.38 |
| Oklahoma | 1,475 | 1,072 | 0.73 | 871 | 0.59 | 661 | 0.45 | 400 | 0.27 |
| Oregon | 1,592 | 1,349 | 0.85 | 1,155 | 0.73 | 1,031 | 0.65 | 493 | 0.31 |
| Pennsylvania | 5,025 | 4,170 | 0.83 | 3,746 | 0.75 | 3,380 | 0.67 | 1,831 | 0.36 |
| Puerto Rico | 1,205 | 494 | 0.41 | 249 | 0.21 | 161 | 0.13 | \* | \* |
| Rhode Island | 411 | 368 | 0.89 | 363 | 0.88 | 344 | 0.84 | \* | \* |
| South Carolina | 1,895 | 1,573 | 0.83 | 1,392 | 0.73 | 1,096 | 0.58 | 813 | 0.43 |
| South Dakota | 342 | 269 | 0.79 | 248 | 0.73 | 222 | 0.65 | 150 | 0.44 |
| Tennessee | 2,567 | 2,000 | 0.78 | 1,781 | 0.69 | 1,457 | 0.57 | 1,127 | 0.44 |
| Texas | 9,553 | 7,860 | 0.82 | 7,060 | 0.74 | 5,849 | 0.61 | 3,650 | 0.38 |
| Utah | 958 | 860 | 0.90 | 727 | 0.76 | 632 | 0.66 | 268 | 0.28 |
| Vermont | 260 | 241 | 0.93 | 181 | 0.70 | 150 | 0.58 | 72 | 0.28 |
| Virgin Islands | 43 | 27 | 0.61 | \* | \* | 7 | 0.15 | \* | \* |
| Virginia | 3,128 | 2,637 | 0.84 | 2,402 | 0.77 | 2,215 | 0.71 | 1,446 | 0.46 |
| Washington | 2,800 | 2,484 | 0.89 | 2,168 | 0.77 | 1,969 | 0.70 | 937 | 0.33 |
| West Virginia | 735 | 541 | 0.74 | 422 | 0.57 | 341 | 0.46 | 173 | 0.24 |
| Wisconsin | 2,343 | 1,861 | 0.79 | 1,589 | 0.68 | 1,256 | 0.54 | 967 | 0.41 |
| Wyoming | 231 | 186 | 0.81 | 149 | 0.65 | 130 | 0.56 | \* | \* |
| Total | 121,046 | 101,283 | 0.84 | 89,815 | 0.74 | 76,827 | 0.63 | 51,024 | 0.42 |

# = Rounds to Zero; \* = Data withheld to maintain firm confidentiality.

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

Sources: FCC Form 477 (Connections); 2014-2018 ACS 5-year estimates; Census 2010.

**Figure 33**

**Connections by Type of End User by State as of December 31, 2018**

**(Connections over 200 kbps in at least one direction, in thousands)**

|  | *Connections* | | *Percentages* | |  |
| --- | --- | --- | --- | --- | --- |
| *State* | *Residential* | *Business* | *Residential* | *Business* | *Total* |
| Alabama | 5,170 | 1,196 | 81.2 | 18.8 | 6,366 |
| Alaska | 821 | 123 | 87.0 | 13.0 | 944 |
| American Samoa | \* | \* | \* | \* | \* |
| Arizona | 7,377 | 1,347 | 84.6 | 15.4 | 8,724 |
| Arkansas | 2,870 | 782 | 78.6 | 21.4 | 3,651 |
| California | 46,733 | 7,676 | 85.9 | 14.1 | 54,409 |
| Colorado | 6,290 | 1,243 | 83.5 | 16.5 | 7,534 |
| Connecticut | 4,081 | 900 | 81.9 | 18.1 | 4,981 |
| Delaware | 1,080 | 209 | 83.8 | 16.2 | 1,289 |
| District of Columbia | 982 | 524 | 65.2 | 34.8 | 1,506 |
| Florida | 24,716 | 4,484 | 84.6 | 15.4 | 29,200 |
| Georgia | 11,442 | 2,602 | 81.5 | 18.5 | 14,044 |
| Guam | 182 | 53 | 77.5 | 22.5 | 235 |
| Hawaii | 1,701 | 283 | 85.7 | 14.3 | 1,984 |
| Idaho | 1,763 | 360 | 83.0 | 17.0 | 2,123 |
| Illinois | 14,289 | 2,979 | 82.7 | 17.3 | 17,269 |
| Indiana | 6,870 | 1,466 | 82.4 | 17.6 | 8,337 |
| Iowa | 3,247 | 753 | 81.2 | 18.8 | 4,000 |
| Kansas | 5,069 | 706 | 87.8 | 12.2 | 5,775 |
| Kentucky | 4,837 | 833 | 85.3 | 14.7 | 5,670 |
| Louisiana | 5,189 | 932 | 84.8 | 15.2 | 6,121 |
| Maine | 1,409 | 408 | 77.5 | 22.5 | 1,817 |
| Maryland | 7,141 | 1,259 | 85.0 | 15.0 | 8,400 |
| Massachusetts | 8,372 | 1,619 | 83.8 | 16.2 | 9,991 |
| Michigan | 10,814 | 2,438 | 81.6 | 18.4 | 13,252 |
| Minnesota | 6,070 | 1,350 | 81.8 | 18.2 | 7,421 |
| Mississippi | 2,993 | 559 | 84.3 | 15.7 | 3,552 |
| Missouri | 6,452 | 1,373 | 82.5 | 17.5 | 7,825 |
| Montana | 1,056 | 284 | 78.8 | 21.2 | 1,340 |
| Nebraska | 1,890 | 544 | 77.6 | 22.4 | 2,434 |
| Nevada | 3,387 | 566 | 85.7 | 14.3 | 3,954 |
| New Hampshire | 1,483 | 362 | 80.4 | 19.6 | 1,845 |
| New Jersey | 10,584 | 2,060 | 83.7 | 16.3 | 12,644 |
| New Mexico | 2,102 | 383 | 84.6 | 15.4 | 2,485 |
| New York | 24,394 | 4,407 | 84.7 | 15.3 | 28,801 |
| North Carolina | 10,646 | 2,448 | 81.3 | 18.7 | 13,094 |
| North Dakota | 806 | 214 | 79.1 | 20.9 | 1,019 |
| Northern Mariana Isl | \* | \* | \* | \* | \* |
| Ohio | 12,806 | 2,839 | 81.9 | 18.1 | 15,645 |
| Oklahoma | 4,063 | 760 | 84.2 | 15.8 | 4,823 |
| Oregon | 4,569 | 962 | 82.6 | 17.4 | 5,531 |
| Pennsylvania | 14,198 | 2,940 | 82.8 | 17.2 | 17,138 |
| Puerto Rico | 3,679 | 407 | 90.0 | 10.0 | 4,086 |
| Rhode Island | 1,141 | 233 | 83.1 | 16.9 | 1,374 |
| South Carolina | 5,151 | 1,146 | 81.8 | 18.2 | 6,297 |
| South Dakota | 855 | 236 | 78.4 | 21.6 | 1,091 |
| Tennessee | 7,005 | 1,683 | 80.6 | 19.4 | 8,688 |
| Texas | 31,260 | 5,529 | 85.0 | 15.0 | 36,789 |
| Utah | 3,077 | 644 | 82.7 | 17.3 | 3,722 |
| Vermont | 679 | 191 | 78.1 | 21.9 | 870 |
| Virgin Islands | 124 | 14 | 89.8 | 10.2 | 138 |
| Virginia | 8,678 | 2,171 | 80.0 | 20.0 | 10,850 |
| Washington | 8,503 | 1,625 | 84.0 | 16.0 | 10,128 |
| West Virginia | 1,636 | 309 | 84.1 | 15.9 | 1,945 |
| Wisconsin | 6,015 | 1,327 | 81.9 | 18.1 | 7,342 |
| Wyoming | 624 | 161 | 79.5 | 20.5 | 785 |
| Total | 368,473 | 72,924 | 83.5 | 16.5 | 441,397 |

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Figures may not sum to totals due to rounding.

Source: FCC Form 477.

**Figure 34**

**Connections by Technology by State as of December 31, 2018**

**(Connections over 200 kbps in at least one direction, in thousands)**

| *State* | *ADSL* | *SDSL* | *Other Wireline1* | *Cable Modem* | *Fiber* | *Satellite* | *Fixed Wireless* | *Mobile Wireless* | *Total* |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Alabama | 460 | # | \* | 805 | 174 | \* | 6 | 4,853 | 6,366 |
| Alaska | 76 | \* | 2 | \* | 6 | \* | 9 | 707 | 944 |
| American Samoa | 0 | 0 | 0 | \* | \* | 0 | \* | \* | \* |
| Arizona | 519 | \* | 11 | 1,581 | 174 | \* | 43 | 6,359 | 8,724 |
| Arkansas | 334 | # | \* | 409 | 60 | \* | 8 | 2,785 | 3,651 |
| California | 2,774 | 3 | \* | 8,176 | 1,234 | \* | 142 | 41,863 | 54,409 |
| Colorado | \* | # | 17 | 1,355 | 209 | \* | 77 | 5,425 | 7,534 |
| Connecticut | \* | \* | 3 | 1,029 | 21 | \* | # | 3,644 | 4,981 |
| Delaware | \* | \* | 3 | 236 | \* | \* | \* | 916 | 1,289 |
| District of Columbia | \* | \* | 6 | \* | \* | \* | \* | 1,217 | 1,506 |
| Florida | 1,435 | # | \* | 5,305 | 1,002 | \* | 18 | 21,317 | 29,200 |
| Georgia | 902 | # | \* | 1,933 | 499 | \* | 6 | 10,616 | 14,044 |
| Guam | \* | 0 | 0 | \* | \* | 0 | 0 | 193 | 235 |
| Hawaii | \* | \* | 1 | \* | \* | \* | 2 | 1,522 | 1,984 |
| Idaho | 164 | # | \* | 232 | 91 | \* | 47 | 1,569 | 2,123 |
| Illinois | 1,090 | 1 | \* | 2,815 | 236 | \* | 80 | 12,975 | 17,269 |
| Indiana | 579 | # | \* | 1,201 | 280 | \* | 44 | 6,175 | 8,337 |
| Iowa | 265 | # | \* | 489 | 214 | \* | 43 | 2,954 | 4,000 |
| Kansas | 230 | # | \* | 478 | 208 | \* | 40 | 4,796 | 5,775 |
| Kentucky | 390 | \* | 4 | 788 | 188 | \* | 18 | 4,243 | 5,670 |
| Louisiana | 394 | \* | 5 | 829 | 140 | \* | 8 | 4,687 | 6,121 |
| Maine | 118 | 1 | \* | 398 | 10 | \* | 6 | 1,270 | 1,817 |
| Maryland | \* | # | 16 | 1,157 | \* | \* | 5 | 6,270 | 8,400 |
| Massachusetts | \* | \* | 21 | 1,948 | \* | \* | 8 | 7,374 | 9,991 |
| Michigan | 774 | 2 | \* | 2,332 | 119 | \* | 43 | 9,885 | 13,252 |
| Minnesota | 449 | 2 | \* | 1,172 | 225 | \* | 35 | 5,502 | 7,421 |
| Mississippi | 340 | # | \* | 332 | 51 | \* | 5 | 2,762 | 3,552 |
| Missouri | 624 | 1 | \* | 957 | 298 | \* | 44 | 5,819 | 7,825 |
| Montana | 96 | \* | 2 | 215 | 32 | \* | 24 | 957 | 1,340 |
| Nebraska | 140 | # | \* | 391 | 75 | \* | 30 | 1,787 | 2,434 |

**Figure 34 - Continued**

**Connections by Technology by State as of December 31, 2018**

**(Connections over 200 kbps in at least one direction, in thousands)**

| *State* | *ADSL* | *SDSL* | *Other Wireline1* | *Cable Modem* | *Fiber* | *Satellite* | *Fixed Wireless* | *Mobile Wireless* | *Total* |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Nevada | 197 | # | 6 | \* | 47 | \* | 26 | 2,920 | 3,954 |
| New Hampshire | 68 | # | \* | 446 | 30 | \* | 1 | 1,290 | 1,845 |
| New Jersey | 128 | \* | 27 | 2,146 | \* | \* | # | 9,312 | 12,644 |
| New Mexico | 219 | \* | 4 | 322 | 54 | \* | 23 | 1,848 | 2,485 |
| New York | 330 | \* | 40 | 4,881 | 1,653 | \* | 9 | 21,831 | 28,801 |
| North Carolina | 751 | # | \* | 2,281 | 426 | \* | 8 | 9,544 | 13,094 |
| North Dakota | 32 | 1 | \* | 157 | 90 | \* | 4 | 733 | 1,019 |
| Northern Mariana Isl | \* | 0 | \* | \* | \* | 0 | \* | \* | \* |
| Ohio | 961 | \* | 14 | 2,650 | 311 | \* | 48 | 11,610 | 15,645 |
| Oklahoma | 359 | # | \* | 598 | 115 | \* | 54 | 3,640 | 4,823 |
| Oregon | 228 | # | \* | 992 | 183 | \* | 28 | 4,057 | 5,531 |
| Pennsylvania | 510 | # | 27 | 2,976 | \* | \* | 7 | 12,570 | 17,138 |
| Puerto Rico | \* | 0 | 11 | \* | 8 | \* | 19 | 3,436 | 4,086 |
| Rhode Island | \* | \* | 2 | \* | \* | \* | \* | 972 | 1,374 |
| South Carolina | 417 | # | \* | 1,049 | 192 | \* | 5 | 4,590 | 6,297 |
| South Dakota | 39 | \* | # | 177 | 64 | \* | 10 | 793 | 1,091 |
| Tennessee | 500 | # | \* | 1,226 | 370 | \* | 14 | 6,506 | 8,688 |
| Texas | 2,005 | # | \* | 4,550 | 1,574 | \* | 230 | 28,186 | 36,789 |
| Utah | 155 | \* | 6 | 532 | 181 | \* | 54 | 2,788 | 3,722 |
| Vermont | 82 | \* | 3 | 151 | 26 | \* | 4 | 599 | 870 |
| Virgin Islands | \* | 0 | \* | \* | \* | \* | \* | \* | 138 |
| Virginia | 265 | # | \* | 1,545 | 944 | \* | 18 | 7,963 | 10,850 |
| Washington | 400 | # | \* | 1,925 | 239 | \* | 37 | 7,447 | 10,128 |
| West Virginia | \* | \* | 1 | 380 | 12 | \* | 3 | 1,349 | 1,945 |
| Wisconsin | 586 | \* | 11 | \* | 148 | \* | 32 | 5,312 | 7,342 |
| Wyoming | 47 | # | \* | 114 | 13 | \* | 26 | 576 | 785 |
| Total | 21,932 | 20 | 600 | 68,857 | 16,021 | 1,971 | 1,465 | 330,531 | 441,397 |

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.

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Figures may not sum to totals due to rounding.

Source: FCC Form 477.

**Figure 35**

**Percentage of Fixed Connections by Downstream Speed by State as of December 31, 2018**

|  | *Over 200 kbps Upstream and* | | | | |
| --- | --- | --- | --- | --- | --- |
| *State* | *% over 200 kbps Downstream* | *% at least 3 Mbps Downstream* | *% at least 10 Mbps Downstream* | *% at least 25 Mbps Downstream* | *% at least 100 Mbps Downstream* |
| Alabama | 99.6 | 96.2 | 84.7 | 67.6 | 46.2 |
| Alaska | 98.8 | 94.1 | 81.9 | 60.4 | 44.1 |
| American Samoa | \* | \* | \* | \* | \* |
| Arizona | 99.8 | 98.1 | 92.3 | 73.9 | 51.3 |
| Arkansas | 99.7 | 95.7 | 81.7 | 56.9 | 28.6 |
| California | 99.8 | 98.3 | 90.3 | 77.5 | 55.5 |
| Colorado | 99.8 | 97.4 | 91.8 | 76.7 | 50.4 |
| Connecticut | 99.7 | 99.4 | 92.2 | 77.1 | 61.4 |
| Delaware | 99.9 | 99.0 | 95.2 | 91.8 | 66.2 |
| District of Columbia | 99.9 | 98.5 | 92.8 | 87.5 | 69.8 |
| Florida | 99.8 | 98.6 | 93.9 | 82.2 | 56.6 |
| Georgia | 99.4 | 97.2 | 88.3 | 73.3 | 49.1 |
| Guam | \* | \* | \* | \* | \* |
| Hawaii | 99.9 | 99.8 | 93.1 | 86.5 | 61.2 |
| Idaho | 99.7 | 96.5 | 81.2 | 54.7 | 37.6 |
| Illinois | 99.8 | 98.3 | 89.2 | 74.5 | 49.7 |
| Indiana | 99.6 | 97.9 | 86.3 | 69.6 | 44.9 |
| Iowa | 99.8 | 95.9 | 83.4 | 64.5 | 28.5 |
| Kansas | 99.9 | 97.5 | 86.0 | 64.2 | 42.4 |
| Kentucky | 99.4 | 96.3 | 83.1 | 65.3 | 44.9 |
| Louisiana | 99.6 | 96.5 | 87.1 | 68.9 | 45.5 |
| Maine | 99.3 | 93.4 | 77.8 | 61.1 | 47.7 |
| Maryland | 99.9 | 98.9 | 94.6 | 88.8 | 64.9 |
| Massachusetts | 99.9 | 98.9 | 94.4 | 90.9 | 69.9 |
| Michigan | 99.5 | 98.1 | 88.9 | 76.0 | 53.1 |
| Minnesota | 99.8 | 97.4 | 88.4 | 72.0 | 47.0 |
| Mississippi | 99.4 | 94.7 | 79.3 | 55.3 | 30.3 |
| Missouri | 99.7 | 96.6 | 84.7 | 66.0 | 48.4 |
| Montana | 99.8 | 95.1 | 82.8 | 64.2 | 50.5 |
| Nebraska | 99.7 | 97.6 | 87.2 | 69.1 | 50.6 |

**Figure 35 - Continued**

**Percentage of Fixed Connections by Downstream Speed by State as of December 31, 2018**

|  | *Over 200 kbps Upstream and* | | | | |
| --- | --- | --- | --- | --- | --- |
| *State* | *% over 200 kbps Downstream* | *% at least 3 Mbps Downstream* | *% at least 10 Mbps Downstream* | *% at least 25 Mbps Downstream* | *% at least 100 Mbps Downstream* |
| Nevada | 99.9 | 98.8 | 93.8 | 79.7 | 59.3 |
| New Hampshire | 99.4 | 95.0 | 87.8 | 80.6 | 64.7 |
| New Jersey | 99.8 | 99.0 | 95.8 | 92.7 | 73.8 |
| New Mexico | 99.8 | 95.0 | 82.9 | 59.7 | 32.4 |
| New York | 99.7 | 99.0 | 94.1 | 87.8 | 72.4 |
| North Carolina | 99.4 | 97.5 | 87.7 | 75.1 | 58.8 |
| North Dakota | 99.9 | 98.4 | 93.4 | 82.7 | 61.1 |
| Northern Mariana Isl | \* | \* | \* | \* | \* |
| Ohio | 99.9 | 97.9 | 87.5 | 69.3 | 47.8 |
| Oklahoma | 99.8 | 97.5 | 81.4 | 60.7 | 38.7 |
| Oregon | 99.8 | 97.4 | 90.2 | 76.9 | 52.0 |
| Pennsylvania | 99.8 | 98.0 | 90.3 | 82.6 | 57.1 |
| Puerto Rico | 100.0 | 89.0 | 57.3 | 37.5 | 17.7 |
| Rhode Island | 99.7 | 99.0 | 97.8 | 91.8 | 73.2 |
| South Carolina | 99.7 | 97.8 | 88.8 | 71.2 | 51.6 |
| South Dakota | 99.7 | 98.4 | 93.4 | 82.1 | 52.7 |
| Tennessee | 99.6 | 97.6 | 89.1 | 74.8 | 54.0 |
| Texas | 99.8 | 98.3 | 89.7 | 73.9 | 50.9 |
| Utah | 99.9 | 98.4 | 90.8 | 74.2 | 45.3 |
| Vermont | 97.9 | 89.0 | 74.3 | 62.0 | 44.2 |
| Virgin Islands | 99.9 | 99.0 | 62.8 | \* | \* |
| Virginia | 99.5 | 97.9 | 91.0 | 82.9 | 61.3 |
| Washington | 99.7 | 97.7 | 91.3 | 79.2 | 57.2 |
| West Virginia | 98.6 | 97.5 | 76.9 | 62.3 | 42.4 |
| Wisconsin | 99.4 | 96.8 | 86.7 | 67.6 | 50.5 |
| Wyoming | 99.8 | 95.6 | 84.6 | 71.6 | 45.9 |
| Total | 99.7 | 97.8 | 89.6 | 76.3 | 54.2 |

**Figure 36**

**Providers of Connections by Technology by State as of December 31, 2018**

**(Connections over 200 kbps in at least one direction, in thousands)**

| *State* | *ADSL* | *SDSL* | *Other Wireline1* | *Cable Modem* | *Fiber* | *Satellite* | *Fixed Wireless* | *Mobile Wireless* | *Total* |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Alabama | 25 | 4 | \* | 19 | 41 | \* | 21 | 7 | 82 |
| Alaska | 14 | \* | 11 | \* | 13 | \* | 14 | 9 | 36 |
| American Samoa | 0 | 0 | 0 | \* | \* | 0 | \* | \* | \* |
| Arizona | 23 | \* | 24 | 14 | 41 | \* | 46 | 6 | 102 |
| Arkansas | 24 | 4 | \* | 21 | 43 | \* | 22 | 5 | 84 |
| California | 34 | 11 | \* | 31 | 83 | \* | 127 | 5 | 211 |
| Colorado | \* | 6 | 25 | 15 | 62 | \* | 64 | 9 | 137 |
| Connecticut | \* | \* | 12 | 8 | 21 | \* | 4 | 4 | 34 |
| Delaware | \* | \* | 9 | 6 | \* | \* | \* | 4 | 25 |
| District of Columbia | \* | \* | 14 | \* | \* | \* | \* | 4 | 39 |
| Florida | 22 | 7 | \* | 22 | 70 | \* | 32 | 6 | 112 |
| Georgia | 27 | 4 | \* | 32 | 82 | \* | 23 | 5 | 123 |
| Guam | \* | 0 | 0 | \* | \* | 0 | 0 | 4 | 4 |
| Hawaii | \* | \* | 11 | \* | \* | \* | 5 | 5 | 25 |
| Idaho | 23 | 5 | \* | 20 | 40 | \* | 40 | 9 | 76 |
| Illinois | 53 | 7 | \* | 20 | 101 | \* | 91 | 6 | 194 |
| Indiana | 35 | 4 | \* | 13 | 72 | \* | 60 | 5 | 116 |
| Iowa | 88 | 16 | \* | 40 | 166 | \* | 87 | 8 | 230 |
| Kansas | 25 | 9 | \* | 26 | 65 | \* | 51 | 9 | 112 |
| Kentucky | 18 | \* | 12 | 29 | 48 | \* | 31 | 8 | 102 |
| Louisiana | 17 | \* | 19 | 20 | 40 | \* | 21 | 6 | 75 |
| Maine | 11 | 5 | \* | 9 | 18 | \* | 10 | 5 | 37 |
| Maryland | \* | 5 | 19 | 15 | \* | \* | 20 | 5 | 69 |
| Massachusetts | \* | \* | 15 | 11 | \* | \* | 22 | 5 | 68 |
| Michigan | 33 | 5 | \* | 25 | 69 | \* | 47 | 6 | 125 |
| Minnesota | 44 | 8 | \* | 21 | 81 | \* | 51 | 5 | 129 |
| Mississippi | 19 | 4 | \* | 14 | 30 | \* | 14 | 6 | 60 |
| Missouri | 35 | 8 | \* | 19 | 67 | \* | 71 | 7 | 144 |
| Montana | 22 | \* | 14 | 8 | 33 | \* | 31 | 7 | 63 |
| Nebraska | 31 | 4 | \* | 18 | 56 | \* | 46 | 7 | 104 |

**Figure 36 - Continued**

**Providers of Connections by Technology by State as of December 31, 2018**

**(Connections over 200 kbps in at least one direction, in thousands)**

| *State* | *ADSL* | *SDSL* | *Other Wireline1* | *Cable Modem* | *Fiber* | *Satellite* | *Fixed Wireless* | *Mobile Wireless* | *Total* |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Nevada | 18 | 7 | 18 | \* | 33 | \* | 23 | 5 | 68 |
| New Hampshire | 8 | 4 | \* | 5 | 20 | \* | 7 | 5 | 36 |
| New Jersey | 10 | \* | 27 | 10 | \* | \* | 10 | 4 | 62 |
| New Mexico | 21 | \* | 16 | 11 | 32 | \* | 35 | 7 | 73 |
| New York | 32 | \* | 33 | 22 | 73 | \* | 33 | 6 | 125 |
| North Carolina | 23 | 5 | \* | 26 | 58 | \* | 23 | 6 | 99 |
| North Dakota | 21 | 7 | \* | 9 | 31 | \* | 12 | 6 | 47 |
| Northern Mariana Isl | \* | 0 | \* | \* | \* | 0 | \* | \* | \* |
| Ohio | 32 | \* | 30 | 32 | 67 | \* | 61 | 4 | 149 |
| Oklahoma | 37 | 6 | \* | 13 | 55 | \* | 49 | 12 | 113 |
| Oregon | 38 | 8 | \* | 17 | 61 | \* | 46 | 6 | 104 |
| Pennsylvania | 22 | 5 | 25 | 25 | \* | \* | 25 | 8 | 107 |
| Puerto Rico | \* | 0 | 5 | \* | 8 | \* | 8 | 5 | 19 |
| Rhode Island | \* | \* | 8 | \* | \* | \* | \* | 4 | 24 |
| South Carolina | 20 | 4 | \* | 17 | 33 | \* | 15 | 6 | 56 |
| South Dakota | 22 | \* | 13 | 9 | 32 | \* | 20 | 8 | 71 |
| Tennessee | 23 | 4 | \* | 22 | 69 | \* | 35 | 7 | 116 |
| Texas | 65 | 14 | \* | 33 | 131 | \* | 153 | 10 | 260 |
| Utah | 19 | \* | 15 | 13 | 29 | \* | 34 | 9 | 72 |
| Vermont | 8 | \* | 7 | 6 | 18 | \* | 5 | 6 | 32 |
| Virgin Islands | \* | 0 | \* | \* | \* | \* | \* | \* | 7 |
| Virginia | 24 | 6 | \* | 20 | 68 | \* | 39 | 6 | 110 |
| Washington | 27 | 6 | \* | 24 | 62 | \* | 55 | 6 | 117 |
| West Virginia | \* | \* | 11 | 17 | 23 | \* | 16 | 6 | 59 |
| Wisconsin | 42 | \* | 22 | \* | 70 | \* | 41 | 6 | 116 |
| Wyoming | 15 | 4 | \* | 7 | 20 | \* | 24 | 8 | 49 |
| Total | 719 | 125 | 239 | 374 | 1,243 | 6 | 1,209 | 71 | 2,165 |

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

# = Rounds to Zero.

\* = Data withheld to maintain firm confidentiality.

Figures may not sum to totals due to rounding.

Source: FCC Form 477.



**Figure 38**

**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, 2018**

|  | *Ratio of Residential Fixed Connections to County Households* | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Zero* | *Greater than 0 and no more than 5%* | *Greater than 5 and no more than 10%* | *Greater than 10 and no more than 20%* | *Greater than 20 and no more than 30%* | *Greater than 30 and no more than 40%* | *Greater than 40 and no more than 50%* | *Greater than 50 and no more than 60%* | *Greater than 60 and no more than 80%* | *Greater than 80 and no more than 100%* | *100% or more* |
| aDSL | 1.5 | 6.9 | 8.8 | 29.1 | 27.1 | 15.6 | 6.9 | 2.5 | 1.3 | 0.3 | 0.1 |
| sDSL | 94.6 | 5.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other Wireline | 92.7 | 7.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cable Modem | 12.0 | 7.1 | 5.9 | 13.7 | 13.0 | 12.3 | 12.4 | 11.5 | 10.1 | 1.5 | 0.4 |
| FTTP | 20.2 | 43.0 | 10.4 | 10.5 | 5.9 | 3.1 | 2.5 | 1.8 | 2.3 | 0.3 | 0.0 |
| Satellite | 0.4 | 64.5 | 22.8 | 11.0 | 0.9 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Fixed Wireless | 18.1 | 58.4 | 12.0 | 8.1 | 2.1 | 1.0 | 0.2 | 0.1 | 0.1 | 0.0 | 0.1 |
| Total | 0.1 | 0.0 | 0.0 | 0.4 | 1.0 | 1.5 | 5.9 | 13.2 | 51.0 | 23.0 | 3.8 |

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

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

Sources: FCC Form 477; 2014-2018 ACS 5-year estimates; and Census 2010.



**Figure 40**

**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, 2018**

|  | *Ratio of Residential Fixed Connections to Tract Households* | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Zero* | *Greater than 0 and no more than 5%* | *Greater than 5 and no more than 10%* | *Greater than 10 and no more than 20%* | *Greater than 20 and no more than 30%* | *Greater than 30 and no more than 40%* | *Greater than 40 and no more than 50%* | *Greater than 50 and no more than 60%* | *Greater than 60 and no more than 80%* | *Greater than 80 and no more than 100%* | *100% or more* |
| aDSL | 3.1 | 23.6 | 14.8 | 25.3 | 17.6 | 9.1 | 3.7 | 1.5 | 0.9 | 0.2 | 0.2 |
| sDSL | 99.4 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other Wireline | 98.8 | 1.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cable Modem | 5.2 | 2.6 | 1.6 | 3.6 | 5.7 | 10.7 | 16.1 | 19.1 | 25.7 | 7.8 | 1.9 |
| FTTP | 37.2 | 21.6 | 7.9 | 10.9 | 7.2 | 5.5 | 4.1 | 2.7 | 2.4 | 0.4 | 0.2 |
| Satellite | 23.8 | 65.9 | 5.6 | 3.7 | 0.8 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Fixed Wireless | 71.3 | 22.1 | 2.8 | 2.3 | 0.8 | 0.3 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 |
| Total | 0.8 | 0.1 | 0.2 | 0.5 | 0.6 | 1.3 | 3.3 | 6.9 | 30.3 | 43.2 | 12.9 |

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

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

Sources: FCC Form 477; 2014-2018 ACS 5-year estimates; and Census 2010.

**Figure 41**

**Percentage of Developed Census Blocks with Residential Fixed Service by Technology as of December 31, 2018**

**(Internet Access Service over 200 kbps in at least one direction)**

|  | *Number of Providers* | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Zero* | *One* | *Two* | *Three* | *Four* | *Five* | *Six* | *Seven or More* |
| aDSL | 22.4 | 74.9 | 2.7 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| sDSL | 99.5 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other Wireline1 | 99.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cable Modem | 80.3 | 19.1 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| FTTP | 74.1 | 24.8 | 1.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| Satellite | 0.0 | 0.1 | 0.9 | 98.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| Fixed Wireless | 58.6 | 26.8 | 10.8 | 3.3 | 0.5 | 0.0 | 0.0 | 0.0 |
| aDSL and/or Cable Modem and/or FTTP | 14.2 | 62.0 | 21.4 | 2.3 | 0.1 | 0.0 | 0.0 | 0.0 |
| Any Technology | 0.0 | 0.1 | 0.1 | 5.1 | 17.6 | 43.8 | 22.6 | 10.9 |

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

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

purport to measure competition. Providers may list a census block on Form 477 if service can be provided to at least one location in the block. Developed census blocks are those with housing units

based on the 2010 census.

Sources: FCC Form 477 and Census 2010.

**Figure 42**

**Distribution of Counties by Ratio of Residential Fixed Connections to County Households by State as of December 31, 2018**

**(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 | 0 | 0 | 15 | 13 | 31 | 8 | 0 |
| Alaska | 29 | 0 | 0 | 0 | 1 | 1 | 1 | 3 | 1 | 11 | 8 | 3 |
| American Samoa | 5 | 2 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| Arizona | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 6 | 7 | 0 |
| Arkansas | 75 | 0 | 0 | 0 | 0 | 0 | 2 | 18 | 29 | 23 | 3 | 0 |
| California | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 39 | 3 |
| Colorado | 64 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 7 | 19 | 22 | 15 |
| Connecticut | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| Delaware | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 |
| District of Columbia | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Florida | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 19 | 28 | 15 |
| Georgia | 159 | 0 | 0 | 0 | 1 | 2 | 6 | 17 | 29 | 63 | 32 | 9 |
| Guam | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| Hawaii | 5 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 |
| Idaho | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 26 | 10 | 4 |
| Illinois | 102 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 19 | 63 | 16 | 0 |
| Indiana | 92 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 62 | 15 | 0 |
| Iowa | 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 86 | 6 | 1 |
| Kansas | 105 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 12 | 73 | 18 | 0 |
| Kentucky | 120 | 0 | 0 | 0 | 0 | 1 | 1 | 7 | 12 | 84 | 15 | 0 |
| Louisiana | 64 | 0 | 0 | 0 | 0 | 0 | 2 | 11 | 14 | 28 | 9 | 0 |
| Maine | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 11 | 2 |
| Maryland | 24 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 16 | 1 |
| Massachusetts | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 3 |
| Michigan | 83 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 55 | 16 | 3 |
| Minnesota | 87 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 62 | 21 | 1 |
| Mississippi | 82 | 0 | 0 | 0 | 0 | 1 | 8 | 23 | 30 | 16 | 3 | 1 |
| Missouri | 115 | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 27 | 60 | 14 | 1 |
| Montana | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 33 | 17 | 2 |
| Nebraska | 93 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 14 | 72 | 3 | 0 |

**Figure 42 - Continued**

**Distribution of Counties by Ratio of Residential Fixed Connections to County Households by State as of December 31, 2018**

**(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 | 1 | 1 | 1 | 9 | 5 | 0 |
| New Hampshire | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 3 |
| New Jersey | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 2 |
| New Mexico | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 5 | 16 | 8 | 2 |
| New York | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35 | 24 | 3 |
| North Carolina | 100 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 12 | 41 | 34 | 7 |
| North Dakota | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 35 | 12 | 3 |
| Northern Mariana Isl | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| Ohio | 88 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 8 | 59 | 20 | 0 |
| Oklahoma | 77 | 0 | 0 | 0 | 0 | 0 | 2 | 10 | 26 | 33 | 5 | 1 |
| Oregon | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 16 | 14 | 4 |
| Pennsylvania | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 39 | 25 | 3 |
| Puerto Rico | 78 | 0 | 0 | 0 | 10 | 22 | 11 | 15 | 16 | 4 | 0 | 0 |
| Rhode Island | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 |
| South Carolina | 46 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 13 | 17 | 9 | 2 |
| South Dakota | 66 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 6 | 43 | 14 | 1 |
| Tennessee | 95 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 20 | 61 | 10 | 1 |
| Texas | 254 | 0 | 0 | 0 | 0 | 0 | 3 | 14 | 47 | 132 | 51 | 7 |
| Utah | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 13 | 7 |
| Vermont | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 3 |
| Virgin Islands | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| Virginia | 134 | 0 | 0 | 0 | 0 | 1 | 5 | 11 | 12 | 65 | 38 | 2 |
| Washington | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 15 | 21 | 1 |
| West Virginia | 55 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 4 | 42 | 8 | 0 |
| Wisconsin | 72 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 45 | 24 | 2 |
| Wyoming | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 13 | 8 | 1 |
| Total | 3,234 | 3 | 1 | 0 | 13 | 32 | 48 | 191 | 428 | 1650 | 745 | 123 |

Note: Figures may not sum to totals due to rounding. See Technical Notes at the end of the report.

Sources: FCC Form 477; 2014-2018 ACS 5-year estimates (Households for U.S. and District of Columbia); Census 2010 (Households for Puerto Rico, American Samoa,

Guam, Northern Mariana Islands and U.S. Virgin Islands).

**Figure 43**

**Distribution of Census Tracts by Ratio of Residential Fixed Connections to Tract Households by State as of December 31, 2018**

**(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* |
| Alabama | 1,179 | 5 | 0 | 0 | 0 | 8 | 64 | 109 | 193 | 433 | 290 | 77 |
| Alaska | 167 | 1 | 0 | 1 | 4 | 3 | 3 | 4 | 13 | 54 | 64 | 20 |
| American Samoa | 18 | 2 | 0 | 0 | 0 | 7 | 6 | 0 | 1 | 0 | 1 | 1 |
| Arizona | 1,526 | 12 | 4 | 7 | 14 | 13 | 17 | 45 | 91 | 383 | 586 | 354 |
| Arkansas | 686 | 1 | 0 | 0 | 0 | 6 | 46 | 106 | 137 | 240 | 128 | 22 |
| California | 8,036 | 55 | 3 | 1 | 4 | 20 | 47 | 70 | 260 | 1,849 | 4,726 | 1,001 |
| Colorado | 1,249 | 14 | 1 | 0 | 0 | 1 | 5 | 11 | 36 | 260 | 663 | 258 |
| Connecticut | 829 | 2 | 0 | 0 | 2 | 0 | 1 | 6 | 20 | 144 | 536 | 118 |
| Delaware | 215 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 6 | 48 | 103 | 56 |
| District of Columbia | 179 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | 8 | 53 | 81 | 34 |
| Florida | 4,199 | 40 | 3 | 1 | 3 | 7 | 12 | 60 | 148 | 814 | 1,835 | 1,276 |
| Georgia | 1,964 | 11 | 1 | 0 | 2 | 14 | 37 | 109 | 172 | 571 | 740 | 307 |
| Guam | 56 | 7 | 0 | 1 | 4 | 2 | 3 | 5 | 5 | 8 | 9 | 12 |
| Hawaii | 326 | 14 | 1 | 0 | 3 | 2 | 3 | 9 | 7 | 58 | 125 | 104 |
| Idaho | 298 | 0 | 0 | 0 | 1 | 3 | 2 | 4 | 18 | 131 | 115 | 24 |
| Illinois | 3,121 | 6 | 1 | 0 | 5 | 7 | 21 | 93 | 283 | 1,118 | 1,353 | 234 |
| Indiana | 1,508 | 4 | 1 | 1 | 3 | 3 | 20 | 59 | 169 | 654 | 501 | 93 |
| Iowa | 825 | 4 | 0 | 0 | 0 | 0 | 3 | 20 | 69 | 509 | 197 | 23 |
| Kansas | 770 | 10 | 0 | 0 | 1 | 2 | 2 | 24 | 74 | 327 | 276 | 54 |
| Kentucky | 1,115 | 10 | 0 | 1 | 5 | 9 | 26 | 44 | 125 | 480 | 367 | 48 |
| Louisiana | 1,136 | 12 | 2 | 0 | 1 | 12 | 33 | 103 | 138 | 430 | 341 | 64 |
| Maine | 351 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 104 | 185 | 60 |
| Maryland | 1,394 | 9 | 0 | 0 | 0 | 0 | 8 | 21 | 65 | 260 | 776 | 255 |
| Massachusetts | 1,471 | 13 | 1 | 0 | 0 | 2 | 1 | 3 | 24 | 273 | 901 | 253 |
| Michigan | 2,767 | 28 | 1 | 2 | 8 | 19 | 60 | 153 | 260 | 850 | 1,191 | 195 |
| Minnesota | 1,335 | 4 | 0 | 0 | 1 | 2 | 10 | 33 | 60 | 506 | 639 | 80 |
| Mississippi | 661 | 4 | 0 | 0 | 0 | 10 | 49 | 137 | 137 | 206 | 100 | 18 |
| Missouri | 1,393 | 4 | 0 | 0 | 1 | 7 | 32 | 98 | 180 | 476 | 502 | 93 |
| Montana | 271 | 2 | 0 | 0 | 1 | 0 | 4 | 5 | 11 | 114 | 114 | 20 |
| Nebraska | 532 | 4 | 0 | 0 | 0 | 0 | 1 | 10 | 41 | 275 | 167 | 34 |

**Figure 43 - Continued**

**Distribution of Census Tracts by Ratio of Residential Fixed Connections to Tract Households by State as of December 31, 2018**

**(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 | 5 | 0 | 1 | 0 | 2 | 6 | 14 | 28 | 177 | 321 | 129 |
| New Hampshire | 294 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 36 | 178 | 77 |
| New Jersey | 2,004 | 10 | 0 | 0 | 1 | 1 | 2 | 2 | 21 | 339 | 1,149 | 479 |
| New Mexico | 499 | 2 | 2 | 3 | 2 | 12 | 13 | 25 | 74 | 183 | 151 | 32 |
| New York | 4,900 | 77 | 1 | 1 | 9 | 18 | 15 | 40 | 151 | 1,541 | 2,348 | 699 |
| North Carolina | 2,183 | 20 | 3 | 11 | 26 | 22 | 23 | 38 | 136 | 699 | 835 | 370 |
| North Dakota | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 12 | 111 | 63 | 17 |
| Northern Mariana Isl | 22 | 2 | 0 | 0 | 1 | 2 | 4 | 6 | 2 | 3 | 2 | 0 |
| Ohio | 2,946 | 7 | 0 | 0 | 2 | 5 | 28 | 101 | 264 | 1,186 | 1,183 | 170 |
| Oklahoma | 1,046 | 0 | 0 | 1 | 6 | 13 | 39 | 105 | 190 | 367 | 229 | 96 |
| Oregon | 827 | 2 | 0 | 0 | 0 | 0 | 6 | 12 | 26 | 238 | 478 | 65 |
| Pennsylvania | 3,217 | 22 | 0 | 0 | 5 | 4 | 12 | 42 | 141 | 1,225 | 1,469 | 297 |
| Puerto Rico | 903 | 18 | 54 | 78 | 196 | 138 | 127 | 89 | 46 | 45 | 29 | 83 |
| Rhode Island | 241 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 51 | 147 | 39 |
| South Carolina | 1,097 | 13 | 0 | 0 | 0 | 13 | 18 | 75 | 123 | 344 | 353 | 158 |
| South Dakota | 222 | 0 | 0 | 0 | 2 | 0 | 2 | 8 | 13 | 113 | 72 | 12 |
| Tennessee | 1,497 | 21 | 1 | 0 | 1 | 7 | 25 | 83 | 189 | 586 | 450 | 134 |
| Texas | 5,253 | 39 | 1 | 2 | 4 | 31 | 90 | 281 | 614 | 1,707 | 1,792 | 692 |
| Utah | 588 | 4 | 2 | 1 | 1 | 1 | 0 | 4 | 10 | 116 | 348 | 101 |
| Vermont | 184 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 33 | 110 | 39 |
| Virgin Islands | 29 | 0 | 0 | 0 | 1 | 2 | 1 | 3 | 7 | 10 | 3 | 2 |
| Virginia | 1,895 | 22 | 0 | 0 | 4 | 13 | 35 | 71 | 132 | 469 | 831 | 318 |
| Washington | 1,446 | 2 | 1 | 0 | 0 | 4 | 4 | 14 | 27 | 276 | 920 | 198 |
| West Virginia | 484 | 0 | 0 | 1 | 3 | 2 | 12 | 24 | 66 | 201 | 146 | 29 |
| Wisconsin | 1,393 | 3 | 1 | 2 | 9 | 16 | 6 | 26 | 76 | 586 | 587 | 81 |
| Wyoming | 132 | 1 | 0 | 0 | 1 | 0 | 1 | 2 | 4 | 55 | 61 | 7 |
| Total | 73,767 | 554 | 85 | 116 | 337 | 466 | 985 | 2,412 | 5,108 | 22,325 | 31,867 | 9,512 |

Note: Figures may not sum to totals due to rounding. See Technical Notes at the end of the report.

Sources: FCC Form 477; 2014-2018 ACS 5-year estimates (Households for U.S. and District of Columbia); Census 2010 (Households for Puerto Rico, American Samoa,

Guam, Northern Mariana Islands and U.S. Virgin Islands).











