

PLANNING FOR BROADBAND: SETTING A COURSE FOR IMPROVED COMMUNITY AND ECONOMIC DEVELOPMENT

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AGENDA



1. Context
2. Why
3. How
4. Examples
5. Questions



CONTEXT



- Connected Nation, non-profit dedicated to expanding broadband access, adoption, and use for improved quality of life. Core competencies include:
 - Network mapping, validation, and analysis
 - Broadband and technology research
 - Local, state, and national policy analysis and capacity building
 - Worked in 14 states during the State Broadband Initiative (SBI) funded by the NTIA
 - Community technology planning
 - Connected Community Engagement Program (Connected)
 - Established and field validated effort to facilitate the expansion of broadband and technology at a local level

CONTEXT



Supply

Access

The physical connection to high-speed infrastructure

Demand

Adoption

Recognizing the value of broadband and subscribing either at home, work, or via public institutions

Use

Skills and applications to leverage technology to improve quality of life and community/economic development

185

Communities actively engaged across Michigan, Ohio, Tennessee, Nevada, Pennsylvania, South Carolina, Texas, and Iowa.

140

Local technology action plans delivered

WHY

Broadband is an essential infrastructure for residents, businesses, institutions, and communities to participate in a global digital economy.

COMMUNITIES PLAN & ANALYZE EVERYTHING



workforce development



open space



water main replacement



bike paths



bridges



travel demand



BUT RARELY DO WE SEE A SCENE LIKE THIS



and the new fiber
route will cross
the highway, here.

But why
should we
care?

WHAT IS BROADBAND



- Broadband: high-speed internet access that is always on and faster than traditional dial-up access.
- Two Types of Service
 - Fixed, terrestrial broadband
 - Service designed for permanent, stationary use at a home, business, or institution
 - Includes cable, fiber, fixed wireless, T1, and DSL.
 - Excludes mobile broadband and non-terrestrial services (satellite)
 - Mobile broadband
 - Wireless internet service designed for continuous use on a portable device with seamless connectivity from one geographic location to the next.
- Fixed and mobile services are treated as equally important but have different frameworks, funding, business models, capabilities, etc.
- Satellite, while often a last resort option for service, is not considered fixed, terrestrial or mobile. Latency, speed, and data cap issues prevent satellite from being considered a viable option for home service.

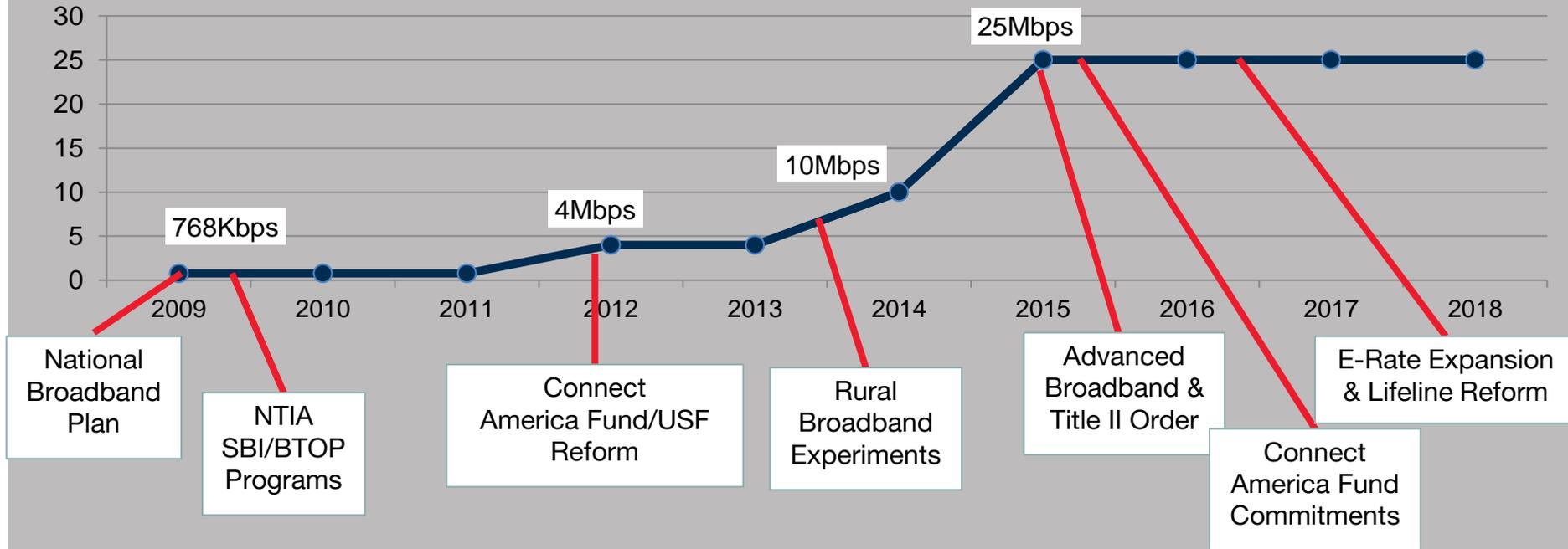


WHAT IS BROADBAND

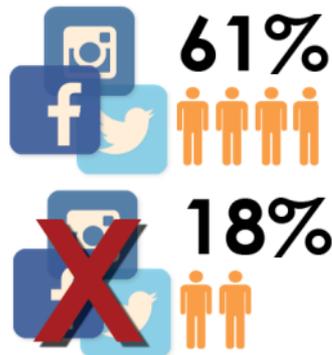


- While broadband is any type of connection other than dial-up, it is often defined by the speed of the connection
- 10/1 Mbps is used by the FCC as a benchmark for the Connect America Fund program
- 25/3 Mbps is used by the FCC to define “advanced broadband” service

Broadband Definition and Federal Broadband Milestone History



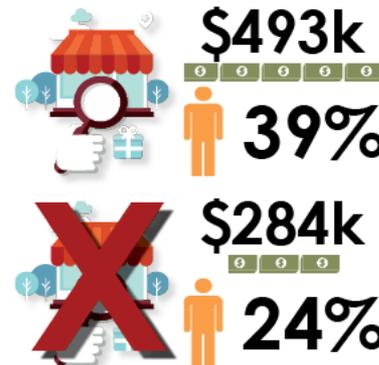
WE'VE FOUND...



Small businesses using social media weekly are 3x more likely to have recently hired and hired for more positions than businesses that don't use social media.



Small businesses with faster internet connections tend to have higher annual revenues than those with slower connections.



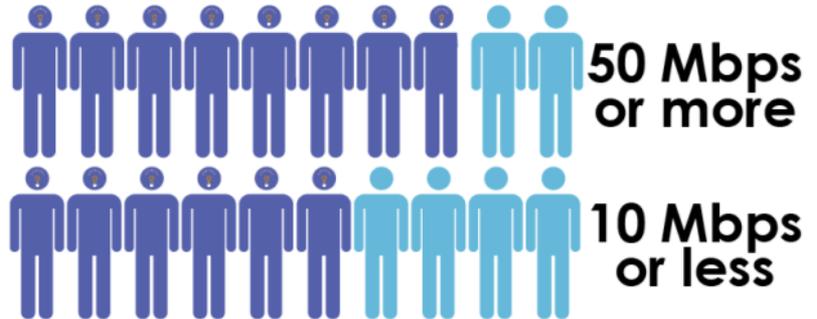
Small businesses with websites have higher annual revenues and are more likely to have recently hired than those without websites.

WE'VE FOUND...



As digital literacy increases, so too does digital interaction btw. residents and local businesses and local government.

Residents who do not telework typically have incomes that are 75% of that earned by those who telework with some frequency.



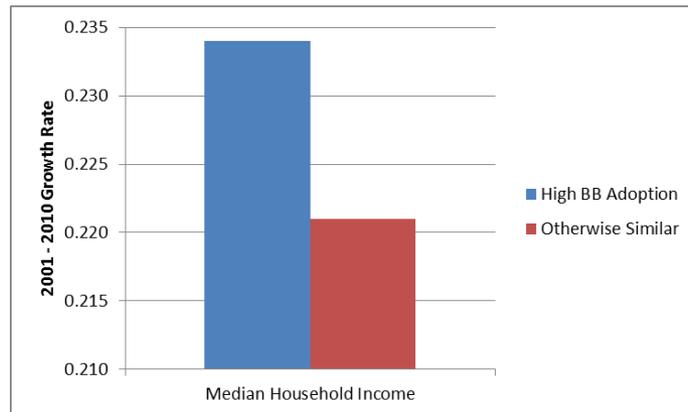
Businesses with faster connections have a higher share of employees with advanced tech. skills than those with slower internet speeds.

OTHERS HAVE FOUND THAT BETWEEN 2001 & 2010...

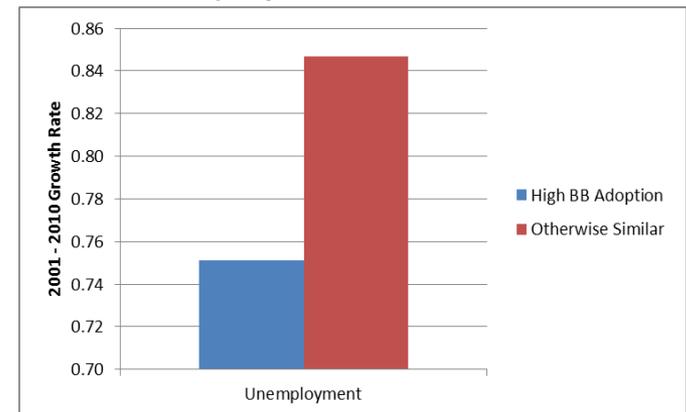


In rural counties
with high
broadband
adoption,
(60%+)...

Income Grew Faster



Unemployment Grew Slower

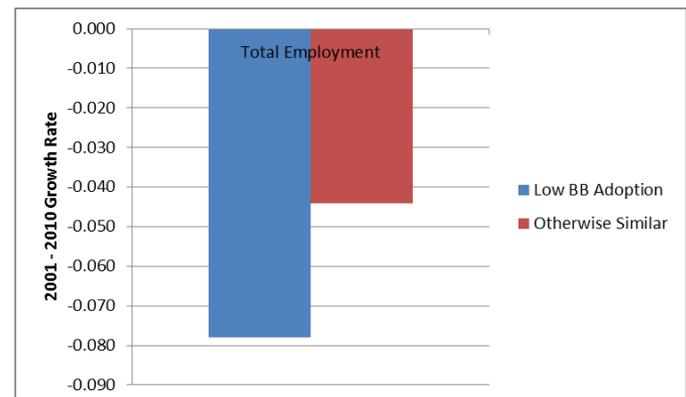


In rural counties
with low
broadband
adoption,
(<40%)...

Lost More Firms



Lost More Jobs



HOW

To benefit from broadband, and related technologies, a community must take a comprehensive planning approach and address access, adoption, and use simultaneously.

EFFECTING CHANGE - BROADBAND PLANNING FRAMEWORK



Many communities have experienced...

- Recession w/o recovery
- Job loss
- Attrition
- Disinvestment
- Apathy
- Overall decline



Broadband and technology provide new means of...

- Education
- Economic activity
- Healthcare
- Government service delivery
- Workforce development

Strategic assessment, planning, investment, and improvements in tech...

- Access
- Adoption
- Use
- In these areas...



Which then support...

- Stabilization
- Sustainability
- Growth
- Transformation

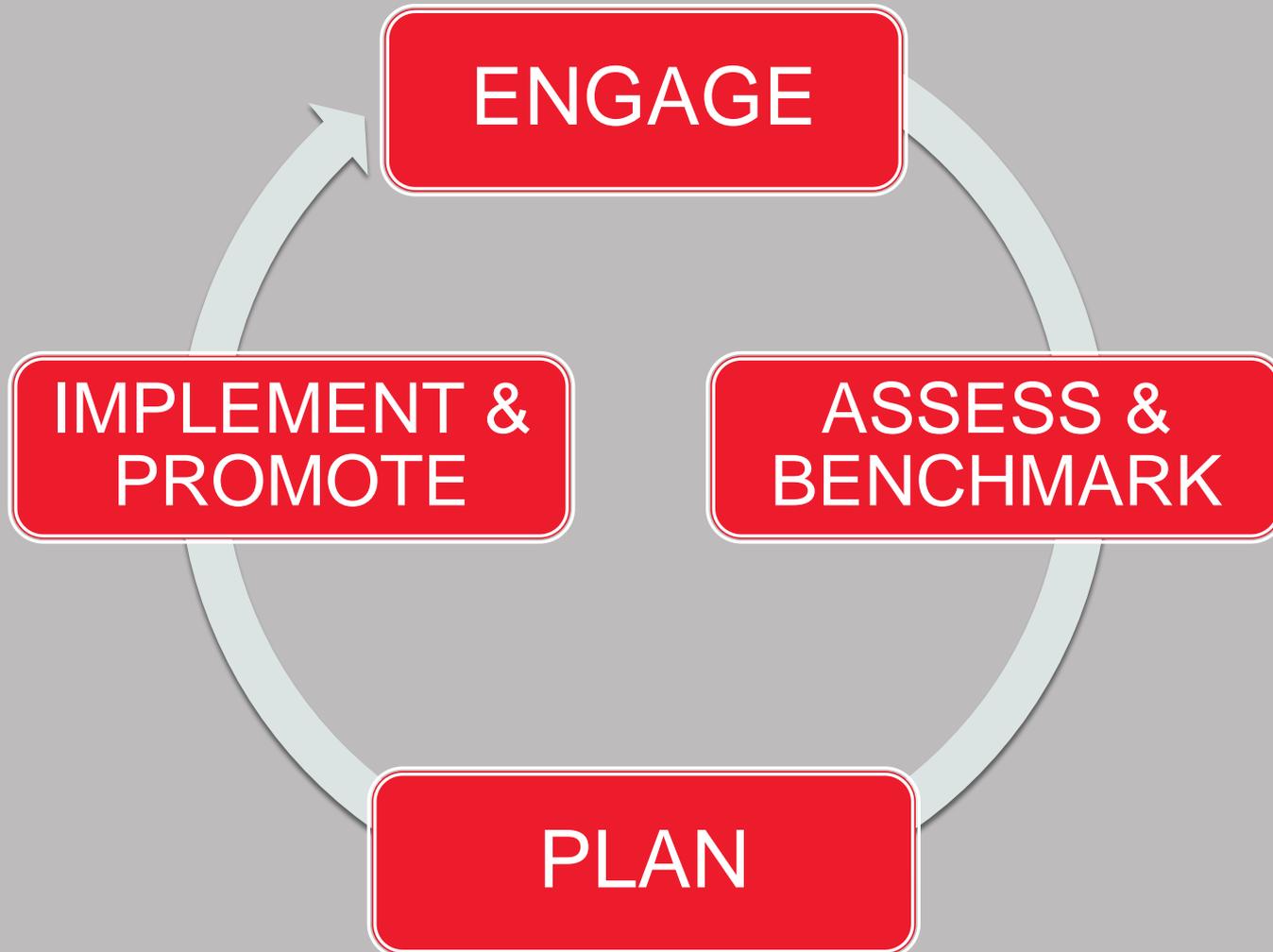


Lead to..

- Leadership development
- Family and youth retention
- Civic engagement
- Local human capital development



COMMUNITY PLANNING EFFORTS FOLLOW A BASIC PROCESS



ENGAGE: COMMUNITY TEAM DEVELOPMENT



- The community champion is the key to gathering others for the team
- Champions come from all sectors, but are most often from economic development, local government, or planning
- Active community members play multiple roles and have established rapport with other community leaders
- Team members come from a broad cross-section of the community
 - Libraries
 - Schools
 - Citizen groups
 - Local government
 - Non-profits
 - Business owners
 - Broadband providers
 - Farm Bureau
 - Tribal communities
 - Healthcare institutions
 - Emergency management
 - Chambers of commerce
 - Tourism
 - Financial institutions
 - Economic development
 - Planners
 - Higher education
 - Local foundations

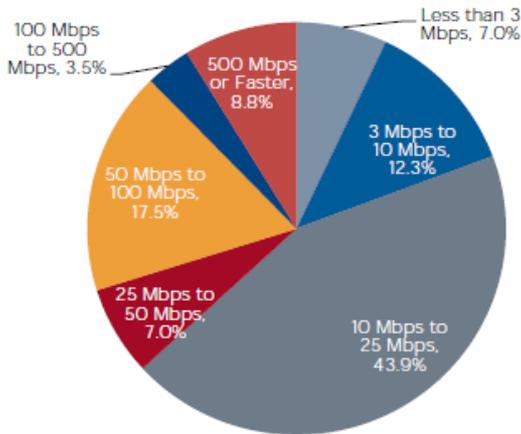


ASSESS & BENCHMARK

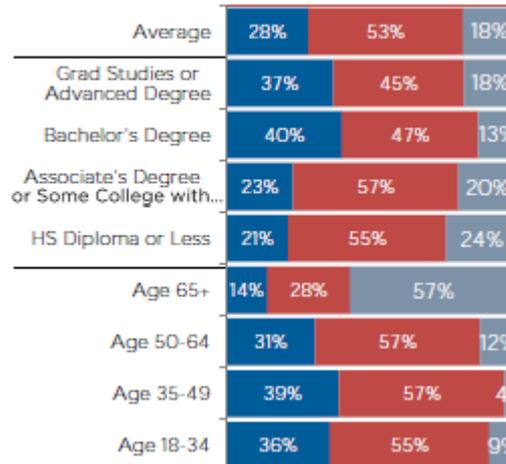


While data on broadband/technology access, adoption, and use isn't always readily available, conducting surveys and using non-traditional data sources can provide a snapshot of your community.

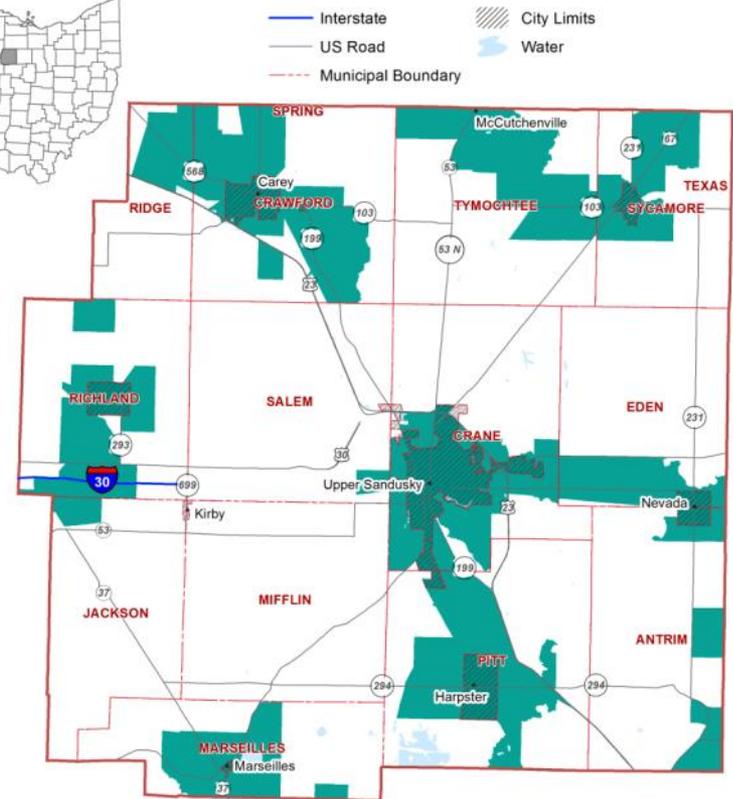
Connection Speed Among Businesses



Teleworking by Demographic



25 Mbps Download and 3 Mbps Upload

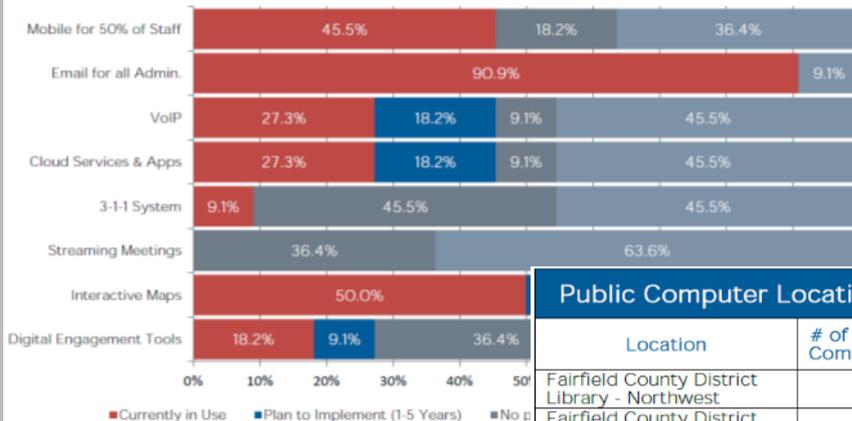


ASSESS & BENCHMARK



- Local surveys of residents, businesses, and institutions can help benchmark the access, adoption, and use of technology.
- Along with an examination of community-wide infrastructure (supply), our Connected community planning program examines the AAU of households, businesses, agriculture, healthcare, higher and K-12 education, government, libraries/community organizations, tourism, public safety, and talent/workforce development.

State of Advanced Application Implementation Among Municipalities



Public Computer Locations

Location	# of Public Computers
Fairfield County District Library - Northwest	6
Fairfield County District Library - Bremen	8
Fairfield County District Library - Baltimore	7
Fairfield County District Library - Johns	6
Pickerington Public Library	17
The Wagnalls Memorial Library	12
Total	56

How well do the tech. skills of employees match the tech. needs of the business? (All Establishments)

Category	Percent
Poor	3.7%
Fair	18.5%
Well	25.9%
Very Well	37.0%
Excellent	14.8%

Frequency of Online Activity Among Agriculture Producers



WE LOOK AT THE DATA AND ASK THE FOLLOWING QUESTIONS



All of this data then informs a plan of action to leverage broadband and technology for the improvement of economic activity and prosperity in the community.

Who's left offline?

Adoption is lowest among, seniors

Why are they offline?

Digital Literacy is a barrier for seniors

What's the issue?

Apps with low skill ratings include cybersecurity, multimedia, social media, office productivity, and mobile applications.

Are we addressing the issue?

Office productivity and cyber-safety are offered at many libraries, but social media, mobile apps, and multimedia training are limited

Solution 1: Develop more aggressive and targeted marketing materials to disconnected populations and make available office productivity and cyber-safety training.

Solution 2: Create and expand learning opportunities in the areas of multimedia, social media, and mobile applications to meet community needs.

How do we fix it?

PLAN



Can do the same with many other aspects of the community

Faster connection speeds tend to be associated with bus. with higher revenue



How do we get faster connections to our businesses?

Rural residents do not have access to connections faster than 3 Mbps



How do we work with ISPs to provide service to disconnected residents?

Businesses that have hired recently tend to be those with websites.



How do we increase the online presence of local businesses?

Farmers in our community are less likely to use a virtual marketplace than in other places?



Is there an opportunity to develop a local and virtual farm to market network?

Res. w/ high digital literacy tend to interact with local gov't more online



How can we improve civic engagement with technology?

Low income residents report that affordable options are not available.



Can the community work with ISPs to bring awareness to service options for low income households?

Businesses that have hired recently offer greater assistance to employees for tech-related continuing education.



How can we support technology training and continuing education for local employees?

Lower income residents tend to be less proficient with online activities related to the digital economy.



How can new or existing digital training efforts better reach low-income residents?

IMPLEMENTATION



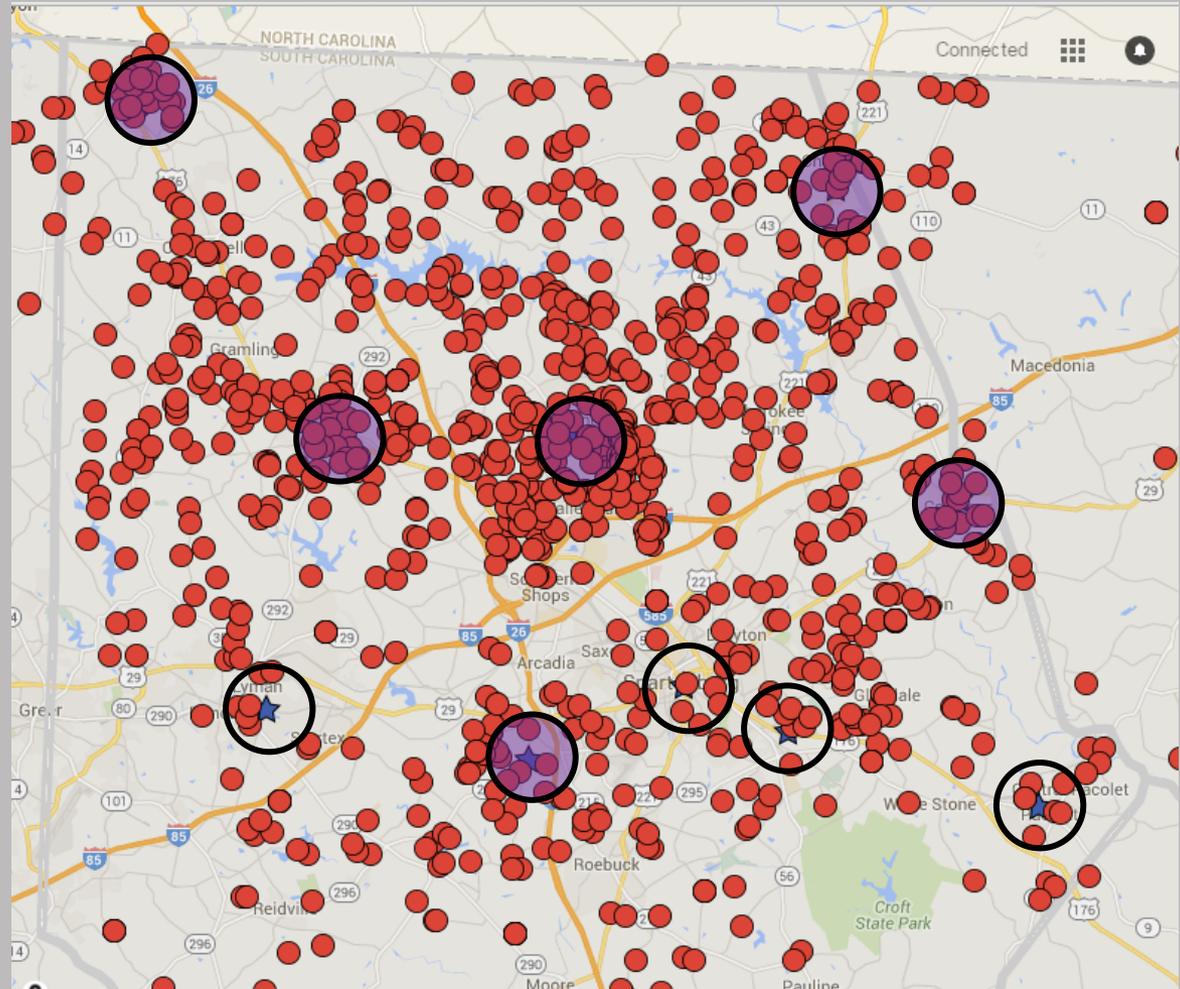
- Maintaining momentum beyond plan creation can be difficult
- Typically host large events to announce the plan completion or certification to build momentum and community support for implementation
- Funding for projects can be difficult in some communities
- Community foundations, private-sector donors, volunteers, and state and federal programs (limited) can help
- Data tools can help synthesize information and visualize possible solutions



IMPLEMENTATION



- Visualizing survey results with library locations can help identify possible locations for new training.
- Red dots show clusters of residents that “know little about,” or “need to learn more about,” cybersecurity.
- Circles are library locations, and highlighted circles are those that might be good hosts for new training programs.



PROMOTION



DOUGLAS COUNTY

TECHNOLOGY ACTION PLAN



DECEMBER 13, 2012



Connect South Carolina, Greenwood Partnership Alliance, Piedmont CMG Host Open House Celebrating Improved Broadband Connectivity

Greenwood County Enrolls in Connect South Carolina's Connected Community Certification Program

Kickoff Meeting Focused on Access, Adoption, and Use of High-Speed Internet in Greenwood County

Connected Texas Announces Release of First Community Technology Plan

Gillespie County Proclaims Commitment to Economic Development and Quality of Life With Connected Community Technology Plan

Connect Iowa Joins Forces with Iowa Association of Regional Councils to Improve High-Speed Internet Access, Adoption & Use Across the State

Local leaders seek to enlist community participation in achieving broadband expansion.

Northern Michigan: Charlevoix County Becomes First Connected Community

EXAMPLES

Local community action has the best chance to realize the expansion of broadband access, adoption, and use.

WHERE TO BEGIN



Barriers

- Low density of households results in limited or no return on investment for delivering service
- No federal, state, or local authority to require broadband deployment
- Process of installation can be long and cumbersome
- Even when available, service can be out of reach for residents for a variety of reasons (e.g. cost, literacy, awareness, etc.)
- Terrain, vegetation, lakes, etc.

Ways to Overcome

- Increase demand
- Lower capital costs of expansion
- Shorten installation time
- Encourage affordability
- Improve digital literacy and awareness

SUCCESS STORIES



Ogemaw County, MI:

Economic development corporation cataloging agricultural vertical assets and marketing them to ISPs for rural wireless expansion.

Clare County, MI:

Extremely unserved community developed a PPP with ISP to lower capital costs for expanding wireless service in rural areas.

Lyndon Twp, MI:

Rural bedroom community without internet service, and no interested ISP. Twp recently voted on a millage to construct an open access fiber network for residents, businesses, and institutions.

Harbor Spring, MI:

Wanted to improve digital literacy and online presence of businesses. Developed their own training platform and teach multiple classes each month (Wine and Web). Also opened shared office space for teleworkers.

SUCCESS STORIES



Emmet County, MI:

Examined the region's zoning ordinances for any unnecessary local regulatory barriers that would inhibit the expansion of broadband.

Greenwood County, SC:

Manufacturing facility signed a construction contract with a local provider to bring fiber optics, empowering the company to better support its national and international customers.

Wright County, IA:

Rural community looking to sustain and grow local establishments. Developed e-commerce training program for existing businesses.

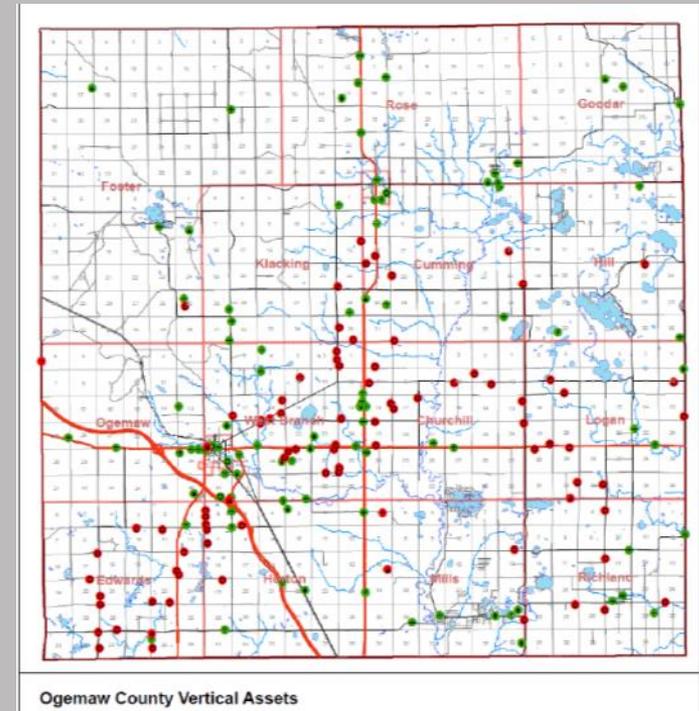
Storey County, NV:

Arizona-Nevada Tower Corporation partnered with Storey County to enhance broadband service for local government offices.

STARTING TOMORROW



- **Get to know your broadband providers.**
 - While we don't work in every state, Connected Nation has relationships with more than 1,400 internet service providers. If you have trouble getting in touch with a provider or need a local contact for a large provider, email me: efrederick@connectednation.org
- **Review local regulations and consider removing barriers**
 - Visit the site here: <http://www.connectmycommunity.org/wp-content/uploads/2016/09/Local-Policy-Guide.pdf>
 - Review ideas and policy examples for facilitating broadband expansion
- **Bring assets to the table**
 - If working with providers, what can the community bring to the table to lower the cost or expedite deployment? Towers? Land? Conduit? Fiber? ROW Access?
- **Fine tune underserved areas**
 - Use community surveys to validate or dispute map information from the FCC and further understand the needs of the community



STARTING TOMORROW



- **Follow the Connect America Fund Deployment**

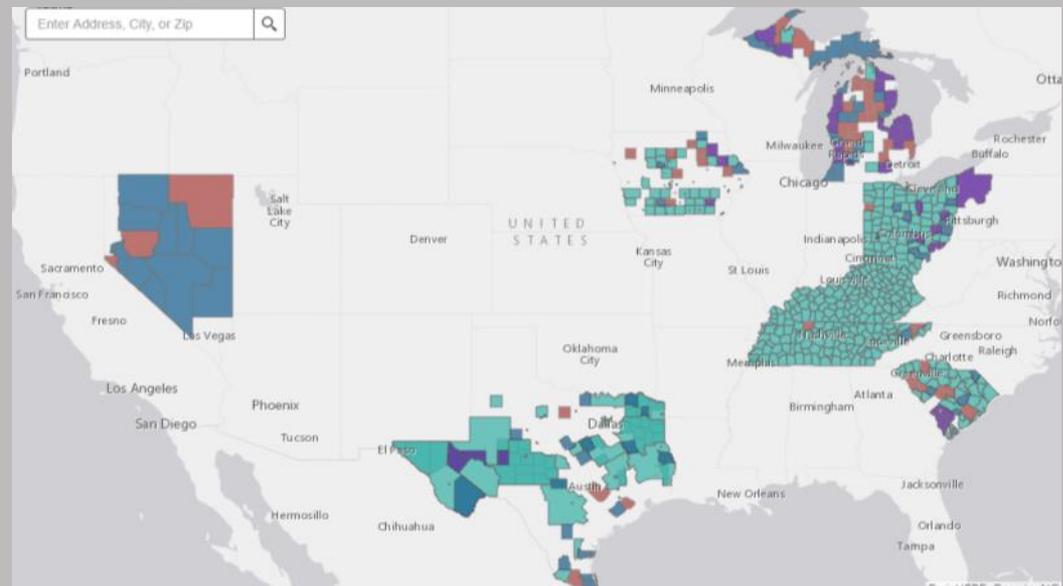
- Use the FCC's map here: <https://www.fcc.gov/reports-research/maps/caf-2-accepted-map/> to determine if areas of your community are included in the Connect American Fund deployment.

- **Work with road commissions and right of way and pole owners**

- Develop a good working relationship with the county road commission and utility companies
- Broadband providers often cite issues with road commissions as a barrier to expansion.
- Community leaders can help mediate within their boundaries when there are positive relationships with commissions and providers

- **Start a local broadband planning effort**

- Talk to other communities, schools, economic development entities, chambers, counties, etc. and form a broadband team, and include broadband providers.
- Contact us to explore ways we can help your community: www.connectmycommunity.org or efrederick@connectednation.org



FINAL THOUGHTS



“Broadband is a very different animal compared to land use planning, zoning, or community development, **it is not for the faint of heart.**”

You will take many steps blindly but in the end, I believe our efforts were both **necessary and successful** in order to move the needle on broadband accessibility and availability in our region.”

QUESTIONS



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Next Webinars in the Series

Rural Broadband Business Models – May 18th

Understanding Rural Broadband Technology Options – June 15th

