

Appendix D

Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|-------------|----------------------------------|---------------------------|-----------------------------------|
| Bennett | 2,870 | 2.9 | 16,153 |
| Bon Homme | 4,633 | 12.6 | 20,074 |
| Brookings | 2,858 | 40.8 | 20,995 |
| Brown | 413 | 21.4 | 23,878 |
| Brule | 1,368 | 6.5 | 19,779 |
| Buffalo | 1,234 | 4.1 | 11,410 |
| Butte | 1,288 | 4.6 | 20,418 |
| Campbell | 251 | 1.9 | 22,338 |
| Charles Mix | 3,346 | 8.3 | 17,403 |
| Clark | 2,223 | 3.8 | 23,909 |
| Clay | 2,059 | 33.9 | 19,518 |
| Codington | 3,355 | 39.6 | 24,781 |
| Corson | 718 | 1.6 | 13,359 |
| Custer | 6,916 | 5.3 | 24,353 |
| Day | 1,763 | 5.5 | 20,542 |
| Deuel | 691 | 7.1 | 22,276 |
| Dewey | 4,642 | 2.3 | 15,632 |
| Edmunds | 517 | 3.6 | 24,268 |
| Fall River | 6,008 | 4.1 | 21,574 |
| Faulk | 483 | 2.4 | 21,898 |
| Grant | 2,116 | 10.6 | 22,887 |
| Gregory | 3,620 | 4.2 | 21,311 |
| Haakon | 1,155 | 1.1 | 25,877 |
| Hamlin | 4,488 | 11.7 | 21,558 |
| Hand | 1,082 | 2.4 | 23,238 |
| Hanson | 413 | 7.6 | 21,391 |
| Harding | 49 | 0.5 | 22,004 |
| Hughes | 2,463 | 22.9 | 28,236 |
| Hutchinson | 2,881 | 8.9 | 21,944 |
| Hyde | 1,059 | 1.6 | 22,995 |
| Jackson | 2,579 | 1.6 | 14,568 |
| Jerauld | 1,206 | 3.9 | 24,942 |
| Jones | 727 | 1.0 | 24,630 |
| Kingsbury | 2,663 | 6.2 | 24,660 |
| Lake | 464 | 20.4 | 22,447 |
| Lawrence | 3,280 | 30.5 | 25,465 |
| Lincoln | 6,298 | 81.3 | 33,261 |
| Lyman | 2,431 | 2.3 | 16,930 |
| McCook | 2,894 | 9.8 | 25,502 |
| McPherson | 76 | 2.1 | 19,255 |

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|------------------|----------------------------------|---------------------------|-----------------------------------|
| Marshall | 3,210 | 5.6 | 22,441 |
| Meade | 4,687 | 7.2 | 22,045 |
| Mellette | 2,045 | 1.6 | 16,971 |
| Miner | 692 | 4.1 | 25,450 |
| Minnehaha | 10,108 | 214.4 | 26,392 |
| Moody | 2,799 | 12.4 | 24,948 |
| Pennington | 9,615 | 36.9 | 25,894 |
| Perkins | 213 | 1.0 | 25,780 |
| Potter | 1,590 | 2.6 | 23,986 |
| Roberts | 7,342 | 9.2 | 19,825 |
| Sanborn | 41 | 4.0 | 21,055 |
| Shannon | 10,494 | 6.5 | 7,772 |
| Spink | 120 | 4.2 | 25,295 |
| Stanley | 580 | 2.0 | 27,435 |
| Sully | 1,316 | 1.3 | 26,596 |
| Todd | 8,408 | 7.1 | 11,010 |
| Tripp | 4,771 | 3.4 | 21,192 |
| Turner | 4,340 | 13.5 | 22,871 |
| Union | 4,120 | 31.9 | 33,783 |
| Walworth | 609 | 7.6 | 23,716 |
| Yankton | 3,045 | 43.2 | 24,776 |
| Ziebach | 2,675 | 1.4 | 11,069 |
| Tennessee | | | |
| Anderson | 3,152 | 225.3 | 24,242 |
| Bedford | 5,244 | 97.3 | 18,471 |
| Benton | 7,198 | 41.7 | 19,114 |
| Bledsoe | 2,135 | 32.3 | 12,907 |
| Blount | 4,235 | 223.6 | 24,071 |
| Bradley | 2,554 | 305.3 | 21,444 |
| Campbell | 5,705 | 85.0 | 16,426 |
| Cannon | 63 | 52.8 | 18,076 |
| Carroll | 5,472 | 47.4 | 19,712 |
| Carter | 2,148 | 168.7 | 17,601 |
| Cheatham | 2,413 | 130.4 | 24,392 |
| Chester | 3,676 | 60.3 | 17,343 |
| Claiborne | 7,871 | 74.6 | 17,128 |
| Clay | 415 | 33.2 | 18,367 |
| Cocke | 9,521 | 82.7 | 16,957 |
| Coffee | 20 | 124.1 | 20,737 |
| Crockett | 1,198 | 55.0 | 19,742 |

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| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|------------|----------------------------------|---------------------------|-----------------------------------|
| Cumberland | 791 | 83.4 | 20,544 |
| Davidson | 13,821 | 1255.8 | 27,780 |
| Decatur | 901 | 35.0 | 19,757 |
| DeKalb | 184 | 62.2 | 17,976 |
| Dickson | 8,759 | 102.6 | 21,415 |
| Dyer | 1,826 | 75.0 | 19,169 |
| Fayette | 8,882 | 56.2 | 26,898 |
| Fentress | 61 | 36.7 | 17,291 |
| Franklin | 3,853 | 74.1 | 20,817 |
| Gibson | 2,668 | 83.3 | 20,065 |
| Giles | 8,971 | 48.2 | 19,778 |
| Grainger | 573 | 82.0 | 16,783 |
| Greene | 4,068 | 111.4 | 18,782 |
| Grundy | 30 | 38.3 | 14,000 |
| Hamblen | 546 | 392.7 | 21,162 |
| Hamilton | 875 | 624.6 | 26,588 |
| Hancock | 4,698 | 30.6 | 13,717 |
| Hardeman | 8,496 | 40.7 | 15,838 |
| Hardin | 6,648 | 45.3 | 18,122 |
| Hawkins | 7,258 | 117.6 | 19,600 |
| Haywood | 6,598 | 35.0 | 17,047 |
| Henderson | 5,483 | 53.9 | 19,988 |
| Henry | 8,765 | 57.8 | 20,687 |
| Hickman | 10,053 | 40.3 | 18,447 |
| Houston | 363 | 42.9 | 17,791 |
| Humphreys | 6,613 | 34.9 | 20,874 |
| Jackson | 26 | 37.4 | 17,452 |
| Jefferson | 6,513 | 190.8 | 19,680 |
| Johnson | 3,121 | 61.1 | 16,638 |
| Knox | 2,857 | 862.7 | 27,349 |
| Lake | 1,502 | 46.4 | 11,813 |
| Lauderdale | 5,387 | 58.9 | 16,006 |
| Lawrence | 21,061 | 67.8 | 18,086 |
| Lewis | 3,755 | 43.2 | 17,473 |
| Lincoln | 3,957 | 59.2 | 22,811 |
| Loudon | 2,975 | 216.4 | 27,046 |
| McMinn | 11,630 | 122.4 | 19,796 |
| McNairy | 9,298 | 46.8 | 18,488 |
| Macon | 368 | 72.9 | 16,518 |
| Madison | 2,424 | 176.7 | 22,948 |

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| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|--------------|----------------------------------|---------------------------|-----------------------------------|
| Marion | 2,555 | 56.7 | 20,811 |
| Marshall | 6,170 | 83.1 | 20,157 |
| Maury | 4,394 | 135.9 | 23,136 |
| Meigs | 4,508 | 61.3 | 18,768 |
| Monroe | 6,433 | 71.6 | 18,651 |
| Montgomery | 3,483 | 327.0 | 22,092 |
| Moore | 1,538 | 49.8 | 26,678 |
| Morgan | 17,196 | 42.2 | 17,883 |
| Obion | 1,108 | 57.9 | 21,235 |
| Overton | 52 | 51.3 | 17,720 |
| Perry | 2,626 | 19.2 | 17,028 |
| Pickett | 2 | 31.0 | 19,327 |
| Polk | 4,319 | 38.5 | 17,481 |
| Putnam | 258 | 183.7 | 19,434 |
| Rhea | 4,549 | 102.0 | 17,655 |
| Roane | 6,576 | 150.6 | 23,196 |
| Robertson | 7,126 | 142.5 | 22,658 |
| Rutherford | 11,855 | 441.3 | 24,390 |
| Scott | 22,004 | 41.9 | 15,087 |
| Sequatchie | 74 | 54.4 | 18,094 |
| Sevier | 7,074 | 154.7 | 22,047 |
| Shelby | 11,109 | 1215.1 | 25,002 |
| Smith | 2,750 | 61.6 | 21,026 |
| Stewart | 4,323 | 29.2 | 20,670 |
| Sullivan | 743 | 380.7 | 23,263 |
| Sumner | 6,261 | 310.5 | 26,014 |
| Tipton | 9,129 | 135.7 | 21,585 |
| Trousdale | 2,886 | 70.2 | 19,996 |
| Unicoi | 1,733 | 98.5 | 20,540 |
| Union | 3,195 | 85.8 | 16,155 |
| Van Buren | 252 | 20.5 | 17,160 |
| Warren | 29 | 92.6 | 18,508 |
| Washington | 3,936 | 383.1 | 24,114 |
| Wayne | 4,395 | 23.2 | 15,814 |
| Weakley | 1,982 | 60.2 | 18,895 |
| White | 64 | 69.4 | 17,880 |
| Williamson | 10,062 | 326.7 | 41,220 |
| Wilson | 3,369 | 206.2 | 27,814 |
| Texas | | | |
| Anderson | 16,684 | 55.7 | 17,465 |

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| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|-----------|----------------------------------|---------------------------|-----------------------------------|
| Andrews | 438 | 10.2 | 29,605 |
| Angelina | 4,522 | 110.1 | 20,104 |
| Aransas | 990 | 93.2 | 25,610 |
| Archer | 1,131 | 10.2 | 23,882 |
| Armstrong | 85 | 2.1 | 24,195 |
| Atascosa | 2,764 | 37.2 | 18,461 |
| Austin | 12,301 | 44.5 | 26,959 |
| Bailey | 886 | 8.7 | 18,275 |
| Bandera | 12,107 | 26.1 | 24,249 |
| Bastrop | 3,644 | 84.9 | 22,918 |
| Baylor | 1,625 | 4.2 | 22,894 |
| Bee | 43 | 36.5 | 14,188 |
| Bell | 13,744 | 303.8 | 22,722 |
| Bexar | 2,044 | 1420.4 | 23,225 |
| Blanco | 4,641 | 14.7 | 27,010 |
| Borden | 323 | 0.7 | 40,916 |
| Bosque | 4,740 | 18.5 | 21,269 |
| Bowie | 5,853 | 105.5 | 22,293 |
| Brazoria | 54,267 | 237.4 | 27,529 |
| Brazos | 11,445 | 340.6 | 21,018 |
| Brewster | 2,963 | 1.5 | 23,577 |
| Briscoe | 50 | 1.8 | 17,652 |
| Brooks | 1,711 | 7.7 | 14,728 |
| Brown | 6,720 | 40.5 | 20,586 |
| Burleson | 8,323 | 26.1 | 21,379 |
| Burnet | 15,830 | 44.0 | 25,245 |
| Caldwell | 326 | 70.1 | 18,106 |
| Calhoun | 3,923 | 42.5 | 22,835 |
| Callahan | 4,303 | 15.2 | 22,300 |
| Cameron | 1,110 | 466.0 | 13,695 |
| Camp | 6,245 | 64.8 | 18,710 |
| Carson | 1,479 | 6.6 | 24,977 |
| Cass | 14,250 | 32.4 | 20,137 |
| Castro | 2,415 | 9.1 | 16,073 |
| Chambers | 6,917 | 59.7 | 26,453 |
| Cherokee | 24,969 | 48.7 | 17,230 |
| Childress | 2,163 | 10.1 | 16,338 |
| Clay | 784 | 9.7 | 24,565 |
| Cochran | 817 | 3.9 | 16,018 |
| Coke | 3,151 | 3.6 | 18,384 |

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| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|---------------|----------------------------------|---------------------------|-----------------------------------|
| Coleman | 4,052 | 7.1 | 16,494 |
| Collingsworth | 903 | 3.4 | 21,726 |
| Colorado | 10,618 | 21.9 | 22,676 |
| Comal | 5,843 | 203.0 | 31,862 |
| Comanche | 4,359 | 15.0 | 18,086 |
| Concho | 2,423 | 4.2 | 17,731 |
| Cooke | 626 | 44.0 | 23,598 |
| Coryell | 18,853 | 72.0 | 18,936 |
| Cottle | 187 | 1.7 | 17,385 |
| Crane | 108 | 5.8 | 20,185 |
| Crockett | 847 | 1.4 | 24,194 |
| Crosby | 541 | 6.7 | 17,940 |
| Culberson | 577 | 0.6 | 16,060 |
| Dallam | 1,405 | 4.5 | 18,940 |
| Dallas | 575 | 2761.2 | 26,185 |
| Dawson | 675 | 15.4 | 15,288 |
| Deaf Smith | 1,916 | 13.2 | 16,687 |
| Delta | 211 | 20.3 | 20,837 |
| Denton | 622 | 779.4 | 32,538 |
| DeWitt | 1,226 | 22.1 | 20,020 |
| Dickens | 162 | 2.7 | 18,642 |
| Dimmit | 1,236 | 7.5 | 14,045 |
| Donley | 1,526 | 4.0 | 20,137 |
| Duval | 1,364 | 6.5 | 15,134 |
| Eastland | 6,039 | 20.0 | 17,973 |
| Ector | 591 | 156.9 | 22,859 |
| Edwards | 166 | 1.0 | 31,109 |
| Ellis | 709 | 165.8 | 25,346 |
| El Paso | 8,201 | 806.2 | 16,768 |
| Erath | 8,539 | 35.6 | 20,903 |
| Falls | 2,211 | 23.2 | 14,979 |
| Fannin | 1,510 | 38.3 | 20,221 |
| Fayette | 7,981 | 26.0 | 26,898 |
| Fisher | 1,657 | 4.4 | 20,516 |
| Floyd | 1,054 | 6.4 | 18,093 |
| Foard | 1,303 | 1.8 | 18,368 |
| Fort Bend | 49,401 | 710.9 | 32,016 |
| Franklin | 2,333 | 38.1 | 23,821 |
| Freestone | 5,751 | 22.7 | 23,235 |
| Frio | 751 | 15.2 | 15,036 |

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| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|------------|----------------------------------|---------------------------|-----------------------------------|
| Gaines | 4,932 | 12.0 | 22,785 |
| Galveston | 17,473 | 783.0 | 28,959 |
| Garza | 573 | 7.0 | 16,185 |
| Gillespie | 8,699 | 23.9 | 28,072 |
| Glasscock | 1,111 | 1.4 | 26,104 |
| Goliad | 1,999 | 8.5 | 28,120 |
| Gonzales | 181 | 18.8 | 18,716 |
| Gray | 2,802 | 24.9 | 20,567 |
| Grayson | 1,000 | 130.2 | 23,242 |
| Gregg | 6,087 | 450.1 | 23,024 |
| Grimes | 12,831 | 34.1 | 17,365 |
| Hale | 1,804 | 36.5 | 16,322 |
| Hall | 362 | 3.7 | 20,126 |
| Hamilton | 2,789 | 10.3 | 22,429 |
| Hansford | 1,494 | 6.2 | 21,095 |
| Hardeman | 693 | 5.8 | 17,401 |
| Hardin | 13,683 | 62.0 | 23,965 |
| Harris | 255,229 | 2459.8 | 26,788 |
| Harrison | 34,622 | 73.5 | 22,019 |
| Hartley | 2,163 | 4.2 | 24,616 |
| Haskell | 2,117 | 6.5 | 22,734 |
| Hays | 4,560 | 242.5 | 25,998 |
| Hemphill | 898 | 4.3 | 29,343 |
| Henderson | 13,688 | 89.8 | 21,580 |
| Hidalgo | 715 | 508.7 | 13,480 |
| Hill | 1,681 | 36.9 | 20,554 |
| Hockley | 1,605 | 25.3 | 20,255 |
| Hood | 507 | 124.4 | 30,687 |
| Hopkins | 7,419 | 46.2 | 21,163 |
| Houston | 8,138 | 19.3 | 18,813 |
| Howard | 795 | 39.4 | 17,832 |
| Hudspeth | 937 | 0.8 | 11,485 |
| Hunt | 463 | 102.5 | 21,646 |
| Hutchinson | 1,390 | 24.9 | 21,075 |
| Irion | 795 | 1.5 | 31,857 |
| Jack | 1,266 | 10.0 | 21,349 |
| Jackson | 4,684 | 17.1 | 24,337 |
| Jasper | 22,221 | 37.8 | 19,182 |
| Jeff Davis | 1,193 | 1.1 | 22,007 |
| Jefferson | 14,799 | 288.3 | 22,095 |

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|-----------|----------------------------------|---------------------------|-----------------------------------|
| Jim Hogg | 207 | 4.7 | 17,163 |
| Jim Wells | 2,144 | 47.5 | 16,976 |
| Johnson | 320 | 212.0 | 23,669 |
| Jones | 12,015 | 21.8 | 15,880 |
| Karnes | 61 | 20.0 | 15,949 |
| Kaufman | 713 | 137.5 | 23,909 |
| Kendall | 9,116 | 53.0 | 36,418 |
| Kenedy | 400 | 0.3 | 16,655 |
| Kent | 83 | 0.9 | 27,021 |
| Kerr | 1,579 | 45.7 | 25,454 |
| Kimble | 2,063 | 3.6 | 27,118 |
| King | 84 | 0.3 | 39,511 |
| Kinney | 856 | 2.7 | 14,207 |
| Kleberg | 2,322 | 36.6 | 18,580 |
| Knox | 1,308 | 4.2 | 20,375 |
| Lamar | 4,443 | 54.9 | 20,588 |
| Lamb | 1,754 | 13.7 | 17,553 |
| Lampasas | 9,092 | 28.1 | 22,943 |
| La Salle | 1,721 | 4.6 | 13,542 |
| Lavaca | 2,540 | 19.9 | 23,168 |
| Lee | 2,692 | 26.5 | 23,074 |
| Leon | 6,609 | 15.9 | 22,484 |
| Liberty | 33,978 | 65.3 | 18,807 |
| Limestone | 871 | 25.8 | 18,420 |
| Lipscomb | 779 | 3.6 | 24,839 |
| Live Oak | 123 | 11.1 | 21,540 |
| Llano | 5,905 | 20.7 | 29,027 |
| Loving | 67 | 0.1 | 42,220 |
| Lubbock | 12,452 | 315.0 | 22,831 |
| Lynn | 637 | 6.6 | 19,752 |
| McCulloch | 178 | 7.9 | 20,116 |
| McLennan | 876 | 229.3 | 20,652 |
| McMullen | 199 | 0.6 | 21,358 |
| Madison | 4,881 | 29.5 | 14,245 |
| Marion | 7,977 | 27.3 | 20,125 |
| Martin | 1,798 | 5.3 | 19,695 |
| Mason | 653 | 4.4 | 23,555 |
| Matagorda | 7,886 | 33.5 | 22,623 |
| Maverick | 3,337 | 43.1 | 12,444 |
| Medina | 3,862 | 35.3 | 20,604 |

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| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|---------------|----------------------------------|---------------------------|-----------------------------------|
| Menard | 686 | 2.5 | 23,362 |
| Midland | 2,173 | 156.4 | 30,956 |
| Milam | 3,759 | 24.3 | 21,509 |
| Mills | 30 | 6.7 | 20,438 |
| Mitchell | 2,000 | 10.4 | 13,358 |
| Montague | 2,655 | 21.3 | 22,328 |
| Montgomery | 16,758 | 455.3 | 31,959 |
| Moore | 1,273 | 24.8 | 18,239 |
| Morris | 3,551 | 51.1 | 20,292 |
| Motley | 189 | 1.2 | 19,754 |
| Nacogdoches | 7,257 | 69.0 | 18,180 |
| Navarro | 10,702 | 47.7 | 20,539 |
| Newton | 8,633 | 15.4 | 17,721 |
| Nolan | 2,308 | 16.9 | 19,973 |
| Nueces | 8 | 410.3 | 22,558 |
| Ochiltree | 1,122 | 11.4 | 21,143 |
| Oldham | 1,001 | 1.4 | 22,504 |
| Orange | 5,822 | 245.5 | 23,155 |
| Palo Pinto | 3,085 | 29.7 | 21,551 |
| Panola | 14,071 | 29.8 | 22,846 |
| Parker | 196 | 133.1 | 28,539 |
| Parmer | 1,995 | 11.7 | 16,926 |
| Pecos | 4,020 | 3.3 | 16,717 |
| Polk | 13,301 | 42.6 | 16,961 |
| Potter | 10,905 | 134.5 | 18,725 |
| Presidio | 5,709 | 2.0 | 15,635 |
| Rains | 2,463 | 47.9 | 20,855 |
| Randall | 3,718 | 134.2 | 28,668 |
| Reagan | 415 | 3.0 | 23,028 |
| Real | 570 | 4.8 | 15,074 |
| Red River | 5,520 | 12.4 | 18,105 |
| Reeves | 4,551 | 5.2 | 13,112 |
| Refugio | 907 | 9.6 | 18,638 |
| Roberts | 386 | 1.0 | 29,291 |
| Robertson | 5,516 | 19.4 | 21,113 |
| Runnels | 2,827 | 10.0 | 20,056 |
| Rusk | 29,237 | 58.3 | 22,392 |
| Sabine | 5,190 | 22.1 | 18,155 |
| San Augustine | 5,106 | 16.7 | 17,184 |
| San Jacinto | 18,323 | 46.9 | 21,453 |

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|--------------|----------------------------------|---------------------------|-----------------------------------|
| San Patricio | 1,082 | 94.1 | 20,766 |
| San Saba | 31 | 5.3 | 19,721 |
| Schleicher | 1,462 | 2.7 | 21,299 |
| Scurry | 3,913 | 19.0 | 22,424 |
| Shackelford | 891 | 3.6 | 22,346 |
| Shelby | 15,406 | 32.2 | 20,103 |
| Sherman | 985 | 3.3 | 21,587 |
| Smith | 13,855 | 232.3 | 25,374 |
| Somervell | 255 | 46.6 | 26,314 |
| Starr | 4,780 | 50.5 | 11,659 |
| Stephens | 3,310 | 10.9 | 19,573 |
| Sterling | 285 | 1.2 | 20,640 |
| Stonewall | 800 | 1.7 | 25,177 |
| Sutton | 870 | 2.9 | 23,325 |
| Swisher | 116 | 8.8 | 16,513 |
| Tarrant | 12 | 2147.8 | 27,333 |
| Taylor | 12,296 | 144.4 | 22,606 |
| Terrell | 959 | 0.4 | 18,871 |
| Terry | 700 | 14.3 | 22,306 |
| Throckmorton | 312 | 1.8 | 20,677 |
| Titus | 12,966 | 81.7 | 17,520 |
| Tom Green | 11,084 | 73.3 | 22,292 |
| Travis | 1,467 | 1069.0 | 31,785 |
| Trinity | 3,256 | 21.2 | 19,828 |
| Tyler | 11,697 | 23.9 | 19,450 |
| Upshur | 25,579 | 67.8 | 21,946 |
| Upton | 335 | 2.7 | 23,112 |
| Uvalde | 1,486 | 17.2 | 17,842 |
| Val Verde | 5,719 | 15.7 | 16,615 |
| Van Zandt | 18,255 | 62.5 | 20,989 |
| Victoria | 14,954 | 99.4 | 24,146 |
| Walker | 21,452 | 87.0 | 13,920 |
| Waller | 12,178 | 85.5 | 21,621 |
| Ward | 686 | 13.1 | 20,055 |
| Washington | 12,535 | 56.3 | 25,464 |
| Webb | 7,272 | 76.4 | 14,163 |
| Wharton | 14,527 | 38.2 | 21,049 |
| Wheeler | 1,359 | 5.9 | 27,282 |
| Wichita | 7,433 | 208.5 | 22,837 |
| Wilbarger | 2,342 | 14.0 | 19,916 |

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|----------------|----------------------------------|---------------------------|-----------------------------------|
| Willacy | 1,055 | 38.0 | 10,800 |
| Williamson | 9,637 | 395.0 | 29,663 |
| Wilson | 123 | 55.1 | 25,149 |
| Winkler | 180 | 8.5 | 19,309 |
| Wise | 701 | 66.1 | 24,075 |
| Wood | 14,829 | 65.8 | 21,682 |
| Yoakum | 1,664 | 10.1 | 19,937 |
| Young | 2,637 | 20.3 | 24,656 |
| Zapata | 1,218 | 14.4 | 13,915 |
| Zavala | 1,021 | 9.1 | 10,180 |
| Utah | | | |
| Beaver | 129 | 2.6 | 16,131 |
| Box Elder | 3,284 | 8.9 | 20,465 |
| Cache | 553 | 98.7 | 19,670 |
| Carbon | 1,966 | 14.6 | 20,260 |
| Daggett | 520 | 1.5 | 22,862 |
| Duchesne | 2,504 | 6.0 | 21,787 |
| Emery | 1,130 | 2.5 | 19,968 |
| Garfield | 894 | 1.0 | 23,187 |
| Grand | 1,833 | 2.6 | 20,611 |
| Iron | 324 | 14.6 | 16,898 |
| Juab | 3,076 | 3.1 | 18,193 |
| Kane | 1,371 | 1.8 | 25,155 |
| Millard | 2,672 | 1.9 | 18,839 |
| Morgan | 1,963 | 16.1 | 24,276 |
| Piute | 58 | 2.1 | 16,140 |
| Rich | 384 | 2.3 | 25,376 |
| Salt Lake | 1,063 | 1415.0 | 25,041 |
| San Juan | 14,839 | 2.0 | 15,150 |
| Sanpete | 810 | 18.0 | 15,731 |
| Sevier | 53 | 11.1 | 18,856 |
| Summit | 675 | 19.6 | 40,270 |
| Tooele | 1,101 | 8.6 | 22,020 |
| Uintah | 2,390 | 7.5 | 24,160 |
| Utah | 2,772 | 270.5 | 20,210 |
| Wasatch | 849 | 20.7 | 26,873 |
| Washington | 1,336 | 59.7 | 21,378 |
| Wayne | 637 | 1.2 | 19,829 |
| Weber | 2,679 | 410.2 | 22,849 |
| Vermont | | | |

Appendix D

Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|-----------------|----------------------------------|---------------------------|-----------------------------------|
| Addison | 3,590 | 47.9 | 26,599 |
| Bennington | 3,795 | 54.8 | 27,962 |
| Caledonia | 5,600 | 48.1 | 22,504 |
| Chittenden | 3,718 | 292.3 | 31,095 |
| Essex | 2,691 | 9.5 | 20,040 |
| Franklin | 3,546 | 75.3 | 24,767 |
| Grand Isle | 196 | 85.0 | 30,499 |
| Lamoille | 3,724 | 53.4 | 27,164 |
| Orange | 8,428 | 41.9 | 25,951 |
| Orleans | 5,339 | 39.2 | 20,652 |
| Rutland | 3,615 | 66.1 | 25,426 |
| Washington | 2,735 | 86.3 | 28,337 |
| Windham | 4,575 | 56.3 | 27,247 |
| Windsor | 6,949 | 58.1 | 29,053 |
| Virginia | | | |
| Accomack | 6,350 | 73.3 | 22,766 |
| Albemarle | 20,567 | 137.4 | 36,685 |
| Alleghany | 2,844 | 36.1 | 22,013 |
| Amelia | 10,666 | 36.4 | 24,197 |
| Amherst | 11,167 | 68.8 | 21,097 |
| Appomattox | 7,932 | 45.7 | 22,388 |
| Augusta | 21,496 | 77.0 | 23,571 |
| Bath | 2,838 | 8.8 | 22,083 |
| Bedford | 16,984 | 92.5 | 27,732 |
| Bland | 4,270 | 19.2 | 20,468 |
| Botetourt | 5,514 | 61.5 | 29,540 |
| Brunswick | 9,807 | 30.6 | 16,739 |
| Buchanan | 8,782 | 47.2 | 16,742 |
| Buckingham | 11,382 | 29.7 | 16,752 |
| Campbell | 11,397 | 109.8 | 22,044 |
| Caroline | 10,283 | 56.1 | 25,024 |
| Carroll | 29 | 63.3 | 18,670 |
| Charles City | 2,617 | 39.9 | 23,955 |
| Charlotte | 7,900 | 26.4 | 17,348 |
| Chesterfield | 9,844 | 760.9 | 31,711 |
| Clarke | 5,712 | 80.3 | 34,630 |
| Craig | 3,227 | 15.9 | 23,461 |
| Culpeper | 12,824 | 126.6 | 27,507 |
| Cumberland | 6,230 | 34.3 | 19,691 |
| Dickenson | 12,950 | 48.5 | 16,278 |

Appendix D

Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|----------------|----------------------------------|---------------------------|-----------------------------------|
| Dinwiddie | 10,674 | 56.4 | 23,423 |
| Essex | 3,775 | 44.4 | 23,795 |
| Fairfax | 1,355 | 2781.2 | 49,001 |
| Fauquier | 16,093 | 101.2 | 38,710 |
| Floyd | 1,534 | 40.5 | 21,425 |
| Fluvanna | 7,941 | 90.2 | 29,407 |
| Franklin | 16,065 | 82.2 | 23,527 |
| Frederick | 27,819 | 192.9 | 27,977 |
| Giles | 11,307 | 48.7 | 20,985 |
| Gloucester | 5,747 | 171.1 | 27,395 |
| Goochland | 15,199 | 79.5 | 38,553 |
| Grayson | 111 | 35.1 | 19,499 |
| Greene | 4,377 | 118.6 | 24,969 |
| Greensville | 8,288 | 41.8 | 17,631 |
| Halifax | 20,966 | 44.3 | 19,909 |
| Hanover | 12,404 | 214.0 | 34,201 |
| Henrico | 1,149 | 1331.5 | 33,001 |
| Henry | 16,042 | 141.0 | 19,206 |
| Highland | 2,354 | 5.7 | 25,690 |
| Isle of Wight | 3,499 | 114.3 | 29,547 |
| James City | 2,516 | 482.7 | 38,162 |
| King and Queen | 5,181 | 22.1 | 21,777 |
| King George | 2,228 | 137.2 | 32,630 |
| King William | 4,374 | 60.0 | 26,853 |
| Lancaster | 1,433 | 85.2 | 29,275 |
| Lee | 5,011 | 58.9 | 16,513 |
| Loudoun | 17,196 | 626.3 | 45,356 |
| Louisa | 25,383 | 69.0 | 27,562 |
| Lunenburg | 8,196 | 29.9 | 17,744 |
| Madison | 11,299 | 41.7 | 26,081 |
| Mathews | 3,459 | 104.8 | 27,011 |
| Mecklenburg | 5,955 | 52.4 | 20,162 |
| Middlesex | 1,508 | 84.5 | 28,539 |
| Montgomery | 16,727 | 246.1 | 22,040 |
| Nelson | 11,694 | 32.1 | 26,996 |
| New Kent | 4,186 | 91.2 | 31,741 |
| Northampton | 1,848 | 58.9 | 23,233 |
| Northumberland | 2,094 | 64.6 | 28,646 |
| Nottoway | 7,753 | 50.7 | 20,318 |
| Orange | 9,412 | 101.4 | 26,447 |

Appendix D

Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|------------------|----------------------------------|---------------------------|-----------------------------------|
| Page | 9,459 | 77.8 | 22,969 |
| Patrick | 8,083 | 38.3 | 18,396 |
| Pittsylvania | 34,032 | 65.6 | 20,652 |
| Powhatan | 4,356 | 109.6 | 25,851 |
| Prince Edward | 7,876 | 68.0 | 18,192 |
| Prince George | 2,297 | 133.3 | 25,769 |
| Prince William | 2,632 | 1211.0 | 35,737 |
| Pulaski | 9,429 | 109.2 | 20,976 |
| Rappahannock | 5,352 | 27.4 | 37,149 |
| Richmond | 4,273 | 48.5 | 19,965 |
| Roanoke | 12,230 | 371.7 | 31,046 |
| Rockbridge | 13,353 | 37.6 | 23,753 |
| Rockingham | 19,143 | 91.2 | 25,274 |
| Russell | 13,445 | 61.3 | 17,909 |
| Scott | 6,010 | 43.3 | 18,667 |
| Shenandoah | 3,227 | 83.8 | 24,502 |
| Smyth | 7,125 | 71.1 | 19,906 |
| Southampton | 7,238 | 31.6 | 21,201 |
| Spotsylvania | 7,195 | 305.7 | 31,012 |
| Stafford | 1,938 | 480.1 | 34,691 |
| Surry | 6,782 | 25.5 | 23,835 |
| Sussex | 6,692 | 24.9 | 16,735 |
| Tazewell | 7,946 | 86.9 | 19,016 |
| Warren | 8,589 | 178.6 | 29,098 |
| Washington | 18,128 | 98.6 | 23,488 |
| Westmoreland | 3,549 | 77.2 | 27,501 |
| Wise | 14,165 | 102.9 | 17,944 |
| Wythe | 7,582 | 63.8 | 20,589 |
| York | 1,037 | 621.8 | 35,823 |
| Bedford | 15 | 901.4 | 20,092 |
| Bristol | 12,322 | 1367.2 | 19,700 |
| Buena Vista | 1,440 | 988.6 | 19,030 |
| Charlottesville | 3,598 | 4342.9 | 24,578 |
| Chesapeake | 5,574 | 654.8 | 29,306 |
| Colonial Heights | 517 | 2312.8 | 26,115 |
| Covington | 2 | 1084.2 | 20,781 |
| Danville | 1,240 | 992.8 | 18,840 |
| Emporia | 62 | 859.8 | 19,245 |
| Franklin | 1 | 1065.8 | 19,453 |
| Fredericksburg | 907 | 2367.0 | 27,870 |

Appendix D

Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|-------------------|----------------------------------|---------------------------|-----------------------------------|
| Hampton | 2,246 | 2671.1 | 24,051 |
| Harrisonburg | 1,531 | 2818.4 | 16,750 |
| Lexington | 407 | 2831.5 | 17,022 |
| Lynchburg | 3,416 | 1577.6 | 21,586 |
| Martinsville | 2,105 | 1252.4 | 19,766 |
| Newport News | 5,866 | 2611.5 | 24,249 |
| Norfolk | 4,713 | 4427.5 | 23,773 |
| Norton | 259 | 527.1 | 24,145 |
| Poquoson | 84 | 793.5 | 36,840 |
| Portsmouth | 3,332 | 2832.5 | 22,302 |
| Radford | 20 | 1664.6 | 16,496 |
| Richmond | 595 | 3437.5 | 26,034 |
| Roanoke | 7,036 | 2287.3 | 22,530 |
| Salem | 750 | 1732.2 | 27,081 |
| Staunton | 340 | 1199.4 | 24,077 |
| Suffolk | 4,019 | 213.6 | 28,441 |
| Virginia Beach | 3,150 | 1746.8 | 30,873 |
| Waynesboro | 379 | 1411.1 | 23,190 |
| Williamsburg | 359 | 1590.3 | 22,851 |
| Winchester | 481 | 2848.5 | 26,341 |
| Washington | | | |
| Adams | 4,807 | 10.1 | 16,689 |
| Asotin | 1,144 | 34.4 | 23,731 |
| Benton | 226 | 104.6 | 27,161 |
| Chelan | 4,615 | 25.4 | 24,378 |
| Clallam | 6,902 | 41.6 | 24,449 |
| Clark | 2,533 | 687.2 | 27,828 |
| Columbia | 423 | 4.7 | 25,810 |
| Cowlitz | 3,152 | 91.2 | 22,948 |
| Douglas | 2,962 | 21.7 | 22,359 |
| Ferry | 7,172 | 3.4 | 18,021 |
| Franklin | 4,659 | 67.4 | 18,660 |
| Garfield | 955 | 3.2 | 22,825 |
| Grant | 17,640 | 34.3 | 19,718 |
| Grays Harbor | 12,751 | 38.4 | 21,656 |
| Island | 3,367 | 376.6 | 29,079 |
| Jefferson | 6,134 | 16.7 | 28,528 |
| King | 7,498 | 926.0 | 38,211 |
| Kitsap | 5,726 | 635.0 | 29,755 |
| Kittitas | 3,482 | 18.1 | 23,467 |

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Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|----------------------|----------------------------------|---------------------------|-----------------------------------|
| Klickitat | 5,663 | 11.0 | 21,553 |
| Lewis | 14,047 | 31.8 | 21,695 |
| Mason | 6,933 | 64.8 | 22,530 |
| Okanogan | 20,270 | 8.0 | 20,093 |
| Pacific | 3,990 | 22.5 | 23,326 |
| Pierce | 22,103 | 481.7 | 27,446 |
| San Juan | 2,345 | 90.9 | 35,487 |
| Skagit | 9,453 | 68.8 | 26,925 |
| Skamania | 2,972 | 6.8 | 24,140 |
| Snohomish | 10,673 | 346.7 | 30,635 |
| Thurston | 9,075 | 357.3 | 29,707 |
| Wahkiakum | 1,030 | 15.6 | 23,115 |
| Walla Walla | 321 | 46.7 | 23,027 |
| Whatcom | 10,361 | 97.2 | 25,407 |
| Yakima | 1,937 | 58.1 | 19,325 |
| West Virginia | | | |
| Barbour | 8,694 | 49.3 | 17,304 |
| Berkeley | 9,120 | 333.0 | 25,460 |
| Boone | 17,055 | 49.1 | 20,457 |
| Braxton | 5,153 | 28.7 | 17,469 |
| Brooke | 7,597 | 266.7 | 22,377 |
| Cabell | 14,954 | 342.5 | 21,907 |
| Calhoun | 7,108 | 27.7 | 17,121 |
| Clay | 8,546 | 27.6 | 16,205 |
| Doddridge | 4,379 | 25.7 | 14,658 |
| Fayette | 31,796 | 69.4 | 17,082 |
| Gilmer | 3,733 | 25.9 | 13,899 |
| Grant | 7,371 | 25.6 | 19,358 |
| Greenbrier | 28,845 | 34.8 | 20,044 |
| Hampshire | 24,079 | 38.2 | 17,752 |
| Hancock | 2,986 | 367.6 | 23,118 |
| Hardy | 14,194 | 24.4 | 16,944 |
| Harrison | 12,913 | 167.0 | 21,010 |
| Jackson | 9,225 | 62.8 | 20,633 |
| Jefferson | 6,907 | 259.4 | 29,733 |
| Kanawha | 124,452 | 213.2 | 25,439 |
| Lewis | 3,289 | 43.1 | 18,240 |
| Lincoln | 8,912 | 49.6 | 16,439 |
| Logan | 28,129 | 80.9 | 18,614 |
| McDowell | 16,422 | 41.0 | 12,955 |

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Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|------------------|----------------------------------|---------------------------|-----------------------------------|
| Marion | 10,257 | 182.8 | 20,752 |
| Marshall | 13,794 | 106.9 | 21,064 |
| Mason | 24,140 | 63.3 | 19,609 |
| Mercer | 38,173 | 149.1 | 18,431 |
| Mineral | 19,938 | 86.4 | 20,805 |
| Mingo | 18,073 | 63.0 | 17,629 |
| Monongalia | 10,681 | 268.7 | 23,116 |
| Monroe | 13,467 | 29.0 | 18,927 |
| Morgan | 7,083 | 77.0 | 20,732 |
| Nicholas | 13,302 | 40.7 | 19,359 |
| Ohio | 7,321 | 417.8 | 23,950 |
| Pendleton | 6,197 | 11.1 | 19,401 |
| Pleasants | 6,710 | 58.3 | 18,770 |
| Pocahontas | 8,508 | 9.2 | 19,763 |
| Preston | 31,470 | 52.3 | 19,329 |
| Putnam | 30,552 | 162.2 | 25,857 |
| Raleigh | 70,444 | 130.8 | 20,457 |
| Randolph | 11,160 | 28.5 | 18,472 |
| Ritchie | 1,312 | 23.3 | 18,255 |
| Roane | 11,072 | 30.7 | 15,103 |
| Summers | 13,150 | 37.9 | 15,190 |
| Taylor | 6,149 | 98.6 | 18,562 |
| Tucker | 6,438 | 17.1 | 20,020 |
| Tyler | 7,847 | 35.7 | 18,245 |
| Upshur | 7,605 | 68.9 | 18,823 |
| Wayne | 21,429 | 83.3 | 18,410 |
| Webster | 2,536 | 16.5 | 17,268 |
| Wetzel | 13,555 | 46.1 | 19,899 |
| Wirt | 4,069 | 24.6 | 18,438 |
| Wood | 4,136 | 236.9 | 22,890 |
| Wyoming | 7,307 | 47.5 | 17,662 |
| Wisconsin | | | |
| Adams | 9,637 | 31.9 | 21,917 |
| Ashland | 3,510 | 15.4 | 19,730 |
| Barron | 3,696 | 53.1 | 22,666 |
| Bayfield | 2,162 | 10.1 | 24,028 |
| Brown | 2 | 472.2 | 26,816 |
| Buffalo | 3,289 | 20.2 | 22,579 |
| Burnett | 3,993 | 18.6 | 22,767 |
| Chippewa | 7,594 | 62.4 | 23,952 |

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Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|-------------|----------------------------------|---------------------------|-----------------------------------|
| Clark | 16,690 | 28.6 | 19,797 |
| Columbia | 13,595 | 74.3 | 26,993 |
| Crawford | 5,302 | 29.2 | 21,346 |
| Dane | 5,832 | 412.3 | 32,392 |
| Dodge | 6,720 | 101.4 | 23,663 |
| Door | 8,843 | 57.2 | 29,154 |
| Douglas | 7,221 | 33.7 | 24,552 |
| Dunn | 6,639 | 51.8 | 21,624 |
| Eau Claire | 7,402 | 155.1 | 24,826 |
| Florence | 1,043 | 8.9 | 20,283 |
| Fond du Lac | 8,972 | 141.6 | 25,360 |
| Forest | 3,614 | 9.2 | 20,578 |
| Grant | 11,307 | 44.6 | 20,758 |
| Green | 3,080 | 63.9 | 26,721 |
| Green Lake | 4,348 | 54.2 | 24,973 |
| Iowa | 4,203 | 31.1 | 25,156 |
| Iron | 1,424 | 7.6 | 21,286 |
| Jackson | 7,857 | 20.8 | 20,778 |
| Jefferson | 10,221 | 151.1 | 24,729 |
| Juneau | 5,858 | 34.9 | 23,026 |
| Kenosha | 2,169 | 617.6 | 26,168 |
| Kewaunee | 876 | 59.7 | 24,574 |
| La Crosse | 3,067 | 255.6 | 24,917 |
| Lafayette | 4,586 | 26.4 | 22,026 |
| Langlade | 2,345 | 22.8 | 22,025 |
| Lincoln | 10,414 | 32.5 | 23,793 |
| Manitowoc | 1,804 | 138.0 | 25,161 |
| Marathon | 23,965 | 87.5 | 25,893 |
| Marinette | 8,763 | 29.6 | 22,999 |
| Marquette | 4,275 | 34.2 | 22,895 |
| Menominee | 89 | 11.7 | 14,794 |
| Milwaukee | 282 | 3932.3 | 23,740 |
| Monroe | 9,981 | 50.1 | 23,052 |
| Oconto | 3,806 | 37.7 | 24,521 |
| Oneida | 8,458 | 32.1 | 28,085 |
| Outagamie | 1,520 | 278.9 | 26,965 |
| Ozaukee | 32 | 370.9 | 39,778 |
| Pepin | 1,150 | 32.0 | 24,233 |
| Pierce | 10,291 | 72.0 | 26,313 |
| Polk | 8,009 | 48.3 | 24,704 |

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Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|----------------|----------------------------------|---------------------------|-----------------------------------|
| Portage | 10,100 | 87.9 | 24,873 |
| Price | 3,856 | 11.1 | 23,125 |
| Racine | 376 | 591.4 | 26,321 |
| Richland | 7,401 | 30.7 | 21,301 |
| Rock | 4,644 | 224.9 | 23,926 |
| Rusk | 4,443 | 16.0 | 20,573 |
| St. Croix | 7,857 | 119.2 | 31,377 |
| Sauk | 8,878 | 75.4 | 25,452 |
| Sawyer | 2,714 | 13.2 | 23,527 |
| Shawano | 3,953 | 46.9 | 22,539 |
| Sheboygan | 973 | 226.5 | 24,976 |
| Taylor | 11,316 | 21.2 | 22,639 |
| Trempealeau | 4,080 | 39.7 | 23,224 |
| Vernon | 856 | 37.8 | 21,618 |
| Vilas | 8,750 | 24.8 | 27,128 |
| Walworth | 5,713 | 185.5 | 26,769 |
| Washburn | 5,173 | 20.0 | 23,221 |
| Washington | 68 | 309.2 | 30,580 |
| Waukesha | 1,223 | 710.9 | 36,752 |
| Waupaca | 9,936 | 69.9 | 23,293 |
| Waushara | 3,945 | 39.0 | 22,002 |
| Winnebago | 2,686 | 385.7 | 26,383 |
| Wood | 7,355 | 93.9 | 24,893 |
| Wyoming | | | |
| Albany | 1,074 | 8.5 | 25,622 |
| Big Horn | 476 | 3.8 | 24,486 |
| Campbell | 4,074 | 9.9 | 31,968 |
| Carbon | 4,600 | 2.0 | 26,122 |
| Converse | 1,659 | 3.3 | 27,656 |
| Crook | 2,653 | 2.6 | 24,520 |
| Fremont | 10,768 | 4.4 | 24,173 |
| Goshen | 1,122 | 6.0 | 23,753 |
| Hot Springs | 163 | 2.4 | 25,269 |
| Johnson | 1,060 | 2.1 | 26,753 |
| Laramie | 2,907 | 34.4 | 27,406 |
| Lincoln | 13,249 | 4.6 | 24,421 |
| Natrona | 1,286 | 14.4 | 28,235 |
| Niobrara | 484 | 1.0 | 22,885 |
| Park | 6,738 | 4.1 | 26,203 |
| Platte | 2,293 | 4.1 | 24,185 |

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Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|---|----------------------------------|---------------------------|-----------------------------------|
| Sheridan | 2,493 | 11.7 | 26,756 |
| Sublette | 2,066 | 2.3 | 31,433 |
| Sweetwater | 5,302 | 4.3 | 30,961 |
| Teton | 2,926 | 5.4 | 42,224 |
| Uinta | 7,328 | 10.4 | 24,460 |
| Washakie | 412 | 3.8 | 28,557 |
| Weston | 819 | 3.1 | 28,463 |
| American Samoa | | | |
| Eastern | 20,009 | | |
| Manu'a | 1,143 | | |
| Swains Island | 17 | | |
| Western | 22,461 | | |
| Guam | | | |
| Guam | 86,467 | | |
| Commonwealth of the Northern Mariana Islands | | | |
| Rota | 2,721 | | |
| Saipan | 47,784 | | |
| Tinian | 3,377 | | |
| Puerto Rico | | | |
| Adjuntas | 28,193 | 422.8 | 5,974 |
| Aguada | 50,862 | 1648.6 | 7,414 |
| Aguadilla | 50,991 | 1395.9 | 7,908 |
| Aguas Buenas | 13,118 | 1025.0 | 7,494 |
| Aibonito | 30,851 | 1374.9 | 8,213 |
| Añasco | 78,107 | 1988.2 | 7,584 |
| Arecibo | 22,138 | 664.7 | 8,867 |
| Arroyo | 34,354 | 2289.1 | 7,547 |
| Barceloneta | 3,417 | 1023.4 | 8,479 |
| Barranquitas | 7,725 | 693.7 | 6,588 |
| Bayamón | 11,027 | 4253.3 | 12,180 |
| Cabo Rojo | 45,723 | 649.8 | 8,999 |
| Caguas | 26,454 | 2052.0 | 11,880 |
| Camuy | 10,531 | 489.5 | 7,368 |
| Canóvanas | 14,313 | 1242.1 | 9,852 |
| Carolina | 17,803 | 2907.5 | 13,740 |
| Cataño | 1,908 | 3320.1 | 9,893 |
| Cayey | 17,465 | 814.0 | 9,633 |
| Ceiba | 5,319 | 673.1 | 9,658 |
| Ciales | 7,821 | 212.1 | 6,376 |
| Cidra | 14,342 | 874.2 | 10,175 |

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Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|--------------|----------------------------------|---------------------------|-----------------------------------|
| Coamo | 28,018 | 359.2 | 7,660 |
| Comerio | 12,532 | 724.1 | 6,755 |
| Corozal | 19,188 | 863.8 | 6,974 |
| Culebra | 1,496 | 128.9 | 10,349 |
| Dorado | 1,164 | 1694.1 | 14,687 |
| Fajardo | 5,844 | 906.4 | 9,949 |
| Florida | 1,344 | 861.6 | 7,336 |
| Guánica | 24,438 | 659.6 | 6,104 |
| Guayama | 60,074 | 924.4 | 8,821 |
| Guayanilla | 38,436 | 909.4 | 6,803 |
| Guaynabo | 5,030 | 2994.7 | 20,409 |
| Gurabo | 18,094 | 1489.5 | 12,155 |
| Hatillo | 5,400 | 1217.1 | 7,934 |
| Hormigueros | 18,377 | 1620.0 | 9,877 |
| Humacao | 5,834 | 1218.7 | 9,640 |
| Isabela | 45,877 | 829.6 | 6,859 |
| Jayuya | 14,525 | 326.2 | 6,976 |
| Juana Díaz | 56,389 | 935.6 | 7,928 |
| Juncos | 6,923 | 1491.8 | 8,968 |
| Lajas | 53,337 | 889.7 | 6,857 |
| Lares | 11,686 | 544.8 | 6,775 |
| Las Marías | 20,403 | 440.1 | 6,417 |
| Las Piedras | 12,124 | 1350.9 | 9,078 |
| Loíza | 14,191 | 1188.7 | 8,050 |
| Luquillo | 2,626 | 931.1 | 10,506 |
| Manatí | 5,527 | 703.5 | 8,949 |
| Maricao | 15,433 | 421.5 | 5,327 |
| Maunabo | 12,009 | 570.0 | 7,366 |
| Mayagüez | 80,071 | 1031.3 | 9,416 |
| Moca | 61,823 | 1228.1 | 6,906 |
| Morovis | 12,402 | 945.1 | 6,212 |
| Naguabo | 8,711 | 363.3 | 7,548 |
| Naranjito | 10,834 | 990.5 | 6,384 |
| Orocovis | 34,480 | 750.2 | 6,134 |
| Patillas | 24,550 | 525.9 | 6,928 |
| Peñuelas | 19,511 | 437.4 | 6,480 |
| Ponce | 118,580 | 1225.8 | 9,545 |
| Quebradillas | 23,595 | 1040.2 | 6,295 |
| Rincón | 19,153 | 1340.5 | 8,768 |
| Río Grande | 20,503 | 922.0 | 10,049 |

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Americans Without Access to Fixed Broadband
Meeting the Speed Benchmark by County

| County | County Population Without Access | County Population Density | County Per Capita Income (\$2010) |
|-------------------------------------|----------------------------------|---------------------------|-----------------------------------|
| Sabana Grande | 41,810 | 1166.9 | 7,859 |
| Salinas | 49,998 | 720.9 | 6,944 |
| San Germán | 41,638 | 764.1 | 8,066 |
| San Juan | 17,951 | 6825.6 | 16,031 |
| San Lorenzo | 22,899 | 913.1 | 8,399 |
| San Sebastián | 25,394 | 788.9 | 6,456 |
| Santa Isabel | 28,690 | 843.3 | 8,530 |
| Toa Alta | 21,567 | 2212.4 | 11,055 |
| Toa Baja | 6,297 | 3040.8 | 10,938 |
| Trujillo Alto | 12,398 | 2488.7 | 14,588 |
| Utua | 35,651 | 434.6 | 6,775 |
| Vega Alta | 17,150 | 2143.1 | 8,890 |
| Vega Baja | 20,862 | 1237.3 | 9,053 |
| Vieques | 8,873 | 174.8 | 8,054 |
| Villalba | 17,781 | 499.0 | 6,877 |
| Yabucoa | 20,416 | 780.8 | 7,449 |
| Yauco | 90,054 | 1320.6 | 7,374 |
| United States Virgin Islands | | | |
| St. Croix | 53,424 | | |
| St. John | 6,938 | | |
| St. Thomas | 48,240 | | |

Appendix E

Tribal Lands Without Access to Fixed Broadband Meeting the Speed Benchmark by State

| Tribal Lands | Population | Population Without Access | % Population Without Access |
|---------------------------------|------------|---------------------------|-----------------------------|
| All Areas | 3,857,121 | 1,118,982 | 29.0% |
| Lower 48 States | 1,050,085 | 506,034 | 48.2% |
| Alabama | 281 | 238 | 84.7% |
| Alaska | 1,472 | 56 | 3.8% |
| Arizona | 181,085 | 152,886 | 84.4% |
| California | 59,626 | 21,022 | 35.3% |
| Colorado | 13,953 | 4,646 | 33.3% |
| Connecticut | 341 | 78 | 22.9% |
| Florida | 3,601 | 798 | 22.1% |
| Idaho | 31,733 | 20,566 | 64.8% |
| Iowa | 1,049 | 20 | 1.9% |
| Kansas | 5,787 | 1,156 | 20.0% |
| Louisiana | 768 | 349 | 45.4% |
| Maine | 2,548 | 193 | 7.6% |
| Massachusetts | 78 | 0 | 0.0% |
| Michigan | 34,137 | 3,799 | 11.1% |
| Minnesota | 38,397 | 16,778 | 43.7% |
| Mississippi | 7,427 | 2,001 | 26.9% |
| Montana | 67,007 | 28,380 | 42.4% |
| Nebraska | 8,514 | 6,901 | 81.1% |
| Nevada | 12,010 | 4,391 | 36.6% |
| New Mexico | 139,781 | 103,775 | 74.2% |
| New York | 14,109 | 6,095 | 43.2% |
| North Carolina | 9,036 | 3,104 | 34.3% |
| North Dakota | 23,742 | 18,748 | 79.0% |
| Oklahoma | 92,590 | 25,351 | 27.4% |
| Oregon | 8,763 | 3,206 | 36.6% |
| South Carolina | 853 | 0 | 0.0% |
| South Dakota | 62,958 | 44,853 | 71.2% |
| Texas | 1,823 | 999 | 54.8% |
| Utah | 32,255 | 10,290 | 31.9% |
| Washington | 128,605 | 13,022 | 10.1% |
| Wisconsin | 38,781 | 3,919 | 10.1% |
| Wyoming | 26,975 | 8,418 | 31.2% |
| Tribal Statistical Areas | 2,529,095 | 515,261 | 20.4% |
| California | 3,153 | 3 | 0.1% |
| New York | 2,713 | 1,101 | 40.6% |
| Oklahoma | 2,486,306 | 511,279 | 20.6% |
| Washington | 36,923 | 2,879 | 7.8% |
| Alaskan Village Areas | 247,105 | 97,578 | 39.5% |
| Hawaiian Home Lands | 30,836 | 109 | 0.4% |

Appendix F

Americans Without Access to Fixed Broadband Meeting the Speed Benchmark on Certain Tribal Lands

| Tribal Lands | All Areas | | | Non-Rural Areas | | | Rural Areas | | |
|--|------------|---------------------------|-----------------------------|-----------------|---------------------------|-----------------------------|-------------|---------------------------|-----------------------------|
| | Population | Population Without Access | % Population Without Access | Population | Population Without Access | % Population Without Access | Population | Population Without Access | % Population Without Access |
| All | 3,857,121 | 1,118,982 | 29.0% | 1,903,421 | 150,668 | 7.9% | 1,953,700 | 968,314 | 49.6% |
| Lower 48 States | 1,050,085 | 506,034 | 48.2% | 360,939 | 83,652 | 23.2% | 689,146 | 422,383 | 61.3% |
| Statistical or legal area administered and/or claimed by two or more American Indian Tribes | 45,105 | 3,422 | 7.6% | 35,730 | 98 | 0.3% | 9,375 | 3,324 | 35.5% |
| Legal federally recognized American Indian area consisting of reservation and associated off-reservation trust land | 590,706 | 323,726 | 54.8% | 203,566 | 52,302 | 25.7% | 387,140 | 271,424 | 70.1% |
| Legal federally recognized American Indian area consisting of reservation only | 410,951 | 177,923 | 43.3% | 121,472 | 31,252 | 25.7% | 289,479 | 146,672 | 50.7% |
| Legal federally recognized American Indian area consisting of off-reservation trust land only | 3,323 | 963 | 29.0% | 171 | 0 | 0.0% | 3,152 | 963 | 30.6% |
| Tribal Statistical Area | 2,529,095 | 515,261 | 20.4% | 1,424,974 | 52,104 | 3.7% | 1,104,121 | 463,157 | 41.9% |
| Alaskan Village Areas | 247,105 | 97,578 | 39.5% | 91,150 | 14,912 | 16.4% | 155,955 | 82,666 | 53.0% |
| Hawaiian Home Lands | 30,836 | 109 | 0.4% | 26,358 | 0 | 0.0% | 4,478 | 109 | 2.4% |
| There were no census blocks with population for two categories. <i>See supra</i> App. B (Data Sources and Definitions). | | | | | | | | | |

Appendix G

Overall Fixed Broadband Deployment Rates by State

| Area | Deployment Rate 768 kbps/200 kbps or Faster | Deployment Rate 3 Mbps/768 kbps or Faster | Deployment Rate 6 Mbps/1.5 Mbps or Faster |
|----------------------|---|---|---|
| All Areas | 97.0% | 94.0% | 84.7% |
| Alabama | 93.1 | 88.6 | 79.8 |
| Alaska | 89.5 | 80.4 | 1.3 |
| Arizona | 98.2 | 95.3 | 84.2 |
| Arkansas | 92.7 | 86.4 | 66.4 |
| California | 98.2 | 96.7 | 90.8 |
| Colorado | 97.9 | 95.7 | 78.5 |
| Connecticut | 99.3 | 99.3 | 84.8 |
| Delaware | 98.2 | 96.9 | 91.4 |
| District of Columbia | 100.0 | 100.0 | 99.8 |
| Florida | 97.6 | 96.9 | 95.8 |
| Georgia | 97.7 | 96.6 | 92.0 |
| Hawaii | 98.5 | 98.5 | 26.6 |
| Idaho | 94.7 | 86.9 | 70.4 |
| Illinois | 98.4 | 96.7 | 92.9 |
| Indiana | 98.4 | 95.7 | 90.5 |
| Iowa | 97.4 | 92.9 | 83.5 |
| Kansas | 97.2 | 92.3 | 84.2 |
| Kentucky | 93.7 | 89.5 | 58.4 |
| Louisiana | 93.9 | 91.2 | 78.6 |
| Maine | 97.3 | 95.3 | 47.1 |
| Maryland | 97.9 | 96.8 | 89.8 |
| Massachusetts | 99.5 | 99.0 | 95.3 |
| Michigan | 96.7 | 93.7 | 89.6 |
| Minnesota | 97.3 | 92.0 | 82.1 |
| Mississippi | 90.3 | 87.9 | 75.3 |
| Missouri | 96.0 | 92.5 | 89.1 |
| Montana | 91.1 | 73.3 | 7.6 |
| Nebraska | 95.7 | 89.9 | 73.5 |
| Nevada | 99.0 | 97.7 | 96.0 |
| New Hampshire | 98.0 | 92.5 | 68.5 |
| New Jersey | 99.4 | 99.3 | 92.8 |
| New Mexico | 93.0 | 85.8 | 71.4 |
| New York | 99.2 | 98.7 | 87.2 |
| North Carolina | 97.7 | 93.6 | 87.8 |
| North Dakota | 97.0 | 84.1 | 75.6 |

Appendix G

Overall Fixed Broadband Deployment Rates by State

| Area | Deployment Rate 768 kbps/200 kbps or Faster | Deployment Rate 3 Mbps/768 kbps or Faster | Deployment Rate 6 Mbps/1.5 Mbps or Faster |
|--|---|---|---|
| Ohio | 97.7 | 96.6 | 79.6 |
| Oklahoma | 91.8 | 83.8 | 69.4 |
| Oregon | 98.6 | 96.6 | 94.7 |
| Pennsylvania | 98.7 | 98.3 | 88.5 |
| Rhode Island | 99.8 | 99.8 | 99.7 |
| South Carolina | 96.5 | 88.3 | 71.7 |
| South Dakota | 97.1 | 78.9 | 72.7 |
| Tennessee | 95.3 | 93.2 | 88.8 |
| Texas | 96.7 | 94.1 | 86.7 |
| Utah | 99.0 | 98.2 | 95.2 |
| Vermont | 94.6 | 90.6 | 78.3 |
| Virginia | 93.0 | 89.1 | 76.3 |
| Washington | 98.1 | 96.8 | 92.9 |
| West Virginia | 89.0 | 54.1 | 34.7 |
| Wisconsin | 96.7 | 93.1 | 80.0 |
| Wyoming | 93.2 | 86.8 | 56.4 |
| U.S. Territories | | | |
| American Samoa | 30.5 | 21.4 | 0.0 |
| Guam | 45.7 | 45.7 | 45.7 |
| Commonwealth of Northern Mariana Islands | 93.3 | 0.0 | 0.0 |
| Puerto Rico | 80.5 | 48.4 | 30.0 |
| U.S. Virgin Islands | 62.4 | 0.0 | 0.0 |

Appendix H

Overall Fixed Broadband Adoption Rates by State

| Area | Adoption Rate 768 kbps/200 kbps or Faster | Adoption Rate 3 Mbps/768 kbps or Faster | Adoption Rate 6 Mbps/1.5 Mbps or Faster |
|----------------------|---|---|---|
| All Areas | 64.0 | 40.4 | 27.6 |
| Alabama | 52.9 | 25.1 | 12.4 |
| Alaska | 58.0 | ^ | ^ |
| Arizona | 65.4 | 42.5 | 34.9 |
| Arkansas | 48.5 | 21.4 | 14.3 |
| California | 70.1 | 45.1 | 24.5 |
| Colorado | 71.9 | 55.1 | ^ |
| Connecticut | 75.0 | 51.0 | 47.9 |
| Delaware | 74.1 | 67.2 | ^ |
| District of Columbia | 65.7 | 55.8 | 42.1 |
| Florida | 69.4 | 42.3 | 29.4 |
| Georgia | 60.7 | 35.8 | 23.6 |
| Hawaii | ^ | ^ | ^ |
| Idaho | 57.3 | 19.4 | 3.8 |
| Illinois | 62.3 | 36.3 | ^ |
| Indiana | 57.4 | 33.8 | 22.9 |
| Iowa | 60.5 | 22.1 | 3.2 |
| Kansas | 61.8 | 26.6 | 18.1 |
| Kentucky | 56.2 | 36.5 | 10.6 |
| Louisiana | 55.0 | 29.4 | 22.5 |
| Maine | 64.8 | 22.7 | 8.8 |
| Maryland | 72.2 | 67.1 | 61.5 |
| Massachusetts | 76.3 | 69.7 | 57.5 |
| Michigan | 60.7 | 40.5 | 19.7 |
| Minnesota | 64.7 | 43.5 | 29.3 |
| Mississippi | 44.4 | 14.6 | 13.0 |
| Missouri | 55.2 | 24.0 | 4.9 |
| Montana | 60.9 | 44.2 | 2.0 |
| Nebraska | 66.0 | 45.1 | ^ |
| Nevada | 61.8 | 35.8 | 6.7 |
| New Hampshire | 75.4 | 58.2 | ^ |
| New Jersey | 78.2 | 72.5 | 70.7 |
| New Mexico | 56.5 | 35.1 | 22.2 |
| New York | 70.6 | 48.6 | 37.2 |
| North Carolina | 60.3 | 13.8 | 1.6 |
| North Dakota | 61.3 | 38.1 | 29.9 |

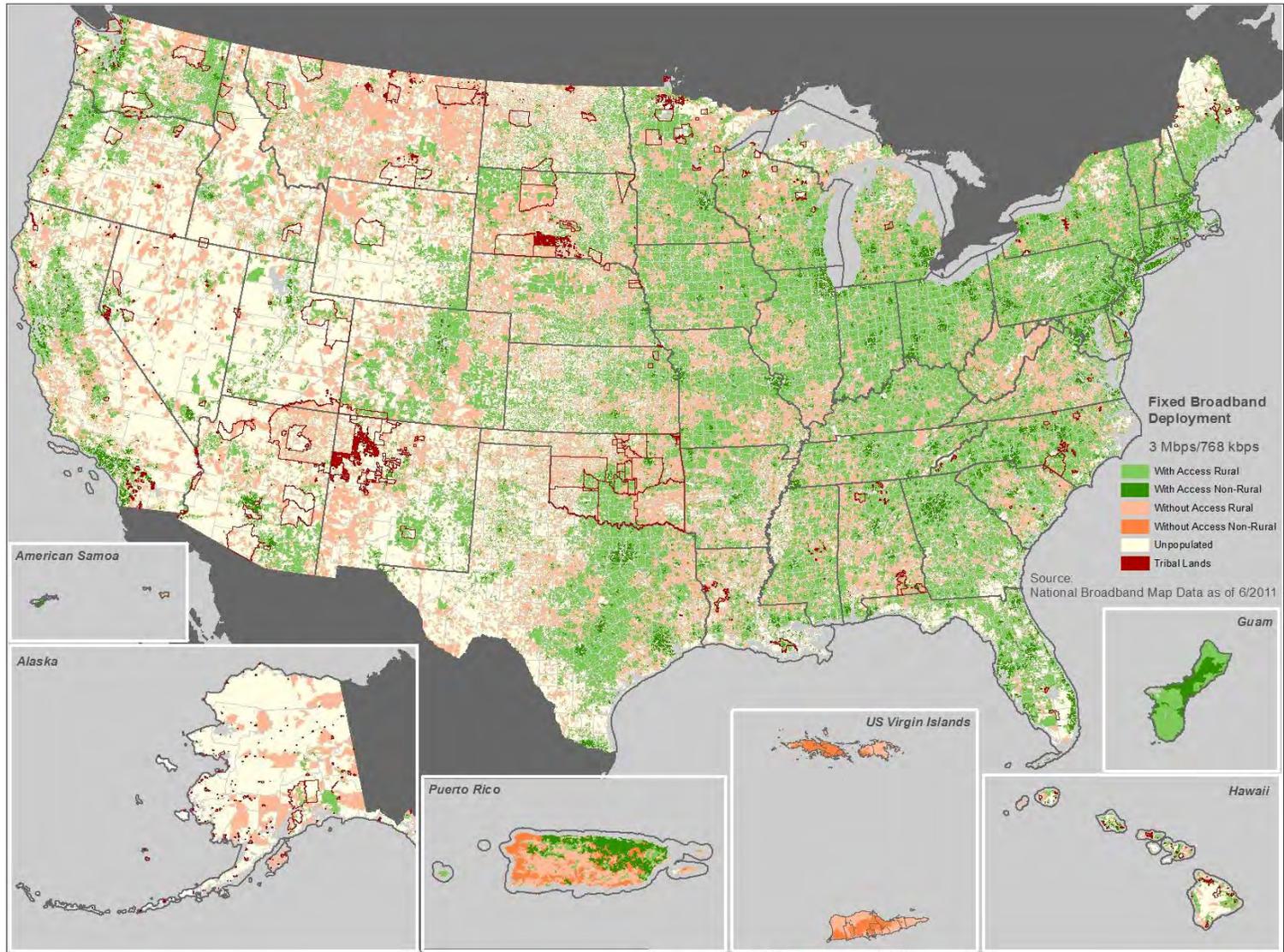
Appendix H

Overall Fixed Broadband Adoption Rates by State

| Area | Adoption Rate 768 kbps/200 kbps or Faster | Adoption Rate 3 Mbps/768 kbps or Faster | Adoption Rate 6 Mbps/1.5 Mbps or Faster |
|---|---|---|---|
| Ohio | 59.0 | 19.2 | 3.6 |
| Oklahoma | 55.8 | 28.0 | ^ |
| Oregon | 63.6 | 49.2 | 35.1 |
| Pennsylvania | 65.8 | 51.1 | 41.6 |
| Rhode Island | ^ | ^ | ^ |
| South Carolina | 55.6 | 21.5 | 10.6 |
| South Dakota | 58.6 | 44.5 | 43.6 |
| Tennessee | 52.0 | 33.5 | 24.4 |
| Texas | 59.2 | 29.3 | 14.6 |
| Utah | 68.8 | 47.9 | 32.1 |
| Vermont | 66.7 | 57.3 | ^ |
| Virginia | 69.0 | 62.8 | 59.1 |
| Washington | 67.7 | 54.1 | 45.4 |
| West Virginia | 59.2 | 47.4 | 34.9 |
| Wisconsin | 62.1 | 26.0 | 4.9 |
| Wyoming | 60.0 | 46.4 | 4.0 |
| U.S. Territories | | | |
| American Samoa | ^ | 0.0 | NA |
| Guam | ^ | ^ | ^ |
| Commonwealth of the Northern Mariana Islands | ^ | NA | NA |
| Puerto Rico | 30.5 | ^ | 0.0 |
| United States Virgin Islands | ^ | NA | NA |
| A ^ signifies that data has been withheld to maintain firm confidentiality. Also, (NA) signifies that the services are not available in the area. | | | |

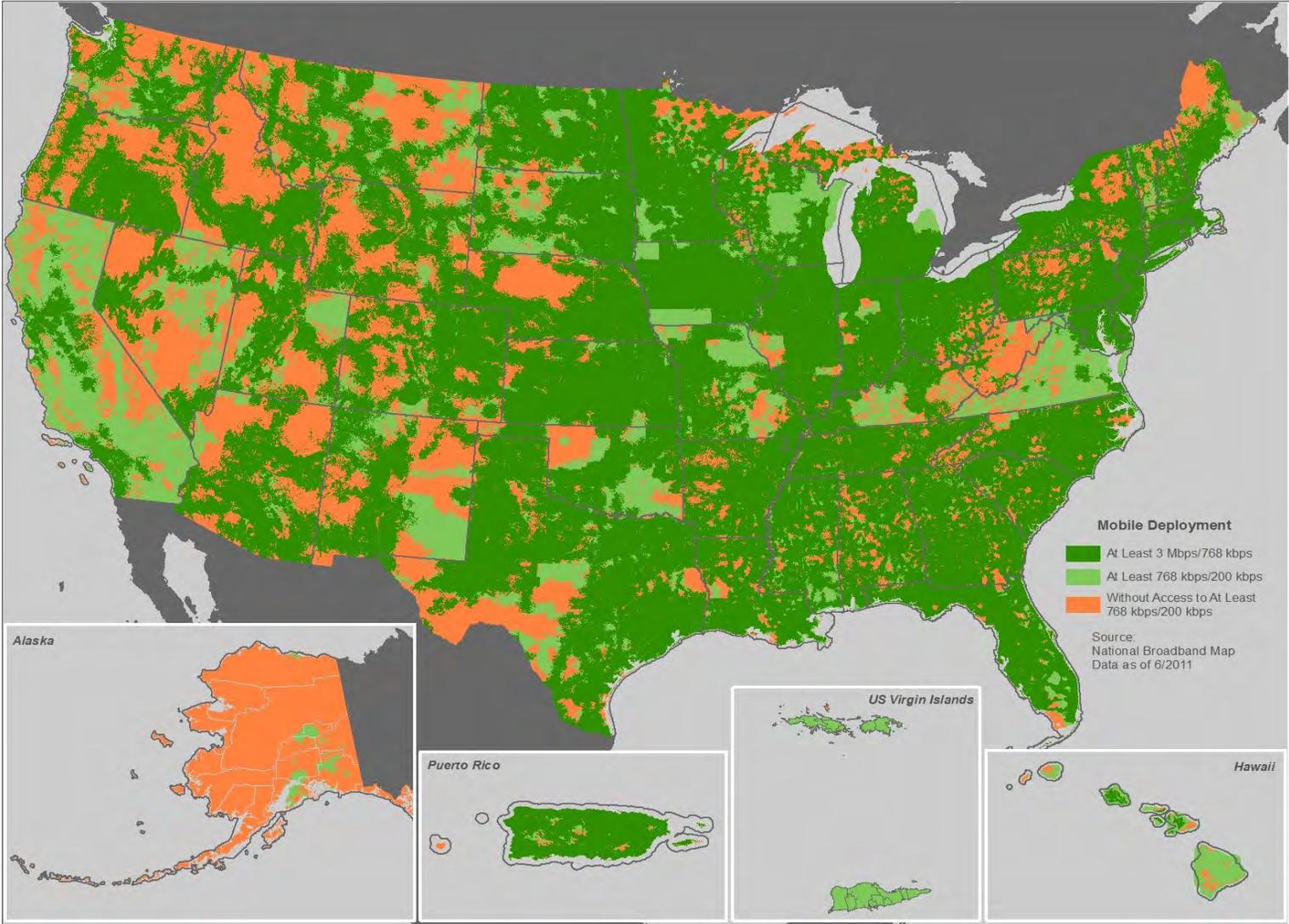
APPENDIX I

Section 706 Fixed Broadband Deployment Map



APPENDIX J

Section 706 Mobile Deployment Map



APPENDIX K

Commission's Report on Internet Access Services: Status as of June 30, 2011

This report can be found on the FCC website at

http://transition.fcc.gov/Daily_Releases/Daily_Business/2012/db0614/DOC-314630A1.pdf

**STATEMENT OF
CHAIRMAN JULIUS GENACHOWSKI**

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 11-121

Today, we deliver our annual Broadband Progress Report to Congress. It is the most accurate and comprehensive Report since its inception. The data in this report paint the clearest picture yet about the progress we have made on broadband—and the urgent challenges that remain.

The U.S. has now regained global leadership in key areas of the broadband economy, including mobile, where we lead in mobile apps and 4G deployment; but, in this flat, competitive global economy, we need to keep driving toward faster broadband and universal access.

The Report's conclusions only reaffirm what I hear all too often from small business owners, parents, educators and others across the country—we can't let up on our efforts to unleash the benefits of broadband for every American. Increasing broadband deployment, increasing adoption, increasing speeds and capacity are vital throughout our country; they're essential to growing our innovation economy and driving our global competitiveness.

I heard this message just last month when I visited three rural communities in Nevada and California that either recently received new broadband, or will be getting it in the near future as a result of our new Connect America Fund.

These meetings were a vivid reminder of why Congress directed the FCC, each year, to conduct an ~~in~~ inquiry concerning the availability of advanced telecommunications capability to all Americans," and to ~~d~~etermine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion." As we've refocused the FCC on broadband, we've significantly improved and expanded this report. It's become a critical annual check-in on where we stand and what we still have to do.

This year's Report reflects the huge strides that both the private and public sector have made to extend broadband, while also explaining that there's more work to do. Fixed providers are offering higher speeds, including through the deployment of fiber and new technologies like DOCSIS 3.0. Mobile providers continue to expand their coverage and deploy new faster network technologies like LTE. In fact, we're leading the world in deploying 4G mobile broadband at scale.

At the Commission, we've adopted landmark reforms to our universal service programs, particularly those targeted at increasing broadband deployment and affordability to all Americans. We've created the new Connect America Fund, and just a few weeks ago, the Commission announced that nearly 400,000 residents and small business owners in 37 states will gain access to high-speed Internet within three years as a result of the new Fund. And we've made universal access to mobile service and express universal service goal for the first time ever—the first Mobility Fund auction in September will provide funding to extend mobile broadband to thousands of unserved road miles where Americans live, work, and travel.

We have also continued to push forward with our Broadband Acceleration Initiative to lower the costs and increase the speed of broadband build-out. We have adopted major reforms to facilitate access to utility poles and faster tower siting, and our National Broadband Plan recommended key initiatives in

the President's recent Executive Order on accelerating broadband infrastructure deployment, including the "Dig Once" initiative. We've laid out clear rules of the road to protect the openness of the Internet, promoting a virtuous cycle of innovation, investment, and competition. And we've taken numerous steps to unleash spectrum for broadband, both licensed and unlicensed.

Some look at the progress that's being made and say, "Mission Accomplished." I disagree. Our data show that 19 million Americans remain without access to fixed broadband. The residents and business owners I met with in California and Nevada will finally get broadband in the coming months—but millions more, especially in rural areas and Tribal lands, are still waiting. And until we fully implement our Connect America reforms, this gap won't close. In this context, we cannot declare that broadband deployment to all Americans is "reasonable and timely."

Our data also show that a significant broadband adoption gap remains—fewer than 70% of Americans have subscribed to fixed broadband, even counting speeds as low as 768 kbps. We have to continue striking at the barriers that are keeping Americans offline.

And while we've made great strides in the rollout of next-generation high-speed services, there's a lot left to do. Industry reports that the upgrade of cable infrastructure to DOCSIS 3.0 technology means that more than 80% of Americans have access to networks technically capable of 100 Mbps or more. But our data show that just 27% of Americans are being offered broadband services at those speeds today, and U.S. prices for these higher speed services exceed many other countries.

And while 100 Mbps is impressive progress from where we were, it's not where we want to end up. We need to see ongoing increases in broadband speed and capacity, so that we're routinely talking about gigabits, not megabits. Broadband abundance is the goal that will drive U.S. leadership in innovation, and our finding today reflects our belief that we need to keep our feet on the accelerator.

On mobile, passage of the incentive auction concept suggested in our National Broadband Plan reflects important progress, along with the other steps we are taking to free up new spectrum for mobile broadband. But demand for spectrum capacity continues to increase at a dramatic rate, so we can no more declare mission accomplished in mobile than we can in fixed broadband.

Having the very best data is critical to tackling each of these challenges. This is our first Broadband Progress report ever to include extensive data on mobile broadband and the availability of next-generation, high-speed services. It incorporates the most robust analysis of international data that the Commission has ever done. And we're releasing it with new online, interactive maps, which show exactly where broadband is and isn't available and provide technology-by-technology deployment statistics for every county in the nation.

To ensure our report keeps pace with changing demands, today we also adopt a Notice of Inquiry to seek public input on how to assess our Nation's progress toward its broadband goals in next year's report. As the importance of mobile broadband continues to grow for American consumers and businesses, mobile broadband should be incorporated in our analysis in the Ninth Broadband Progress Report. And our report needs to formally include an evaluation the deployment of next generation services, which promote a mindset of abundance, and fuel world-leading innovation. Today's Inquiry lays the foundation for these important updates.

It is our responsibility to ensure that our goals for broadband availability reflect the real needs of American consumers and businesses. One study projects that the average Internet household will generate over 130 gigabytes of traffic per month by 2016 at a compounded growth rate of 21% a year. Meanwhile, the average smartphone user consumed 435 MB a month in early 2011, an increase of 89%

from the year before.

In short, the goalposts *are* moving. Every year consumers and businesses need higher speeds and more capacity to keep up, innovators need new test beds for the latest technologies, and our competitors around the world are pushing hard to gain a strategic advantage by deploying faster, higher capacity broadband to their citizens. As broadband providers respond to meet this incredible demand, so too our broadband benchmarks and our broadband policies must keep up with these changes to foster economic growth, job creation, and our global competitiveness.

I thank the staff of the Wireline Competition Bureau and Wireless Telecommunications Bureau for their excellent work on this item.

**DISSENTING STATEMENT OF
COMMISSIONER ROBERT M. McDOWELL**

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 11-121

It is discouraging that, for the third year in a row, the majority has decided to clutch to its earlier negative findings as to whether “advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion” pursuant to Section 706 of the Telecommunications Act of 1996.¹

In reality, the growth of broadband deployment in America, especially regarding the mobile marketplace, has been swift and strong. For instance, between 2003 and 2009, broadband deployment steadily increased from reaching 15 percent of Americans to 95 percent of Americans.²

Furthermore, mobile broadband is the fastest growing segment of the broadband market. America has always led the world in wireless connectivity thanks to de-regulatory policies and our lead is growing. For instance, our country has approximately 21 percent of the globe’s 3G/4G subscribers and approximately 69 percent of the world’s LTE subscribers even though the United States is home to less than five percent of the global population.³ Furthermore, the investments made by American wireless providers have been higher than their international counterparts. For example, in 2011, over \$25 billion was invested in United States’ wireless infrastructure⁴ compared to \$18.6 billion invested in the 15 largest European economies combined.⁵

The mobile market in the United States has more competition than most international markets. Nine out of ten American consumers have a choice of at least *five* wireless service providers, according to the most recent FCC statistics.⁶ In Europe, however, that figure is around three.⁷ Therefore, Americans benefit from lower prices and higher mobile usage rates compared to consumers in the European Union

¹ 47 U.S.C. § 1302(b) (Section 706 of the Telecommunications Act of 1996 has since been amended by the Broadband Data Improvement Act (BDIA), Pub. L. No. 110-385, 122 Stat. 4096 (2008) and is now codified in Title 47, Chapter 12 of the U.S. Code. It is commonly referred to as “Section 706”).

² See, e.g., FCC, OMNIBUS BROADBAND INITIATIVE (OBI), CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN, GN Docket No. 09-51 (2010).

³ See INFORMA TELECOMS AND MEDIA (WCIS Database) (Dec. 2011).

⁴ See CTIA-THE WIRELESS ASSOC., CTIA SEMI-ANNUAL WIRELESS INDUSTRY SURVEY (2012), <http://www.ctia.org/advocacy/research/index.cfm/AID/10316>; see also CTIA-THE WIRELESS ASSOC., SEMI-ANNUAL 2011 TOP-LINE SURVEY RESULTS 10 (2012), http://files.ctia.org/pdf/CTIA_Survey_Year_End_2011_Graphics.pdf (providing cumulative capital investment numbers).

⁵ See BOA/MERRILL LYNCH EUROPEAN TELECOMS MATRIX Q112 (Mar. 30, 2012) (GLOBAL TELECOMS MATRIX Q112) (estimating €14,368 YE 2011. Conversion at \$1.2948/1€). The European countries included in the Matrix: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and UK; there are 27 members of the European Union (EU).

⁶ Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions with Respect to Mobile Wireless, including Commercial Mobile Services, WT Docket No. 10-133, *Fifteenth Report*, 26 FCC Rcd 9664, 9669 (2011).

⁷ See GLOBAL TELECOMS MATRIX Q112.

(EU)—4 cents per minute versus 17 cents generally in the EU.⁸ Also, wireless subscriber usage on average in the United States is often three to seven times as much compared to some countries.⁹ Moreover, American consumers pay at least one-third less than consumers in many other parts of the world.¹⁰

The instant Section 706 report does discuss advances in the deployment of mobile broadband. Notwithstanding the fact that the number of Americans who gained access to mobile broadband grew significantly since last year, the report discards these important statistics, in part, for being “overstated,” and ignores them in its pre-determined 706 finding. Even if these mobile broadband statistics were incorporated, the majority indicates that it “would likely reach this same finding even if we considered the best available mobile data. Over 14 million Americans lack access, even if access to either fixed or mobile broadband is considered adequate and even when all LTE, WiMax, and HSPA+ deployments are included.”¹¹ In other words, it appears that the majority has already tipped its hand for next year’s report—reducing the number of unserved Americans to 14 million would still not be good enough for the majority’s outcome-driven Section 706 purposes.

Furthermore, even if a future Section 706 report reaches the elusive “magic number,” that still may not be adequate progress for the majority. My colleagues continue to argue that Congress did not mean “physical” deployment when it referred to “deployment” and “availability.” Rather than look to the plain statutory language to determine Congress’s intent, the majority has relied on legislative report language to argue that even if broadband is physically deployed to a particular area but is not affordable, it is not available under Section 706. That interpretation is flawed. The actual statutory language states otherwise: as part of the inquiry, the statute requires the Commission to look at demographic information for “geographical areas that are *not served* by any provider of advanced telecommunications capability.”¹² Congress was directing the Commission to study whether certain areas are actually not served by a provider, not whether consumers in certain areas choose not to adopt broadband.

This creative interpretation of Section 706 ties in nicely with the majority’s efforts to expand its jurisdictional reach. For example, the report identifies low broadband service quality, affordability of broadband, lack of access to computers, lack of relevance, and poor digital literacy as some of the barriers to infrastructure investment. These are really adoption issues, not deployment issues. And, by identifying these “barriers,” the majority has continued to use Section 706 as a tool for mission creep.¹³ Section 706 is narrow in scope, however, and does not provide the Commission with specific or general

⁸ Roger Entner, *The Wireless Industry: The Essential Engine of U.S. Economic Growth*, RECON ANALYTICS, at 1 (May 2012), <http://reconanalytics.com/wp-content/uploads/2012/04/Wireless-The-Ubiquitous-Engine-by-Recon-Analytics-1.pdf>).

⁹ See GLOBAL TELECOMS MATRIX Q112 at 71.

¹⁰ See *id.*

¹¹ Para. 138 of the instant report.

¹² 47 U.S.C. 1302(c) (emphasis added).

¹³ For example, in January of 2012, over my partial dissent, the Commission established a broadband pilot program as part of the Lifeline program. I had concerns with the establishment of the pilot, in part, because the Commission did not have authority to pursue it under Section 706 or any other section of the Communications Act. See *Lifeline & Link Up Reform & Modernization Lifeline & Link Up Fed.-State Joint Bd. on Universal Serv. Advancing Broadband Availability Through Digital Literacy Training*, Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 6656 (2012).

authority to do much of anything. Section 706 has a *de*-regulatory bent and should not be used for other purposes beyond what Congress intended, especially creating more rules, red tape and bureaucracy.¹⁴

In sum, the Section 706 process should be used to assess the progress of broadband deployment in our nation, as Congress intended. Unfortunately, that has not been the majority's practice for the past three years. Instead, the majority has used this process as an opportunity to create a pretext to justify more regulation. The fact that the report's closing paragraph heralds the use of Section 706 for the majority's adoption of unprecedented regulation of Internet network management, or ~~—~~ "net neutrality" rules, underscores my point. Referencing the net neutrality order, the majority says ~~—~~ "the open Internet rules were adopted to ensure the continuation of the Internet's virtuous cycle of innovation and investment, and the Commission must continue to prioritize those efforts consistent with the mandate of section 706."¹⁵ In reality, the 706 process has been co-opted by the majority, and used in the course of a ~~—~~ "vicious cycle" of regulation.

For all of these reasons, I must respectfully dissent.

¹⁴ Congress stated that "[i]f the Commission's determination is negative, it shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market." 47 U.S.C. 1302(b).

¹⁵ Para. 156 of the instant report.

**STATEMENT OF
COMMISSIONER MIGNON L. CLYBURN**

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 11-121

I wish to commend the Staff on today's release of the *Eighth Broadband Progress Report* and *Notice of Inquiry for the Ninth Broadband Progress Report*. This year's Report is more detailed than ever before, and it closely reviews the actions taken by both the private and public sectors to advance the availability of broadband to all Americans.

In addition to the significant investments made by industry by way of deployment to date, the FCC has achieved many of the goals we set forth to make broadband available to those who do not currently have it. Since last year's *Report*, we have reformed the Universal Service Fund's high-cost program so that it directly supports the deployment of broadband-enabled networks in rural areas. We have taken important steps to address the availability of broadband for low-income consumers through the Lifeline program, including providing the flexibility for consumers to use their subsidy to purchase bundled voice and broadband services. We also have implemented a pilot project that will offer broadband service to low-income consumers. Moreover, the public-private initiative Connect-to-Compete was launched, and similar industry-led programs are entering their second year—all of which are providing low-cost service, equipment, and training to consumers who otherwise could not afford broadband.

As we continue to implement our reforms and further address the barriers to deployment and broadband adoption, I expect that the statistics presented in our annual assessment will continue to improve. But it is clear from today's *Report* that we are not ready to declare victory just yet, as approximately 19 million Americans still lack access to terrestrial fixed broadband services that meet our broadband definition, and the adoption gap still shows that about 1/3 of Americans do not subscribe to broadband. Broadband service has not been made available to *all* Americans in a reasonable and timely fashion. Moreover, for low-income consumers and residents of rural areas, Tribal Lands, and the Territories, this finding is even more acute. It is necessary, therefore, that we continue to promote reforms and policies that will ensure broadband availability to *all Americans* no matter where they live, work, or travel in this great nation.

While I am pleased that we have included a discussion specific to the Territories in this year's *Report* and request comment in the *NOI* on the broadband challenges in the Territories, it is clear that we must continue to pay particular attention to the specific needs of remote and insulated areas. The same holds true for Tribal Lands. We should continue to evaluate the impact of our reforms and policies in these areas and be open to further refining them. In doing so, it is my hope that we can make more progress in addressing the broadband needs in those areas.

I also believe that the *NOI's* review of the broadband definition, including whether we should modify our findings to include mobile service, are important discussions that I encourage interested parties to engage with us on. As noted in the *Report and NOI*, the marketplace is rapidly evolving. More consumers are relying upon their mobile devices to access broadband than ever before. We included in our *USF Transformation Order* the goal that consumers have access to mobile broadband and voice service, by allocating \$300 million in Mobility Fund Phase I and \$500 million annually in Phase II. Moreover, our inquiry includes questions about the speeds offered and consumed for fixed service, as well as the capacity of networks, including latency and data capacity. I am particularly interested in the

data the Commission would rely upon should we modify our *Ninth Broadband Progress Report*. In particular, the Commission has yet to complete its proceeding to update the Form 477 wherein we collect broadband subscriber information. Taking the necessary steps to ensure that the Commission has the relevant data to assess such additional broadband criteria will be crucial if we determine to include such data in the *Ninth Broadband Progress Report*.

**STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL**

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 11-121

Today's report shows real progress in the deployment of advanced telecommunications capability to all Americans. It reveals that for some, broadband services are faster and more robust than ever. Consider, for instance, that more than 80 percent of households now have access to broadband at speeds as high as 100 Mbps.

But at the same time, this report demonstrates that broadband remains out of reach for 19 million Americans. The bulk of these Americans—14.5 million—live in rural areas that lack basic infrastructure for fixed broadband service. Furthermore, nearly one in three Americans do not subscribe to broadband, citing lack of relevance, lack of affordability, and lack of digital literacy.

These numbers are even more troubling when the United States is compared with the rest of the world. Today, this report cites data that show that the United States is ranked fifteenth in the world for fixed broadband penetration. We are ranked seventh in the world for mobile broadband penetration.

The United States should lead the world in broadband. Until the data unequivocally demonstrate that we do, how can the answer to our Section 706 inquiry—whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion—be anything but no? We know that in the 21st century access to broadband means access to opportunity. It means access to jobs, access to education, and access to healthcare. This is the platform that will drive innovation, boost productivity, and enhance our ability to compete with other nations. So we must make our markets the most attractive worldwide for investment in all aspects of the digital economy.

To do so, the Commission is already taking action to advance broadband deployment and adoption for the millions of Americans without access today. We are moving forward with comprehensive universal service reform, implementing the 21st Century Communications and Video Accessibility Act, and developing public and private partnerships to promote broadband adoption and digital literacy. We are also poised to carry out the world's first incentive auction to free up additional spectrum for mobile broadband services. These are exciting developments, though today's report is a thoughtful reminder that we still have work to do before every American has access and we unequivocally lead the world's broadband ranks.

Though there are challenges ahead, I believe that we are up for the task. The Notice of Inquiry we release today is a small step towards figuring out how to address these challenges, including a fresh perspective on the consumer experience. In particular, our inquiry includes factors beyond speed, like latency and capacity, that impact how consumers use their broadband connections. So I look forward to tackling these issues with my colleagues and thank Commission staff for their hard work on this report.

**DISSENTING STATEMENT OF
COMMISSIONER AJIT PAI**

Re: *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 11-121

From 1999 to 2008, the Commission found that broadband was being deployed to all Americans in a reasonable and timely fashion. In 2010, however, this suddenly changed. Today, the Commission determines for the third straight year that the objective set forth in section 706(b) of the Telecommunications Act of 1996 is no longer being met. Because the Commission's conclusion rests on a flawed interpretation of the statute, and because I see the elimination of regulatory uncertainty—not the public fisc or new regulation—as the key to accelerating broadband deployment, I respectfully dissent from today's report.

Official statistics tell us that the recession technically ended three years ago. Yet for many Americans, the recovery still has not come. The Federal Reserve estimates that the economy's output is still \$800 billion smaller than it could be.¹ The unemployment rate has risen to 8.3 percent,² which understates our economy's woes given that more than five million people have given up searching for employment since the recession began.³ Even the communications sector is not immune; telecommunications companies employ 160,000 fewer workers than they did three-and-a-half years ago, meaning that the sector's workforce has shrunk by over fifteen percent.⁴

Despite our general economic problems and the current regulatory environment, the private sector deserves credit for what it has been able to accomplish recently when it comes to infrastructure investment. Communications network operators invested \$66 billion in 2011.⁵ According to State Broadband Initiative data, private sector investment brought fixed terrestrial broadband service meeting the Commission's speed benchmark to 7.4 million Americans⁶ and mobile broadband service to 46.7 million Americans⁷ from June 2010 to June 2011.

¹ See Federal Reserve Bank of St. Louis, FRED Economic Data, <http://research.stlouisfed.org/fred2/graph/> (compare NGDPPOT to GDP as of Aug. 15, 2012).

² See Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey, (Seas) Unemployment Rate, <http://go.usa.gov/Gw9>.

³ Compare Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey, (Seas) Labor Force Participation Rate, <http://go.usa.gov/Gwk> (showing that the labor force participation rate has declined from 66.0% in November 2007 to 63.7% in July 2012), with Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey, (Seas) Civilian Labor Force Level, <http://go.usa.gov/Gw0> (showing that 155 million Americans participated in the labor force in July 2012, and accordingly 5.6 million more Americans would have participated had the participation rate not declined from November 2007 to July 2012).

⁴ Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey, (Seas) Telecommunications Labor Force Level, <http://go.usa.gov/GwB> (showing that telecommunications employment fell from 994,700 in January 2009 to 830,100 in May 2012).

⁵ US Telecom, Broadband Investment, <http://bit.ly/ygeVLS>.

⁶ See *Eighth Broadband Progress Report* at tbl. 7.

⁷ See *id.* at tbl. 14.

The report sets aside this evidence because under its reading of the statute,⁸ progress is irrelevant. “[T]he standard against which we measure our progress is universal broadband deployment,”⁹ it maintains, and “approximately 19 million Americans did not have access to fixed broadband [in 2011].”¹⁰ In other words, because fixed broadband service meeting the Commission’s speed benchmark is not already (or very soon to be) available to all Americans, “broadband is not yet being deployed to all Americans in a reasonable and timely fashion.”¹¹

My colleague, Commissioner McDowell, and my predecessor, Commissioner Baker, previously noted problems with this interpretation of Section 706.¹² I hope to flesh out some aspects of the statute that further highlight the deficiencies in the Commission’s recent approach.

First, the Commission has consistently ignored in recent years the statute’s direction that “advanced telecommunications capability” may be deployed “using any technology.”¹³ That instruction does not permit us to segregate fixed connections from mobile connections, focusing on the former and neglecting the latter. Instead, in making our statutory finding we should consider all broadband services meeting the statutory definition regardless of the technologies used to deploy them. If the Commission followed this statutory command and relied on the State Broadband Initiative data to look at *all* broadband services meeting the benchmark,¹⁴ it would have concluded that 5.5 million Americans—not

⁸ See 47 U.S.C. § 1302 (codifying Telecommunications Act of 1996, Pub. L. No. 104-104, § 706, 110 Stat. 153 (as amended)) (directing Commission to “determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”).

⁹ *Eighth Broadband Progress Report* at para. 138.

¹⁰ *Id.* at para. 135.

¹¹ *Id.*

¹² See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 10-159, Seventh Broadband Progress Report and Order on Reconsideration, 26 FCC Rcd 8008, 8101 (2011) (*Seventh Broadband Progress Report*) (Dissenting Statement of Commissioner Robert M. McDowell) (calling the Commission’s decision to adopt a 4 Mbps/1 Mbps benchmark “arbitrary,” arguing that the Commission “should never have mandated a one-size-fits-all definition of broadband” that ignores divergent consumer preferences, and arguing against interpretations of “availability” and “deployment” that would read those statutory terms to mean something other than “availability” and “deployment”); *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act; A National Broadband Plan for Our Future*, GN Docket Nos. 09-137, 09-51, Sixth Broadband Deployment Report, 25 FCC Rcd 9556, 9696 (2010) (Dissenting Statement of Commissioner Meredith A. Baker) (“The goal encapsulated by section 706 is universal broadband availability. Nowhere in section 706 does it require that goal to be reached definitively in 2010. Rather, the question is whether network providers continue to make demonstrable progress towards that goal.”).

¹³ 47 U.S.C. § 1302(d)(1) (emphasis added).

¹⁴ In truth, we have never examined the availability of broadband service at our speed benchmark given that we have never collected data measuring deployment at the benchmark. Instead, we have relied on the deployment of fixed services meeting a 3 Mbps/768 kbps benchmark as the next-best thing. We should extend that same proxy to mobile services; vague concerns that providers may be over-reporting surely apply just as much to the wireline world as the wireless, see *Eighth Broadband Progress Report* at para. 37, and the widespread deployment of LTE, WiMax, and HSPA+ in the past two years demonstrates that at least some mobile offerings in otherwise unserved areas qualify as “advanced telecommunications capability,” *id.* at para. 6 & n.27; see also tbl. 15 (implying that, based on Mosaic data, 221.7 million Americans had access to LTE, WiMax, or HSPA+ as of June 2011).

19 million—lack access to advanced telecommunications capability.¹⁵ Not only does this mistaken interpretation lead to a 245% overstatement of the problem, it also leads the Commission to report to Congress something it never asked for: a list of geographical areas, some of which are served by a provider of advanced telecommunications capability and some of which are not.¹⁶

Second, I do not see how the Commission’s test can be reconciled with the statutory language that instructs us to ask if broadband ~~—is~~ being deployed . . . in a reasonable and timely fashion.”¹⁷ That language most naturally requires a comparison of broadband deployment within the country at one point in time with broadband deployment at a later point in time, after which an assessment can be made as to whether ~~reasonable and timely~~” advancements have been made. Our metric, in other words, is progress—not total achievement—and Congress emphasized the point by using the progressive present tense in its command (*i.e.*, Congress used the phrase ~~is~~ being deployed” in Section 706 rather than ~~—is~~ deployed”).¹⁸

An example illustrates the point. Suppose that you are building a house and ask the contractor to report back to you on a weekly basis whether the project ~~—is~~ being constructed in a reasonable and timely fashion.” Each week, the contractor submits a report responding to the question in the negative because the house has yet to be completed. Most people would consider such a response to be beside the point, but the Commission essentially uses that same reasoning today.

Aside from being inconsistent with the statute’s use of the progressive present tense, the Commission’s ~~—re-we-there-yet~~” test has the added defect of reading the phrase ~~—in~~ a reasonable and timely fashion” out of the statute. We should not treat statutory terms as mere surplusage,¹⁹ especially when there is a way to read the statute that respects every word Congress chose to legislate.

Third, the Commission’s approach is a short-sighted one that disserves our goal of being a data-driven agency. In recent years, the Commission has relied on an expansive reading of section 706(b) that purports to grant us heretofore unknown and unspecified authorities to carry out the public interest so long as doing so tangentially relates to broadband. But our authority under this provision only lasts so long as our section 706 determination is negative. In other words, the Commission’s authority to enforce net neutrality, subsidize broadband for low-income households, or support digital literacy programs²⁰

¹⁵ Given that the Commission, in the Notice of Inquiry released today, is seeking comment on whether to *add* latency and data capacity thresholds in the *next* report, I fail to understand how the Commission can rely on these two issues in *this* report as support for its decision to exclude consideration of mobile broadband in making its statutory finding.

¹⁶ In contrast, the statute requires the Commission to ~~—compile~~ a list of geographical areas that are not served by *any* provider of advanced telecommunications capability.” 47 U.S.C. § 1302(c) (emphasis added).

¹⁷ Because the majority adopts the construction of the statute in the *Seventh Broadband Progress Report* whole cloth, *Eighth Broadband Progress Report* at n.347, I address the arguments raised in that report.

¹⁸ Verizon made this precise point about the progressive tense in comments on last year’s Notice of Inquiry. But the Commission seems to have misunderstood the argument, thinking that Verizon was making the unremarkable observation that ~~—is~~ being deployed” is in the present tense. See *Seventh Broadband Progress Report*, 26 FCC Rcd at 8033, para. 47 & n.163. The progressive present tense is used for actions that are occurring, without definite starting or stopping points. The simple present tense is used for actions that occur, implying a distinct start and finish.

¹⁹ See *Duncan v. Walker*, 533 U.S. 167, 174 (2001).

²⁰ See *Preserving the Open Internet; Broadband Industry Practices*, GN Docket No. 09-191, WC Docket No. 07-52, Report and Order, 25 FCC Rcd 17905, 17972, para. 123 (2010) (asserting that section 706(b) gives the Commission ~~—additional~~ authority to take actions such as enforcing open Internet principles”); *Lifeline and Link Up Reform and* (continued....)

hangs in the balance each year, dependent on a finding that broadband is not being deployed in a reasonable and timely fashion. If we are willing to set an objective with no intent of reaching it, then I suppose that this is not a problem.²¹ But if we believe instead that data should drive our decisions—not vice versa—then section 706(b) can never be a reliable authority for implementing good policy since we will eventually be forced to concede once again that broadband is being deployed in a timely and reasonable fashion.

Finally, I do agree with the Commission that when it comes to deploying broadband infrastructure, our country should be doing much better. But to improve our performance, the Commission needs to take Section 706's deregulatory imperatives to heart. Today's report, in large measure, misidentifies the primary barriers to infrastructure investment and broadband deployment. In my discussions with those in the private sector responsible for making broadband investment decisions, they do not identify the price of computers, poor digital literacy, a lack of consumer interest, or a lack of consumer trust²² as the primary factors behind their decisions to keep tens of billions of dollars of capital sitting on the sidelines. Rather, they indicate that their caution stems primarily from regulatory uncertainty and in particular their concerns about whether and how Internet Protocol-based (IP) networks are going to be regulated in the future.

As it turns out, section 706 itself supplies an answer to this problem. That provision first directs the Commission to encourage deployment via ~~price cap regulation~~, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.²³ And if we find that broadband is not being deployed in a reasonable and timely fashion, then we must ~~accelerate~~ deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market.²⁴ In my view, there is plenty to do.

Twenty years after the advent of price-cap regulation, most price-cap carriers still must file the same studies and accounting information as rate-of-return carriers. Sixteen years after the Telecommunications Act of 1996, incumbent local exchange carriers still must file tariffs as if they were local monopolists, despite competition from all corners. Thirteen years after the Commission provided a path to pricing flexibility for special access services, carriers are facing the specter of re-regulation. Eight years after the *Vonage Order*,²⁵ we still treat interconnected VoIP providers as second-class carriers rather than first-rate competitors. And two years after the Commission considered reclassifying broadband

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Modernization; Lifeline and Link Up; Federal-State Joint Board on Universal Service; Advancing Broadband Availability Through Digital Literacy Training, WC Docket Nos. 11-42, 03-109, 12-23, CC Docket No. 96-45, Report and Order and Further Notice of Proposed Rulemaking, 27 FCC Rcd 6656, 6798-99, paras. 331-32 (asserting that section 706(b) gives the Commission ~~authority~~ . . . to provide USF support to ETCs through a low-income broadband Pilot Program to subsidize low-income consumers' purchase of broadband services") (*Lifeline Reform Order*); *Eighth Broadband Progress Report* at paras. 140, 153 (suggesting poor digital literacy is a ~~key~~ barrier" to infrastructure investment and noting that Lifeline broadband pilot projects are expected to promote digital literacy, citing *Lifeline Reform Order*, 27 FCC Rcd at 6805, para. 350).

²¹ Cf. Yoda, STAR WARS: EPISODE V—THE EMPIRE STRIKES BACK (Lucasfilm 1980) ("Always with you it cannot be done.").

²² See *Eighth Broadband Progress Report* at para. 140.

²³ 47 U.S.C. § 1302(a).

²⁴ *Id.* § 1302(b).

²⁵ *Vonage Holdings Corporation Petition for Declaratory Ruling Concerning an Order of the Minnesota Public Utilities Commission*, WC Docket No. 03-211, Memorandum Opinion and Order, 19 FCC Rcd 22404 (2004).

Internet access service as a telecommunications service, that docket (GN Docket No. 10-127) remains open, a sword of Damocles hanging over every broadband investor's head.

The directive from Congress may not be easy to carry out, but it is clear: Promote competition. Eliminate regulatory uncertainty. Repeal archaic twentieth-century regulations that assumed regulated monopolies running copper networks. Empower small businesses, large businesses, entrepreneurs, and others with capital to invest in broadband infrastructure, unfettered by government mandate and unshackled from outdated restraints. To be sure, all of this will not happen overnight. But we should begin immediately down this path by creating an IP Transition Task Force that would develop a holistic set of recommendations for facilitating and expediting our transition to an all-IP world. If the private sector came to the conclusion that the Commission was committed to a deregulatory approach to IP networks and was serious about eliminating the regulatory uncertainty surrounding the IP transition, I am confident that broadband infrastructure investment would increase substantially and quickly.

* * *

Notwithstanding my bottom-line assessment of this item, the staff has made a significant number of improvements to this year's report that merit recognition. For example, the report contains a more thorough and thoughtful analysis of deployment in rural areas, U.S. territories, and Tribal lands; additional reporting on mobile data speeds; and a novel approach to calculating adoption rates (even if adoption is not strictly related to the question of deployment). For all of these accomplishments and more, I thank the analysts, the economists, the geographers, the engineers, the attorneys, and other members of our expert staff that put this report together.

In light of their efforts, I wish that I could support this item. But for the reasons outlined above, I must respectfully dissent.