How Does Broadband Contribute to Economic Development?

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BroadbandUSA Webinar Series
November 16, 2016
BroadbandUSA Webinar Series

• Third Wednesday of the month:
• December – no webinar
• January 18, 2017
• February 15, 2017
• March 15, 2017
thru
• September 20, 2017
Today’s Presenters

Moderator
• Don Williams Senior Specialist for Broadband Development
  Broadband USA, NTIA, US Department of Commerce

Presenters
• Brian Whitacre Professor Department of Agricultural Economics,
  Oklahoma State University
• Kelleigh Cole Director, Utah Broadband Outreach Center
• Eric Frederick VP for Community Affairs, Connected Nation
Expanding Broadband Services Results Jobs, Innovation and Rural Development

- Broadband networks can serve as catalysts for growth and job creation.

- Broadband is a prerequisite to economic opportunity for individuals, small businesses and communities and a necessary component of economic development strategies.

- State and local policy makers use many different approaches to leverage broadband since each community is unique.
Short-Term Direct and Indirect Effects

- Providers and contractors provide salaries, wages, and benefits
  - Direct Employment: network design; engineering; manufacturing fiber, electronics, handholds, etc.; construction and related jobs
- Supplier Impacts
  - Additional jobs, wages, and output created by the businesses that supply goods and services to the project
Intermediate- and Long-Term Impacts

- Workforce and Economic Development

- Manufacturing and “knowledge” industries require a labor force of ever expanding technical proficiency and credentials (certifications)

- High speed broadband yields
  - productivity improvements
  - employment and increases population growth or stability
  - greater access to inputs and markets
  - greater supply chain efficiencies
More Intermediate- and Long-Term Impacts

- Education and training: Using technology-based vocational instruction reduces training costs while increasing the effectiveness of instruction.

- Healthcare: Improving access to health records and tele-health opportunities mean improved quality of care and reduced patient burden.

- Digital Literacy: Training in digital literacy is a key component in adoption of broadband and enables online learning, working, shopping and socializing.
Small Business Impacts

- It’s not just about technology companies or big business:
  - Small businesses are a crucial source of economic development and growth in low-income areas. They comprise 99% of establishments and 80% of total employment in inner cities and economically challenged areas.
  - Broadband can help small businesses of all types market themselves online, expand their customer bases and take advantage of supply chain efficiencies.
  - Small businesses are particularly important in high-tech industries. They currently hire over one-third of all high-tech workers, and account for a majority of new jobs generated by the growth of the Internet.
Summary

- Successful approaches to economic development mean:
  - Policy makers work with local counterparts in the private, government and nonprofit spaces to determine the most practical means to bring or expand high speed broadband in the town, county or region
- No one-size-approach fits all
  - Public-Private Partnerships
  - Local or State government led
  - Private sector led
- What mix of tax incentives, other economic incentives, broadband improvements (whether fiber or wireless), workforce development efforts and other stimuli best serve the needs and goals of your specific area?
Broadband and Rural Economic Development:
What the Research Says

NTIA Broadband USA
Webinar Series
Nov. 16, 2016

Dr. Brian Whitacre
Professor and Extension Economist
Oklahoma State University
The Studies

- (2001-2010; National Data)

Whitacre, Gallardo, and Strover. 2014b. *Annals of Regional Science*
- (2008-2011; National Data)

Whitacre and Manlove. 2016. *Community Development*
- (2011; State-level Data)
What We Found

We compared rural counties that had **high levels of broadband adoption** (60+%) with otherwise similar rural counties that did not...

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**Income Grew Faster**

**Unemployment Grew Slower**

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*Telecommunications Policy*
What We Found

We also compared rural counties that had **low levels of broadband adoption** (<40%) with otherwise similar rural counties that did not...
What We Found

Non-metro counties that increased their broadband adoption rates between 2008 and 2011:

- Saw a **positive impact** on changes in
  - median household income
  - total employment

- Particularly impressive – focuses on adoption over a short period of time

- No impacts seen when using change in broadband **availability** rather than broadband **adoption**

Whitacre, Gallardo, and Strover. 2014b.
Annals of Regional Science
What We Found

• Higher levels of broadband adoption in non-metro portions of states leads to *more* civic engagement (usually)

Contacting a Public Official

Discuss Politics with Family / Friends

Whitacre and Manlove. 2016.
*Community Development*
BUT...It’s Not ALL Positive...

**Conley and Whitacre. 2016. Review of Regional Studies**

(2000-2012; National Data)

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Does Broadband Matter for Rural Entrepreneurs and Creative Class Employees?*

Kelsey L. Conley and Brian E. Whitacre

*Department of Agricultural Economics, Oklahoma State University, USA

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- High levels of broadband adoption in rural areas may **reduce** the number of entrepreneurs and creative class employees
  - Perhaps due to reducing rates of “necessity entrepreneurs” who found other jobs
  - Or, encouraging out-migration among entrepreneurs / creative class workers to metropolitan areas?
How Does Broadband Contribute to Economic Development?

Questions and Comments

Please type your questions in the chat or Q&A box

For further information on BroadbandUSA

http://www2.ntia.doc.gov/
Grouse Creek Cell Tower Project

Population

125
Grouse Creek Cell Tower Project
Grouse Creek Cell Tower Project

Distances to:

Oakley, Idaho  44 miles

Park Valley  42-67 miles
Grouse Creek Cell Tower Project

The Route
Grouse Creek Cell Tower Project

2 ½ hour drive
Grouse Creek Cell Tower Project
Grouse Creek Cell Tower Project

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Wool for Everyone
Ranch & farm wives don't have a "honey do" list they have a "I'll do it myself list"
Grouse Creek Cell Tower Project
Grouse Creek Cell Tower Project
Grouse Creek Cell Tower Project
Stranded in the winter
Grouse Creek Cell Tower Project

What’s the worst thing you’ve missed out on?
Kelleigh Cole
kcole@utah.gov
How Does Broadband Contribute to Economic Development?

Questions and Comments

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• Webinar slides and transcript will be posted on the BroadbandUSA website within 7 days after the webinar.

http://www2.ntia.doc.gov/
BroadbandUSA Webinar Series

The third Wednesday of the month

On January 18, 2017

Broadband Opportunity Council:
Accomplishments and Outlook
How Does Broadband Contribute to Economic Development

National Telecommunications and Information Administration

Eric Frederick, AICP, LEED AP
Vice President for Community Affairs
517-994-8024 : efrederick@connectednation.org

November 16, 2016
Context

Connected Nation, non-profit dedicated to expanding broadband access, adoption, and use to improve quality of life and community and economic development.

Core competencies include:

- Community Engagement and Planning
- Research & Analysis
- Policy Consultation
- Mapping/GIS
- Digital Inclusion

By the Numbers:

- **10** state-based broadband public-private partnerships, from Alaska to Puerto Rico, impacting **876** counties
- **1,200+** unique broadband provider relationships in data collection and processing
- Broadband availability mapping across **37% of the U.S. landmass** and **27.6 million households**
- **170** communities actively engaged in local technology planning activities
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
- Maintenance
- Metered growth
- Transformation
- Which combats and prevents...

Lead to...

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

www.connectmycommunity.org : www.connectednation.org : efrederick@connectednation.org
Connected Community Engagement Program

Using hyperlocal data to benchmark and identify gaps: Spartanburg, SC

**Businesses with 25 Mbps or faster internet connection**
- 52%

The FCC recommends the following minimum download speeds per user for the following business activities: email, 1 Mbps; web browsing, 3 Mbps; VoIP, less than 0.5 Mbps; basic video conferencing, 1 Mbps; and streaming video, 0.7 Mbps.

**Small businesses (less than 20 employees) with a website**
- 88%

Nationally, only 53% of small businesses have a website despite the fact that 97% of consumers search for products and services online.

**Businesses using or planning for e-commerce development**
- 38%

Only 26% of small businesses have an e-commerce-enabled website even though 61% of U.S. consumers report making the majority of their purchases online.

**Businesses with or planning to implement a telework policy**
- 36%

Employees who telecommute the majority of the work week are more satisfied with their jobs compared to those working mostly in the office because working remotely alleviates more stress than it creates for some workers.

**Businesses with or planning an online customer experience**
- 48%

An engaging online environment is critical for closing a sale. Among consumers who report browsing both online and in a store, 34% chose to go back online to make their purchase.

**Businesses using social media daily**
- 31%

The recommended frequency for posting on Facebook is between five and ten posts per week, and three times per day on Twitter, but businesses should examine all the ways social media can fit with their marketing strategy.

**Businesses who feel employee tech. training is important**
- 68%

Nearly two-thirds (68%) of workers receive job-related training. Among them, 55% do so to learn, maintain, or improve job skills, 36% to maintain a license or certification, and 33% do so via the internet.

**Businesses with 3+ policies supporting employee cont. ed.**
- 34%

Research suggests that continuing education improves both employee income and corporate productivity. Nearly 90% of employers say continuing education improves job performance and 87% said it has a positive impact on pay scale.

**Employees with moderate or advanced technology skills**
- 57%

Nearly three-quarters (71%) of employees say they have the most trouble filling computer and mathematical positions.

**Residents who regularly telework**
- 14%

Approximately 50% of the workforce holds a job that is compatible with at least partial telework, and roughly 20-25% of the workforce teleworks at some frequency.

**Residents proficient in conducting an online job search**
- 69%

More than four-fifths (83%) of Americans feel it is "easy" to find available jobs in their area online.

**Residents proficient with basic occupational technology tools**
- 78%

More than 95% of occupations require the use of computer hardware; 92.5% of email, 91.5% an Internet browser, and 80.5% of occupations require the use of office suite or productivity software.
Examining relationships with business technology adoption and use in Spartanburg County, SC

Business Revenue by Connection Speed

- Businesses w/Revenue < $250k: 60% Less than 25 Mbps, 40% More than 25 Mbps
- Businesses w/Revenue > $250k: 35% Less than 25 Mbps, 65% More than 25 Mbps

Business Recent Hiring by Connection Speed

- Not Hiring in the Last or Next 6 Months: 42% Less than 25 Mbps, 58% More than 25 Mbps
- Hiring in the Last or Next 6 Months: 37% Less than 25 Mbps, 63% More than 25 Mbps

Business Website Use by Hiring Trends

- Businesses With a Website: 31% Will Hire in Next 6 Months, 45% Hired in Last 6 Months
- Businesses Without a Website: 15% Will Hire in Next 6 Months, 20% Hired in Last 6 Months
Connected Community Engagement Program

Business Revenue and Current Use of Various Advanced Technologies and Applications

<table>
<thead>
<tr>
<th>Technology</th>
<th>More than $250k</th>
<th>Less than $250k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admin. Email</td>
<td>77.8%</td>
<td>96.9%</td>
</tr>
<tr>
<td>e-HR/Finance</td>
<td>47.6%</td>
<td>83.4%</td>
</tr>
<tr>
<td>Online Directories</td>
<td>41.3%</td>
<td>70.3%</td>
</tr>
<tr>
<td>VoIP</td>
<td>25.4%</td>
<td>62.2%</td>
</tr>
<tr>
<td>e-Management</td>
<td>30.2%</td>
<td>61.4%</td>
</tr>
<tr>
<td>Mobile Devices</td>
<td>38.1%</td>
<td>55.6%</td>
</tr>
<tr>
<td>e-Inventory</td>
<td>41.3%</td>
<td>50.2%</td>
</tr>
<tr>
<td>Online Cust. Experience</td>
<td>33.3%</td>
<td>48.3%</td>
</tr>
<tr>
<td>Videoconferencing</td>
<td>20.6%</td>
<td>46.7%</td>
</tr>
<tr>
<td>Teleworking</td>
<td>22.2%</td>
<td>42.5%</td>
</tr>
<tr>
<td>Point-of-Sale</td>
<td>31.7%</td>
<td>39.4%</td>
</tr>
<tr>
<td>e-Supply Chain</td>
<td>20.6%</td>
<td>39.0%</td>
</tr>
<tr>
<td>e-Commerce</td>
<td>30.2%</td>
<td>37.5%</td>
</tr>
</tbody>
</table>

Business Technology Training Policies by Recent Hiring

Bus. Hiring in Last 6 Months
- On-Site Training: 59%
- On-the-Job Training: 34%
- Incentives for Training: 15%
- Does Not Support Training: 4%

Bus. Not Hiring in Last 6 Months
- On-Site Training: 40%
- On-the-Job Training: 40%
- Incentives for Training: 20%
- Does Not Support Training: 4%
**Connected Community Engagement Program**

Digital communication and interaction among businesses and residents

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**Business Use of Social Media by Annual Revenue**

- **Twitter**
- **Instagram**
- **Facebook**
- **Social Media Avg.**

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**Residents Digitally Interacting at Least Weekly with Local and Non-Local Businesses**

- **Local Businesses**
- **Non-Local Businesses**

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More Frequently — Less Frequently

- Never
- Less than once monthly
- Once monthly
- Several times monthly
- Once weekly
- Several times weekly
- Once daily
- Several times daily

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Residents Stating Their Proficiency with Various Online Activities by Age

- E-Banking
- Searching For Jobs Online
- Taking Online Classes
- Staying Safe Online

Income:
- E-Banking
- Searching For Jobs Online
- Taking Online Classes
- Staying Safe Online

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So what? What do we do with this new, local information?

We use it to inform a plan of action to leverage broadband and technology for the improvement of economic activity and prosperity in the community.

- Faster connection speeds tend to be associated with businesses with higher revenue and that have recently hired.
- Businesses that have hired recently tend to be those with websites.
- Businesses that have implemented advanced tech applications tend to have higher revenue.
- Businesses that have hired recently offer greater assistance to employees for tech-related continuing education.

- How do we get faster connections to our businesses?
- How do we get more businesses to have a website or online presence?
- How do we help businesses incorporate advanced tech into their operations and business plans?
- How can we support technology training and continuing education for local employees?

- Social media use is highest among businesses with revenues between $150k and $1m.
- Residents tend to digitally interact slightly more frequently with non-local businesses.
- 30% of residents aged 45 to 54 say they need to learn how to search for jobs online.
- Lower income residents tend to be less proficient with online activities related to the digital economy.

- Can social media help smaller businesses grow and how can we assist?
- Is there an opportunity to improve the online presence of local businesses and the awareness of such?
- What training opportunities do we have or could we employ to help improve residents’ ability to find jobs online?
- How can new or existing digital training efforts better reach low-income residents?

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Wright County, IA
- Agricultural community
- Focused on growing existing businesses, while also attracting new, tech. establishments
- Want to improve the Internet and tech. skill set among local business owners
- Economic development corporation implementing e-commerce training courses for businesses

Clare County, MI
- Rural, agricultural community with small towns
- Small ILEC installing gigabit internet services
- ILEC and community partnered to promote new infrastructure to grow local businesses and attract investment
- Have entered into PPPs in the past to accelerate infrastructure expansion
- Hold annual business technology summit to connect businesses with tech. providers.

Harbor Springs, MI (HarborActive)
- Rural, dispersed, and often seasonal population
- Wants to improve the digital literacy of the community and businesses
- Developed their own training program to train groups of all types on the latest technology including social media, tablets, website development, etc.
- Wine and Web (most popular)

Roscommon and Newaygo Counties, MI
- Rural area with a need to expand economic development
- Instead of focusing on attracting new businesses, programs aimed at retaining, growing, and sustaining those already in the community
- MichiganWorks office and local EDCs conducting training programs to get more businesses online with social media and websites
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Thank you for attending this webinar
Tune in again
January 18th  2pm ET
Broadband Opportunity Council: Accomplishments and Outlook

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