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[Examining The Broadband Divide In D.C.](#)

WASHINGTON, D.C. – People who live in the Washington, D.C., region are pretty well connected when it comes to high-speed Internet service — but there are still large swaths of the population that are unwilling or too financially strapped to plug in.

Having a low income is the most consistent trait among non-adopters, while Hispanics and rural residents are also less likely to be broadband subscribers, according to a four-month study of government data by the Investigative Reporting Workshop at American University.

The data show that in the D.C. region and elsewhere, the debate over the “digital divide” has become less about access to broadband and more about the far-stickier issue of affordability.

Top adopters

The District ranks 17th out of 29 counties and cities in the region for residential broadband adoption. The most connected areas, like Fairfax County, Va., are also among the wealthiest. See the full chart [here](#).

Graphic by Melanie Taube, Investigative Reporting Workshop

The analysis shows that broadband adoption is greater in the Washington suburbs — wealthy Fairfax County, Va., ranked first in connectedness while D.C. was 17th. Manassas, Va., ranked last among the 29 area counties and municipalities surveyed.

Counties located farthest outside the beltway generally ranked the lowest, though there were exceptions.

The analysis was done using Census tract-level broadband adoption data collected by the Federal Communications Commission (FCC) and demographic information from the Census Bureau’s 2005-2009 American Community Survey.

The Workshop review is unusual in that it identifies specific neighborhoods with low adoption rates. ([See interactive map.](#)) Much of the broadband research conducted by the government and nonprofit organizations uses telephone surveys that draw conclusions about national trends but provide little geographic detail.

Broadband in the U.S. has gone from being a tool for scientists and academics and a hobby for technophiles to a practical necessity, both in business and education.

A broadband connection is “critically important, and more so now than ever,” said Leslie Conery, deputy CEO for the International Society for Technology in Education. “As teachers become more Internet savvy, the more things they put online,” she said. “The more they put online and make available to kids, the more important it is that kids have access.”

The FCC’s National Broadband Plan declared “the costs of digital exclusion” as real and rising. John Horrigan, a key member of the team that created the plan and an expert on broadband trends, told the Workshop that without broadband “you are disadvantaged in a way you couldn’t have been even 10 years ago.”

The Washington region

The Workshop review covers 1,051 Census tracts, which make up D.C.’s metropolitan statistical area (MSA), plus the immediately surrounding counties. The study area covers jurisdictions in three states and includes more than 2 million households and 5.6 million people. (For more on how we did this analysis, [see the methodology.](#))

Access to broadband in the D.C. region is not a major problem — every Census tract that contained a household was served by at least one broadband provider. At first glance, it appears that the area scored high on adoption rates, as well.

The FCC measures broadband penetration on a scale of 1 to 5. Of the 1,051 Census tracts, 409 scored a “5,” meaning between 800 and 1,000 households per thousand were connected; and 286 tracts scored a “4,” meaning between 600 and 800 homes per 1,000 were connected.

Roughly 65 percent of the people in the Washington, D.C., market subscribe to high-speed Internet service, according to Scarborough Research, ranking it slightly ahead of the 62 percent-average score among major markets, but well-behind San Diego, which is tops in the nation at 74 percent.

So a score of “3” or lower means below average when it comes to broadband adoption.

Unfortunately, thousands of households in the D.C. region are in that category.

A total of 228 Census tracts scored a “3,” meaning between 400 and 600 homes per 1,000 were connected; 109 scored a “2,” meaning between 200 and 400 homes per 1,000 were connected; and 19 scored a “1,” meaning between 1 and 200 homes per 1,000 were connected.

That works out to 356 Census tracts and nearly 635,000 homes whose adoption rate is 60 percent or lower.

“Broadband” in this report is defined as a connection with a download speed of 768 kilobits per second and an upload speed of 200 kilobits per second.

That’s fairly pokey by today’s standards, but it’s much faster than an old-time dial-up connection and allows for streaming video and uploads to YouTube.

The data are current through June 2010.

Low income, low adopters

Low-income households subscribe to broadband service at a far lower rate than wealthy households.

Census tracts with low adoption scores (1, 2 and 3) have average median household incomes of \$67,392, \$67,763 and \$68,767, respectively. For tracts that scored a “4,” the average median income was \$84,372, and for tracts that scored a “5,” average median income was \$106,262. The income measure was calculated by averaging the median household incomes in each tract with the same score and adjusting for population.

Overall, for tracts where the median household income was less than \$50,000, the average FCC score was 3.06. In tracts where the income was greater than \$50,000, the average FCC score was 4.11.

Within the 1,051 Census tracts in the survey, 525 tracts reported a 5.5 percent or greater rate of poverty among their populations. For those tracts, the average broadband score was 3.61. In the 526 tracts where the poverty rate was lower than 5.5 percent, the score was 4.34.

In tracts where the poverty rate was greater than 25 percent, the average score was 3.25.

Thirty-six percent of non-adopters cited cost as their main reason for not subscribing to the Internet, according to the FCC’s 2010 Broadband Adoption and Use in America report.

The highest ranking counties and cities were generally the wealthiest, but not always. (For a complete list, [see chart](#)).

County or city	Median household income	Income rank	Broadband score
1. Fairfax County, Va.	\$104,259	3rd	4.50
2. Fairfax, Va.	\$96,232	4th	4.46
3. Calvert County, Md.	\$90,621	7th	4.44
4. Falls Church, Va.	\$113,313	1st	4.37
5. Spotsylvania County, Va.	\$77,225	14th	4.20
6. Prince William County, Va.	\$88,850	9th	4.15
7. (tie) Arlington County, Va.	\$93,806	5th	4.13
7. (tie) Stafford County, Va.	\$90,586	8th	4.13
9. Montgomery County, Md.	\$92,213	6th	4.07
10. Prince George’s County, Md.	\$70,753	18th	4.06

The rankings were compiled by averaging Census tract scores in each jurisdiction and adjusting for population. Virginia cities are independent government entities and are not included in county totals.

Absent from the Top 10 list is the District, which ranked 17th in connectivity with a score of 3.58. Manassas, somewhat inexplicably, ranked last in the survey. The city’s four Census tracts all received a score of “2” from the FCC. That means fewer than 400 homes per thousand are connected.

One potential factor behind its poor showing is the relatively high percentage of Hispanic residents who live there. In each of the city’s four tracts, Hispanics make up 21 percent, 32 percent, 31 percent and 20 percent of the population.

“I can’t explain that rating,” said Mike Moon, the city’s director of utilities. “But I can say this: The city of Manassas is connected, and it (broadband) is available. It can’t be the fact that it’s not available.”

Some years back Manassas embarked on a bold experiment to offer broadband service over the city-owned power lines for the bargain price of \$20 to \$25 per home. The connection wasn’t terribly fast, but it was cheap and available.

The city eventually suspended the service due to low usage, but Moon credits it with attracting providers to the city.

He suspects income might be a cause of the low ranking. Manassas’s median household income is \$72,150, ranking it 17th in the regional survey.

“There is a point where high speed becomes a little bit pricey for your average homeowner,” he said.

Rich and disconnected

While high income usually equates to high broadband adoption, Loudoun County, Va., was an exception. The bucolic county, known for rolling green hills, big lots and zoning disputes, ranks 14th in broadband adoption, despite ranking second in median household income at \$112,021. Of Loudoun’s 32 tracts, two scored a “1,” the lowest mark. Nine scored a “2”; seven rated a “3”; four rated a “4”; and 10 rated a “5.” The county’s distance from the beltway and unique geography are a factor, though other counties with similar challenges managed to score better. The dividing line between high and low adoption, according to county spokeswoman Lorie Flading, is U.S. Route 15. Tracts west of the road are more sparsely populated and are home to many large, three-acre lots and independent developments — traits that make it tough to make money if you are a broadband provider.

“You just don’t find townhouses and apartments,” she said.

But one tract, in Sterling, also had a poor rating, “so obviously there are factors other than population density at work there,” she said. “Generally, however, it is the predominantly rural areas that have the lower rates. “

Chesapeake Bay community Calvert County, Md., ranked third in the survey despite its distance from D.C. Income sometimes seems to trump distance — Calvert is the seventh-richest jurisdiction in the region. Other high-ranking, but relatively rural counties included Spotsylvania, fifth, and Stafford, tied for seventh, both in Virginia.

The Hispanic divide

Hispanics in the D.C. region connect to the Internet at a lower rate than non-Hispanics, even when income is taken into account.

In Census tracts where 50 percent or greater of the population are of Hispanic descent, the average FCC score was 2.84. Census tracts with a black population of 50 percent or greater had an average score of 3.84, and tracts with a white population of 50 percent or greater had an average score of 4.07.

When accounting for income, the difference between white and black majority tracts goes away — not true for Hispanic tracts.

We identified six tracts that were majority Hispanic and had median household incomes between \$50,000 and \$60,000. The average FCC score, adjusting for population, was 2.93. In 44 majority-black tracts in that income range, the average score was 3.51. In 38 majority-white tracts in that range, the score was 3.41.

Education may play a role, however. In the six tracts that are majority Hispanic, the average percentage of people who have achieved no higher than a ninth-grade education is 26.5 percent while for the black tracts the number is 7 percent and for white tracts it is 6.5 percent.

In a February 2011 survey, the Pew Hispanic Center reported that 45 percent of Latinos use broadband at home compared with 65 percent of whites and 52 percent of blacks. The report says the gap is attributable to the fact that Hispanics earn less than whites and are less educated.

Among the most densely populated Hispanic areas in the region is Langley Park in Prince George's County. The two tracts at the center of the community are more than 80 percent Hispanic, according to the Census, and roughly three-quarters of the population is Spanish-speaking.

Both tracts rated a "1," meaning 200 or fewer households per 1,000 subscribe to the Internet.

Only 19 tracts of the 1,051 in the survey received the bottom rating.

Langley Park's poor education record may be a culprit. Sixty-nine percent of people in one tract and 57 percent of people in the second never completed the ninth grade, according to Census data.

Hispanics accounted for more than half the nation's population growth in the past decade, according to the 2010 Census, and now account for 16.3 percent of the population.

Some argue that Hispanics may not have a home broadband connection but still connect with the Internet through a hand-held device. (The FCC scores reflect wire-line, home-based connections.)

"It's something we hear a lot," said Amalia Deloney, grassroots policy director with the Center for Media Justice. "I know that in the communities I work with, pretty much all family members only use the Internet through cell phones."

While mobile access is better than no access at all, the two services are "not at all comparable," she said.

"We're very clear, it is absolutely no substitute for a fixed Internet connection in the home," she said of portable devices.

People may need to adjust their immigration status online, file forms for government assistance, check on their kids' school attendance and use homework help lines through instant message chats, she said.

"If you think about those things, none of them can happen over a smart-phone device," she said.

Experience outscores youth

To measure broadband adoption rates by age, the Workshop compared tracts with similar median ages.

It appears that when it comes to broadband, adoption rates are greater among those in their late 40s.

Residents of Census tracts where the median age is between 20 and 25 had an average score of 3.61. Those in the 25 to 30 age range scored 3.21. Those in the 30 to 35 age range scored 3.84. Those in the 35 to 40 age range scored 4.16; those in the 40 to 45 range scored 4.11; and residents in the 45 to 50 range scored the best at 4.34. Those aged 50 to 55 scored 3.98.

Few tracts in the survey have a median age that is older than 50, making it difficult to track the usage rates of senior citizens. But surveys generally show that people who are in their 60s and 70s adopt at lower rates than younger people.

According to the FCC's usage survey, people aged 65 and older are less interested in or less able to afford broadband. While the national adoption rate is around 65 percent, seniors are connecting at a 35 percent rate.

Further complicating the issue, cash-strapped, younger broadband users are more likely to connect to the Internet for free, in an Internet café or local hot spot.

Not surprisingly, the higher the education level, the higher the level of broadband adoption. In 521 Census tracts, 17.3 percent of the population completed graduate school. For that population, the average broadband score was 4.32. The average score in those tracts that had fewer than 17.3 percent of the population with graduate degrees was 3.62.

Rural and urban

Generally speaking, cities and counties that are close to the District and pack plenty of people into relatively small areas have higher scores than those that are remote and sparsely populated. In an attempt to make broad, geographic comparisons, the Workshop divided the survey area into four regions: the urban core (the District); close-in suburbs; outer suburbs; and rural areas. D.C.'s average score of 3.58 was lower than both the close-in and outer suburbs, but better than the rural areas.

The score for the close-in suburbs (Montgomery and Prince George's counties in Maryland; and Arlington County, Fairfax County, Alexandria, Fairfax, Falls Church, Manassas and Manassas Park in Virginia) was 4.17.

The score for the outer suburbs (Calvert, Charles and Frederick counties in Maryland; and Clarke, Fauquier, Loudoun, Prince William, Stafford, Spotsylvania, Warren counties and Fredericksburg in Virginia; and Jefferson County in West Virginia) was 3.92.

And the score for the rural areas (St. Mary's County in Maryland; and Culpeper County, King George County, Orange County, Page County, Rappahannock County and Shenandoah County in Virginia) was 3.31.

Close-in suburban areas touch the District border or are within the boundaries of a county that touches the District border. Outer suburbs are counties that are within the D.C. metropolitan statistical area, but do not touch the District border. Rural counties border the Washington, D.C., MSA and are not part of another MSA.

Greater population density, in most cases, leads to greater adoption. The average broadband score of the 12 counties and cities with 1,000 residents or more per square mile was 3.92; the average broadband score of the 17 counties with 1,000 residents or fewer per square mile was 3.29.

Eight of the region's 10 least-densely populated counties — Rappahannock, Page, Shenandoah, Clarke, Orange, Fauquier, Culpeper and King George counties, all in Virginia — ranked in the bottom 10 jurisdictions in broadband connectivity.

But high density doesn't always mean high broadband adoption.

Income trumps density

The most densely populated jurisdiction in the survey is the District of Columbia, with 9,583 people squeezed in per square mile. Despite the high density, the District's broadband ranking (17th) places it in the same category as sparsely populated counties.

Like other major cities, D.C. is home to areas of great wealth and severe poverty. The District's median household income of \$56,519 ranks it 25th of the 29 cities and counties surveyed.

The District's Office of the Chief Technology Officer reported in December 2010 that the citywide broadband adoption rate was 58 percent, with near 100 percent adoption rates in "more affluent neighborhoods" and rates below 40 percent in low-income areas in Northeast Washington and east of the Anacostia River.

Of D.C.'s 179 Census tracts, 26 (more than 36,000 homes) report a broadband adoption rate of 40 percent or lower, according to the FCC data. According to the Workshop map, most of the low-adopting areas are in three main clusters: east of the Anacostia River, toward the south; in the north along Georgia Avenue to Brightwood Park and beyond; and in Northeast D.C., west and south of the National Arboretum.

D.C.'s acting chief technology officer Rob Mancini wants to attack the problem head-on by providing a fiber optic network in low-adopting neighborhoods.

"We're going to lay a middle-mile infrastructure that nobody with a profit motive ever saw fit to lay down," he said.

To pay for it, the city will use a \$17.5 million grant from the American Recovery and Reinvestment Act — President Obama's stimulus plan. The hope is local commercial providers will plug into the city-owned network for a bargain rate and offer low-cost, high-speed service to residents.

"Wouldn't it be nice for kids to come home from school, get online and turn in their homework?" he asked.

Alexandria ranks second in density, with 9,364 people per square mile. The historic city has an average FCC broadband score of 3.79, ranking it in 16th place. It ranks 13th in income.

Arlington County is third in population density and tied for seventh in broadband connectivity.

Is a broadband connection a right or a privilege?

In some parts of the world, a broadband connection is being referred to as a civil right.

As a candidate, President Obama said it is "unacceptable" that the U.S. ranks 15th in the world in broadband adoption and pledged that "every child should have the chance to get online." He also made broadband grants a part of his economic stimulus plan.

The government's past efforts in fighting the digital divide have centered largely on making sure Americans have access — a position that invites little controversy. But ensuring everyone is actually connected to the Internet raises a host of thorny issues.

During his tenure with the FCC, Horrigan, now in the private sector, would brief high-end economists about the adoption challenge.

“I explained that broadband is 95 percent available and 65 percent adopted,” he said, “and then the conversation just stopped.”

So if broadband is so important, what does society do to make sure people are signing up?

One option is government intervention — but that’s highly unlikely given the current political environment and the power of providers. And industry argues government intervention is not necessary because the market is competitive. Consumer groups beg to differ.

Most people in the U.S. usually have at most two wire-line providers. People in the D.C. region, though, are lucky. In some neighborhoods, they can choose from three or even more. But if competition is driving down prices, it doesn’t seem to be doing much for adoption rates.

Providers could expand their subscriber base by offering low introductory rates of say, \$10 per month, said S. Derek Turner, research director for Free Press, a frequent industry critic.

But the trend in the business has been toward getting existing customers to spend as much as possible by paying for high-definition programming, digital video recorders and on-demand movie and television shows.

Low-income households don’t fit anywhere in that strategy.

“My suspicion is they don’t really care about growing the market anymore,” Turner said of providers. “They don’t really care about closing the adoption gap, and, frankly, neither does the FCC.”

This report was made possible by the generous support of the John S. and James L. Knight Foundation.

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Bottom of Form

[District pays a lot per broadband bit](#)

Washingtonians get less bang for their broadband buck than every state in the nation except Alaska, according to a survey released Tuesday.

District subscribers don’t pay much per month (\$43.72, fifth when compared to the 50 states) but when you add connection speeds to the equation, it’s a different story.

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