

e-NC Capturing the Promise

NATOA
ECONOMIC DEVELOPMENT AND BROADBAND
SEPTEMBER 28, 2010

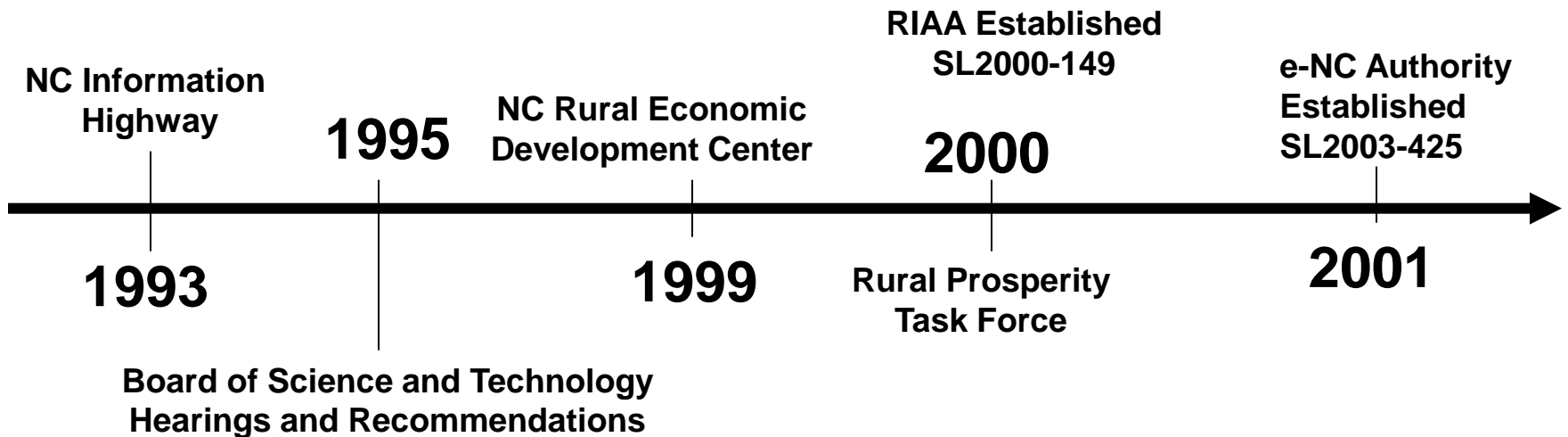
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www.e-NC.org

What Was/Is the Promise?

- For North Carolina this means a focus on technology based economic development with ubiquitous fiber!
- Develop more educated population with higher paying jobs
- The goal: To TRANSFORM our state from a manufacturing economy to an information economy.



Initial Authority Goals



January 2001 – December 2003

- ✓ Ensure local, dialup service available statewide
- ✓ Complete, and keep up to date, an inventory of telecommunications infrastructure
- ✓ Establish Telecenters
- ✓ Identify and establish training programs
- ✓ Promote increased use of computers and the Internet
- ✓ Ensure that high speed Internet service is available to rural North Carolina citizens and businesses
- ✓ Provide Advice and Counsel to the NC General Assembly
- ✓ Develop Local Capacity for
- ✓ Internet Platform for ED



Principles to Guide Deployment

The following nine principles have emerged as best practices in the effort to ensure that all North Carolinians have access and the capacity to utilize broadband Internet to secure a better future. These principles should continue to guide the policies, programs and practices of the e-NC Authority and the State of North Carolina as they act to sustain progress already made.

- **Ubiquitous Broadband:** The state of North Carolina must commit to ubiquitous broadband to enable the technology-based economic development that will create the sort of jobs and business opportunities necessary for North Carolina to be competitive in the global economy.
- **Inclusiveness:** All populations, regardless of age or income, must have equal access to opportunities brought about by broadband Internet and ICT.



Principles to Guide Deployment (cont.)

- **Commitment to Competitive Infrastructure:** Currently-deployed infrastructure will only suffice for a short term. The state of North Carolina must support high-capacity deployment while understanding the need to utilize what is currently available. The need for provisioning of competitive broadband service should be met by the private sector. However, local governments should have the right to offer broadband services when the service available does not meet the needs of the local community. The State of North Carolina should make no restriction to the provision of broadband by any nonprofit or local governments.
- **Expansive Use of Broadband and Adaptability:** Broadband demand can be driven by many different requirements. The market will accept and support innovative deployment options that are flexible in using various technologies. The technology that best equips the community to compete in a sustainable manner in a global marketplace will be given preference.
- **Cross-Sector Collaboration:** Public, private and nonprofit organizations can work together with communities to bring about faster deployment of broadband infrastructure and adoption of high-value applications.



Principles to Guide Deployment (cont.)

- **Digital Literacy:** In order for broadband adoption to be a success in North Carolina's economy, our citizen workforce, children, seniors and business owners must benefit from a strong educational effort about the use of new technologies and applications.
- **Leverage the Power of Youth:** Young people are particularly potent change agents that should be enlisted to assist their local communities in moving toward adoption of computer technology and the Internet.
- **Grassroots Empowerment:** Communities can and should organize themselves to ensure that broadband infrastructure is deployed for their citizens.
- **Constant Improvement through Accountability:** A special focus should be made on rigorous metrics so that we can determine the most effective policies that will drive broadband deployment and adoption of services by citizens and businesses.
- **Data Collection:** Complete, accurate, verifiable and timely coverage data from all telecommunications providers, and based on the FCC broadband tier definitions, is essential for determining North Carolina's communities that need special attention to achieve broadband infrastructure goals.



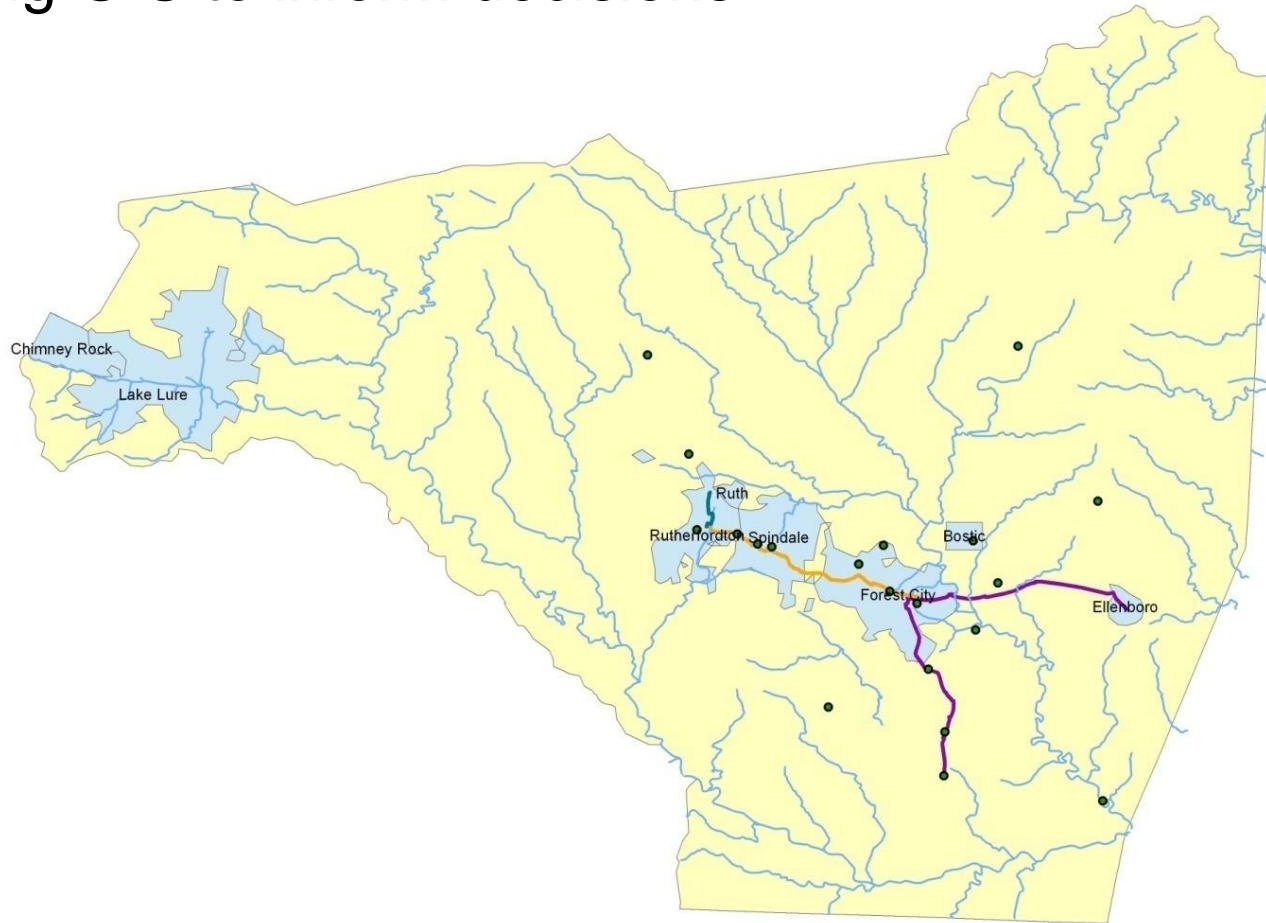
Research-Evaluation Driven

- Research is designed to answer questions, with the sophistication of the techniques used and the scale of the effort generally reflective of the importance, complexity and difficulty of the issues being addressed. The e-NC Authority employs as indicated research that includes qualitative focus groups; quantitative, high-precision surveys; empirical assessments of geographic or population connectivity issues; meta analysis of mathematical modeling and technology adoption theories; exploratory network feasibility studies; prescriptive, futures oriented technology forecasts; retrospective evaluations of funded programs; and data-driven economic impact assessments.
- While the methods may vary, our commitment to high-quality, high-relevance research does not waver. Studies conducted in-house involve on-staff research professionals and expert consultants to generate data and results that are credible, accurate and verifiable. Multiple approaches are utilized to provide more accurate answers in instances where data availability is incomplete or compromised. Third-party research professionals at universities and private research organizations join our studies and provide arms-length evaluations of e-NC programs.
- All e-NC research is available to the public through the e-NC website at <http://www.e-nc.org/research.asp>. This is in keeping with the legislative and legal mandates that govern us as a state authority but also with research best practices that call for sharing research practices and results so that others may use, and possibly improve them. Following research best practices is not a gesture towards credibility- doing so is fundamental to the conduct of our mandate to provide responsible guidance to public policy and investment in an arena that is critical to the economic competitiveness of North Carolina and the United States.

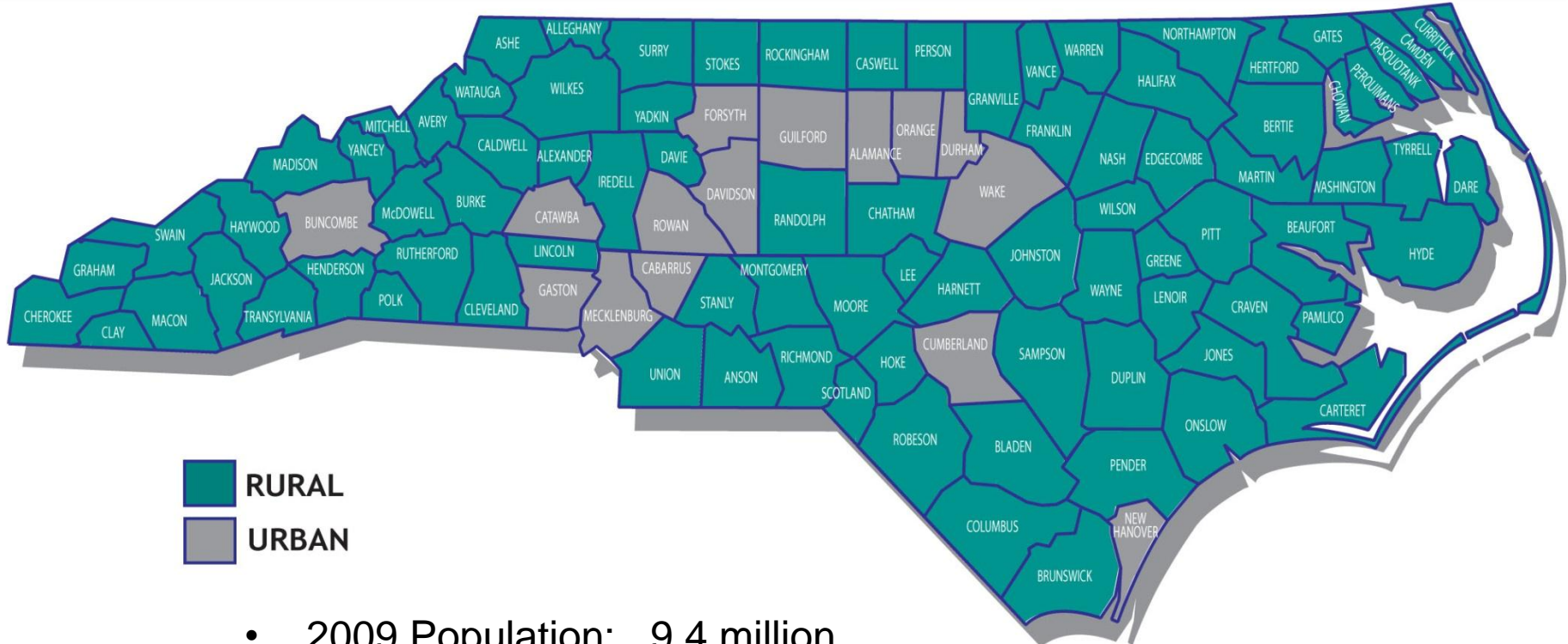


Seizing Opportunities - Transforming Communities

Using GIS to inform decisions



North Carolina



- 2009 Population: 9.4 million
- Second Largest Rural Population of any State
- Land area, 2000 (square miles): 48,710.88
- Persons per square mile, 2000: 165.2

North Carolina Facts

	North Carolina	United States
Households	3,132,013	105,480,100
Persons per Household (2000)	2.49	2.59
Median Household Income (2008)	\$46,574	\$52,029
Per Capita Income (1999)	\$20,307	\$21,587
Percent of Population below Poverty Level (2008)	14.60%	13.2%*

* US Poverty Rate Now at 14.3%



Economic Development Models

Classic Model

- Trained workforce
- Capital
- Water/sewer
- Roads
- Location
- Natural Resources

TBED

- Skilled Workforce
- Venture Capital
- IT/Broadband
- Airports, Universities
- Virtual/Visible
- Intellectual Resources

TBED-New Economy Tactics

- Develop advanced workforce skills
- Build public/private partnerships
- Build advanced communications infrastructure
- E-Health Activities
- Reform the public's business ...
E-Government
- Create flexible structures

THE INTERNET AS A PLATFORM FOR
ECONOMIC DEVELOPMENT

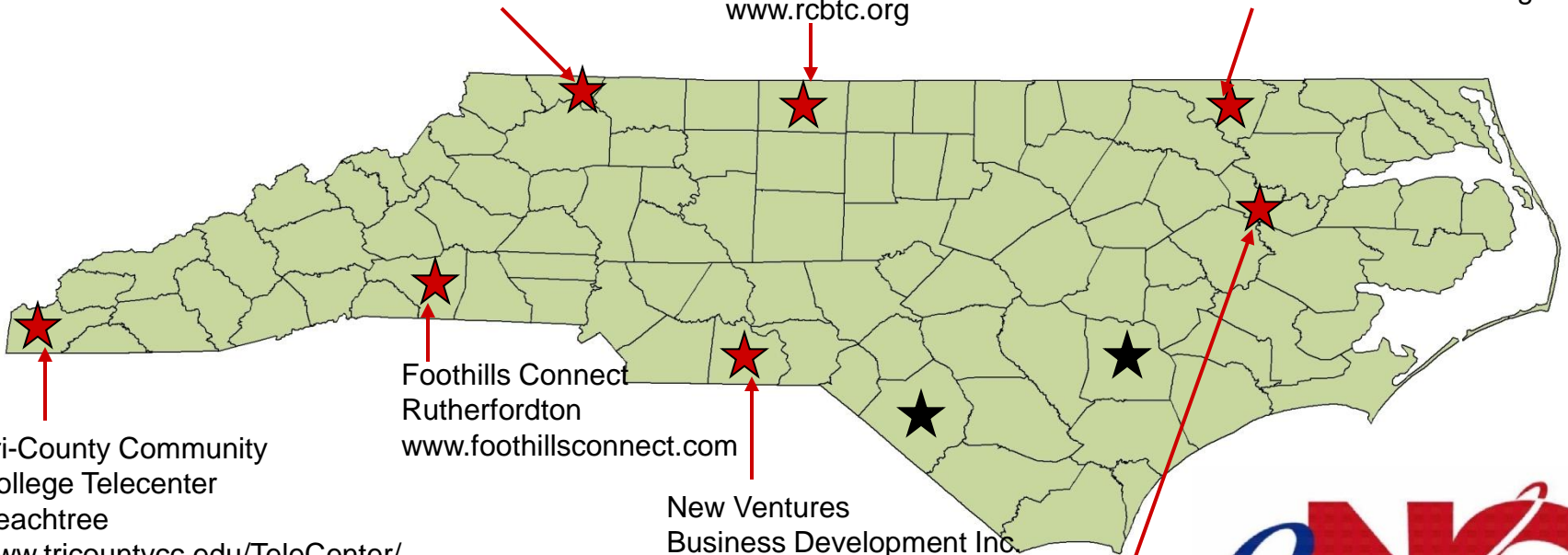


Successes, Failures & Lessons Learned

Blue Ridge Business
Development Center
Sparta www.blueridgebdc.org

Rockingham County
Business & Technology Center
Wentworth
www.rcbtc.org

The Roanoke Center
Rich Square
www.roanokecenter.org



Tri-County Community
College Telecenter
Peachtree
www.tricountycc.edu/TeleCenter/

Foothills Connect
Rutherfordton
www.foothillsconnect.com

New Ventures
Business Development Inc.
Wadesboro & Monroe
www.nvbdi.org

Northeast Technology
& Business Center
Williamston
www.nctelecenter.com



<http://www.e-NC.org>

★ Failures

April 2006

Foothills Connect (funded 2005)

Rutherford County – Tier 1 – Former Textile Area



- Pop. steady: 63,300
- Employment still sliding
- SAT rank improving
- MHI rank improving
- Poverty rank improving
- Percent of workforce in professional & tech increased from 1.7 to 3.1%



Foothills Connect: Transforming Communities

Hands-on 'low tech'
and 'high tech'



A screenshot of the Farmers Fresh Market website. The top banner features the text "Buy Fresh, Buy Local!" and the Farmers Fresh Market logo. Below the banner is a navigation menu with buttons for "view your shopping cart", "login / register", "shopping", "about us", "the growers", and "our customers". To the right of the navigation menu is the Farmers Fresh Market logo, which includes a mountain range and various fruits and vegetables. Further right is the "Our Affiliates:" section, which includes logos for "FoothillsConnect SOURCE & TECHNOLOGY PARTNER" and "eNC".

Seizing Opportunities - Transforming Communities

- **Collaborating and building off of other projects**
 - Pangaea fiber network to connect schools
 - Strategic Technology Plan for the county
 - Foothills proposes that the county seek funds to add another 70 miles of fiber to the Pangaea network to connect all the EMS sites and provide wireless access sites to extend broadband access to the un-served areas of the county.
 - \$1.45 million from GoldenLeaf awarded Oct. 2007!
- **Pangaea (e-Polk) and Clemson: Cross Borders**
- **E² collaboration with surrounding counties and fiber extensions.**



e-NC Business & Technology Telecenters

In 2005, the e-NC Authority contracted with RTI International to perform an independent evaluation of the four original telecenters.

The objective of the project was to evaluate the initial four e-NC Business and Technology Telecenters™ that were established in 2002.

The intent was to answer three questions:

- What have been the outcomes of the investment in the telecenters?
- What has been the state's return on investment?
- How have the telecenters changed their communities?

2008 - A NEW EVALUATION FROM RTI WAS COMPLETED



Where Are We Now?

Internet usage is moving faster than you think...

In 2010: 80% have home Internet access

Internet Penetration Demographic Percentage of ALL North Carolina Households That Have Home Internet Access				
	1999	2002	2004	2008
Overall	36%	52%	59%	70%

Table 2, p. 10 of 2008
Citizen Survey

During this period above, the proportion of all NC homes subscribing to Internet access has increased from 36 to 70 %. (Note: figures include all access speeds, including dial-up.) Nevertheless, while it is still far from universal, in less than a decade the Internet has become a common part of our everyday lives.

e-NC recommends aggressive goals in terms of availability of broadband Internet access.

e-NC Recommended Goals on Access and Bandwidth			
	*2012	2015	*2018
For NC Citizens	5 Mbps	45 Mbps	100 Mbps

* From e-NC's Broadband Internet Action Plan, submitted to the NCGA in Jan. 2009.

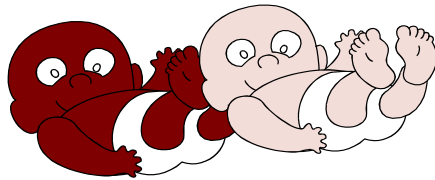


e-NC Citizen Surveys

- Since 2001, the e-NC Authority has contracted with East Carolina University to conduct Citizen Surveys on who is subscribing to the Internet, from where, what service they are subscribing to, and how it is being used.
- Citizen Survey reports released to date include:
 - 1999 (Survey – conducted by the NC Board of Science & Technology – consisted of approx. 5 questions on computer use)
 - 2002 (e-NC Survey)
 - 2004 (e-NC Survey)
 - 2005 (e-NC - Look at trends to date, compared to national Pew data)
 - 2008 (e-NC Survey)
 - 2010 (e-NC Survey)
- *Note – the citizen surveys include dial-up, wireless, satellite and high-speed Internet usage.*

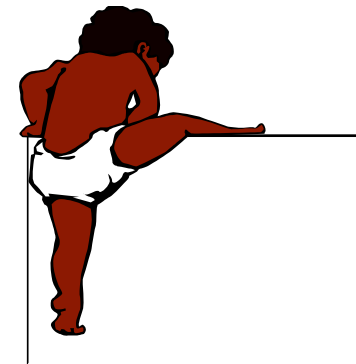


Broadband Evolution: An Anthropomorphic View



384 kps –

Baby broadband



1.5 mbps

Toddler Speeds



45 mbps

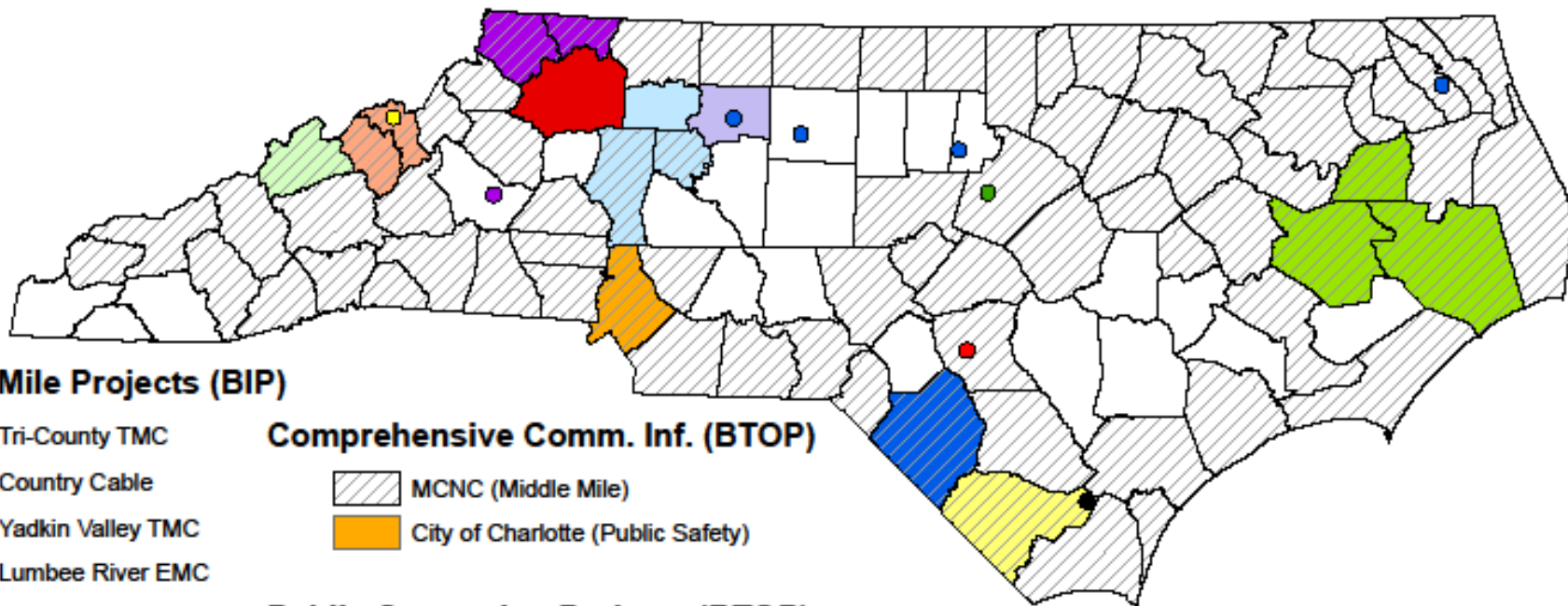
Adolescents



80 mbps

Functional
Adults

North Carolina Broadband Recovery Projects



Last Mile Projects (BIP)

- Tri-County TMC
- Country Cable
- Yadkin Valley TMC
- Lumbee River EMC
- French Broad EMC
- Atlantic TMC
- Wilkes Telecommunications
- Skyline TMC
- Utopian Wireless Corporation

Comprehensive Comm. Inf. (BTOP)

- MCNC (Middle Mile)
- City of Charlotte (Public Safety)

Public Computing Projects (BTOP)

- WinstonNet
- Fayetteville State University
- Mitchell County Historic Courthouse
- Olive Hill Community Economic Development Corporation

Sustainable Broadband Adoption (BTOP)

- One Economy Corporation
- NC Central Univ. School of Law

*Counties may have areas that are only partially receiving broadband recovery funds

**This map should be reviewed with the information covered in the write-up of Broadband Recovery Awards



Constant Message & Flexible Programs

- eCommunities
- Telecenters
- Harvard Training Program for Leaders
- Grants Writing Programs
- Digital Literacy Training
- Public Access Centers
- Incentive and Implementation Grants
(available to nonprofits, for profits and governments)
- Local Gov Web Training



The e-NC Authority Delivers Increased State Revenues

- More than \$5 billion economic impact from broadband deployment in North Carolina
- 1,906 jobs created in six Tier 1 and one Tier 2 counties by e-NC Business and Technology Telecenters (2002-2009)
- \$221 million additional state revenue from Telecenter-created jobs (with no multiplier effect)
- 10x return on investment in broadband (ARRA estimate)
- 2005 – first state investment in operations for the e-NC Authority
- Just over \$3 million state funding invested in operations for the e-NC Authority



Why Broadband Expansion?

- We exist in a global economy. Bottom line – broadband deployment will give entrepreneurs, small businesses and large corporations the tools necessary to survive and compete in state, national and global markets.
- North Carolinians are only able to participate in today's digital economy if the middle mile infrastructure being deployed through federal and private investments can be accessed via adequate last mile broadband infrastructure. The U.S. Bureau of Economic Analysis estimates that for every \$1 invested in broadband, \$3 is returned directly to the economy. Conversely, the failure to make necessary investments in broadband is projected to reduce productivity one percent or more per year.
- Federal Stimulus of more than \$265 million should help us building higher speed broadband but the NC General Assembly, the Governor and all of our communities and providers must work together to deliver an Internet based tech driven economy.

To Reach Us

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