**Figure 7**

**Fixed Broadband Availability Measured by Location and Block as of December 31, 2022**

**(Units in thousands. Includes services of at least 100 Mbps downstream and 20 Mbps upstream)**

|  | | *Aggregation By Location* | | *Aggregation By Block* | | *Difference* | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Total Units* | *Units Covered* | *Ratio* | *Units Covered* | *Ratio* | *Difference* | *Ratio* |
| Any Technology | 160,114 | 149,582 | 0.93 | 154,695 | 0.97 | 5,113 | 0.03 |
| Satellite | 160,114 | 25,762 | 0.16 | 25,992 | 0.16 | 230 | 0.00 |
| Terrestrial | 160,114 | 148,021 | 0.92 | 153,804 | 0.96 | 5,783 | 0.04 |
| Fixed Wireless | 160,114 | 51,026 | 0.32 | 77,168 | 0.48 | 26,142 | 0.16 |
| Licensed | 160,114 | 38,357 | 0.24 | 64,026 | 0.40 | 25,669 | 0.16 |
| Unlicensed | 160,114 | 18,524 | 0.12 | 24,955 | 0.16 | 6,431 | 0.04 |
| Wireline | 160,114 | 144,055 | 0.90 | 150,448 | 0.94 | 6,393 | 0.04 |
| Copper Wire1 | 160,114 | 8,685 | 0.05 | 32,296 | 0.20 | 23,610 | 0.15 |
| Coaxial Cable | 160,114 | 135,471 | 0.85 | 141,932 | 0.89 | 6,461 | 0.04 |
| Optical Carrier | 160,114 | 64,341 | 0.40 | 90,291 | 0.56 | 25,950 | 0.16 |

1 Other is summarized with Copper Wire.

Note: The Aggregation by Location columns sum the number of units reported with terrestrial fixed broadband service of at least 100 Mbps downstream and 20 Mbps

upstream. The Aggregation by Block columns attempt to replicate the methodology used prior to the BDC where an entire block was counted as served if at least

one location in that block was reported as served. The Difference column shows the number of locations without service that would have been counted as served using

the block-level methodology. Numbers may not sum due to rounding.

Source: FCC Broadband Data Collection.

**Figure 8**

**Availability of Fixed Broadband by Speed and Technology as of December 31, 2022**

|  | *Share of units in Broadband Serviceable Locations with speeds of at least* | | | | |
| --- | --- | --- | --- | --- | --- |
| *Technology* | *200 kbps in at least One Direction* | *10 Mbps Down and 1 Mbps Up* | *25 Mbps Down and 3 Mbps Up* | *100 Mbps Down and 20 Mbps Up* | *940 Mbps Down and 500 Mbps Up* |
| Any Technology | 100.0 | 100.0 | 100.0 | 93.4 | 40.0 |
| Satellite | 100.0 | 100.0 | 100.0 | 16.1 | 0.0 |
| Terrestrial | 99.3 | 96.9 | 95.5 | 92.4 | 40.0 |
| Fixed Wireless | 88.7 | 67.6 | 64.6 | 31.9 | 2.2 |
| Licensed | 85.5 | 59.1 | 55.7 | 24.0 | 0.6 |
| Unlicensed | 25.9 | 25.3 | 23.4 | 11.6 | 1.7 |
| Wireline | 94.4 | 92.8 | 91.2 | 90.0 | 38.5 |
| Copper Wire1 | 53.3 | 37.1 | 22.4 | 5.4 | 0.1 |
| Coaxial Cable | 85.1 | 85.1 | 85.1 | 84.6 | 0.0 |
| Optical Carrier | 40.3 | 40.2 | 40.2 | 40.2 | 38.5 |

1 Other is summarized with Copper Wire.

Source: FCC Broadband Data Collection.

**Figure 9**

**Availability of Terrestrial Fixed Broadband by State as of December 31, 2022**

**(Units 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 20 Mbps Up* | | *At least 940 Mbps Down and 500 Mbps Up* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Units* | *Units* | *Ratio* | *Units* | *Ratio* | *Units* | *Ratio* | *Units* | *Ratio* | *Units* | *Ratio* |
| Alabama | **2,706** | 2,662 | 0.98 | 2,422 | 0.90 | 2,346 | 0.87 | 2,228 | 0.82 | 882 | 0.33 |
| Alaska | **381** | 345 | 0.90 | 333 | 0.87 | 308 | 0.81 | 283 | 0.74 | 12 | 0.03 |
| American Samoa | **9** | 9 | 1.00 | 9 | 1.00 | 9 | 1.00 | 2 | 0.20 | 0 | 0.00 |
| Arizona | **3,359** | 3,334 | 0.99 | 3,278 | 0.98 | 3,242 | 0.97 | 3,066 | 0.91 | 1,001 | 0.30 |
| Arkansas | **1,649** | 1,621 | 0.98 | 1,500 | 0.91 | 1,442 | 0.87 | 1,318 | 0.80 | 596 | 0.36 |
| California | **15,703** | 15,645 | 1.00 | 15,561 | 0.99 | 15,499 | 0.99 | 15,228 | 0.97 | 4,989 | 0.32 |
| Colorado | **2,750** | 2,722 | 0.99 | 2,692 | 0.98 | 2,675 | 0.97 | 2,543 | 0.92 | 801 | 0.29 |
| Connecticut | **1,679** | 1,676 | 1.00 | 1,661 | 0.99 | 1,659 | 0.99 | 1,649 | 0.98 | 871 | 0.52 |
| Delaware | **510** | 510 | 1.00 | 509 | 1.00 | 509 | 1.00 | 495 | 0.97 | 241 | 0.47 |
| District of Columbia | **366** | 366 | 1.00 | 366 | 1.00 | 366 | 1.00 | 366 | 1.00 | 203 | 0.55 |
| Florida | **10,992** | 10,944 | 1.00 | 10,765 | 0.98 | 10,675 | 0.97 | 10,506 | 0.96 | 3,815 | 0.35 |
| Georgia | **4,960** | 4,917 | 0.99 | 4,760 | 0.96 | 4,626 | 0.93 | 4,511 | 0.91 | 1,982 | 0.40 |
| Guam | **38** | 37 | 1.00 | 37 | 1.00 | 37 | 1.00 | 33 | 0.87 | 3 | 0.09 |
| Hawaii | **601** | 598 | 1.00 | 587 | 0.98 | 585 | 0.97 | 584 | 0.97 | 248 | 0.41 |
| Idaho | **883** | 871 | 0.99 | 852 | 0.97 | 843 | 0.96 | 749 | 0.85 | 280 | 0.32 |
| Illinois | **6,164** | 6,140 | 1.00 | 6,076 | 0.99 | 6,025 | 0.98 | 5,817 | 0.94 | 2,092 | 0.34 |
| Indiana | **3,329** | 3,305 | 0.99 | 3,243 | 0.97 | 3,190 | 0.96 | 3,005 | 0.90 | 1,369 | 0.41 |
| Iowa | **1,677** | 1,674 | 1.00 | 1,666 | 0.99 | 1,638 | 0.98 | 1,574 | 0.94 | 655 | 0.39 |
| Kansas | **1,508** | 1,504 | 1.00 | 1,493 | 0.99 | 1,477 | 0.98 | 1,367 | 0.91 | 689 | 0.46 |
| Kentucky | **2,318** | 2,287 | 0.99 | 2,187 | 0.94 | 2,064 | 0.89 | 1,975 | 0.85 | 1,123 | 0.48 |
| Louisiana | **2,373** | 2,324 | 0.98 | 2,138 | 0.90 | 2,074 | 0.87 | 1,945 | 0.82 | 648 | 0.27 |
| Maine | **821** | 815 | 0.99 | 794 | 0.97 | 777 | 0.95 | 721 | 0.88 | 190 | 0.23 |
| Maryland | **2,733** | 2,725 | 1.00 | 2,697 | 0.99 | 2,689 | 0.98 | 2,657 | 0.97 | 1,510 | 0.55 |
| Massachusetts | **3,327** | 3,325 | 1.00 | 3,313 | 1.00 | 3,312 | 1.00 | 3,300 | 0.99 | 1,325 | 0.40 |
| Michigan | **5,192** | 5,140 | 0.99 | 4,968 | 0.96 | 4,877 | 0.94 | 4,705 | 0.91 | 1,340 | 0.26 |
| Minnesota | **2,800** | 2,785 | 0.99 | 2,742 | 0.98 | 2,695 | 0.96 | 2,620 | 0.94 | 1,747 | 0.62 |
| Mississippi | **1,587** | 1,545 | 0.97 | 1,376 | 0.87 | 1,290 | 0.81 | 1,239 | 0.78 | 686 | 0.43 |
| Missouri | **3,146** | 3,122 | 0.99 | 3,039 | 0.97 | 2,991 | 0.95 | 2,802 | 0.89 | 1,611 | 0.51 |
| Montana | **621** | 600 | 0.97 | 563 | 0.91 | 539 | 0.87 | 461 | 0.74 | 106 | 0.17 |
| Nebraska | **1,003** | 994 | 0.99 | 983 | 0.98 | 968 | 0.97 | 931 | 0.93 | 538 | 0.54 |

**Figure 9 - Continued**

**Availability of Terrestrial Fixed Broadband by State as of December 31, 2022**

**(Units 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 20 Mbps Up* | | *At least 940 Mbps Down and 500 Mbps Up* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Units* | *Units* | *Ratio* | *Units* | *Ratio* | *Units* | *Ratio* | *Units* | *Ratio* | *Units* | *Ratio* |
| Nevada | **1,401** | 1,397 | 1.00 | 1,389 | 0.99 | 1,385 | 0.99 | 1,362 | 0.97 | 327 | 0.23 |
| New Hampshire | **718** | 716 | 1.00 | 695 | 0.97 | 689 | 0.96 | 678 | 0.94 | 338 | 0.47 |
| New Jersey | **4,249** | 4,241 | 1.00 | 4,173 | 0.98 | 4,171 | 0.98 | 4,109 | 0.97 | 2,424 | 0.57 |
| New Mexico | **1,074** | 1,060 | 0.99 | 1,006 | 0.94 | 981 | 0.91 | 877 | 0.82 | 143 | 0.13 |
| New York | **9,235** | 9,190 | 1.00 | 9,061 | 0.98 | 9,042 | 0.98 | 8,970 | 0.97 | 5,692 | 0.62 |
| North Carolina | **5,393** | 5,348 | 0.99 | 5,159 | 0.96 | 5,024 | 0.93 | 4,849 | 0.90 | 1,768 | 0.33 |
| North Dakota | **484** | 483 | 1.00 | 478 | 0.99 | 477 | 0.99 | 474 | 0.98 | 279 | 0.58 |
| Northern Mariana Isl | **11** | 10 | 0.98 | 10 | 0.98 | 10 | 0.98 | 5 | 0.45 | 2 | 0.18 |
| Ohio | **5,903** | 5,875 | 1.00 | 5,807 | 0.98 | 5,752 | 0.97 | 5,587 | 0.95 | 1,984 | 0.34 |
| Oklahoma | **2,057** | 2,043 | 0.99 | 1,998 | 0.97 | 1,946 | 0.95 | 1,802 | 0.88 | 789 | 0.38 |
| Oregon | **2,015** | 1,994 | 0.99 | 1,953 | 0.97 | 1,906 | 0.95 | 1,835 | 0.91 | 763 | 0.38 |
| Pennsylvania | **6,404** | 6,360 | 0.99 | 6,163 | 0.96 | 6,110 | 0.95 | 6,045 | 0.94 | 2,966 | 0.46 |
| Puerto Rico | **1,613** | 1,610 | 1.00 | 1,605 | 0.99 | 1,602 | 0.99 | 1,568 | 0.97 | 794 | 0.49 |
| Rhode Island | **534** | 534 | 1.00 | 531 | 0.99 | 531 | 0.99 | 530 | 0.99 | 406 | 0.76 |
| South Carolina | **2,714** | 2,694 | 0.99 | 2,609 | 0.96 | 2,574 | 0.95 | 2,478 | 0.91 | 914 | 0.34 |
| South Dakota | **511** | 509 | 1.00 | 495 | 0.97 | 487 | 0.95 | 468 | 0.91 | 129 | 0.25 |
| Tennessee | **3,423** | 3,388 | 0.99 | 3,306 | 0.97 | 3,240 | 0.95 | 3,161 | 0.92 | 1,788 | 0.52 |
| Texas | **13,314** | 13,244 | 0.99 | 12,901 | 0.97 | 12,769 | 0.96 | 12,260 | 0.92 | 6,104 | 0.46 |
| Utah | **1,324** | 1,319 | 1.00 | 1,309 | 0.99 | 1,298 | 0.98 | 1,269 | 0.96 | 715 | 0.54 |
| Vermont | **372** | 372 | 1.00 | 349 | 0.94 | 337 | 0.91 | 303 | 0.82 | 135 | 0.36 |
| Virgin Islands | **33** | 33 | 0.99 | 33 | 0.99 | 33 | 0.99 | 33 | 0.99 | 0 | 0.00 |
| Virginia | **4,096** | 4,035 | 0.99 | 3,879 | 0.95 | 3,824 | 0.93 | 3,747 | 0.91 | 1,863 | 0.45 |
| Washington | **3,515** | 3,488 | 0.99 | 3,411 | 0.97 | 3,323 | 0.95 | 3,186 | 0.91 | 987 | 0.28 |
| West Virginia | **1,039** | 978 | 0.94 | 884 | 0.85 | 774 | 0.75 | 704 | 0.68 | 165 | 0.16 |
| Wisconsin | **3,177** | 3,149 | 0.99 | 3,066 | 0.97 | 2,968 | 0.93 | 2,764 | 0.87 | 968 | 0.30 |
| Wyoming | **320** | 313 | 0.98 | 305 | 0.95 | 300 | 0.94 | 276 | 0.86 | 62 | 0.19 |
| Total | **160,114** | 158,925 | 0.99 | 155,184 | 0.97 | 152,980 | 0.96 | 148,021 | 0.92 | 64,059 | 0.40 |

# = Rounds to Zero.

Note: Satellite services are excluded from this analysis. Numbers may not sum to totals due to rounding.

Source: FCC Broadband Data Collection.

**Figure 10**

**Availability of Mobile Broadband by State as of December 31, 2022**

**(Units in thousands)**

|  | | *At least 3G (200 Kbps Down and 50 Kbps Up)* | | *At least 4G LTE (5 Mbps Down and 1 Mbps Up)* | | *At least 5G-NR (7 Mbps Down and 1 Mbps Up)* | | *At least 5G-NR (35 Mbps Down and 3 Mbps Up)* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Units* | *Units* | *Ratio* | *Units* | *Ratio* | *Units* | *Ratio* | *Units* | *Ratio* |
| Alabama | **2,706** | 2,696 | 1.00 | 2,696 | 1.00 | 2,558 | 0.95 | 2,250 | 0.83 |
| Alaska | **381** | 365 | 0.96 | 352 | 0.92 | 293 | 0.77 | 228 | 0.60 |
| American Samoa | **9** | 9 | 1.00 | 9 | 0.99 | 0 | 0.00 | 0 | 0.00 |
| Arizona | **3,359** | 3,351 | 1.00 | 3,350 | 1.00 | 3,267 | 0.97 | 3,216 | 0.96 |
| Arkansas | **1,649** | 1,624 | 0.98 | 1,624 | 0.98 | 1,522 | 0.92 | 1,302 | 0.79 |
| California | **15,703** | 15,638 | 1.00 | 15,637 | 1.00 | 15,530 | 0.99 | 15,271 | 0.97 |
| Colorado | **2,750** | 2,727 | 0.99 | 2,724 | 0.99 | 2,624 | 0.95 | 2,516 | 0.91 |
| Connecticut | **1,679** | 1,672 | 1.00 | 1,672 | 1.00 | 1,639 | 0.98 | 1,506 | 0.90 |
| Delaware | **510** | 507 | 0.99 | 507 | 0.99 | 505 | 0.99 | 482 | 0.94 |
| District of Columbia | **366** | 366 | 1.00 | 366 | 1.00 | 366 | 1.00 | 366 | 1.00 |
| Florida | **10,992** | 10,910 | 0.99 | 10,910 | 0.99 | 10,849 | 0.99 | 10,442 | 0.95 |
| Georgia | **4,960** | 4,947 | 1.00 | 4,947 | 1.00 | 4,731 | 0.95 | 4,290 | 0.86 |
| Guam | **38** | 37 | 0.99 | 37 | 0.99 | 21 | 0.56 | 16 | 0.44 |
| Hawaii | **601** | 592 | 0.98 | 592 | 0.98 | 584 | 0.97 | 557 | 0.93 |
| Idaho | **883** | 868 | 0.98 | 868 | 0.98 | 829 | 0.94 | 745 | 0.84 |
| Illinois | **6,164** | 6,158 | 1.00 | 6,158 | 1.00 | 6,056 | 0.98 | 5,724 | 0.93 |
| Indiana | **3,329** | 3,324 | 1.00 | 3,324 | 1.00 | 3,251 | 0.98 | 2,915 | 0.88 |
| Iowa | **1,677** | 1,673 | 1.00 | 1,672 | 1.00 | 1,537 | 0.92 | 1,313 | 0.78 |
| Kansas | **1,508** | 1,507 | 1.00 | 1,507 | 1.00 | 1,416 | 0.94 | 1,284 | 0.85 |
| Kentucky | **2,318** | 2,260 | 0.98 | 2,255 | 0.97 | 1,988 | 0.86 | 1,681 | 0.73 |
| Louisiana | **2,373** | 2,369 | 1.00 | 2,369 | 1.00 | 2,295 | 0.97 | 2,049 | 0.86 |
| Maine | **821** | 796 | 0.97 | 796 | 0.97 | 705 | 0.86 | 508 | 0.62 |
| Maryland | **2,733** | 2,713 | 0.99 | 2,713 | 0.99 | 2,699 | 0.99 | 2,568 | 0.94 |
| Massachusetts | **3,327** | 3,305 | 0.99 | 3,305 | 0.99 | 3,263 | 0.98 | 3,057 | 0.92 |
| Michigan | **5,192** | 5,151 | 0.99 | 5,151 | 0.99 | 4,960 | 0.96 | 4,437 | 0.85 |
| Minnesota | **2,800** | 2,787 | 1.00 | 2,787 | 1.00 | 2,690 | 0.96 | 2,386 | 0.85 |
| Mississippi | **1,587** | 1,584 | 1.00 | 1,580 | 1.00 | 1,355 | 0.85 | 1,089 | 0.69 |
| Missouri | **3,146** | 3,130 | 0.99 | 3,130 | 0.99 | 3,030 | 0.96 | 2,742 | 0.87 |
| Montana | **621** | 600 | 0.97 | 599 | 0.96 | 560 | 0.90 | 487 | 0.78 |
| Nebraska | **1,003** | 1,001 | 1.00 | 1,000 | 1.00 | 737 | 0.73 | 672 | 0.67 |

**Figure 10 - Continued**

**Availability of Mobile Broadband by State as of December 31, 2022**

**(Units in thousands)**

|  | | *At least 3G (200 Kbps Down and 50 Kbps Up)* | | *At least 4G LTE (5 Mbps Down and 1 Mbps Up)* | | *At least 5G-NR (7 Mbps Down and 1 Mbps Up)* | | *At least 5G-NR (35 Mbps Down and 3 Mbps Up)* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Units* | *Units* | *Ratio* | *Units* | *Ratio* | *Units* | *Ratio* | *Units* | *Ratio* |
| Nevada | **1,401** | 1,400 | 1.00 | 1,399 | 1.00 | 1,391 | 0.99 | 1,376 | 0.98 |
| New Hampshire | **718** | 715 | 0.99 | 715 | 0.99 | 611 | 0.85 | 471 | 0.66 |
| New Jersey | **4,249** | 4,232 | 1.00 | 4,232 | 1.00 | 4,218 | 0.99 | 4,116 | 0.97 |
| New Mexico | **1,074** | 1,061 | 0.99 | 1,058 | 0.98 | 1,019 | 0.95 | 933 | 0.87 |
| New York | **9,235** | 9,167 | 0.99 | 9,167 | 0.99 | 8,968 | 0.97 | 8,551 | 0.93 |
| North Carolina | **5,393** | 5,344 | 0.99 | 5,335 | 0.99 | 5,065 | 0.94 | 4,523 | 0.84 |
| North Dakota | **484** | 482 | 1.00 | 482 | 1.00 | 447 | 0.92 | 360 | 0.74 |
| Northern Mariana Isl | **11** | 10 | 0.99 | 10 | 0.98 | # | 0.01 | # | 0.00 |
| Ohio | **5,903** | 5,866 | 0.99 | 5,866 | 0.99 | 5,780 | 0.98 | 5,384 | 0.91 |
| Oklahoma | **2,057** | 2,053 | 1.00 | 2,052 | 1.00 | 1,985 | 0.97 | 1,806 | 0.88 |
| Oregon | **2,015** | 1,987 | 0.99 | 1,987 | 0.99 | 1,918 | 0.95 | 1,793 | 0.89 |
| Pennsylvania | **6,404** | 6,351 | 0.99 | 6,351 | 0.99 | 6,186 | 0.97 | 5,785 | 0.90 |
| Puerto Rico | **1,613** | 1,611 | 1.00 | 1,610 | 1.00 | 1,607 | 1.00 | 1,605 | 0.99 |
| Rhode Island | **534** | 530 | 0.99 | 530 | 0.99 | 527 | 0.99 | 487 | 0.91 |
| South Carolina | **2,714** | 2,705 | 1.00 | 2,705 | 1.00 | 2,579 | 0.95 | 2,327 | 0.86 |
| South Dakota | **511** | 506 | 0.99 | 506 | 0.99 | 481 | 0.94 | 413 | 0.81 |
| Tennessee | **3,423** | 3,378 | 0.99 | 3,378 | 0.99 | 3,187 | 0.93 | 2,859 | 0.84 |
| Texas | **13,314** | 13,290 | 1.00 | 13,288 | 1.00 | 13,095 | 0.98 | 12,380 | 0.93 |
| Utah | **1,324** | 1,319 | 1.00 | 1,319 | 1.00 | 1,311 | 0.99 | 1,289 | 0.97 |
| Vermont | **372** | 358 | 0.96 | 358 | 0.96 | 262 | 0.70 | 191 | 0.51 |
| Virgin Islands | **33** | 33 | 1.00 | 33 | 1.00 | 31 | 0.95 | 31 | 0.95 |
| Virginia | **4,096** | 4,043 | 0.99 | 4,043 | 0.99 | 3,825 | 0.93 | 3,426 | 0.84 |
| Washington | **3,515** | 3,472 | 0.99 | 3,472 | 0.99 | 3,393 | 0.97 | 3,179 | 0.90 |
| West Virginia | **1,039** | 915 | 0.88 | 915 | 0.88 | 822 | 0.79 | 660 | 0.64 |
| Wisconsin | **3,177** | 3,145 | 0.99 | 3,144 | 0.99 | 2,854 | 0.90 | 2,485 | 0.78 |
| Wyoming | **320** | 316 | 0.99 | 315 | 0.98 | 273 | 0.85 | 224 | 0.70 |
| Total | **160,114** | 158,959 | 0.99 | 158,909 | 0.99 | 153,698 | 0.96 | 142,753 | 0.89 |

# = Rounds to Zero.

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

Source: FCC Broadband Data Collection.

**Figure 11**

**Connections over 200 kbps in at Least One Direction 2018-2022**

**(in thousands)**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 451,060 | 459,350 | 466,320 | 480,200 | 490,890 | 500,260 | 510,200 | 518,230 | 527,297 |
| Mobile | 340,280 | 346,600 | 352,010 | 361,740 | 369,640 | 376,840 | 384,420 | 391,876 | 399,258 |
| Fixed | 110,780 | 112,740 | 114,310 | 118,460 | 121,250 | 123,430 | 125,780 | 126,354 | 128,038 |

Note: Some previously-published data may have been revised. Numbers may not sum to totals due to rounding.

Source: FCC Form 477.

**Figure 12**

**Residential Connections over 200 kbps in at Least One Direction 2018-2022**

**(in thousands)**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 378,290 | 383,620 | 388,360 | 403,230 | 407,650 | 415,260 | 436,580 | 442,439 | 448,601 |
| Mobile | 276,940 | 280,490 | 283,640 | 294,300 | 296,030 | 301,680 | 320,780 | 325,832 | 330,065 |
| Fixed | 101,350 | 103,130 | 104,720 | 108,920 | 111,620 | 113,580 | 115,790 | 116,608 | 118,536 |

Note: Some previously-published data may have been revised. Numbers may not sum to totals due to rounding.

Source: FCC Form 477.



**Figure 14**

**Distribution of Fixed Connections over 200 kbps in at Least One Direction as of December 31, 2022**

|  | *Downstream Speed* | | | | |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Upstream Speed* | *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 and less than 940 Mbps* | *At least 940 Mbps* | *Total* |
| Less than 1 Mbps | 3,061 | 672 | # | 0 | # | 3,733 |
| At least 1 Mbps & Less than 3 Mbps | 1,512 | 4,292 | 559 | 1 | # | 6,364 |
| At least 3 Mbps & Less than 20 Mbps | 129 | 1,563 | 16,345 | 36,791 | 1,804 | 56,632 |
| At least 20 Mbps & Less than 500 Mbps | # | 60 | 2,854 | 31,339 | 12,663 | 46,916 |
| At least 500 Mbps | 0 | # | 1 | 3,167 | 11,225 | 14,393 |
| Total | 4,702 | 6,587 | 19,759 | 71,298 | 25,692 | 128,038 |

Percentages

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Less than 1 Mbps | 2.4 | 0.5 | 0.0 | 0.0 | 0.0 | 2.9 |
| At least 1 Mbps & Less than 3 Mbps | 1.2 | 3.4 | 0.4 | 0.0 | 0.0 | 5.0 |
| At least 3 Mbps & Less than 20 Mbps | 0.1 | 1.2 | 12.8 | 28.7 | 1.4 | 44.2 |
| At least 20 Mbps & Less than 500 Mbps | 0.0 | 0.0 | 2.2 | 24.5 | 9.9 | 36.6 |
| At least 500 Mbps | 0.0 | 0.0 | 0.0 | 2.5 | 8.8 | 11.2 |
| Total | 3.7 | 5.1 | 15.4 | 55.7 | 20.1 | 100.0 |

# = Rounds to zero.

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

Source: FCC Form 477.

**Figure 15**

**Distribution of Residential Fixed Connections over 200 kbps in at Least One Direction as of December 31, 2022**

|  | *Downstream Speed* | | | | |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Upstream Speed* | *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 and less than 940 Mbps* | *At least 940 Mbps* | *Total* |
| Less than 1 Mbps | 2,578 | 626 | # | 0 | # | 3,204 |
| At least 1 Mbps & Less than 3 Mbps | 1,343 | 3,819 | 508 | 1 | # | 5,671 |
| At least 3 Mbps & Less than 20 Mbps | 103 | 1,381 | 14,589 | 34,854 | 1,803 | 52,730 |
| At least 20 Mbps & Less than 500 Mbps | # | 24 | 2,436 | 28,443 | 12,270 | 43,174 |
| At least 500 Mbps | 0 | # | 1 | 3,057 | 10,700 | 13,758 |
| Total | 4,024 | 5,850 | 17,534 | 66,355 | 24,774 | 118,536 |

Percentages

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Less than 1 Mbps | 2.2 | 0.5 | 0.0 | 0.0 | 0.0 | 2.7 |
| At least 1 Mbps & Less than 3 Mbps | 1.1 | 3.2 | 0.4 | 0.0 | 0.0 | 4.8 |
| At least 3 Mbps & Less than 20 Mbps | 0.1 | 1.2 | 12.3 | 29.4 | 1.5 | 44.5 |
| At least 20 Mbps & Less than 500 Mbps | 0.0 | 0.0 | 2.1 | 24.0 | 10.4 | 36.4 |
| At least 500 Mbps | 0.0 | 0.0 | 0.0 | 2.6 | 9.0 | 11.6 |
| Total | 3.4 | 4.9 | 14.8 | 56.0 | 20.9 | 100.0 |

# = Rounds to zero.

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

Source: FCC Form 477.

**Figure 16**

**Connections over 200 kbps in at Least One Direction by Technology 2018-2022**

**(in thousands)**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 451,060 | 459,350 | 466,320 | 480,200 | 490,890 | 500,260 | 510,200 | 518,230 | 527,297 |
| Mobile | 340,280 | 346,600 | 352,010 | 361,740 | 369,640 | 376,840 | 384,420 | 391,876 | 399,258 |
| Fixed | 110,780 | 112,740 | 114,310 | 118,460 | 121,250 | 123,430 | 125,780 | 126,354 | 128,038 |
| Copper Wire1 | 22,953 | 21,681 | 20,755 | 20,174 | 19,327 | 18,620 | 17,412 | 15,644 | 14,712 |
| Coaxial Cable | 68,882 | 70,750 | 72,516 | 75,986 | 77,909 | 79,330 | 80,232 | 80,022 | 80,110 |
| Optical Carrier | 15,492 | 16,748 | 17,376 | 18,459 | 19,945 | 21,120 | 23,338 | 24,984 | 26,343 |
| Satellite | 1,971 | 1,984 | 1,975 | 1,993 | 1,931 | 1,910 | 1,873 | 2,031 | 2,039 |
| Fixed Wireless | 1,485 | 1,580 | 1,687 | 1,853 | 2,140 | 2,445 | 2,923 | 3,672 | 4,834 |
| Licensed | - | - | - | - | - | - | - | 1,954 | 3,213 |
| Unlicensed | - | - | - | - | - | - | - | 1,718 | 1,621 |

1 Power Line and Other are summarized with Copper Wire for confidentiality reasons. See Technical Notes at the end of the report for a description of FCC

Form 477 technology categories and other reporting requirements.

\* = Data withheld for confidentiality reasons. # = Rounds to zero. - = Data was not collected.

Note: Some previously-published data may have been revised. Numbers may not sum to totals due to rounding.

Source: FCC Form 477.



**Figure 18**

**Residential Connections over 200 kbps in at Least One Direction by Technology 2018-2022**

**(in thousands)**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 378,290 | 383,620 | 388,360 | 403,230 | 407,650 | 415,260 | 436,580 | 442,439 | 448,601 |
| Mobile | 276,940 | 280,490 | 283,640 | 294,300 | 296,030 | 301,680 | 320,780 | 325,832 | 330,065 |
| Fixed | 101,350 | 103,130 | 104,720 | 108,920 | 111,620 | 113,580 | 115,790 | 116,608 | 118,536 |
| Copper Wire1 | 20,206 | 19,041 | 18,237 | 17,718 | 16,983 | 16,344 | 15,269 | 13,978 | 13,101 |
| Coaxial Cable | 63,813 | 65,457 | 67,141 | 70,710 | 72,543 | 73,844 | 74,599 | 74,442 | 74,533 |
| Optical Carrier | 14,205 | 15,410 | 16,011 | 16,986 | 18,384 | 19,414 | 21,531 | 22,941 | 24,456 |
| Satellite | 1,787 | 1,805 | 1,795 | 1,815 | 1,752 | 1,728 | 1,692 | 1,841 | 1,949 |
| Fixed Wireless | 1,338 | 1,421 | 1,535 | 1,694 | 1,959 | 2,251 | 2,701 | 3,406 | 4,498 |
| Licensed | - | - | - | - | - | - | - | 1,841 | 3,022 |
| Unlicensed | - | - | - | - | - | - | - | 1,565 | 1,476 |

1 Power Line and Other are summarized with Copper Wire for confidentiality reasons. See Technical Notes at the end of the report for a description of FCC

Form 477 technology categories and other reporting requirements.

\* = Data withheld for confidentiality reasons. # = Rounds to zero. - = Data was not collected.

Note: Some previously-published data may have been revised. Numbers may not sum to totals due to rounding.

Source: FCC Form 477.



**Figure 20**

**Fixed Connections at Least 10 Mbps Downstream and 1 Mbps Upstream by Technology 2018-2022**

**(in thousands)**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 97,302 | 100,480 | 103,610 | 109,180 | 112,450 | 115,770 | 118,770 | 120,370 | 122,664 |
| Copper Wire1 | 12,335 | 12,094 | 12,011 | 12,735 | 12,086 | 12,347 | 11,681 | 10,683 | 10,318 |
| Coaxial Cable | 67,716 | 69,704 | 71,934 | 75,391 | 77,513 | 79,035 | 79,956 | 79,676 | 79,819 |
| Optical Carrier | 14,815 | 16,078 | 16,854 | 18,008 | 19,555 | 20,813 | 23,058 | 24,820 | 26,198 |
| Satellite | 1,677 | 1,726 | 1,737 | 1,778 | 1,727 | 1,717 | 1,700 | 1,863 | 1,935 |
| Fixed Wireless | 759 | 879 | 1,078 | 1,263 | 1,564 | 1,860 | 2,379 | 3,328 | 4,396 |
| Licensed | - | - | - | - | - | - | - | 1,907 | 3,052 |
| Unlicensed | - | - | - | - | - | - | - | 1,421 | 1,344 |

1 Power Line and Other are summarized with Copper Wire for confidentiality reasons. See Technical Notes at the end of the report for a description of FCC

Form 477 technology categories and other reporting requirements.

\* = Data withheld for confidentiality reasons. # = Rounds to zero. - = Data was not collected.

Note: Some previously-published data may have been revised. Numbers may not sum to totals due to rounding.

Source: FCC Form 477.



**Figure 22**

**Residential Fixed Connections at Least 10 Mbps Downstream and 1 Mbps Upstream by Technology 2018-2022**

**(in thousands)**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 89,873 | 92,714 | 95,665 | 101,220 | 104,200 | 107,210 | 109,980 | 111,497 | 113,886 |
| Copper Wire1 | 11,143 | 10,871 | 10,754 | 11,440 | 10,818 | 11,066 | 10,441 | 9,652 | 9,273 |
| Coaxial Cable | 62,810 | 64,556 | 66,691 | 70,299 | 72,215 | 73,611 | 74,386 | 74,147 | 74,295 |
| Optical Carrier | 13,589 | 14,800 | 15,536 | 16,581 | 18,042 | 19,145 | 21,286 | 22,803 | 24,344 |
| Satellite | 1,655 | 1,702 | 1,708 | 1,745 | 1,691 | 1,676 | 1,656 | 1,806 | 1,884 |
| Fixed Wireless | 676 | 784 | 975 | 1,151 | 1,434 | 1,714 | 2,206 | 3,090 | 4,091 |
| Licensed | - | - | - | - | - | - | - | 1,798 | 2,871 |
| Unlicensed | - | - | - | - | - | - | - | 1,291 | 1,220 |

1 Power Line and Other are summarized with Copper Wire for confidentiality reasons. See Technical Notes at the end of the report for a description of FCC

Form 477 technology categories and other reporting requirements.

\* = Data withheld for confidentiality reasons. # = Rounds to zero. - = Data was not collected.

Note: Some previously-published data may have been revised. Numbers may not sum to totals due to rounding.

Source: FCC Form 477.



**Figure 24**

**Fixed Connections at Least 25 Mbps Downstream and 3 Mbps Upstream by Technology 2018-2022**

**(in thousands)**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 82,965 | 86,763 | 90,490 | 97,000 | 101,630 | 106,790 | 110,630 | 113,048 | 116,189 |
| Copper Wire1 | \* | \* | \* | \* | \* | 6,688 | 6,538 | 6,010 | 6,089 |
| Coaxial Cable | 62,880 | 64,938 | 67,171 | 71,856 | 74,169 | 77,502 | 78,656 | 78,599 | 78,985 |
| Optical Carrier | 13,605 | 14,902 | 15,866 | 17,091 | 18,840 | 20,171 | 22,459 | 24,282 | 25,761 |
| Satellite | \* | \* | \* | \* | \* | 1,328 | 1,353 | 1,552 | 1,685 |
| Fixed Wireless | 267 | 343 | 468 | 571 | 805 | 1,105 | 1,620 | 2,605 | 3,669 |
| Licensed | - | - | - | - | - | - | - | 1,797 | 2,801 |
| Unlicensed | - | - | - | - | - | - | - | 808 | 868 |

1 Power Line and Other are summarized with Copper Wire for confidentiality reasons. See Technical Notes at the end of the report for a description of FCC

Form 477 technology categories and other reporting requirements.

\* = Data withheld for confidentiality reasons. # = Rounds to zero. - = Data was not collected.

Note: Some previously-published data may have been revised. Numbers may not sum to totals due to rounding.

Source: FCC Form 477.



**Figure 26**

**Residential Fixed Connections at Least 25 Mbps Downstream and 3 Mbps Upstream by Technology 2018-2022**

**(in thousands)**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 76,873 | 80,272 | 83,740 | 90,185 | 94,451 | 99,254 | 102,800 | 104,994 | 108,154 |
| Copper Wire1 | \* | \* | \* | \* | \* | 6,068 | 5,930 | 5,511 | 5,541 |
| Coaxial Cable | 58,342 | 60,125 | 62,231 | 67,017 | 69,098 | 72,268 | 73,262 | 73,214 | 73,556 |
| Optical Carrier | 12,546 | 13,780 | 14,690 | 15,796 | 17,445 | 18,615 | 20,795 | 22,354 | 23,999 |
| Satellite | \* | \* | \* | \* | \* | 1,288 | 1,311 | 1,497 | 1,637 |
| Fixed Wireless | 234 | 299 | 415 | 512 | 727 | 1,015 | 1,506 | 2,417 | 3,420 |
| Licensed | - | - | - | - | - | - | - | 1,698 | 2,637 |
| Unlicensed | - | - | - | - | - | - | - | 719 | 784 |

1 Power Line and Other are summarized with Copper Wire for confidentiality reasons. See Technical Notes at the end of the report for a description of FCC

Form 477 technology categories and other reporting requirements.

\* = Data withheld for confidentiality reasons. # = Rounds to zero. - = Data was not collected.

Note: Some previously-published data may have been revised. Numbers may not sum to totals due to rounding.

Source: FCC Form 477.



**Figure 28**

**Fixed Connections at Least 100 Mbps Downstream and 20 Mbps Upstream by Technology 2018-2022**

**(in thousands)**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 18,750 | 22,236 | 25,621 | 29,570 | 34,493 | 38,563 | 43,352 | 52,836 | 58,395 |
| Copper Wire1 | 404 | 566 | \* | \* | \* | \* | \* | \* | \* |
| Coaxial Cable | 9,466 | 11,426 | 13,088 | 15,496 | 18,420 | 20,924 | 23,298 | 29,953 | 33,391 |
| Optical Carrier | 8,815 | 10,146 | 11,634 | 13,086 | 14,933 | 16,373 | 18,705 | 20,982 | 23,000 |
| Satellite | 0 | 0 | \* | \* | \* | \* | \* | \* | \* |
| Fixed Wireless | 65 | 97 | 119 | 116 | 143 | 180 | 239 | 500 | 880 |
| Licensed | - | - | - | - | - | - | - | 302 | 675 |
| Unlicensed | - | - | - | - | - | - | - | 198 | 205 |

1 Power Line and Other are summarized with Copper Wire for confidentiality reasons. See Technical Notes at the end of the report for a description of FCC

Form 477 technology categories and other reporting requirements.

\* = Data withheld for confidentiality reasons. # = Rounds to zero. - = Data was not collected.

Note: Some previously-published data may have been revised. Numbers may not sum to totals due to rounding.

Source: FCC Form 477.



**Figure 30**

**Residential Fixed Connections at Least 100 Mbps Downstream and 20 Mbps Upstream by Technology 2018-2022**

**(in thousands)**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 17,101 | 20,338 | 23,485 | 27,179 | 31,773 | 35,456 | 39,921 | 49,009 | 54,471 |
| Copper Wire1 | 241 | 371 | \* | \* | \* | \* | \* | \* | \* |
| Coaxial Cable | 8,512 | 10,312 | 11,883 | 14,157 | 16,843 | 19,128 | 21,298 | 27,827 | 31,087 |
| Optical Carrier | 8,292 | 9,574 | 10,952 | 12,303 | 14,055 | 15,329 | 17,537 | 19,508 | 21,672 |
| Satellite | 0 | 0 | \* | \* | \* | \* | \* | \* | \* |
| Fixed Wireless | 56 | 80 | 102 | 98 | 118 | 158 | 215 | 450 | 801 |
| Licensed | - | - | - | - | - | - | - | 277 | 616 |
| Unlicensed | - | - | - | - | - | - | - | 174 | 185 |

1 Power Line and Other are summarized with Copper Wire for confidentiality reasons. See Technical Notes at the end of the report for a description of FCC

Form 477 technology categories and other reporting requirements.

\* = Data withheld for confidentiality reasons. # = Rounds to zero. - = Data was not collected.

Note: Some previously-published data may have been revised. Numbers may not sum to totals due to rounding.

Source: FCC Form 477.





**Figure 33**

**Fixed Connections by Downstream Speed Tier and Technology as of December 31, 2022**

**(in thousands)**

|  | *Downstream Speed* | | | | |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *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 and less than 940 Mbps* | *At least 940 Mbps* | *Total* |
| Total | 4,702 | 6,587 | 19,759 | 71,298 | 25,692 | 128,038 |
| Copper Wire1 | 3,737 | 4,410 | 5,221 | 1,235 | 109 | 14,712 |
| Coaxial Cable | 285 | 776 | 8,003 | 56,997 | 14,049 | 80,110 |
| Optical Carrier | 139 | 427 | 2,581 | 11,776 | 11,421 | 26,343 |
| Satellite | \* | \* | \* | \* | 0 | 2,039 |
| Fixed Wireless | \* | \* | \* | \* | 113 | 4,834 |

Percentages

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Total | 3.7 | 5.1 | 15.4 | 55.7 | 20.1 | 100.0 |
| Copper Wire1 | 2.9 | 3.4 | 4.1 | 1.0 | 0.1 | 11.5 |
| Coaxial Cable | 0.2 | 0.6 | 6.3 | 44.5 | 11.0 | 62.6 |
| Optical Carrier | 0.1 | 0.3 | 2.0 | 9.2 | 8.9 | 20.6 |
| Satellite | \* | \* | \* | \* | 0.0 | 1.6 |
| Fixed Wireless | \* | \* | \* | \* | 0.1 | 3.8 |

1 Other is summarized with Copper Wire for confidentiality reasons.

\* = Data withheld for confidentiality reasons. # = Rounds to Zero.

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

Source: FCC Form 477.

**Figure 34**

**Residential Fixed Connections by Downstream Speed Tier and Technology as of December 31, 2022**

**(in thousands)**

|  | *Downstream Speed* | | | | |  |
| --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *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 and less than 940 Mbps* | *At least 940 Mbps* | *Total* |
| Total | 4,024 | 5,850 | 17,534 | 66,355 | 24,774 | 118,536 |
| Copper Wire1 | 3,213 | 3,917 | 4,853 | 1,090 | 28 | 13,101 |
| Coaxial Cable | 233 | 683 | 6,778 | 53,164 | 13,674 | 74,533 |
| Optical Carrier | 108 | 336 | 2,160 | 10,890 | 10,963 | 24,456 |
| Satellite | \* | \* | 1,152 | \* | 0 | 1,949 |
| Fixed Wireless | \* | \* | 2,590 | \* | 108 | 4,498 |

Percentages

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Total | 3.4 | 4.9 | 14.8 | 56.0 | 20.9 | 100.0 |
| Copper Wire1 | 2.7 | 3.3 | 4.1 | 0.9 | 0.0 | 11.1 |
| Coaxial Cable | 0.2 | 0.6 | 5.7 | 44.9 | 11.5 | 62.9 |
| Optical Carrier | 0.1 | 0.3 | 1.8 | 9.2 | 9.2 | 20.6 |
| Satellite | \* | \* | 1.0 | \* | 0.0 | 1.6 |
| Fixed Wireless | \* | \* | 2.2 | \* | 0.1 | 3.8 |

1 Other is summarized with Copper Wire for confidentiality reasons.

\* = Data withheld for confidentiality reasons. # = Rounds to Zero.

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

Source: FCC Form 477.













**Figure 41**

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

**by Technology 2018-2022**

|  | *2018* | *2019* | | *2020* | | *2021* | | *2022* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* | *Jun* | *Dec* |
| Total | 2,215 | 2,224 | 2,248 | 2,281 | 2,382 | 2,392 | 2,384 | 2,252 | 2,282 |
| Mobile | 71 | 70 | 67 | 64 | 64 | 63 | 62 | 58 | 57 |
| Fixed | 2,195 | 2,203 | 2,230 | 2,266 | 2,371 | 2,378 | 2,371 | 2,243 | 2,273 |
| Copper Wire1 | 852 | 827 | 803 | 797 | 773 | 755 | 743 | 594 | 570 |
| Coaxial Cable | 381 | 381 | 373 | 365 | 368 | 362 | 352 | 311 | 305 |
| Optical Carrier | 1,269 | 1,310 | 1,331 | 1,380 | 1,442 | 1,477 | 1,505 | 1,475 | 1,519 |
| Satellite | 5 | 5 | 5 | 5 | 6 | 6 | 5 | 4 | 4 |
| Fixed Wireless | 1,239 | 1,249 | 1,281 | 1,313 | 1,397 | 1,383 | 1,359 | 1,237 | 1,247 |
| Licensed | - | - | - | - | - | - | - | 299 | 357 |
| Unlicensed | - | - | - | - | - | - | - | 1,133 | 1,135 |

1 Prior to June 2022, Power Line is summarized with Other for confidentiality reasons.

\* = 1 - 3 providers. - = Data not collected.

Note: Multiple FCC Form 477 filers within a holding company structure count as one provider. Some previously-published data may have been revised.

Source: FCC Form 477.



**Figure 43**

**Residential Fixed Connections and Households by State as of December 31, 2022**

**(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 20 Mbps Up* | | *At least 940 Mbps Down and 500 Mbps Up* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Households* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* |
| Alabama | **1,933** | 1,690 | 0.87 | 1,575 | 0.81 | 1,464 | 0.76 | 714 | 0.37 | 167 | 0.09 |
| Alaska | **264** | 242 | 0.92 | 229 | 0.87 | 187 | 0.71 | \* | \* | 1 | 0.00 |
| American Samoa | **10** | \* | \* | \* | \* | \* | \* | 0 | 0.00 | 0 | 0.00 |
| Arizona | **2,739** | 2,609 | 0.95 | 2,498 | 0.91 | 2,348 | 0.86 | 746 | 0.27 | 89 | 0.03 |
| Arkansas | **1,172** | 992 | 0.85 | 896 | 0.76 | 801 | 0.68 | 402 | 0.34 | 76 | 0.06 |
| California | **13,316** | 12,855 | 0.97 | 12,503 | 0.94 | 11,922 | 0.90 | 5,132 | 0.39 | 760 | 0.06 |
| Colorado | **2,278** | 2,255 | 0.99 | 2,181 | 0.96 | 2,061 | 0.90 | 798 | 0.35 | 130 | 0.06 |
| Connecticut | **1,410** | 1,300 | 0.92 | 1,274 | 0.90 | 1,210 | 0.86 | 721 | 0.51 | 62 | 0.04 |
| Delaware | **389** | 334 | 0.86 | 332 | 0.85 | 331 | 0.85 | 207 | 0.53 | \* | \* |
| District of Columbia | **316** | 277 | 0.88 | 273 | 0.87 | 272 | 0.86 | 180 | 0.57 | \* | \* |
| Florida | **8,353** | 8,778 | 1.05 | 8,546 | 1.02 | 8,280 | 0.99 | 4,093 | 0.49 | 613 | 0.07 |
| Georgia | **3,946** | 3,725 | 0.94 | 3,561 | 0.90 | 3,370 | 0.85 | 1,890 | 0.48 | 462 | 0.12 |
| Guam | **42** | 37 | 0.87 | 34 | 0.82 | \* | \* | \* | \* | 0 | 0.00 |
| Hawaii | **484** | 501 | 1.04 | 492 | 1.02 | 476 | 0.98 | \* | \* | \* | \* |
| Idaho | **675** | 620 | 0.92 | 573 | 0.85 | 487 | 0.72 | 295 | 0.44 | 28 | 0.04 |
| Illinois | **4,969** | 4,353 | 0.88 | 4,199 | 0.84 | 3,950 | 0.80 | 1,943 | 0.39 | 188 | 0.04 |
| Indiana | **2,654** | 2,343 | 0.88 | 2,213 | 0.83 | 2,062 | 0.78 | 1,047 | 0.39 | 199 | 0.07 |
| Iowa | **1,290** | 1,100 | 0.85 | 1,028 | 0.80 | 924 | 0.72 | 638 | 0.49 | 59 | 0.05 |
| Kansas | **1,149** | 1,017 | 0.89 | 969 | 0.84 | 899 | 0.78 | 452 | 0.39 | 151 | 0.13 |
| Kentucky | **1,769** | 1,569 | 0.89 | 1,471 | 0.83 | 1,355 | 0.77 | 681 | 0.38 | 125 | 0.07 |
| Louisiana | **1,765** | 1,493 | 0.85 | 1,393 | 0.79 | 1,286 | 0.73 | 538 | 0.30 | 113 | 0.06 |
| Maine | **580** | 590 | 1.02 | 554 | 0.95 | 491 | 0.85 | 115 | 0.20 | 2 | 0.00 |
| Maryland | **2,318** | 2,219 | 0.96 | 2,185 | 0.94 | 2,164 | 0.93 | 1,467 | 0.63 | \* | \* |
| Massachusetts | **2,741** | 2,667 | 0.97 | 2,625 | 0.96 | 2,612 | 0.95 | 1,516 | 0.55 | 331 | 0.12 |
| Michigan | **4,009** | 3,604 | 0.90 | 3,453 | 0.86 | 3,274 | 0.82 | 1,267 | 0.32 | 91 | 0.02 |
| Minnesota | **2,256** | 2,064 | 0.91 | 1,972 | 0.87 | 1,831 | 0.81 | 737 | 0.33 | 67 | 0.03 |
| Mississippi | **1,121** | 913 | 0.81 | 831 | 0.74 | 720 | 0.64 | 468 | 0.42 | 152 | 0.14 |
| Missouri | **2,458** | 2,163 | 0.88 | 1,999 | 0.81 | 1,816 | 0.74 | 977 | 0.40 | 236 | 0.10 |
| Montana | **444** | 418 | 0.94 | 388 | 0.87 | 343 | 0.77 | 81 | 0.18 | 9 | 0.02 |
| Nebraska | **776** | 697 | 0.90 | 669 | 0.86 | 626 | 0.81 | 275 | 0.35 | 41 | 0.05 |

**Figure 43 - Continued**

**Residential Fixed Connections and Households by State as of December 31, 2022**

**(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 20 Mbps Up* | | *At least 940 Mbps Down and 500 Mbps Up* | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Households* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* | *Connections* | *Subscribership Ratio* |
| Nevada | **1,164** | 1,120 | 0.96 | 1,086 | 0.93 | 1,040 | 0.89 | 339 | 0.29 | 47 | 0.04 |
| New Hampshire | **545** | 539 | 0.99 | 524 | 0.96 | 504 | 0.92 | 288 | 0.53 | 5 | 0.01 |
| New Jersey | **3,438** | 3,220 | 0.94 | 3,178 | 0.92 | 3,157 | 0.92 | 2,353 | 0.68 | \* | \* |
| New Mexico | **813** | 710 | 0.87 | 655 | 0.81 | 583 | 0.72 | 172 | 0.21 | 21 | 0.03 |
| New York | **7,605** | 6,966 | 0.92 | 6,892 | 0.91 | 6,708 | 0.88 | 4,092 | 0.54 | 1,004 | 0.13 |
| North Carolina | **4,105** | 4,141 | 1.01 | 3,884 | 0.95 | 3,712 | 0.90 | 1,761 | 0.43 | 376 | 0.09 |
| North Dakota | **320** | 290 | 0.91 | 285 | 0.89 | 279 | 0.87 | 255 | 0.80 | 10 | 0.03 |
| Northern Mariana Isl | **16** | \* | \* | \* | \* | \* | \* | 0 | 0.00 | 0 | 0.00 |
| Ohio | **4,789** | 4,303 | 0.90 | 4,122 | 0.86 | 3,868 | 0.81 | 1,630 | 0.34 | 157 | 0.03 |
| Oklahoma | **1,523** | 1,292 | 0.85 | 1,205 | 0.79 | 1,098 | 0.72 | 527 | 0.35 | 151 | 0.10 |
| Oregon | **1,681** | 1,576 | 0.94 | 1,510 | 0.90 | 1,435 | 0.85 | 524 | 0.31 | 76 | 0.04 |
| Pennsylvania | **5,194** | 4,703 | 0.91 | 4,499 | 0.87 | 4,432 | 0.85 | 2,756 | 0.53 | 564 | 0.11 |
| Puerto Rico | **1,220** | 750 | 0.61 | 680 | 0.56 | 566 | 0.46 | 168 | 0.14 | 9 | 0.01 |
| Rhode Island | **432** | 410 | 0.95 | 405 | 0.94 | 404 | 0.93 | 213 | 0.49 | \* | \* |
| South Carolina | **2,023** | 1,990 | 0.98 | 1,916 | 0.95 | 1,809 | 0.89 | 937 | 0.46 | 124 | 0.06 |
| South Dakota | **351** | 321 | 0.91 | 316 | 0.90 | 307 | 0.87 | 231 | 0.66 | 8 | 0.02 |
| Tennessee | **2,714** | 2,496 | 0.92 | 2,403 | 0.89 | 2,299 | 0.85 | 1,278 | 0.47 | 375 | 0.14 |
| Texas | **10,491** | 9,932 | 0.95 | 9,608 | 0.92 | 9,084 | 0.87 | 5,119 | 0.49 | 1,325 | 0.13 |
| Utah | **1,063** | 1,054 | 0.99 | 1,025 | 0.96 | 975 | 0.92 | 471 | 0.44 | 149 | 0.14 |
| Vermont | **266** | 322 | 1.21 | 270 | 1.02 | 237 | 0.89 | 113 | 0.42 | 15 | 0.06 |
| Virgin Islands | **43** | \* | \* | \* | \* | \* | \* | \* | \* | 0 | 0.00 |
| Virginia | **3,290** | 2,999 | 0.91 | 2,874 | 0.87 | 2,821 | 0.86 | 1,606 | 0.49 | 606 | 0.18 |
| Washington | **2,979** | 2,923 | 0.98 | 2,795 | 0.94 | 2,675 | 0.90 | 974 | 0.33 | 118 | 0.04 |
| West Virginia | **716** | 565 | 0.79 | 501 | 0.70 | 443 | 0.62 | 247 | 0.35 | 15 | 0.02 |
| Wisconsin | **2,425** | 2,220 | 0.92 | 2,083 | 0.86 | 1,894 | 0.78 | 620 | 0.26 | 64 | 0.03 |
| Wyoming | **234** | 222 | 0.95 | 209 | 0.89 | 194 | 0.83 | 49 | 0.21 | 4 | 0.02 |
| Total | **127,067** | 118,536 | 0.93 | 113,886 | 0.90 | 108,154 | 0.85 | 54,471 | 0.43 | 10,700 | 0.08 |

# = Rounds to Zero; \* = Data withheld for confidentiality reasons.

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

Sources: FCC Form 477 (Connections); 2018-2022 ACS 5-year estimates; Census 2010.

**Figure 44**

**Connections by Type of End User by State as of December 31, 2022**

**(Connections in thousands)**

|  | *Connections* | | *Percentages* | |  |
| --- | --- | --- | --- | --- | --- |
| *State* | *Residential* | *Business* | *Residential* | *Business* | *Total* |
| Alabama | 6,569 | 1,051 | 86.2 | 13.8 | 7,620 |
| Alaska | 924 | 152 | 85.9 | 14.1 | 1,076 |
| American Samoa | \* | \* | \* | \* | \* |
| Arizona | 9,656 | 1,452 | 86.9 | 13.1 | 11,108 |
| Arkansas | 3,894 | 536 | 87.9 | 12.1 | 4,430 |
| California | 53,778 | 9,776 | 84.6 | 15.4 | 63,554 |
| Colorado | 7,628 | 1,521 | 83.4 | 16.6 | 9,149 |
| Connecticut | 4,947 | 900 | 84.6 | 15.4 | 5,847 |
| Delaware | 1,326 | 283 | 82.4 | 17.6 | 1,609 |
| District of Columbia | 1,171 | 709 | 62.3 | 37.7 | 1,881 |
| Florida | 31,759 | 5,018 | 86.4 | 13.6 | 36,777 |
| Georgia | 14,725 | 2,593 | 85.0 | 15.0 | 17,318 |
| Guam | 140 | 60 | 70.0 | 30.0 | 199 |
| Hawaii | 1,926 | 358 | 84.3 | 15.7 | 2,284 |
| Idaho | 2,304 | 349 | 86.8 | 13.2 | 2,653 |
| Illinois | 16,950 | 3,324 | 83.6 | 16.4 | 20,274 |
| Indiana | 8,539 | 1,322 | 86.6 | 13.4 | 9,861 |
| Iowa | 3,982 | 640 | 86.2 | 13.8 | 4,622 |
| Kansas | 3,751 | 563 | 87.0 | 13.0 | 4,314 |
| Kentucky | 5,706 | 913 | 86.2 | 13.8 | 6,619 |
| Louisiana | 6,277 | 900 | 87.5 | 12.5 | 7,177 |
| Maine | 1,758 | 340 | 83.8 | 16.2 | 2,098 |
| Maryland | 8,477 | 1,414 | 85.7 | 14.3 | 9,890 |
| Massachusetts | 9,422 | 1,827 | 83.8 | 16.2 | 11,249 |
| Michigan | 12,949 | 2,395 | 84.4 | 15.6 | 15,344 |
| Minnesota | 7,288 | 1,300 | 84.9 | 15.1 | 8,587 |
| Mississippi | 3,910 | 468 | 89.3 | 10.7 | 4,378 |
| Missouri | 7,903 | 1,376 | 85.2 | 14.8 | 9,279 |
| Montana | 1,375 | 252 | 84.5 | 15.5 | 1,628 |
| Nebraska | 2,457 | 501 | 83.1 | 16.9 | 2,958 |
| Nevada | 4,345 | 596 | 87.9 | 12.1 | 4,941 |
| New Hampshire | 1,767 | 374 | 82.5 | 17.5 | 2,142 |
| New Jersey | 12,851 | 2,338 | 84.6 | 15.4 | 15,189 |
| New Mexico | 2,770 | 414 | 87.0 | 13.0 | 3,184 |
| New York | 27,930 | 5,407 | 83.8 | 16.2 | 33,337 |
| North Carolina | 13,953 | 2,511 | 84.7 | 15.3 | 16,464 |
| North Dakota | 1,006 | 170 | 85.6 | 14.4 | 1,175 |
| Northern Mariana Isl | \* | \* | \* | \* | \* |
| Ohio | 15,292 | 2,846 | 84.3 | 15.7 | 18,138 |
| Oklahoma | 5,114 | 789 | 86.6 | 13.4 | 5,903 |
| Oregon | 5,449 | 1,053 | 83.8 | 16.2 | 6,502 |
| Pennsylvania | 17,153 | 3,076 | 84.8 | 15.2 | 20,229 |
| Puerto Rico | 3,156 | 274 | 92.0 | 8.0 | 3,430 |
| Rhode Island | 1,481 | 280 | 84.1 | 15.9 | 1,762 |
| South Carolina | 6,783 | 1,080 | 86.3 | 13.7 | 7,863 |
| South Dakota | 1,129 | 173 | 86.7 | 13.3 | 1,302 |
| Tennessee | 9,240 | 1,511 | 85.9 | 14.1 | 10,751 |
| Texas | 41,004 | 6,589 | 86.2 | 13.8 | 47,593 |
| Utah | 3,914 | 824 | 82.6 | 17.4 | 4,738 |
| Vermont | 837 | 219 | 79.2 | 20.8 | 1,056 |
| Virgin Islands | 46 | 10 | 82.1 | 17.9 | 56 |
| Virginia | 11,435 | 2,073 | 84.7 | 15.3 | 13,508 |
| Washington | 10,168 | 1,946 | 83.9 | 16.1 | 12,113 |
| West Virginia | 2,141 | 277 | 88.6 | 11.4 | 2,418 |
| Wisconsin | 7,276 | 1,402 | 83.8 | 16.2 | 8,678 |
| Wyoming | 770 | 134 | 85.1 | 14.9 | 905 |
| Total | 448,601 | 78,696 | 85.1 | 14.9 | 527,297 |

\* = Data withheld for confidentiality reasons. # = Rounds to Zero.

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

Source: FCC Form 477.

**Figure 45**

**Connections by Technology by State as of December 31, 2022**

**(Connections in thousands)**

| *State* | *Copper Wire1* | *Coaxial Cable* | *Optical Carrier* | *Other Fixed2* | *Mobile Wireless* | *Total* |
| --- | --- | --- | --- | --- | --- | --- |
| Alabama | 316 | 997 | 394 | 119 | 5,794 | 7,620 |
| Alaska | 67 | \* | 16 | \* | 797 | 1,076 |
| American Samoa | 0 | \* | \* | \* | \* | \* |
| Arizona | 447 | 1,842 | 227 | 253 | 8,340 | 11,108 |
| Arkansas | 261 | 476 | 253 | 83 | 3,358 | 4,430 |
| California | 1,870 | 9,568 | 1,888 | 678 | 49,551 | 63,554 |
| Colorado | \* | 1,631 | 280 | \* | 6,741 | 9,149 |
| Connecticut | \* | 1,125 | 145 | \* | 4,446 | 5,847 |
| Delaware | \* | \* | \* | 12 | \* | 1,609 |
| District of Columbia | \* | \* | \* | 13 | 1,576 | 1,881 |
| Florida | 908 | 6,508 | 1,743 | 286 | 27,333 | 36,777 |
| Georgia | 659 | 2,300 | 923 | 154 | 13,282 | 17,318 |
| Guam | \* | \* | 1 | \* | \* | 199 |
| Hawaii | \* | \* | \* | 9 | 1,732 | 2,284 |
| Idaho | 160 | 295 | 102 | 112 | 1,985 | 2,653 |
| Illinois | 704 | 3,175 | 473 | 329 | 15,593 | 20,274 |
| Indiana | 382 | 1,399 | 562 | 171 | 7,347 | 9,861 |
| Iowa | 216 | 474 | 384 | 115 | 3,432 | 4,622 |
| Kansas | 139 | 518 | 345 | 98 | 3,215 | 4,314 |
| Kentucky | 285 | 894 | 433 | 83 | 4,924 | 6,619 |
| Louisiana | 283 | 923 | 303 | 109 | 5,560 | 7,177 |
| Maine | 87 | 497 | 42 | 32 | 1,441 | 2,098 |
| Maryland | \* | 1,340 | \* | 64 | 7,520 | 9,890 |
| Massachusetts | \* | 2,139 | 643 | \* | 8,367 | 11,249 |
| Michigan | 532 | 2,818 | 287 | 228 | 11,478 | 15,344 |
| Minnesota | 354 | 1,356 | 360 | 148 | 6,369 | 8,587 |
| Mississippi | 260 | 382 | 284 | 75 | 3,377 | 4,378 |
| Missouri | 436 | 1,132 | 574 | 201 | 6,937 | 9,279 |
| Montana | 76 | 261 | 60 | 67 | 1,165 | 1,628 |
| Nebraska | 103 | 391 | 202 | 61 | 2,201 | 2,958 |

**Figure 45 - Continued**

**Connections by Technology by State as of December 31, 2022**

**(Connections in thousands)**

| *State* | *Copper Wire1* | *Coaxial Cable* | *Optical Carrier* | *Other Fixed2* | *Mobile Wireless* | *Total* |
| --- | --- | --- | --- | --- | --- | --- |
| Nevada | 124 | 859 | 128 | 95 | 3,735 | 4,941 |
| New Hampshire | 40 | \* | 60 | \* | 1,530 | 2,142 |
| New Jersey | 58 | 2,084 | 1,275 | 58 | 11,715 | 15,189 |
| New Mexico | 185 | 445 | 63 | 68 | 2,422 | 3,184 |
| New York | 130 | 4,937 | 2,344 | 150 | 25,776 | 33,337 |
| North Carolina | 503 | 2,866 | 888 | 184 | 12,023 | 16,464 |
| North Dakota | 15 | 173 | 133 | 8 | 847 | 1,175 |
| Northern Mariana Isl | \* | \* | \* | 0 | \* | \* |
| Ohio | 602 | 3,167 | 616 | 229 | 13,525 | 18,138 |
| Oklahoma | 254 | 655 | 337 | 154 | 4,503 | 5,903 |
| Oregon | 161 | 1,154 | 271 | 117 | 4,800 | 6,502 |
| Pennsylvania | 302 | 3,418 | 1,175 | 156 | 15,179 | 20,229 |
| Puerto Rico | \* | \* | 149 | 83 | \* | 3,430 |
| Rhode Island | \* | \* | \* | 8 | 1,322 | 1,762 |
| South Carolina | 265 | 1,297 | 491 | 92 | 5,718 | 7,863 |
| South Dakota | 27 | 202 | 106 | 17 | 950 | 1,302 |
| Tennessee | 293 | 1,451 | 833 | 125 | 8,050 | 10,751 |
| Texas | 1,223 | 5,739 | 2,968 | 786 | 36,878 | 47,593 |
| Utah | 114 | 631 | 278 | 105 | 3,609 | 4,738 |
| Vermont | 108 | 193 | 74 | 15 | 666 | 1,056 |
| Virgin Islands | 0 | \* | 0 | \* | \* | 56 |
| Virginia | 167 | 1,751 | 1,143 | 157 | 10,290 | 13,508 |
| Washington | 328 | 2,310 | 289 | 199 | 8,987 | 12,113 |
| West Virginia | \* | 420 | 38 | \* | 1,810 | 2,418 |
| Wisconsin | 419 | \* | 340 | \* | 6,285 | 8,678 |
| Wyoming | 35 | 134 | 23 | 55 | 658 | 905 |
| Total | 14,712 | 80,110 | 26,343 | 6,873 | 399,258 | 527,297 |

\* = Data withheld for confidentiality reasons. # = Rounds to Zero.

1 Other is summarized with Copper Wire for confidentiality reasons.

2 Fixed Wireless and Satellite are summarized as Other Fixed for confidentiality reasons.

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

Source: FCC Form 477.

**Figure 46**

**Percentage of Fixed Connections by Downstream Speed by State as of December 31, 2022**

|  | *Over 200 kbps Upstream and* | | | | |
| --- | --- | --- | --- | --- | --- |
| *State* | *% over 200 kbps Downstream* | *% at least 10 Mbps Downstream* | *% at least 25 Mbps Downstream* | *% at least 100 Mbps Downstream* | *% at least 940 Mbps Downstream* |
| Alabama | 99.8 | 94.2 | 86.9 | 70.2 | 13.8 |
| Alaska | 99.8 | 93.5 | 77.2 | \* | \* |
| American Samoa | \* | \* | \* | \* | \* |
| Arizona | 99.6 | 96.2 | 90.6 | 74.4 | 16.1 |
| Arkansas | 99.8 | 92.1 | 81.1 | 58.8 | 14.2 |
| California | 99.9 | 97.0 | 92.2 | 78.0 | 19.0 |
| Colorado | 99.8 | 97.3 | 91.5 | 74.3 | 30.9 |
| Connecticut | 100.0 | 97.7 | 93.4 | 84.7 | 24.5 |
| Delaware | 99.9 | 99.4 | 99.0 | 86.6 | 35.9 |
| District of Columbia | 99.9 | 97.5 | 96.6 | 85.5 | 30.0 |
| Florida | 99.8 | 97.8 | 94.4 | 77.7 | 15.8 |
| Georgia | 99.7 | 95.4 | 90.3 | 71.6 | 22.2 |
| Guam | 100.0 | 89.2 | 78.5 | 7.8 | \* |
| Hawaii | 99.9 | 97.3 | 93.9 | \* | \* |
| Idaho | 99.6 | 93.7 | 80.1 | 58.9 | 12.7 |
| Illinois | 99.9 | 96.3 | 90.6 | 67.8 | 16.9 |
| Indiana | 99.8 | 95.1 | 88.1 | 66.4 | 16.7 |
| Iowa | 99.9 | 94.6 | 84.9 | 62.8 | 13.8 |
| Kansas | 99.8 | 95.9 | 88.2 | 70.8 | 22.3 |
| Kentucky | 99.8 | 93.8 | 87.2 | 71.9 | 10.6 |
| Louisiana | 99.7 | 93.7 | 85.9 | 69.1 | 14.7 |
| Maine | 99.8 | 92.6 | 83.6 | 71.9 | 5.9 |
| Maryland | 99.9 | 98.1 | 97.0 | 84.2 | 40.3 |
| Massachusetts | 99.9 | 98.1 | 97.5 | 88.2 | 31.4 |
| Michigan | 99.9 | 95.9 | 90.8 | 70.8 | 12.5 |
| Minnesota | 99.9 | 96.4 | 89.4 | 69.5 | 20.7 |
| Mississippi | 99.6 | 91.0 | 78.9 | 59.3 | 27.2 |
| Missouri | 99.7 | 94.4 | 84.7 | 67.2 | 15.9 |
| Montana | 99.7 | 94.5 | 83.2 | 62.5 | 3.8 |
| Nebraska | 99.9 | 96.3 | 90.1 | 74.1 | 11.8 |

**Figure 46 - Continued**

**Percentage of Fixed Connections by Downstream Speed by State as of December 31, 2022**

|  | *Over 200 kbps Upstream and* | | | | |
| --- | --- | --- | --- | --- | --- |
| *State* | *% over 200 kbps Downstream* | *% at least 10 Mbps Downstream* | *% at least 25 Mbps Downstream* | *% at least 100 Mbps Downstream* | *% at least 940 Mbps Downstream* |
| Nevada | 99.8 | 97.5 | 93.5 | 80.3 | 16.2 |
| New Hampshire | 99.7 | 95.7 | 92.5 | 84.0 | 32.6 |
| New Jersey | 99.9 | 98.6 | 97.8 | 88.6 | 34.0 |
| New Mexico | 99.8 | 93.8 | 83.1 | 58.3 | 16.8 |
| New York | 99.9 | 98.7 | 96.0 | 88.1 | 18.2 |
| North Carolina | 99.7 | 95.3 | 89.7 | 78.6 | 11.9 |
| North Dakota | 99.8 | 98.4 | 95.9 | 87.6 | 51.3 |
| Northern Mariana Isl | \* | \* | \* | \* | \* |
| Ohio | 99.9 | 96.1 | 89.8 | 75.6 | 12.4 |
| Oklahoma | 99.6 | 93.3 | 84.6 | 67.1 | 18.8 |
| Oregon | 99.8 | 96.6 | 91.3 | 74.8 | 23.9 |
| Pennsylvania | 99.9 | 96.1 | 94.1 | 80.8 | 31.1 |
| Puerto Rico | 100.0 | 90.2 | 75.6 | 31.9 | 1.4 |
| Rhode Island | 99.7 | 98.5 | 98.1 | 90.6 | 31.6 |
| South Carolina | 99.9 | 96.5 | 90.8 | 77.4 | 11.4 |
| South Dakota | 99.9 | 98.6 | 95.8 | 75.2 | 48.9 |
| Tennessee | 99.8 | 96.3 | 91.8 | 74.7 | 22.1 |
| Texas | 99.8 | 96.8 | 91.3 | 75.1 | 21.5 |
| Utah | 99.9 | 97.5 | 92.6 | 75.4 | 36.1 |
| Vermont | 99.2 | 80.7 | 73.0 | 60.3 | 16.1 |
| Virgin Islands | \* | \* | \* | \* | \* |
| Virginia | 99.6 | 96.3 | 93.7 | 81.2 | 30.6 |
| Washington | 99.7 | 96.5 | 91.6 | 77.2 | 29.6 |
| West Virginia | 99.5 | 88.7 | 79.3 | 65.4 | 17.9 |
| Wisconsin | 99.7 | 95.3 | 85.9 | 71.1 | 4.9 |
| Wyoming | 99.7 | 95.0 | 87.3 | 62.5 | 4.1 |
| Total | 99.8 | 96.3 | 91.2 | 75.8 | 20.1 |

\* = Data withheld for confidentiality reasons.

Source: FCC Form 477.

**Figure 47**

**Providers of Connections by Technology by State as of December 31, 2022**

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

| *State* | *Copper Wire1* | *Coaxial Cable* | *Optical Carrier* | *Satellite* | *Fixed Wireless* | *Mobile Wireless* | *Unduplicated Total* |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Alabama | 20 | 14 | 43 | \* | 22 | 7 | 75 |
| Alaska | 13 | \* | 17 | \* | 17 | 11 | 33 |
| American Samoa | 0 | \* | \* | 0 | \* | \* | \* |
| Arizona | 20 | 12 | 35 | \* | 45 | 7 | 81 |
| Arkansas | 20 | 13 | 52 | \* | 31 | 6 | 85 |
| California | 28 | 23 | 67 | \* | 126 | 6 | 182 |
| Colorado | 24 | 12 | 74 | \* | 67 | 10 | 122 |
| Connecticut | 5 | 5 | 13 | \* | 4 | 5 | 23 |
| Delaware | \* | \* | 13 | \* | 4 | \* | 23 |
| District of Columbia | 7 | 4 | 18 | \* | 7 | 4 | 29 |
| Florida | 19 | 16 | 57 | \* | 36 | 6 | 91 |
| Georgia | 25 | 22 | 81 | \* | 28 | 6 | 110 |
| Guam | \* | \* | 4 | 0 | \* | \* | 4 |
| Hawaii | 5 | \* | 9 | \* | 4 | 4 | 17 |
| Idaho | 22 | 14 | 37 | \* | 42 | 8 | 70 |
| Illinois | 44 | 13 | 88 | \* | 72 | 7 | 145 |
| Indiana | 31 | 9 | 81 | \* | 61 | 5 | 120 |
| Iowa | 46 | 28 | 183 | \* | 81 | 7 | 223 |
| Kansas | 22 | 18 | 63 | \* | 43 | 10 | 94 |
| Kentucky | 14 | 23 | 58 | \* | 27 | 7 | 94 |
| Louisiana | 14 | 13 | 29 | \* | 25 | 7 | 63 |
| Maine | 11 | 4 | 21 | \* | 12 | 5 | 37 |
| Maryland | 9 | 12 | 34 | \* | 21 | 5 | 60 |
| Massachusetts | 9 | 6 | 28 | \* | 14 | 5 | 46 |
| Michigan | 30 | 19 | 74 | \* | 48 | 7 | 120 |
| Minnesota | 37 | 17 | 88 | \* | 50 | 5 | 123 |
| Mississippi | 16 | 10 | 37 | \* | 11 | 6 | 62 |
| Missouri | 32 | 14 | 82 | \* | 71 | 7 | 137 |
| Montana | 18 | 5 | 35 | \* | 33 | 6 | 60 |
| Nebraska | 22 | 16 | 50 | \* | 41 | 7 | 83 |

**Figure 47 - Continued**

**Providers of Connections by Technology by State as of December 31, 2022**

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

| *State* | *Copper Wire1* | *Coaxial Cable* | *Optical Carrier* | *Satellite* | *Fixed Wireless* | *Mobile Wireless* | *Unduplicated Total* |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Nevada | 15 | 7 | 28 | \* | 27 | 6 | 58 |
| New Hampshire | 8 | \* | 18 | \* | 8 | 5 | 30 |
| New Jersey | 13 | 6 | 27 | \* | 7 | 4 | 39 |
| New Mexico | 19 | 6 | 30 | \* | 41 | 9 | 68 |
| New York | 33 | 11 | 53 | \* | 23 | 5 | 82 |
| North Carolina | 20 | 19 | 53 | \* | 24 | 7 | 79 |
| North Dakota | 16 | 5 | 31 | \* | 9 | 6 | 44 |
| Northern Mariana Isl | \* | \* | \* | 0 | 0 | \* | \* |
| Ohio | 30 | 23 | 80 | \* | 58 | 5 | 134 |
| Oklahoma | 35 | 6 | 66 | \* | 50 | 10 | 110 |
| Oregon | 31 | 11 | 57 | \* | 45 | 6 | 94 |
| Pennsylvania | 23 | 22 | 61 | \* | 35 | 8 | 107 |
| Puerto Rico | 5 | \* | 23 | \* | 39 | \* | 50 |
| Rhode Island | \* | 4 | 8 | \* | \* | 4 | 16 |
| South Carolina | 16 | 12 | 35 | \* | 11 | 5 | 52 |
| South Dakota | 14 | 7 | 41 | \* | 24 | 8 | 67 |
| Tennessee | 16 | 15 | 66 | \* | 27 | 6 | 94 |
| Texas | 61 | 23 | 137 | 4 | 148 | 9 | 238 |
| Utah | 15 | 8 | 32 | \* | 37 | 9 | 58 |
| Vermont | 8 | 4 | 18 | \* | 11 | 5 | 34 |
| Virgin Islands | 0 | \* | 0 | \* | \* | \* | 5 |
| Virginia | 21 | 14 | 65 | \* | 31 | 7 | 95 |
| Washington | 26 | 21 | 68 | \* | 50 | 7 | 102 |
| West Virginia | 7 | 13 | 23 | \* | 22 | 6 | 57 |
| Wisconsin | 33 | 15 | 77 | \* | 43 | 6 | 109 |
| Wyoming | 12 | 5 | 22 | \* | 20 | 9 | 41 |
| Total | 570 | 305 | 1,519 | 4 | 1,247 | 57 | 2,282 |

\* = 1 to 3 providers.

1 Other is summarized with Copper Wire for confidentiality reasons.

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

Source: FCC Form 477.



**Figure 49**

**Distribution of Counties by Ratio of Residential Fixed Connections to Households by Technology as of December 31, 2022**

**(Connections at least 100 Mbps downstream and 20 Mbps upstream)**

|  | *Ratio of Residential Fixed Connections to County Households* | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Zero* | *> 0.00 and ≤ 0.05* | *> 0.05 and ≤ 0.10* | *> 0.10 and ≤ 0.20* | *> 0.20 and ≤ 0.30* | *> 0.30 and ≤ 0.40* | *> 0.40 and ≤ 0.50* | *> 0.50 and ≤ 0.60* | *> 0.60 and ≤ 0.80* | *> 0.80 and ≤ 1.00* | *> 1.00* |
| Total | 1.4 | 6.0 | 8.5 | 19.8 | 17.5 | 16.4 | 12.0 | 7.1 | 8.6 | 2.1 | 0.5 |
| Copper Wire1 | 59.2 | 34.5 | 3.8 | 2.3 | 0.1 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| Coaxial Cable | 15.5 | 11.7 | 16.4 | 24.8 | 16.0 | 9.1 | 3.8 | 1.3 | 1.1 | 0.1 | 0.1 |
| Optical Carrier | 8.7 | 34.2 | 13.7 | 18.1 | 9.4 | 6.1 | 4.1 | 1.9 | 2.3 | 1.3 | 0.2 |
| Satellite | 99.2 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Fixed Wireless | 41.9 | 57.1 | 0.7 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Licensed | 54.1 | 45.5 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Unlicensed | 68.4 | 31.0 | 0.4 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

1 Other is summarized with Copper Wire for confidentiality reasons.

Note: Each cell indicates the share of 3,235 counties where the ratio of residential fixed connections to households falls within the given range. Numbers may not sum to totals due to rounding.

Sources: FCC Form 477; 2018-2022 ACS 5-year estimates; and Census 2010.

**Figure 50**

**Distribution of Counties by Ratio of Residential Fixed Connections to Households by State as of December 31, 2022**

**(Connections at least 100 Mbps downstream and 20 Mbps upstream)**

|  | | *Ratio of Residential Fixed Connections to County Households* | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Counties* | *Zero* | *> 0.00 and ≤ 0.05* | *> 0.05 and ≤ 0.10* | *> 0.10 and ≤ 0.20* | *> 0.20 and ≤ 0.30* | *> 0.30 and ≤ 0.40* | *> 0.40 and ≤ 0.50* | *> 0.50 and ≤ 0.60* | *> 0.60 and ≤ 0.80* | *> 0.80 and ≤ 1.00* | *> 1.00* |
| Alabama | 67 | 1 | 8 | 12 | 11 | 14 | 10 | 8 | 2 | 1 | 0 | 0 |
| Alaska | 30 | 8 | 3 | 4 | 2 | 3 | 2 | 2 | 3 | 3 | 0 | 0 |
| American Samoa | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Arizona | 15 | 0 | 3 | 0 | 2 | 4 | 1 | 5 | 0 | 0 | 0 | 0 |
| Arkansas | 75 | 0 | 7 | 6 | 11 | 17 | 18 | 6 | 2 | 6 | 2 | 0 |
| California | 58 | 0 | 4 | 5 | 8 | 9 | 20 | 9 | 2 | 0 | 0 | 1 |
| Colorado | 64 | 0 | 11 | 5 | 17 | 10 | 13 | 7 | 1 | 0 | 0 | 0 |
| Connecticut | 9 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 4 | 2 | 0 | 0 |
| Delaware | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 |
| District of Columbia | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Florida | 67 | 0 | 7 | 6 | 11 | 7 | 5 | 9 | 13 | 9 | 0 | 0 |
| Georgia | 159 | 5 | 2 | 13 | 29 | 30 | 29 | 24 | 15 | 12 | 0 | 0 |
| Guam | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hawaii | 5 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 2 | 0 | 0 | 0 |
| Idaho | 44 | 3 | 5 | 4 | 8 | 9 | 4 | 7 | 1 | 2 | 1 | 0 |
| Illinois | 102 | 0 | 2 | 3 | 13 | 27 | 29 | 23 | 3 | 2 | 0 | 0 |
| Indiana | 92 | 0 | 2 | 2 | 16 | 16 | 31 | 12 | 10 | 3 | 0 | 0 |
| Iowa | 99 | 0 | 0 | 3 | 6 | 17 | 27 | 20 | 18 | 8 | 0 | 0 |
| Kansas | 105 | 0 | 4 | 11 | 24 | 22 | 15 | 16 | 6 | 7 | 0 | 0 |
| Kentucky | 120 | 0 | 3 | 11 | 23 | 25 | 23 | 14 | 9 | 8 | 4 | 0 |
| Louisiana | 64 | 3 | 7 | 10 | 18 | 7 | 10 | 6 | 3 | 0 | 0 | 0 |
| Maine | 16 | 0 | 0 | 1 | 12 | 1 | 2 | 0 | 0 | 0 | 0 | 0 |
| Maryland | 24 | 0 | 0 | 0 | 0 | 2 | 3 | 3 | 2 | 11 | 3 | 0 |
| Massachusetts | 14 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 5 | 4 | 0 | 2 |
| Michigan | 83 | 0 | 4 | 18 | 29 | 15 | 12 | 3 | 2 | 0 | 0 | 0 |
| Minnesota | 87 | 0 | 1 | 4 | 12 | 28 | 15 | 13 | 6 | 7 | 1 | 0 |
| Mississippi | 82 | 2 | 9 | 4 | 12 | 10 | 18 | 9 | 6 | 10 | 2 | 0 |
| Missouri | 115 | 0 | 11 | 10 | 31 | 17 | 16 | 8 | 11 | 10 | 1 | 0 |
| Montana | 56 | 1 | 17 | 13 | 9 | 4 | 0 | 1 | 2 | 8 | 1 | 0 |
| Nebraska | 93 | 1 | 10 | 4 | 13 | 19 | 18 | 17 | 7 | 2 | 2 | 0 |

**Figure 50 - Continued**

**Distribution of Counties by Ratio of Residential Fixed Connections to Households by State as of December 31, 2022**

**(Connections at least 100 Mbps downstream and 20 Mbps upstream)**

|  | | *Ratio of Residential Fixed Connections to County Households* | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Counties* | *Zero* | *> 0.00 and ≤ 0.05* | *> 0.05 and ≤ 0.10* | *> 0.10 and ≤ 0.20* | *> 0.20 and ≤ 0.30* | *> 0.30 and ≤ 0.40* | *> 0.40 and ≤ 0.50* | *> 0.50 and ≤ 0.60* | *> 0.60 and ≤ 0.80* | *> 0.80 and ≤ 1.00* | *> 1.00* |
| Nevada | 17 | 4 | 1 | 1 | 6 | 3 | 1 | 1 | 0 | 0 | 0 | 0 |
| New Hampshire | 10 | 0 | 0 | 0 | 2 | 0 | 2 | 2 | 1 | 2 | 0 | 1 |
| New Jersey | 21 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 3 | 11 | 3 | 0 |
| New Mexico | 33 | 0 | 6 | 3 | 9 | 1 | 7 | 0 | 2 | 4 | 1 | 0 |
| New York | 62 | 0 | 0 | 0 | 21 | 19 | 8 | 2 | 0 | 9 | 2 | 1 |
| North Carolina | 100 | 0 | 0 | 7 | 23 | 25 | 20 | 14 | 4 | 6 | 1 | 0 |
| North Dakota | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 18 | 28 | 5 |
| Northern Mariana Isl | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ohio | 88 | 0 | 3 | 12 | 38 | 13 | 11 | 6 | 4 | 1 | 0 | 0 |
| Oklahoma | 77 | 0 | 3 | 2 | 14 | 17 | 16 | 10 | 3 | 11 | 1 | 0 |
| Oregon | 36 | 0 | 1 | 6 | 12 | 12 | 3 | 2 | 0 | 0 | 0 | 0 |
| Pennsylvania | 67 | 0 | 0 | 1 | 8 | 5 | 11 | 13 | 16 | 13 | 0 | 0 |
| Puerto Rico | 78 | 0 | 13 | 28 | 29 | 7 | 1 | 0 | 0 | 0 | 0 | 0 |
| Rhode Island | 5 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 |
| South Carolina | 46 | 0 | 0 | 6 | 6 | 10 | 5 | 7 | 5 | 4 | 2 | 1 |
| South Dakota | 66 | 0 | 1 | 2 | 15 | 4 | 6 | 7 | 4 | 18 | 9 | 0 |
| Tennessee | 95 | 0 | 0 | 2 | 14 | 18 | 14 | 16 | 11 | 17 | 1 | 2 |
| Texas | 254 | 6 | 17 | 28 | 56 | 43 | 36 | 31 | 16 | 20 | 1 | 0 |
| Utah | 29 | 0 | 1 | 1 | 2 | 5 | 5 | 4 | 3 | 5 | 2 | 1 |
| Vermont | 14 | 0 | 0 | 0 | 4 | 2 | 2 | 3 | 1 | 1 | 0 | 1 |
| Virgin Islands | 3 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Virginia | 133 | 0 | 11 | 6 | 13 | 25 | 25 | 23 | 13 | 15 | 1 | 1 |
| Washington | 39 | 0 | 3 | 3 | 10 | 9 | 10 | 1 | 2 | 1 | 0 | 0 |
| West Virginia | 55 | 3 | 11 | 3 | 7 | 9 | 7 | 12 | 0 | 3 | 0 | 0 |
| Wisconsin | 72 | 0 | 3 | 9 | 21 | 24 | 11 | 1 | 2 | 1 | 0 | 0 |
| Wyoming | 23 | 0 | 0 | 6 | 10 | 2 | 4 | 1 | 0 | 0 | 0 | 0 |
| Total | 3,235 | 46 | 195 | 276 | 641 | 567 | 530 | 388 | 230 | 277 | 69 | 16 |

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

Sources: FCC Form 477; 2018-2022 ACS 5-year estimates; and Census 2010.



**Figure 52**

**Distribution of Census Tracts by Ratio of Residential Fixed Connections to Households by Technology as of December 31, 2022**

**(Connections at least 100 Mbps downstream and 20 Mbps upstream)**

|  | *Ratio of Residential Fixed Connections to Tract Households* | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Technology* | *Zero* | *> 0.00 and ≤ 0.05* | *> 0.05 and ≤ 0.10* | *> 0.10 and ≤ 0.20* | *> 0.20 and ≤ 0.30* | *> 0.30 and ≤ 0.40* | *> 0.40 and ≤ 0.50* | *> 0.50 and ≤ 0.60* | *> 0.60 and ≤ 0.80* | *> 0.80 and ≤ 1.00* | *> 1.00* |
| Total | 2.1 | 3.0 | 3.9 | 13.1 | 14.8 | 15.9 | 14.6 | 12.1 | 13.8 | 4.5 | 2.2 |
| Copper Wire1 | 62.2 | 34.9 | 2.1 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Coaxial Cable | 6.2 | 5.1 | 8.2 | 26.9 | 25.6 | 14.6 | 6.6 | 3.1 | 2.6 | 0.6 | 0.4 |
| Optical Carrier | 25.9 | 18.6 | 9.8 | 14.8 | 11.0 | 7.7 | 5.0 | 2.9 | 2.7 | 1.0 | 0.6 |
| Satellite | 100.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Fixed Wireless | 49.6 | 48.8 | 1.0 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Licensed | 52.8 | 46.4 | 0.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Unlicensed | 93.8 | 5.6 | 0.3 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

1 Other is summarized with Copper Wire for confidentiality reasons.

Note: Each cell indicates the share of 85,160 Census Tracts where the ratio of residential fixed connections to households falls within the given range. Numbers may not sum to totals due to rounding.

Sources: FCC Form 477; 2018-2022 ACS 5-year estimates; and Census 2010.

**Figure 53**

**Distribution of Census Tracts by Ratio of Residential Fixed Connections to Households by State as of December 31, 2022**

**(Connections at least 100 Mbps downstream and 20 Mbps upstream)**

|  | | *Ratio of Residential Fixed Connections to Tract Households* | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Tracts* | *Zero* | *> 0.00 and ≤ 0.05* | *> 0.05 and ≤ 0.10* | *> 0.10 and ≤ 0.20* | *> 0.20 and ≤ 0.30* | *> 0.30 and ≤ 0.40* | *> 0.40 and ≤ 0.50* | *> 0.50 and ≤ 0.60* | *> 0.60 and ≤ 0.80* | *> 0.80 and ≤ 1.00* | *> 1.00* |
| Alabama | 1,435 | 41 | 86 | 102 | 218 | 279 | 194 | 184 | 129 | 143 | 42 | 17 |
| Alaska | 177 | 26 | 18 | 7 | 7 | 5 | 19 | 17 | 31 | 37 | 5 | 5 |
| American Samoa | 18 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Arizona | 1,765 | 134 | 72 | 151 | 452 | 384 | 219 | 135 | 88 | 86 | 30 | 14 |
| Arkansas | 823 | 23 | 64 | 82 | 138 | 131 | 108 | 93 | 71 | 86 | 22 | 5 |
| California | 9,107 | 127 | 181 | 133 | 811 | 1,829 | 2,217 | 1,803 | 1,164 | 700 | 86 | 56 |
| Colorado | 1,447 | 33 | 73 | 35 | 167 | 311 | 383 | 253 | 106 | 61 | 18 | 7 |
| Connecticut | 879 | 6 | 1 | 0 | 52 | 117 | 112 | 132 | 151 | 210 | 90 | 8 |
| Delaware | 259 | 3 | 0 | 1 | 6 | 23 | 55 | 42 | 47 | 52 | 13 | 17 |
| District of Columbia | 206 | 2 | 0 | 0 | 2 | 11 | 38 | 40 | 40 | 53 | 8 | 12 |
| Florida | 5,114 | 77 | 98 | 96 | 405 | 612 | 824 | 865 | 798 | 805 | 302 | 232 |
| Georgia | 2,791 | 28 | 46 | 93 | 246 | 311 | 408 | 431 | 416 | 607 | 173 | 32 |
| Guam | 56 | 18 | 35 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Hawaii | 436 | 14 | 1 | 2 | 16 | 58 | 82 | 78 | 74 | 70 | 18 | 23 |
| Idaho | 456 | 16 | 33 | 19 | 36 | 38 | 43 | 79 | 84 | 78 | 21 | 9 |
| Illinois | 3,263 | 16 | 55 | 47 | 270 | 655 | 851 | 683 | 423 | 233 | 25 | 5 |
| Indiana | 1,693 | 15 | 32 | 56 | 192 | 280 | 403 | 329 | 197 | 148 | 33 | 8 |
| Iowa | 896 | 5 | 17 | 39 | 78 | 90 | 100 | 142 | 157 | 212 | 52 | 4 |
| Kansas | 829 | 24 | 36 | 115 | 118 | 101 | 94 | 68 | 65 | 142 | 50 | 16 |
| Kentucky | 1,306 | 24 | 48 | 87 | 204 | 191 | 218 | 179 | 147 | 168 | 27 | 13 |
| Louisiana | 1,376 | 96 | 88 | 153 | 280 | 189 | 208 | 148 | 105 | 92 | 13 | 4 |
| Maine | 400 | 3 | 18 | 41 | 221 | 67 | 16 | 17 | 5 | 5 | 4 | 3 |
| Maryland | 1,463 | 7 | 7 | 5 | 27 | 95 | 177 | 222 | 225 | 419 | 178 | 101 |
| Massachusetts | 1,613 | 21 | 2 | 8 | 120 | 106 | 181 | 277 | 330 | 398 | 105 | 65 |
| Michigan | 2,971 | 94 | 92 | 151 | 551 | 594 | 658 | 536 | 207 | 70 | 15 | 3 |
| Minnesota | 1,502 | 10 | 47 | 66 | 292 | 422 | 242 | 164 | 96 | 122 | 36 | 5 |
| Mississippi | 875 | 28 | 64 | 37 | 113 | 113 | 104 | 105 | 88 | 155 | 52 | 16 |
| Missouri | 1,654 | 30 | 120 | 85 | 179 | 210 | 274 | 226 | 212 | 237 | 57 | 24 |
| Montana | 319 | 25 | 53 | 41 | 104 | 52 | 9 | 8 | 7 | 16 | 3 | 1 |
| Nebraska | 553 | 3 | 20 | 39 | 98 | 117 | 74 | 71 | 65 | 58 | 6 | 2 |

**Figure 53 - Continued**

**Distribution of Census Tracts by Ratio of Residential Fixed Connections to Tract Households by State as of December 31, 2022**

**(Connections at least 100 Mbps downstream and 20 Mbps upstream)**

|  | | *Ratio of Residential Fixed Connections to Tract Households* | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *State* | *Tracts* | *Zero* | *> 0.00 and ≤ 0.05* | *> 0.05 and ≤ 0.10* | *> 0.10 and ≤ 0.20* | *> 0.20 and ≤ 0.30* | *> 0.30 and ≤ 0.40* | *> 0.40 and ≤ 0.50* | *> 0.50 and ≤ 0.60* | *> 0.60 and ≤ 0.80* | *> 0.80 and ≤ 1.00* | *> 1.00* |
| Nevada | 775 | 20 | 19 | 34 | 216 | 219 | 119 | 64 | 34 | 30 | 11 | 9 |
| New Hampshire | 349 | 3 | 4 | 7 | 25 | 19 | 41 | 68 | 92 | 48 | 18 | 24 |
| New Jersey | 2,175 | 13 | 12 | 5 | 16 | 63 | 121 | 241 | 441 | 812 | 290 | 161 |
| New Mexico | 612 | 52 | 55 | 58 | 252 | 83 | 48 | 23 | 15 | 18 | 6 | 2 |
| New York | 5,393 | 141 | 19 | 102 | 898 | 447 | 434 | 492 | 757 | 1,361 | 510 | 232 |
| North Carolina | 2,660 | 32 | 67 | 104 | 473 | 412 | 398 | 329 | 267 | 348 | 136 | 94 |
| North Dakota | 228 | 1 | 0 | 0 | 0 | 0 | 2 | 7 | 20 | 82 | 94 | 22 |
| Northern Mariana Isl | 23 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ohio | 3,162 | 16 | 83 | 227 | 783 | 470 | 459 | 418 | 355 | 259 | 77 | 15 |
| Oklahoma | 1,205 | 37 | 66 | 76 | 204 | 229 | 201 | 142 | 96 | 104 | 41 | 9 |
| Oregon | 994 | 13 | 26 | 42 | 207 | 249 | 181 | 161 | 78 | 28 | 6 | 3 |
| Pennsylvania | 3,445 | 50 | 35 | 55 | 182 | 274 | 468 | 679 | 539 | 757 | 291 | 115 |
| Puerto Rico | 939 | 52 | 165 | 234 | 279 | 134 | 44 | 12 | 12 | 3 | 2 | 2 |
| Rhode Island | 247 | 1 | 1 | 2 | 23 | 9 | 32 | 77 | 46 | 40 | 10 | 6 |
| South Carolina | 1,317 | 20 | 44 | 78 | 189 | 185 | 194 | 158 | 148 | 155 | 79 | 67 |
| South Dakota | 242 | 0 | 7 | 4 | 27 | 16 | 14 | 11 | 21 | 79 | 52 | 11 |
| Tennessee | 1,701 | 29 | 26 | 40 | 209 | 268 | 258 | 257 | 236 | 281 | 74 | 23 |
| Texas | 6,883 | 128 | 220 | 252 | 749 | 730 | 921 | 1,024 | 970 | 1,262 | 428 | 199 |
| Utah | 716 | 9 | 8 | 15 | 57 | 106 | 144 | 132 | 83 | 111 | 35 | 16 |
| Vermont | 193 | 4 | 12 | 8 | 25 | 27 | 44 | 19 | 17 | 23 | 6 | 8 |
| Virgin Islands | 29 | 0 | 2 | 12 | 11 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| Virginia | 2,186 | 72 | 84 | 36 | 232 | 287 | 261 | 318 | 272 | 353 | 173 | 98 |
| Washington | 1,772 | 32 | 73 | 48 | 201 | 475 | 470 | 281 | 112 | 64 | 10 | 6 |
| West Virginia | 546 | 48 | 49 | 23 | 49 | 65 | 96 | 86 | 63 | 63 | 4 | 0 |
| Wisconsin | 1,526 | 9 | 97 | 137 | 382 | 430 | 231 | 130 | 66 | 34 | 4 | 6 |
| Wyoming | 160 | 1 | 10 | 15 | 75 | 32 | 13 | 8 | 2 | 2 | 2 | 0 |
| Total | 85,160 | 1,773 | 2,591 | 3,306 | 11,168 | 12,624 | 13,505 | 12,464 | 10,270 | 11,780 | 3,843 | 1,836 |

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

Sources: FCC Form 477; 2018-2022 ACS 5-year estimates; and Census 2010.











