Kentucky: Between Iraq and a Hard Place

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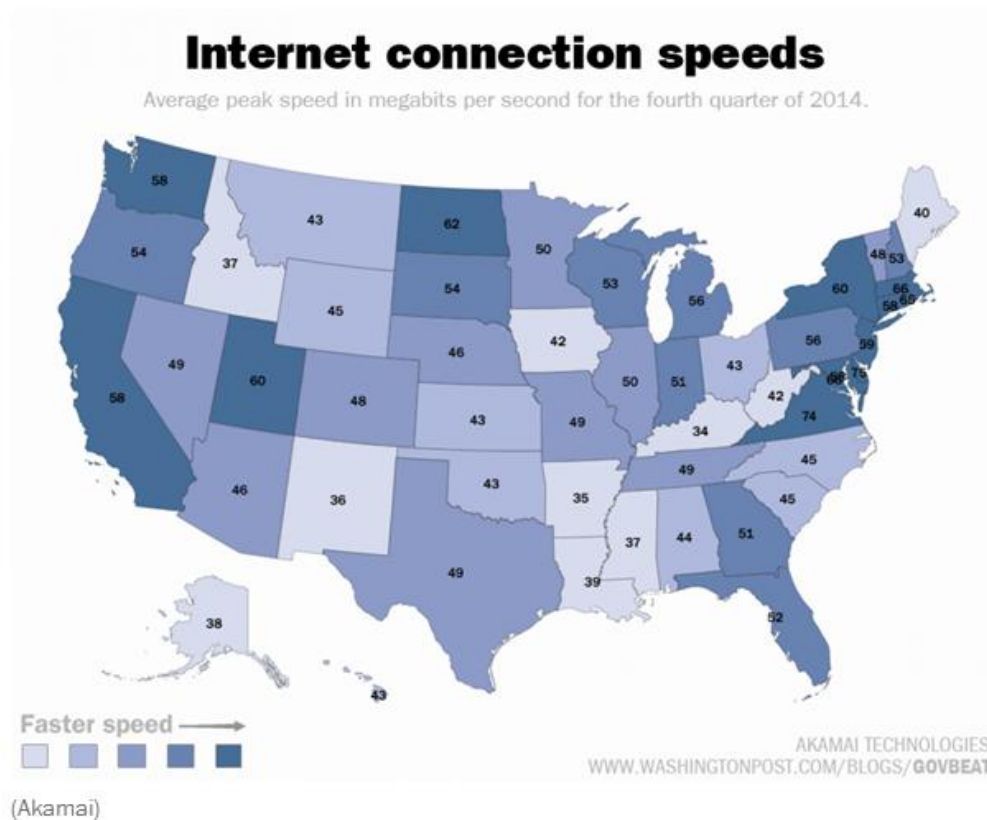
Brian E. Kiser
Office of Broadband Outreach and Development
Finance and Administration Cabinet

NACo National Association of Counties
The Voice of America's Counties
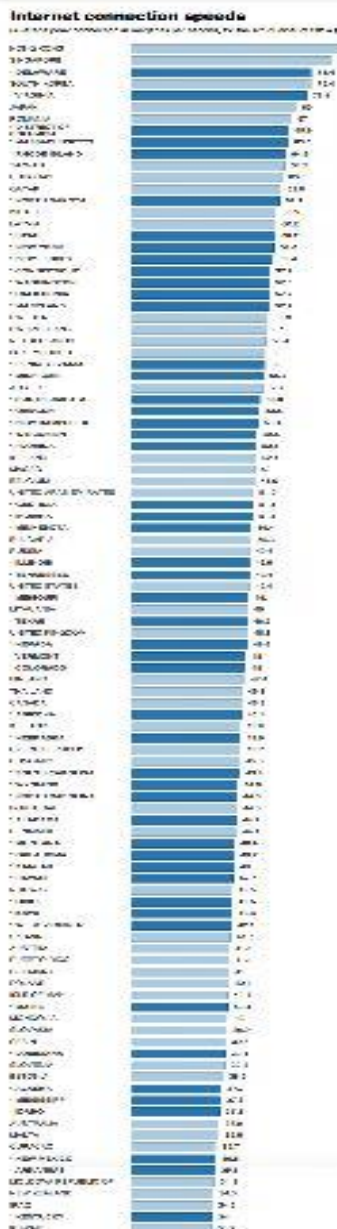
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GovBeat

Map: The state of broadband in the states

By **Niraj Chokshi** March 25 ✉ Follow @NirajC

Broadband speeds are expanding nationwide and the conditions seem good for even more growth.
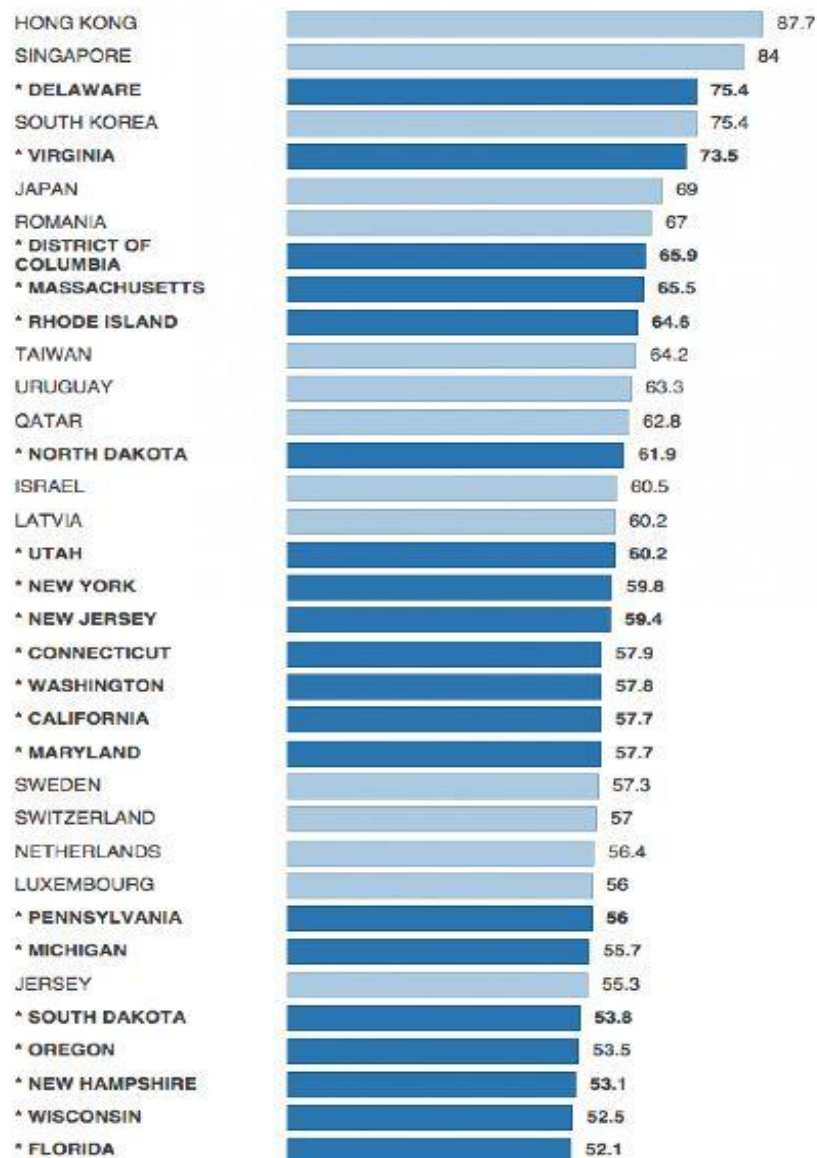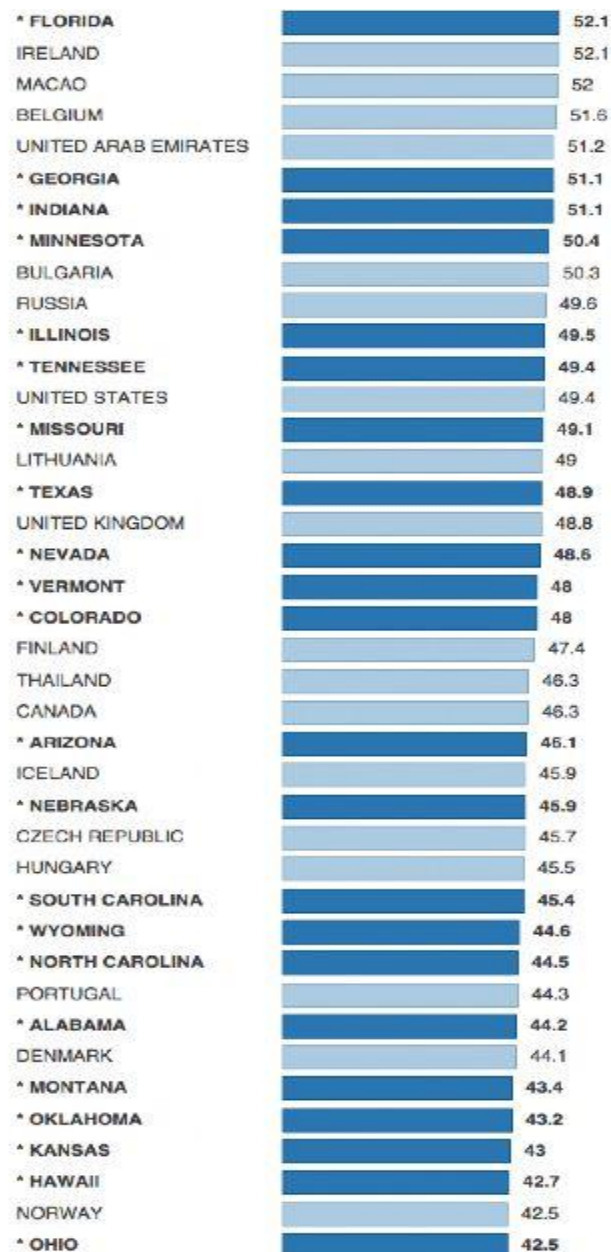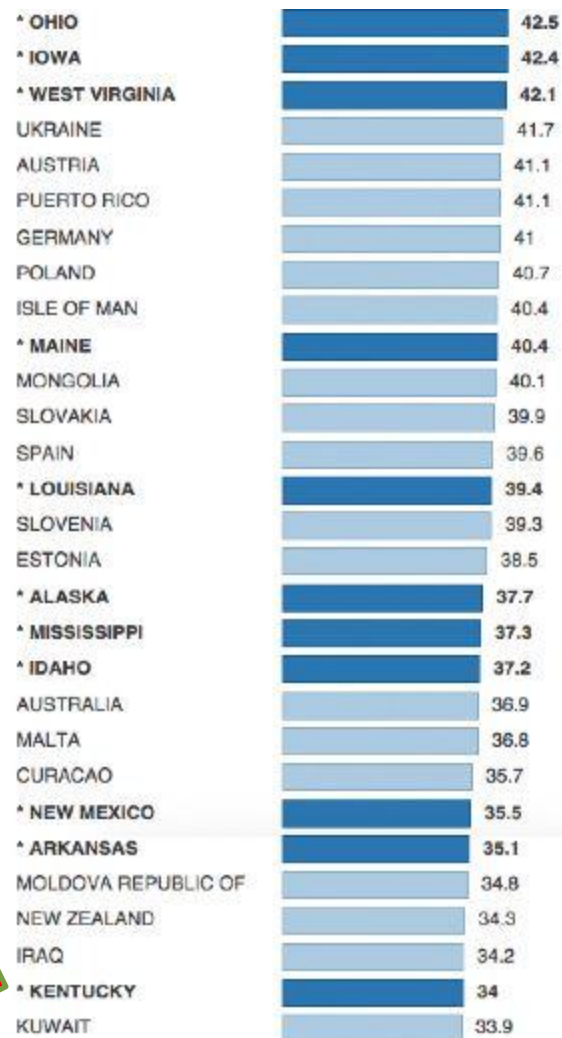
Average Peak Broadband Speed

87.7 Mbps

33.9 Mbps

Internet connection speeds

(Average peak connection in megabits per second, for the 4th quarter of 2014.)

Location	Speed
HONG KONG	87.7
SINGAPORE	84
* DELAWARE	75.4
SOUTH KOREA	75.4
* VIRGINIA	73.5
JAPAN	69
ROMANIA	67
* DISTRICT OF COLUMBIA	65.9
* MASSACHUSETTS	65.5
* RHODE ISLAND	64.6
TAIWAN	64.2
URUGUAY	63.3
QATAR	62.8
* NORTH DAKOTA	61.9
ISRAEL	60.5
LATVIA	60.2
* UTAH	60.2
* NEW YORK	59.8
* NEW JERSEY	59.4
* CONNECTICUT	57.9
* WASHINGTON	57.8
* CALIFORNIA	57.7
* MARYLAND	57.7
SWEDEN	57.3
SWITZERLAND	57
NETHERLANDS	56.4
LUXEMBOURG	56
* PENNSYLVANIA	56
* MICHIGAN	55.7
JERSEY	55.3
* SOUTH DAKOTA	53.8
* OREGON	53.5
* NEW HAMPSHIRE	53.1
* WISCONSIN	52.5
* FLORIDA	52.1

4

* FLORIDA		52.1
IRELAND		52.1
MACAO		52
BELGIUM		51.6
UNITED ARAB EMIRATES		51.2
* GEORGIA		51.1
* INDIANA		51.1
* MINNESOTA		50.4
BULGARIA		50.3
RUSSIA		49.6
* ILLINOIS		49.5
* TENNESSEE		49.4
UNITED STATES		49.4
* MISSOURI		49.1
LITHUANIA		49
* TEXAS		48.9
UNITED KINGDOM		48.8
* NEVADA		48.6
* VERMONT		48
* COLORADO		48
FINLAND		47.4
THAILAND		46.3
CANADA		46.3
* ARIZONA		46.1
ICELAND		45.9
* NEBRASKA		45.9
CZECH REPUBLIC		45.7
HUNGARY		45.5
* SOUTH CAROLINA		45.4
* WYOMING		44.6
* NORTH CAROLINA		44.5
PORTUGAL		44.3
* ALABAMA		44.2
DENMARK		44.1
* MONTANA		43.4
* OKLAHOMA		43.2
* KANSAS		43
* HAWAII		42.7
NORWAY		42.5
* OHIO		42.5

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* OHIO	42.5
* IOWA	42.4
* WEST VIRGINIA	42.1
UKRAINE	41.7
AUSTRIA	41.1
PUERTO RICO	41.1
GERMANY	41
POLAND	40.7
ISLE OF MAN	40.4
* MAINE	40.4
MONGOLIA	40.1
SLOVAKIA	39.9
SPAIN	39.6
* LOUISIANA	39.4
SLOVENIA	39.3
ESTONIA	38.5
* ALASKA	37.7
* MISSISSIPPI	37.3
* IDAHO	37.2
AUSTRALIA	36.9
MALTA	36.8
CURACAO	35.7
* NEW MEXICO	35.5
* ARKANSAS	35.1
MOLDOVA REPUBLIC OF	34.8
NEW ZEALAND	34.3
IRAQ	34.2
* KENTUCKY	34
KUWAIT	33.9

The Washington Post

(Akamai)

Accessibility + Adequate Speeds + Affordability + Awareness = ADOPTION

Bad
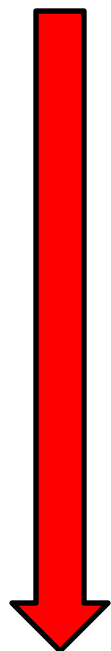
Limited high capacity fiber

Kentucky is 46th in the nation for broadband availability

23% of Rural population has no access vs. 1.5% in Urban areas

Only 30% of Eastern Kentucky households adopt broadband vs. 60% urban adopters at the Federal Communication Commission's previous standard speed of 3 Mbps

Gap widens with the FCC's new standard speed at 25 Mbps

Worst

Global Internet

Middle Mile

Last Mile
Local Providers /
Carriers
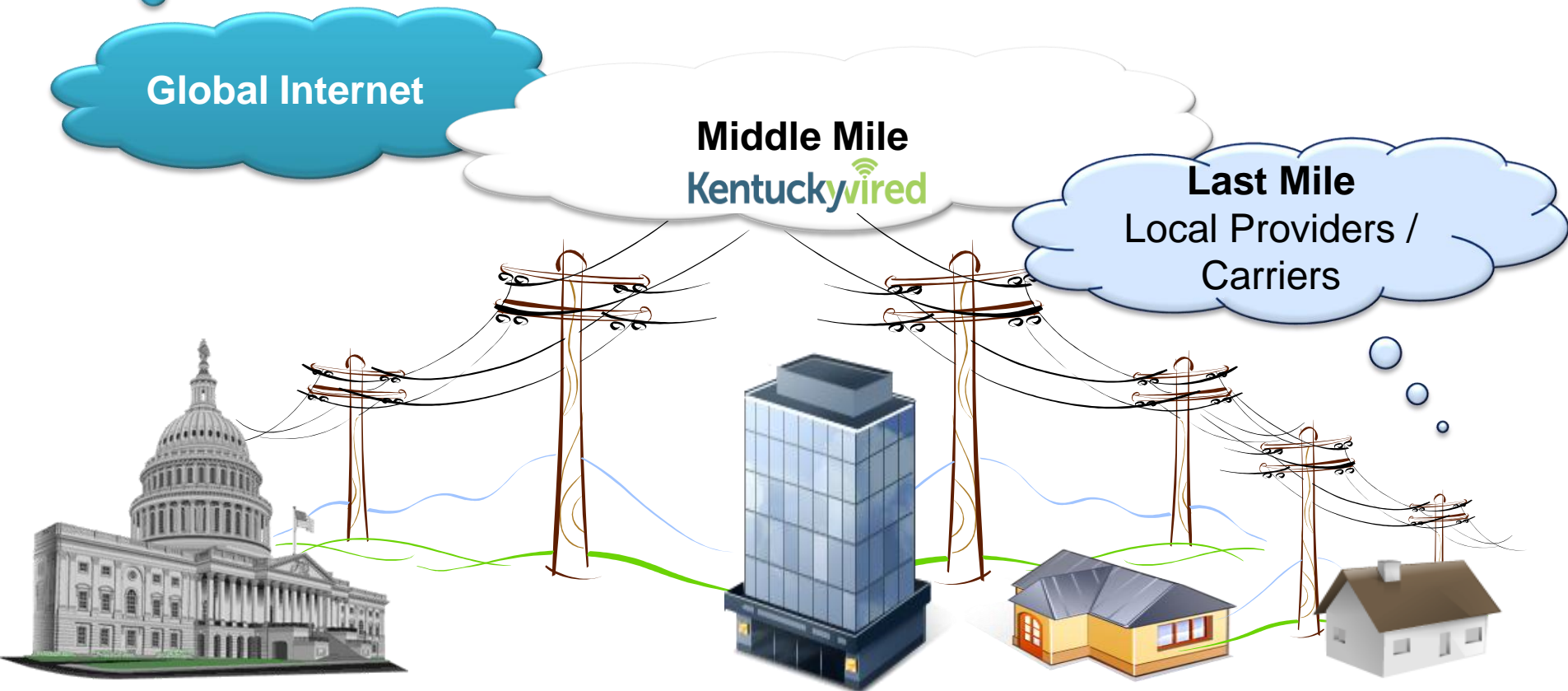
Middle mile often refers to the network connection between the worldwide Internet and the *last mile*. For instance, in a rural area, the middle mile would connect the town's network to a larger city.

Fiber-To-The-Premises (FTTP) - Internet Service Provider (ISP) installs fiber optic cable directly to a home or business.

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Most U.S. metro areas have access to Fiber and High Speed Broadband

The FCC's current 25 Mbps standard is required to handle many of today's Internet requirements

BANDWIDTH COMPARISONS

- 64 Kbps: Phone Line
- 128 Kbps: ISDN

1000 Mbps = 1 Gbps

1.5 Mbps for a T1 Line

Today, fiber's bandwidth is orders of magnitude bigger than other technologies. As the new generation of 10 Gbps equipment is deployed, the fiber circle will move off the page.

25 Mbps

20 Mbps: Wireless maximum per user with latest technology

100 Mbps: DSL maximum per user with latest technology

160 Mbps: Cable maximum per user with latest technology

Only the Beginning

In a few years, even 1 Gbps will look small. Soon, most content will be 3D and ultra-high-definition.

1+ GBPS FIBER PER USER, AND GROWING (2011)

1 Gbps

*Mbps (megabits/sec) is *millions of bits per second*
Gbps (gigabits/sec) is *billions of bits per second*
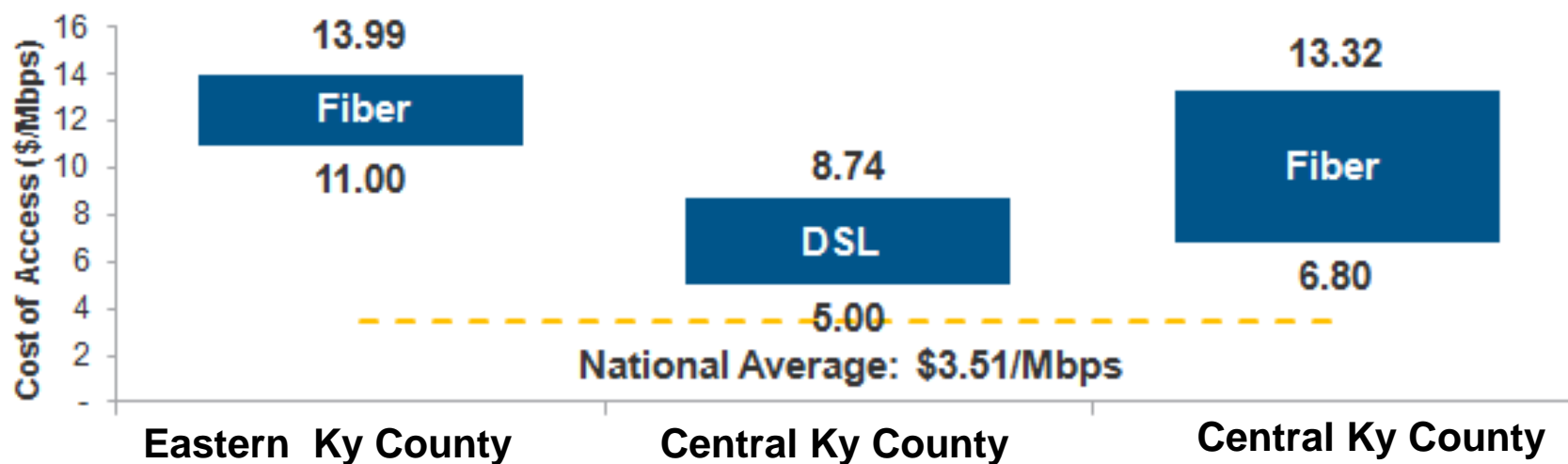
Residential Cost of Access

What is KentuckyWired?

The Numbers

All 120 Counties	~250 + Priority Locations	Over 3000 miles	Statewide

Priority Locations

K-12	State Universities	KCTCS	CDC/CRD

The Partnership

Middle Mile (State/CRD/Private)	Last Mile (Carriers)	Government (Coops & Municipalities)

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Vendor Commitment

100+	Crews statewide
60%	Local labor
8-12 %	Minority hire
~$175M	Kentucky contracts

Jobs

Construction phase through 2018

- ~690 FTEs (at Peak)
  - ✓ Engineering
  - ✓ Construction Management
  - ✓ Field Crews

Jobs through life of the contract

- ~20 FTEs
  - ✓ Executive
  - ✓ Engineering
  - ✓ Management
  - ✓ Administration
  - ✓ Skilled Technicians

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Time Line

Contract
Awarded

Initial Priority
Fiber Routes
Complete

Dec 2014

Dec 2015

Spring 2016

2018

Design
Complete
and
Construction
Underway

All Statewide
Endpoints
Complete

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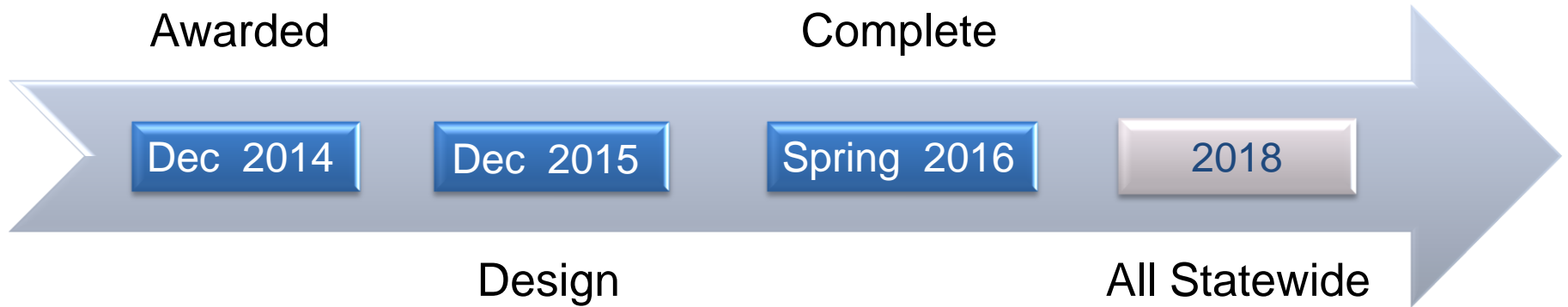
Create a guide to help local leaders bring last mile service to their communities

- **Provide step by step guidebook to obtain federal funding**
  - ✓ **Appalachian Regional Commission Grants**
  - ✓ **Community Connect thru Rural Utilities Service Grants**
  - ✓ **Rural Utilities Service (USDA Rural Development) Loans**

- **Establish contracts to assist with implementation of new community programs**

- **Create or expand Internet Access Centers**
  - ✓**Libraries**
  - ✓**Community Technology Centers**

- **Engage local private sector partners and local government**

Questions?

Project & Contact Information

Website
KentuckyWired.ky.gov
Broadband.ky.gov

Email
KentuckyWired@ky.gov

Telephone
(502) 782-9549

Population Density

- **Population 4,273,951**
- **Total Area 40,411 square miles**
- **Households 1,686,618**
- **2,250,000 Live on 22% of land**
- **50% of population is in the Golden Triangle**

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50 km
30 mi

Northern Kentucky Population 427, 000

Louisville and Surrounding Counties Population 1,100,000

Lexington and Surrounding Counties Population 647,000
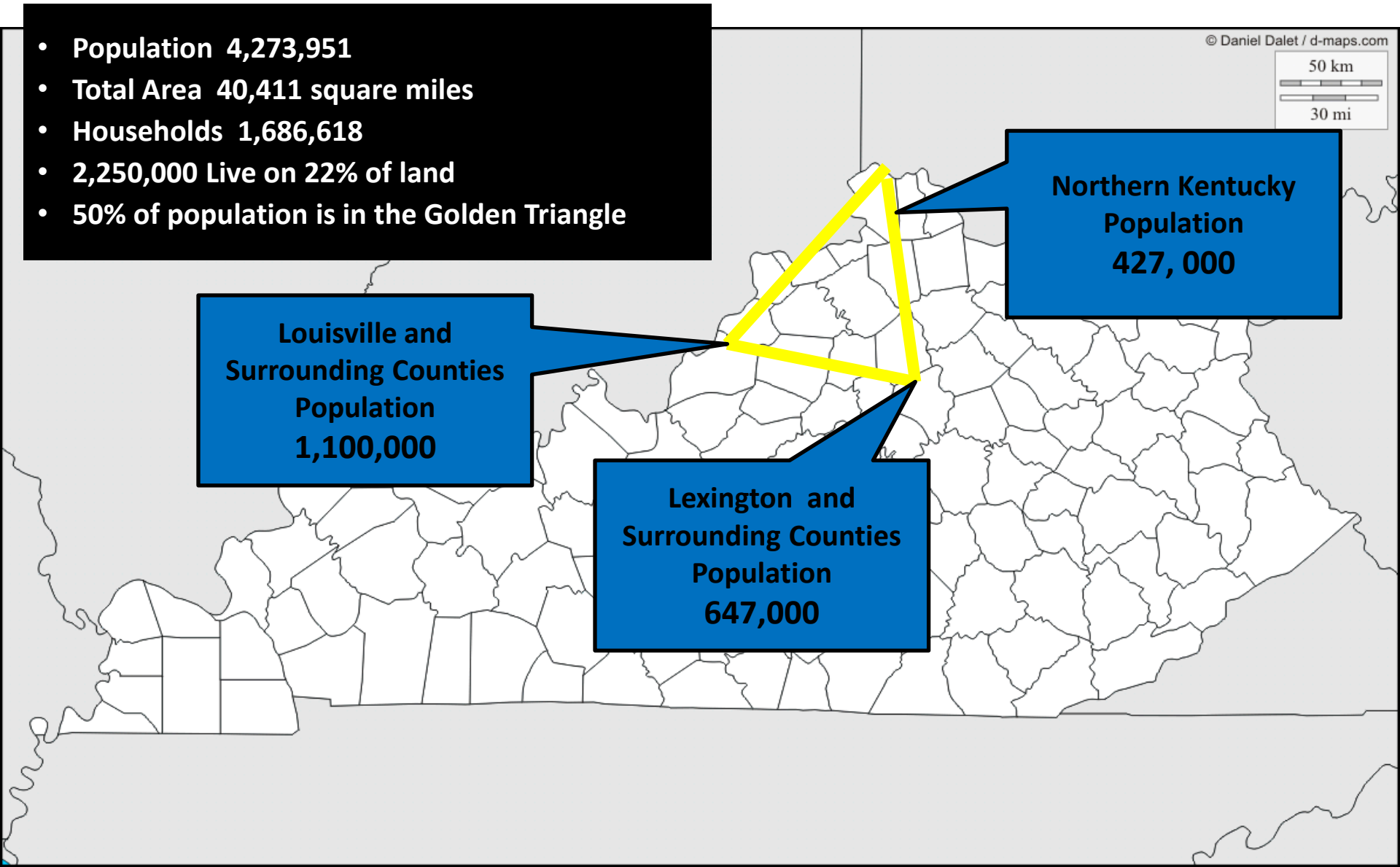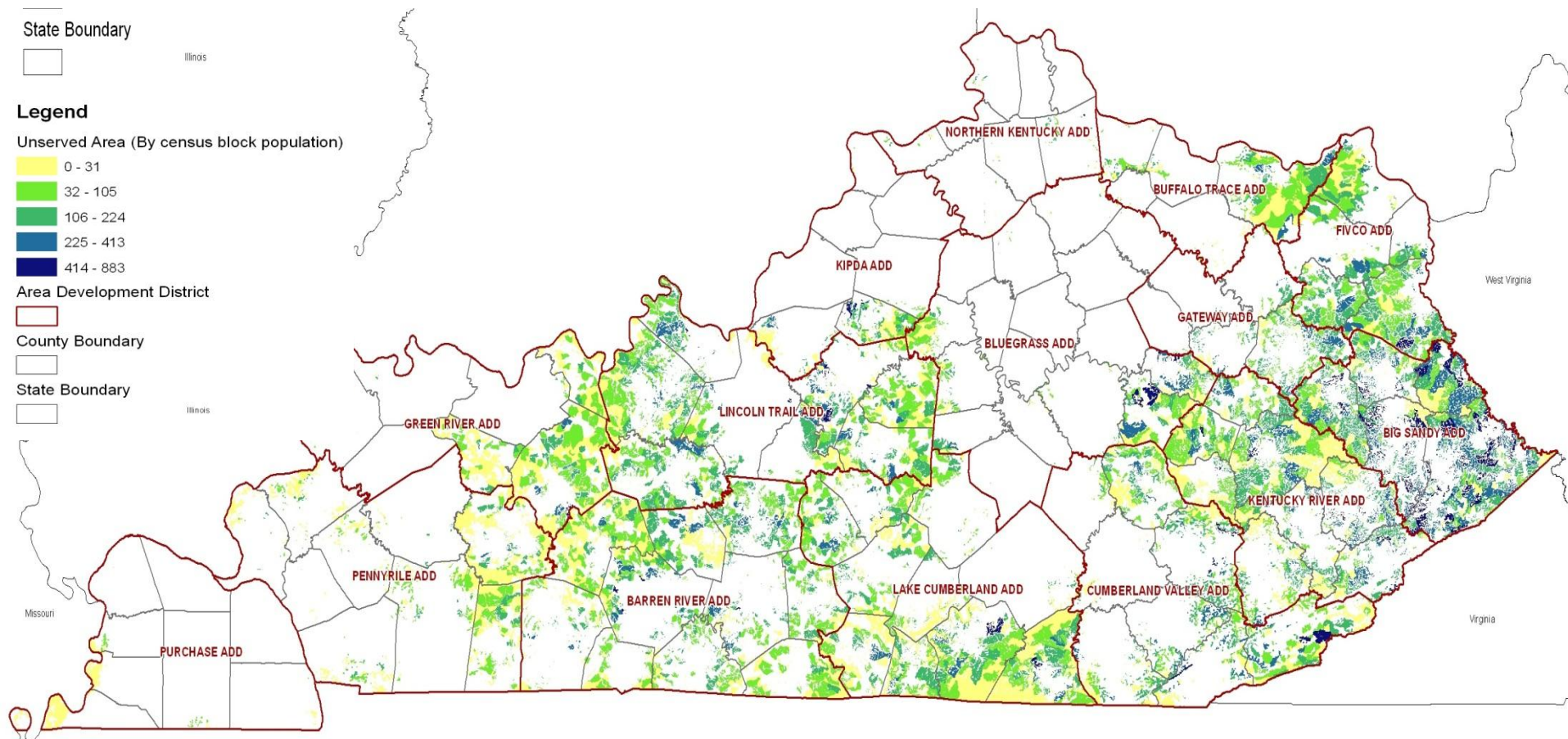
Broadband Adoption
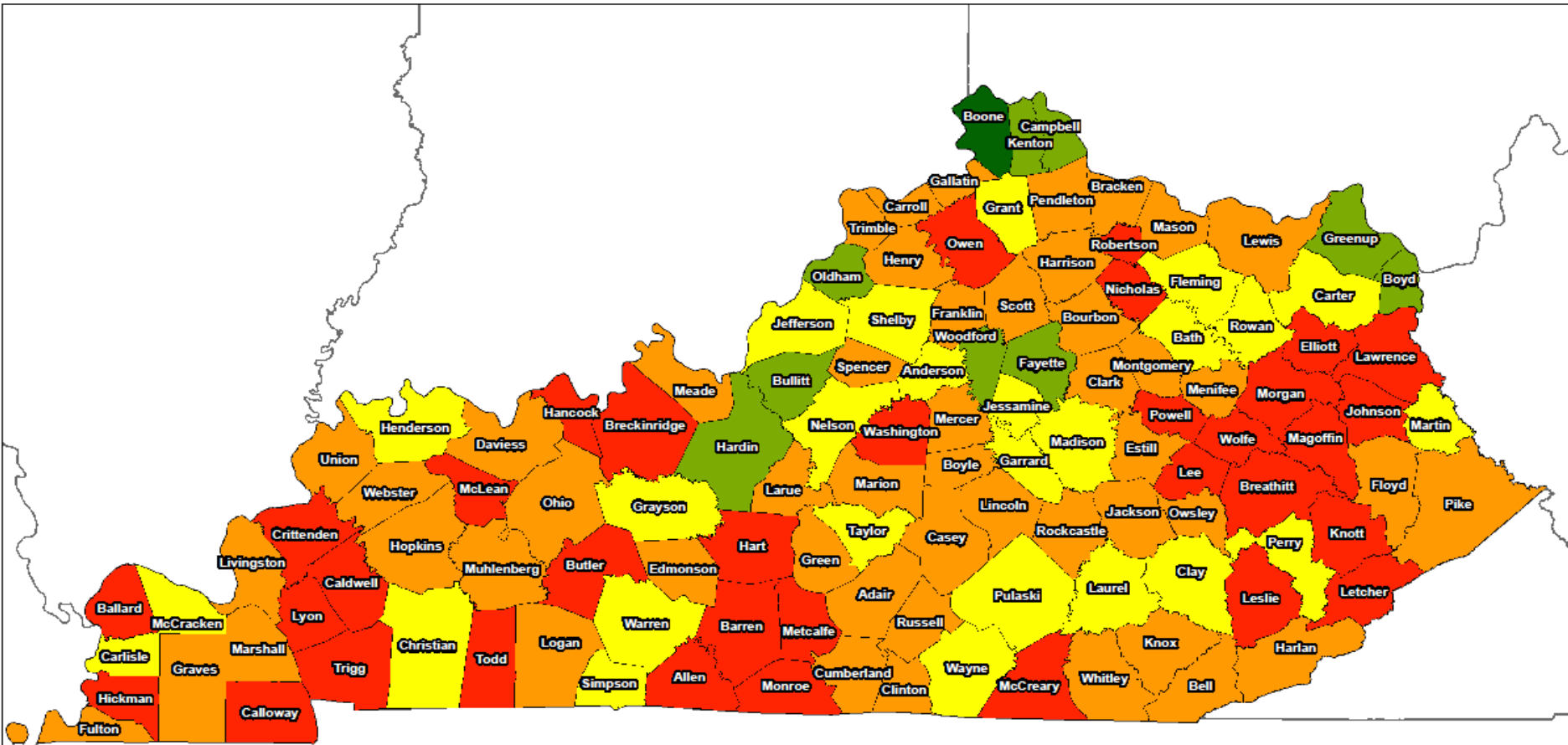
Household Broadband Adoption per County

Broadband defined as at least 768 kbps downstream and at least 200 kbps upstream

Source: FCC Form 477 | Data current as of June 30, 2013 | Geometry at County level

Legend

- 1% - 20% (34)
- 21% - 40% (50)
- 41% - 60% (26)
- 61% - 80% (9)
- 80% - 100% (1)

Kentucky LTE Coverage

Area: 20,155 Sq Miles
KY Coverage: 49.88%
Data Current as of June 30, 2013

N

0   25   50 Miles

Legend

State Coverage

Baker

Kentucky Broadband Coverage
Reported Maximum Advertised Downstream Speed

Map data current as of June 30, 2013

Estimated High-Speed Internet Infrastructure & Utilization, 2012

Categories
Info Highway Slow Lane — 45 Counties
Frustrated Surfers — 33 Counties
On the Cusp — 24 Counties
Nationally Competititve — 18 Counties
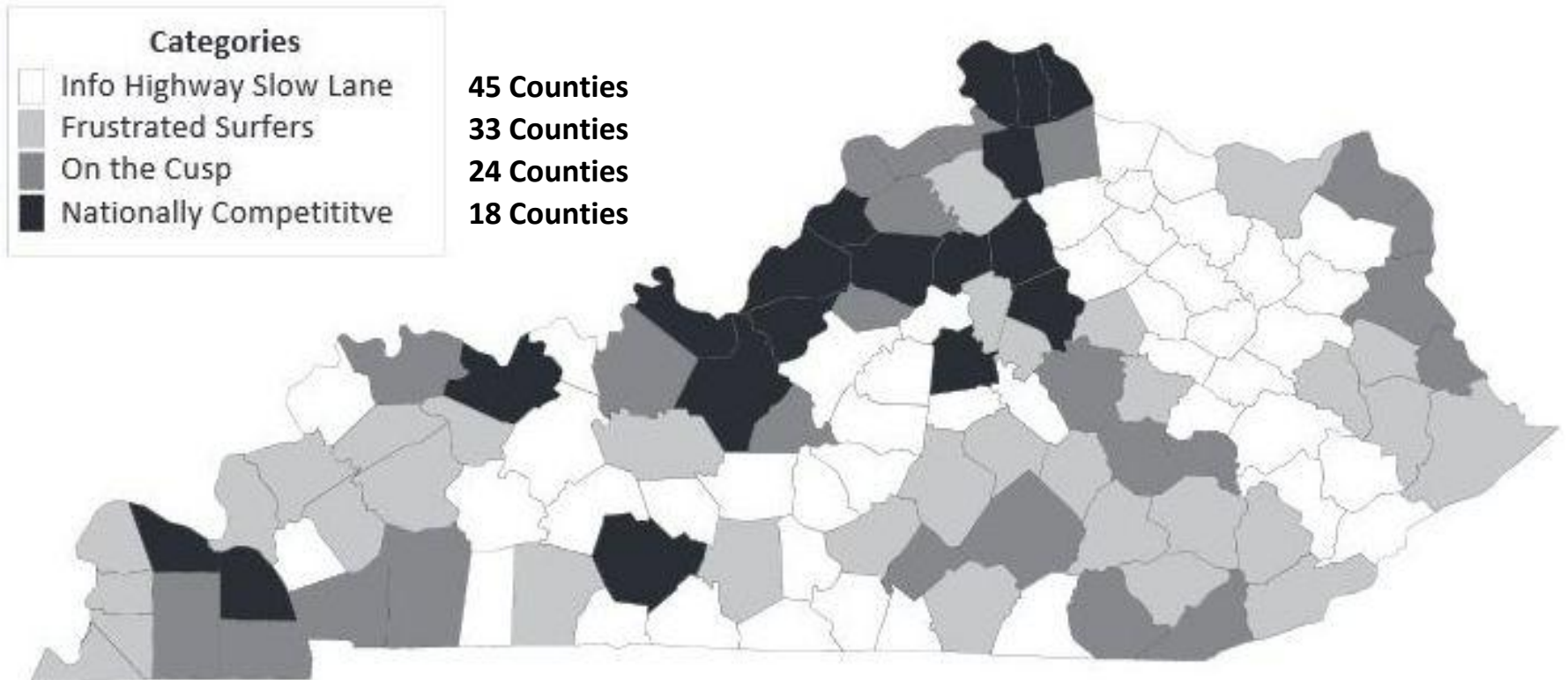
The Internet in Kentucky: Life in the Slow Lane, Michael T. Childress

Our Partners