

Rural Trends in Bridging the Digital Divide



FOUNDATION FOR
RURAL SERVICE

NADO's Washington Policy Conference

April 6, 2016

Jessica J. Golden

Foundation for Rural Service

- ▶ Founded in 1994
- ▶ Foundation arm of NTCA-The Rural Broadband Association
- ▶ 501(c)(3)
- ▶ Based in: Arlington, Virginia



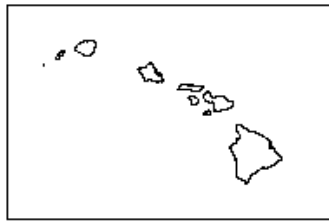
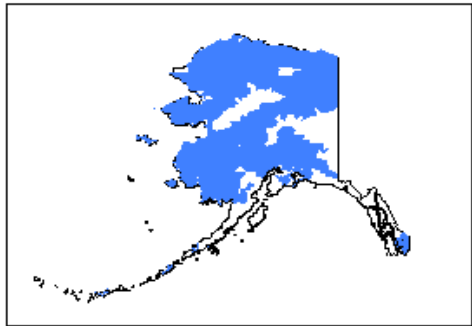
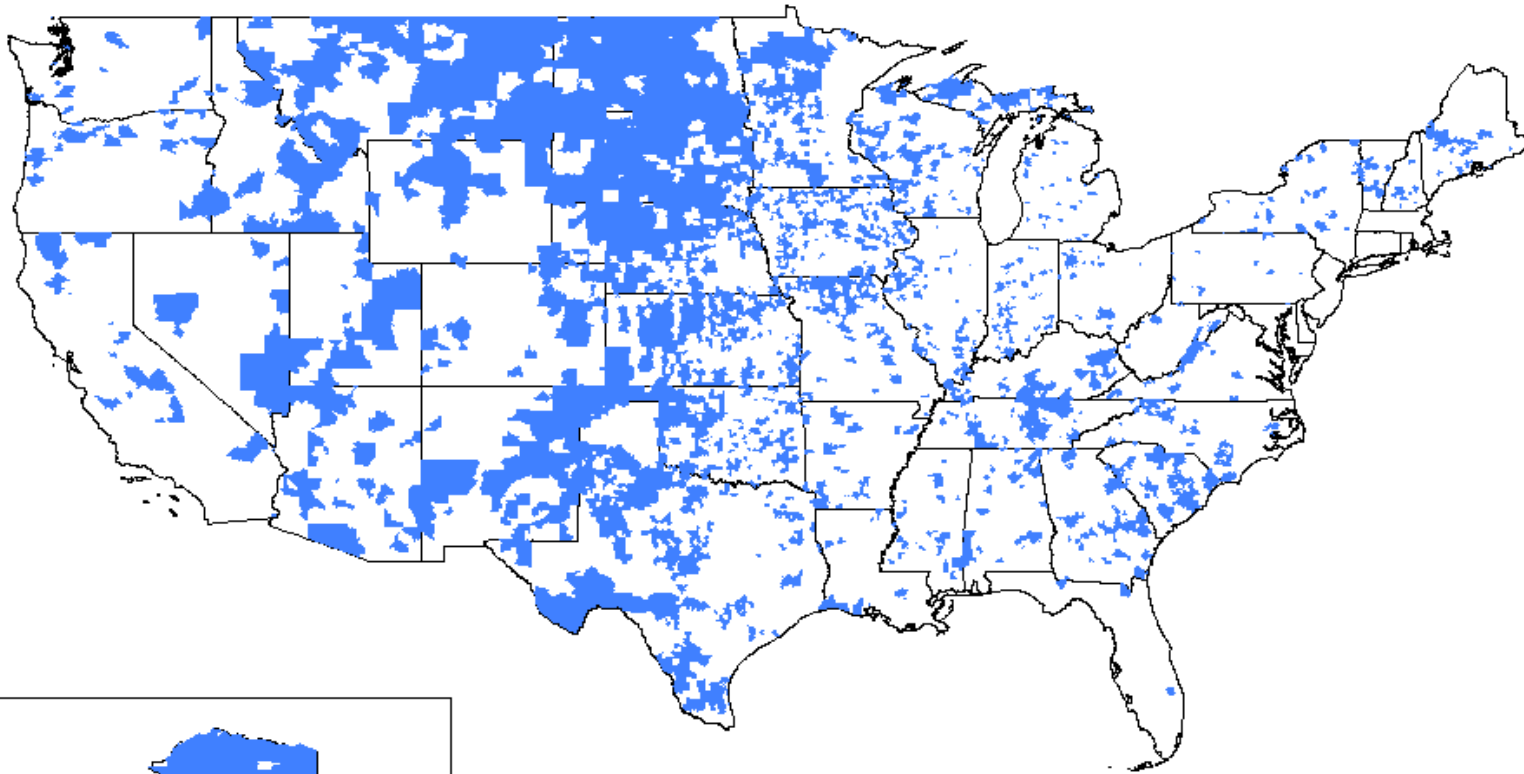
FOUNDATION FOR
RURAL SERVICE

Investing

in Rural Communities



NTCA-The Rural Broadband Association



Sources: Nielsen, LERG, NTCA and NECA
Tariff F.C.C. No. 4

NTCA
members
represent 5%
of the nation's
population
over 40% of
the landmass.

We are rural.

Mission

The **Foundation for Rural Service**, in cooperation with NTCA-The Rural Broadband Association, seeks to sustain and enhance the quality of life in America by advancing an understanding of rural issues.



FOUNDATION FOR
RURAL SERVICE

Vision

Work to harness the power of the rural communications industry to enrich lives in America.



FOUNDATION FOR
RURAL SERVICE

Why America and not just rural?

We are a stronger nation when all of our communities have access to affordable, quality communications services.



FOUNDATION FOR
RURAL SERVICE



How does FRS Help?

Scholarships

In 2015, FRS awarded \$150,000 in scholarships to 53 rural youth.



Grants

The FRS grant program awards grants of between \$250 and \$5,000 to winning applicants looking to fund:

Business Development

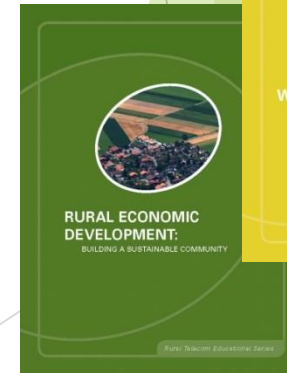
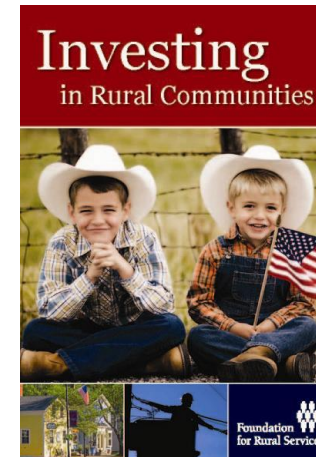
Community Development

Education

Telecommunications

White Papers

The Foundation publishes papers that highlight critical issues to rural telecommunications, such as universal service, net neutrality and wireless technology.



Foundation Programs

Rural Youth Tour

FRS brings over 100 high school juniors from across rural America to Washington, DC each June to learn about rural telecommunications on Capitol Hill and at the FCC.



Congressional Broadband Tour

Each August, FRS guides a group of Congressional staffers on a tour of rural areas to educate them on the importance of rural broadband.

The State of Rural America: Challenges & Opportunities



Rural America Today

46 million people in America live in rural counties.

That's between 15-17% of U.S. residents.



Misconceptions about Rural



Ignorant

Lazy

Backward

Redneck

Hillbilly

Poor

“Most Americans could care less if farming and ranching disappear, so long as they get their burgers and fries.”

- The End of the American Farm



Rural Philanthropy

LESS than 3% of all American philanthropy today goes to rural America.

Rural Poverty Rates

18% of rural Americans live in poverty.



FOUNDATION FOR
RURAL SERVICE

Childhood Poverty

- ▶ 1 in 4 children in rural America lives in poverty.
 - ▶ 1 in 10 are living in *deep poverty*, which is below half the federal poverty level.

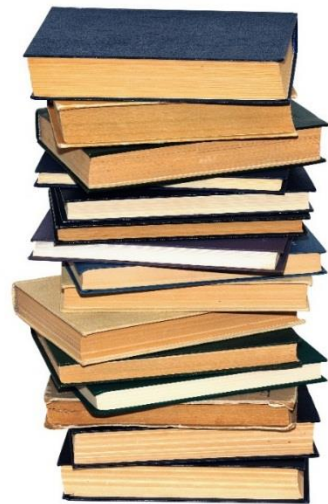


FOUNDATION FOR
RURAL SERVICE



Life With and Without Broadband: The Haves and Have Nots

According to the Hudson Institute, the most substantial economic opportunity costs for households from a broadband gap are in **education** and **healthcare**.



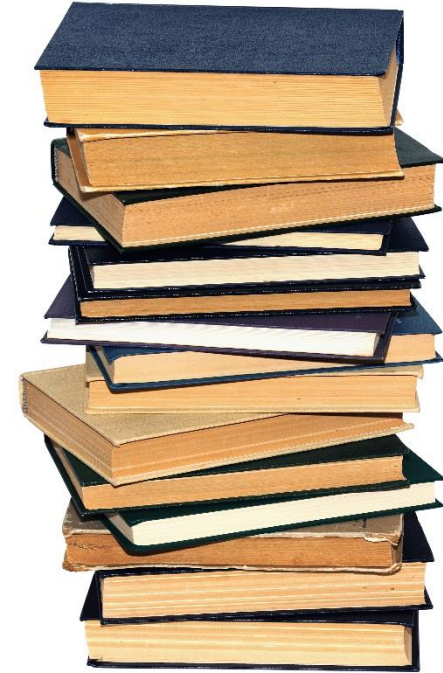
Poverty and Education

- ▶ Level of education attained by parents is a significant indicator of childhood poverty.
- ▶ Adults without a high school diploma are more likely to be poor because of limited job opportunities.



Education

- ▶ Studies show that at each higher level of education, earnings increase.
- ▶ Broadband creates new opportunities for increasing learning. Online education can bring programming to students who otherwise would not have access to it.
- ▶ **Distance education opens doors.**



Quality broadband access, in the home and in educational institutions, is critical to building a competitive workforce.

Healthcare

U.S. healthcare costs are rising, straining available resources.

U.S. spends more on healthcare than any other developed nation.



Rural Hospitals

- ▶ Nationally, 1 in 3 rural hospitals is at risk of closing.
- ▶ Rural hospitals disproportionately serve poorer, sicker and older populations; the communities who can least afford it will be those losing access to care.

Alternatives to traditional hospital visits are not only going to be a good thing, they will soon become necessary.

The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the right side of the slide, creating a modern, layered effect. The text is centered on a white background.

Broadband-enabled Telehealth: The Future of *Medicine*

But...requires quality bandwidth.

What is broadband?

The ability to transfer large amounts of information (data) over telecommunications networks very quickly.

But not all networks are created equal.



Last-Mile (final leg of delivery) Broadband Access Technologies

▶ **Wired**

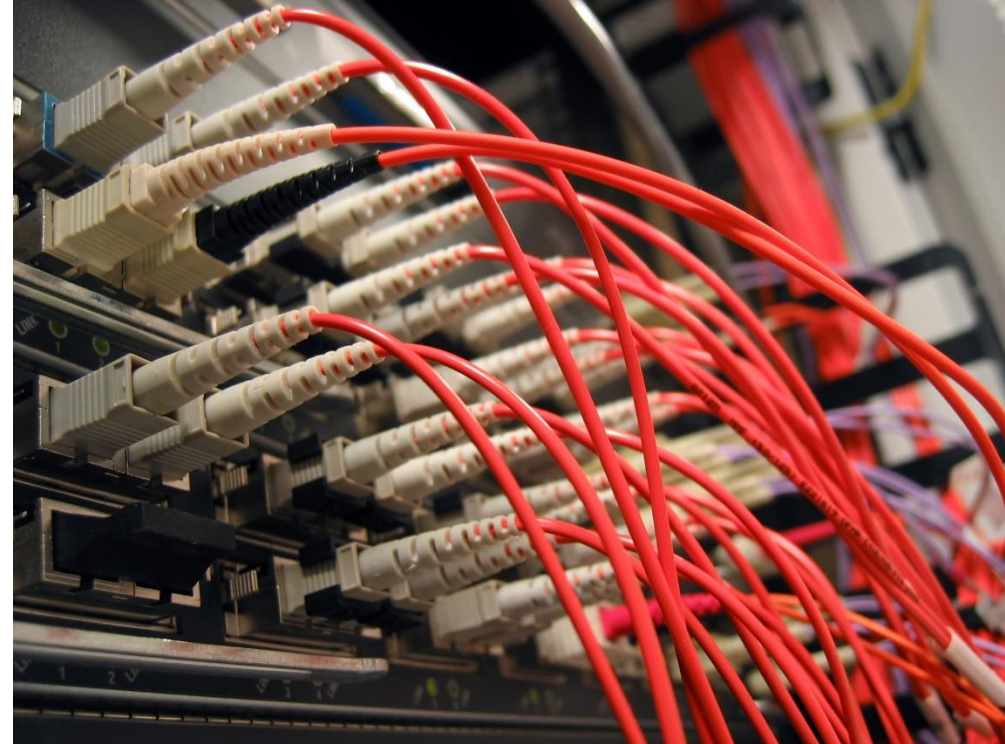
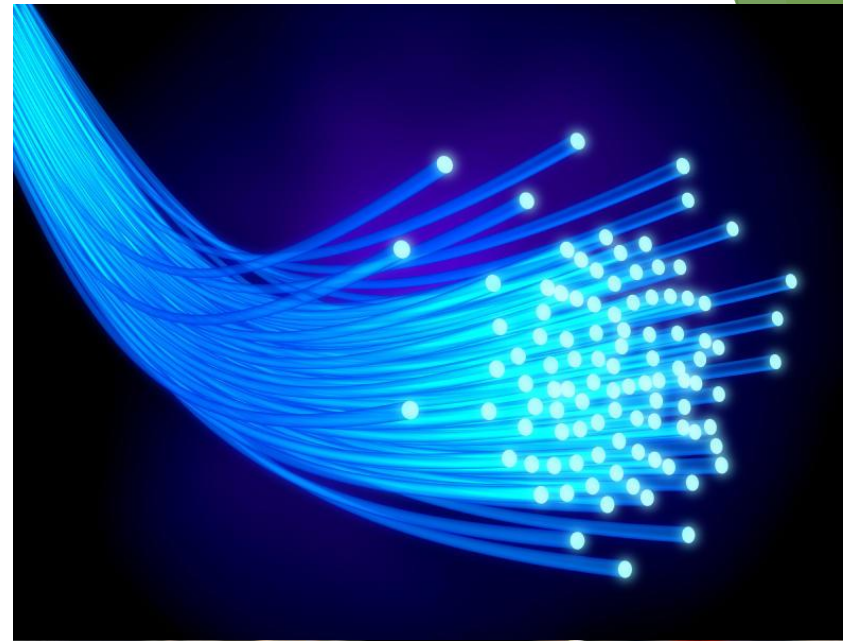
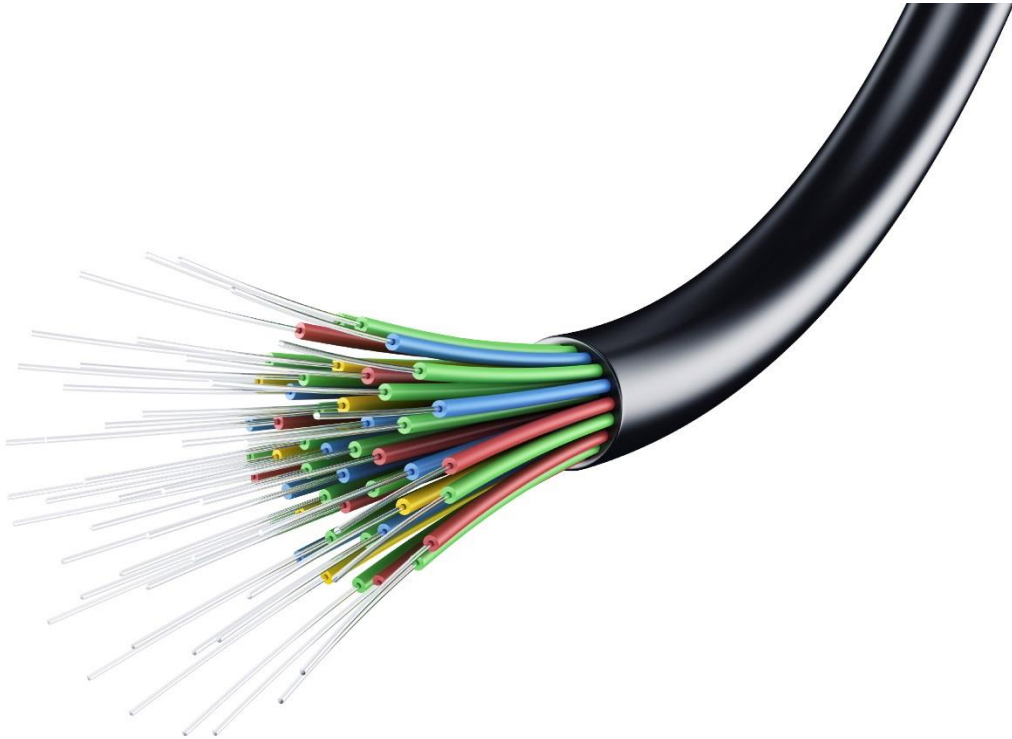
- ▶ Copper Wires (DSL)
- ▶ Hybrid Fiber Coax (cable company networks)
- ▶ Fiber Optics

▶ **Wireless**

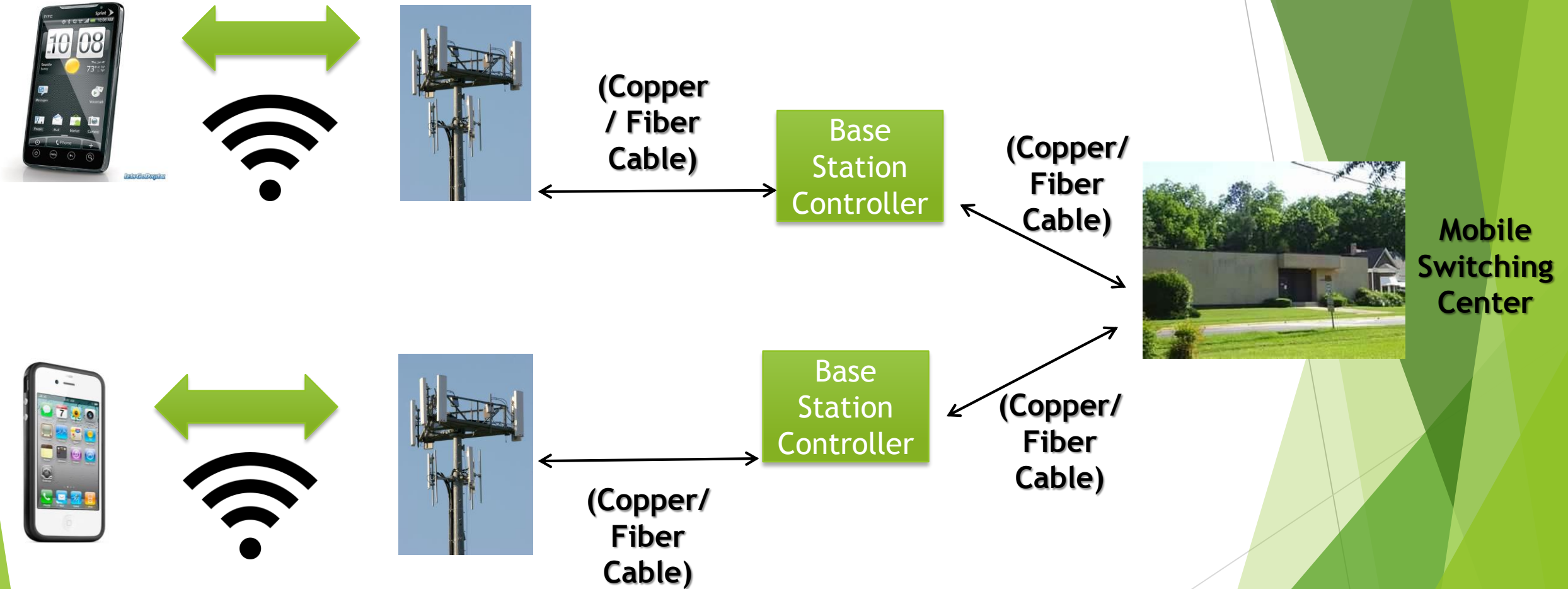
- ▶ Fixed Wireless Broadband (point-to-multi-point network)
- ▶ Mobile Networks (cell phone/smartphone)
- ▶ Satellite

What is Fiber?

- ▶ Fiber Optic Cables send digital information between two places using entirely optical (light-based) technology through strands of **glass or plastic pipe** as thin as a human hair.



Mobile Broadband Network



Wireless Needs Wires

Fixed & Mobile Wireless Technology

Throughput (bandwidth) is dependant upon:

- ▶ User's distance from the tower
- ▶ Number of users sharing the connection point and available bandwidth
- ▶ Frequency of spectrum
- ▶ Obstacles
- ▶ Environmental conditions

Broadband Access Speeds and Applications

Upstream & Downstream Speeds	Applications
500 Kbps-1 Mbps	Voice over IP, texting, basic email and Web browsing
1 Mbps-5 Mbps	Complex web browsing, streaming music, file sharing, standard definition (SD) video streaming
5 Mbps-10 Mbps	Telecommuting, remote education apps, medical file sharing, SD video streaming with multiple channels, SD video downloads
10 Mbps-100 Mbps	SD and HD video streaming such as surveillance, real-time interactive gaming
100 Mbps-1 Gbps	Telemedicine, multiple educational services
1 Gbps-10 Gbps	Research applications, telemedicine applications with real-time remote control of scientific/medical instruments, HD video streaming

Small, rural providers are serving their communities

NTCA member companies currently deploy broadband services to 96% of K-12 schools in their service areas and 98% of public libraries.

Opportunities:
Reach out to your rural providers...

Smart Rural Community Awardees

Gigabit Certified Providers



Questions?

Jessica J. Golden

Executive Director

Foundation for Rural Service

703-351-2044

jgolden@frs.org

www.frs.org