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The Internet in Kentucky: Life in the Slow Lane

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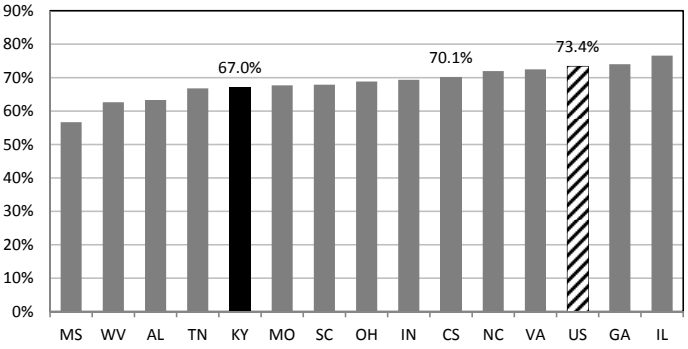
Broadband availability and usage affects regional prosperity.

Research shows that because the Internet permeates so many aspects of our lives, access to and use of it appear to be increasingly important for anyone becoming politically informed, socially integrated, and economically successful in the Information Age. Studies suggest that "Internet use increases employment and income, enhances consumer welfare, and promotes civic engagement," (NTIA, 2013, p. 4), and that enhancing the nation's broadband infrastructure can improve innovation, entrepreneurship, and productivity (Brookings, 2013). The importance of high-speed Internet access promises to become even more important in the future as online education becomes more firmly rooted, but this analysis—conducted by the University of Kentucky College of Communication and Information and the Center for Business and Economic Research—shows that only a handful of Kentucky counties are nationally competitive with respect to high-speed Internet infrastructure and utilization.

FIGURE 1
Broadband Internet Access from Home, 2012, Kentucky, Competitor States and the U.S.
(percent of households)



Source: Author's analysis of Current Population Survey data, Oct 2012 Computer and Internet Supplement
Note: This includes mobile devices as well as desktop/laptop computers and includes any high-speed access to the Internet (e.g., DSL, cable, mobile, wireless, etc.). "CS" is the weighted average of the competitor states.

The percentage of Kentucky households with broadband increased from 13% in 2003 to 67% in 2012.

The percentage of households in Kentucky with broadband Internet, 67%, is similar to many neighboring states but lower than the U.S. average of 73.4% (Figure 1). And, the percentage of Kentucky households with access to a basic level of broadband—defined as download (DL) speed>3.0 mbps and upload speed>0.768 mbps—is about 95 percent (Table 1). Unfortunately a basic level of broadband speed is no longer sufficient for many important applications. Distance learning, for example, requires a minimum 25 mbps DL for an "ok" experience and 50 mbps for a "good" experience (SBA, 2010, p. 18). While 82 percent of U.S. households have access to at least 25 mbps DL, only about 61 percent of Kentucky households have access to this speed (Table 1).

TABLE 1
Broadband Access and Speed Indicators, U.S., Competitor States, and Kentucky, 2012
(percent of households)

Area	Broadband Access	DL>3.0 Mbps, UL>0.768 Mbps	DL>10 Mbps	DL>25 Mbps	DL>50 Mbps
US	99.5	98.4	95.8	82.1	78.8
AL	99.6	98.2	94.5	69.9	65.4
GA	99.9	98.7	97.5	85.4	84.4
IL	99.9	99.5	98.3	92.8	83.7
IN	99.9	98.7	97.4	85.3	81.4
KY	**98.7**	**95.3**	**85.7**	**60.8**	**58.3**
MS	99.8	96.2	86.5	67.0	57.1
MO	99.5	97.4	92.8	68.2	65.6
NC	99.3	97.4	95.9	86.0	81.2
OH	99.7	99.2	97.5	90.1	90.0
SC	99.8	97.9	95.8	78.9	78.3
TN	99.5	97.7	96.0	82.6	82.2
VA	99.2	97.1	93.5	81.4	79.5
WV	93.2	89.1	74.3	54.2	52.6

Source: National Telecommunications and Information Administration (NTIA) National Broadband Map (NBM), http://www.broadbandmap.gov/, current as of December 31, 2012.
Note: Broadband Access is from either wireline or wireless.

There are 18 "Nationally Competitive" counties in Kentucky with respect to high-speed Internet availability and utilization (Figure 2). These counties have download speeds and high-speed Internet utiliza-

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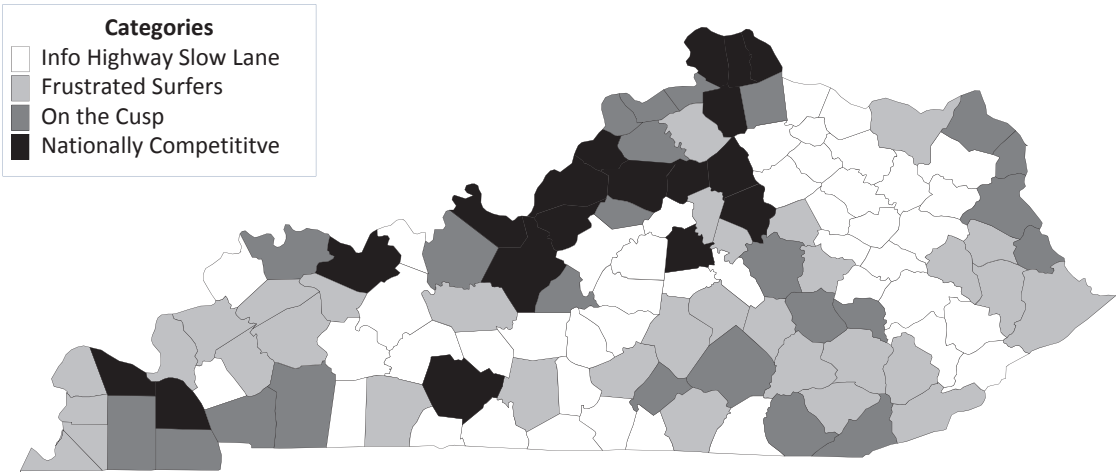
FIGURE 2
Estimated High-Speed Internet Infrastructure & Utilization, 2012



The 18 "Nationally Competitive" counties have 50% of the state's population.

tion rates that are equal to or greater than the U.S. average (i.e., at least 80 percent of the households have access to 25 mbps DL and at least 70 percent have high-speed Internet access in their homes). The next group of (24) counties is "On the Cusp," with at least 50 percent of the households having access to 25 mbps DL. Comprising the "Frustrated Surfers" category are 33 counties where less than 50 percent of the households have access to at least 25 mbps DL. Finally, the largest category, "Information Highway Slow Lane," is comprised of the 45 counties without 25 mbps download capability. Over 85 percent of the 102 counties that are not "Nationally Competitive" have household broadband rates below 70 percent.

Broadband download speed of 25 mbps is considered the minimum necessary for distance learning; nearly 59% of Kentucky's metro households have access to 25 mbps, but only 20% of nonmetro households do.

Recent proposals for improving access to high-speed Internet in Kentucky include the creation of "E-Learning Centers," which would be places like schools, libraries, and nonprofits where individuals would have after-hours access to the Internet (CPE, 2013, p. 25). Providing free access at E-Learning Centers would overcome the cost barrier, but the results in Table 2 show there are important education as well as income barriers to household broadband adoption. The independent effect of education is significant—Kentuckians with at least a bachelor's degree are 1.3 times more likely to have broadband at home than those with a high school diploma, 79% compared to 60% (see Appendix). Improving Kentucky's prosperity in the Information Age will be partially determined by the extent to which our broadband infrastructure and Internet utilization is (inter)nationally competitive.

TABLE 2
Estimated Net and Gross Percentages of Households with Broadband, 2012

	Kentucky		Competitor States		United States	
	Gross	Net	Gross	Net	Gross	Net
Total Population	67%		70%		73%	
Income						
Less than $25,000	46%	51%	45%	53%	48%	55%
$25,000 to $49,999	68%	67%	68%	69%	70%	72%
$50,000 to $99,999	88%	85%	87%	83%	88%	85%
$100,000 or more	97%	88%	96%	86%	95%	87%
Education						
Less than High School	36%	49%	34%	48%	39%	52%
High School	57%	60%	59%	63%	63%	67%
Some College	79%	76%	77%	76%	79%	78%
Bachelors or Higher	89%	79%	90%	81%	91%	83%
Race						
White (non-Hispanic)	68%	67%	73%	72%	77%	75%
Non-White (non-Hispanic)	63%	65%	62%	66%	65%	70%
Residence						
Non-Metro	62%	68%	59%	65%	63%	69%
Metro	71%	66%	74%	72%	75%	74%
Age						
Under 25	62%	71%	73%	83%	74%	84%
25 to 54	77%	74%	78%	75%	81%	78%
55 and Older	56%	58%	59%	62%	64%	66%
Gender						
Female	66%	67%	67%	69%	71%	73%
Male	68%	67%	73%	71%	76%	74%

Notes

Appendix available online at cber.uky.edu.

Brookings Institution. (2013). *Smart Policy: Building an Innovation-Based Economy*.
Kentucky Council on Postsecondary Education. (2013). *Final Recommendations of the Rural Access Work Group*.
National Telecommunications and Information Administration (NTIA) & Economics and Statistics Administration (ESA). (2013). *Exploring the digital nation: America's Emerging Online Experience*.
Small Business Administration Office of Advocacy. (2010). *The Impact of Broadband Speed and Price on Small Business.*