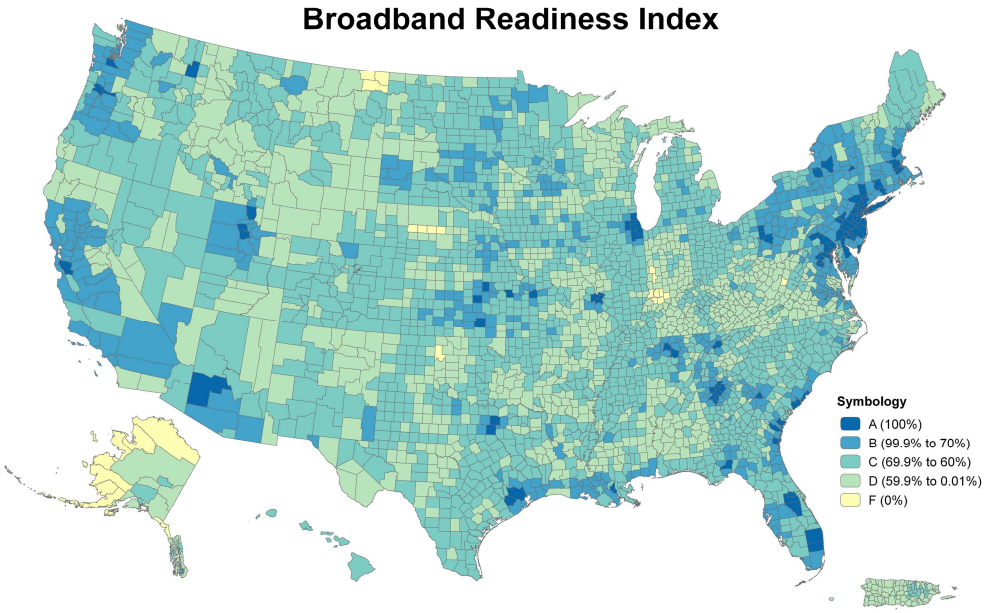
Broadband Readiness Index

Connected Nation's Broadband Readiness Index measures how prepared each county across the nation is to meet the national broadband goals set by the White House and the Federal Communications Commission (FCC). The Broadband Readiness Index provides a transparent, easy-to-use means to benchmark how mature the broadband infrastructure in each community across the nation is – information that will help trigger meaningful strategies to address the local broadband challenge.



Using NTIA's National Broadband Map fall 2010 data across the nation's 3,219 counties in all 50 states, the District of Columbia, and Puerto Rico, Connected Nation's Broadband Readiness Index focuses on three key metrics: wireline capacity at basic speeds, mobile wireless access, and high-capacity speeds greater than 50 Mbps. In particular, the Broadband Readiness Index compares county-level measured inventory with White House and FCC stated goals for broadband development: universal broadband access of at least 4 Mbps download/1 Mbps upload speeds; near-ubiquitous mobile broadband to 98% of U.S. households by 2016;[1] and at least 50 Mbps broadband capacity to 100 million households by 2015.[2]

[1] White House Press Release, 2/10/2011. http://www.whitehouse.gov/the-press-office/2011/02/10/remarks-president-national-wireless-initiative-marquette-michigan

[2] FCC's National Broadband Plan.

Table 1 Readiness Index Grade Scale	
A	100%
B	70.0% to 99.9%
C	60.0% to 69.9%
D	0.01% to 59.9%
F	0%

Based on these national goals, the readiness benchmark is as follows: 100% of households served at 3 Mbps download/ 768 Kbps upload speeds,[3] 98% of households served by mobile service, and 85% of households served by 50 Mbps download speed broadband service.[4]

Connected Nation's Broadband Readiness Index assesses current attainment of the three metric benchmarks by county and generates a readiness grade from A to F for each metric, as described in Table 1. Each county then receives an overall grade based on the average across the three metrics.

Are Communities Across the Nation Ready to Meet the Broadband Goals?

Based on Connected Nation's Broadband Readiness Index, over two-thirds of all counties containing 91.6% of all households receive a passing grade. By contrast, 32% of counties containing approximately 8.4% of the population receive a failing grade. Most communities are ready to meet the national broadband goals, but important challenges remain across counties in all 50 states and territories across the nation.

Goals Met – Only 115 counties, or less than 4% of the 3,219 across the nation, receive an A and already meet the national broadband goals. These 115 counties represent almost a fourth of the total population of the country (24.6%). Household density in these counties is high, with 443.3 homes per square mile of land, and they include some of the nation's largest cities such as New York, Philadelphia, Chicago, and Atlanta.

Prepared to Meet Goals – A total of 474 counties, or almost 15% of all counties containing approximately 30% of U.S. households, receive a B grade. Broadband inventory in these counties falls short of the targeted benchmarks, but is in line to meet national goals in the coming years. The broadband challenge across these counties will likely be met by market forces.

Table 2 Connected Nation's Broadband Readiness Index			
Readiness Grade	Number of Counties	Percent of Counties	Percent of U.S. Households
A	115	3.6%	24.6%
B	474	14.7%	29.8%
C	1,594	49.5%	37.2%
D	1,007	31.3%	8.4%
F	29	0.9%	0.09%

Source: Readiness Index - Connected Nation. Demographic Data - U.S. Census, 2010 and GeoLytic, 2009.

[3] This speed tier is the closest approximation available via NTIA's National Broadband Map data to the FCC's National Speed Target of 4 Mbps download /1 Mbps upload speeds.

[4] The National Broadband Plan target of 100 million households served by 50 Mbps by 2015 equates to 85% of all U.S. households in 2010.

Progress Remains – Almost 50% of all counties, or 1,594 counties containing 37% of all U.S. households, receive a C grade. With a score of between 60% and 70% of the national broadband goals achieved, progress remains across these counties to meet the national goals in the coming years. Local and regional broadband awareness and stimulation programs along with targeted local private-public partnership initiatives can effectively help move these areas up the grade ladder to meet the national goals.

Dire Challenge Ahead – A total of 1,007, or 31% of all counties containing 8% of U.S. households, have a failing grade of D. Across these counties less than 60% of the national broadband goals have been met, indicating a significant challenge to fulfill the national goals in the medium timeframe. Coordinated federal and state programs to help bridge the gap, complemented with targeted regional and local broadband stimulation programs, will be essential to address this challenge across these areas.

Completely Unserved – Only 29 counties across the nation, with less than one tenth of one percent of U.S. households, receive an F grade. These are counties where there is no measured terrestrial broadband access. These counties are primarily in remote areas of Alaska, where 12 of these counties are located, and other sparsely populated regions.

What is Driving Broadband Readiness Across the Nation?

Density of households is the main driver of readiness among counties. As expected, broadband providers have prioritized investment in robust broadband infrastructure in high-density, urban areas where the cost of serving each customer is lowest.

Table 3
Key Demographics by Broadband Readiness Index Grade-Level

Readiness Grade	Number of Counties	Percent of U.S. Households	Household Density	Average Median Household Income	Percent Population Living Below Poverty Line	Unemployment Rate	Percent Minority Population
A	115	24.6%	443.3	$ 63,613	11.8%	8.7%	42.4%
B	474	29.8%	78.5	$ 50,307	12.3%	10.2%	38.1%
C	1,594	37.2%	29.6	$ 42,360	14.6%	9.4%	27.7%
D	1,007	8.4%	7.9	$ 37,494	18.7%	10.7%	21.7%
F	29	0.09%	0.4	$ 47,086	15.1%	8.4%	25.8%
National	**3,219**	**100%**	**33.3**	**$ 42,810**	**13.5%**	**9.6%**	**34.1%**

Sources: Readiness Index - Connected Nation. U.S. Households - U.S. Census, 2010 and GeoLytic, 2009. Household Density – U.S. Census, 2010 for Households, 2000 Census and Colorado Department of Local Affairs, 2007 for Land Area. Medium Household Income, Minority Population and Population Living Below the Poverty Line – American Community Survey, 2005-2009. Unemployment Rates – Bureau of Labor Statics, Feb. 2011.

- Density of population is the most significant factor driving the Broadband Readiness Index. The household density across counties with an A grade is 443.3 homes per square mile, indicating highly populated, urban areas. Household density across counties with a B grade is 78.5 homes per square mile. These areas are a combination of urban and suburban, with household density significantly above the national average of 33.3 homes per square mile. In contrast, counties with a failing grade of D have on average only 7.9 homes per square mile, and counties with an F grade have 0.4 homes per square mile. Households in counties with grades of D and F are in primarily rural, sparsely populated areas.
- There is a positive correlation between income and the Broadband Readiness Index, where a high Broadband Readiness Index score equates to higher average median household incomes. Similarly, counties with higher grades have lower levels of population living under the poverty line. This is true for all grades except the failing F grade. However, 12 of the 29 counties with an F grade are located in Alaska, where idiosyncratic income patterns exist that could be responsible for this anomaly.
- Percentage of minority population does appear to play a role in the Broadband Readiness Index, where high scores equate to higher percentage of minority populations. 42% of residents are classified as minority across counties receiving an A, and 38% in counties with a B grade. By contrast, fewer than 22% of residents are minorities in counties with a D grade, and 26% across counties receiving an F. Such patterns may be explained by the higher concentration of minorities in urban areas, where, in turn, the Broadband Readiness Index is highest.
- The unemployment rate does not appear to be driving the Broadband Readiness Index, since there is no correlation of unemployment rates across counties with different grades.

How is the Broadband Readiness Index Relevant to the Local Community?

The Broadband Readiness Index can be a catalyst for action across a community. Connected Nation is working with communities across the nation to measure and identify the local challenge and promote action to fill the gaps and expand broadband resources.

Nacogdoches County, East Texas, with a failing grade of D, is home to the town of Chireno where in mid-2010 the National Broadband Map program revealed 99% of homes had no fixed broadband service available. Working with Connected Nation, this tactical information prompted local leaders, including local elected officials, media, and residents, to seek a regional broadband provider that would be willing to expand into their community. In September of 2010, broadband provider East Texas DSL erected a new WiMAX tower that today provides broadband service to the community. This new inventory will be reflected in future bi-annual iterations of the Broadband Readiness Index and help Chireno leadership understand where their community stands in the race to meet the national broadband challenge.

Leelanau County, Lower Peninsula Michigan, a community on the shores of Lake Michigan close to Traverse City, has a passing grade of C. In this community the Broadband Readiness Index and broadband inventory has helped connect consumers who thought they were unserved with existing WiMAX solutions, and today they are fully benefiting from high-speed Internet. This increased subscribership will help strengthen business cases to continue investing in ever faster and more ubiquitous broadband capacity. Real estate entrepreneurs in the Traverse City area, fully aware of the impact of high-capacity broadband on home prices, use the Broadband Readiness Index and broadband maps to showcase value and increase awareness for the need of ever-greater broadband capacity.

Table 4
Broadband Readiness Index by Metric

Community	3 Mbps Download Speed	Mobile Wireless	50 Mbps Download Speed	Overall Grade
Nacogdoches County, TX	B	B	F	D
Leelanau County, MI	B	B	F	C
Perry County, TN	B	B	F	D

Source: Connected Nation.

Perry County, Western Tennessee, has a failing grade of D. After the loss of a major employer, in mid-2010 Perry County had the nation's second highest unemployment rate at 25.4%. Community leaders searched for new growth opportunities and, with the help of private-public partnerships, has created a "Digital Factory" where citizens can receive training in IT skills and use local computing centers to provide IT services to remote customers who they are able to serve through the digital highway. The maturity of the broadband network is essential to sustain and help grow this nascent local telework industry. Through the Broadband Readiness Index and the broadband map, local leadership is able to assess the present and plan for the future infrastructure growth needed to keep the community online and on track.

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