

The e-NC Authority: Broadband Mapping

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The e-NC Authority

For the
National Association of Regulatory Utilities Commissioners
July 21, 2008
Portland, Oregon



www.e-NC.org

Mission

The e-NC Authority is dedicated to ensuring that all North Carolina citizens, businesses and communities are aware of, know how to use and have access to high-speed Internet services at affordable prices, creating local opportunities for technology-based economic development and job creation.



www.e-NC.org

Rural Internet Access 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 N.C. General Assembly



www.e-NC.org

The e-NC Authority: Legislative Mandate

- Continued as the e-NC Authority in 2003, under S.L. 2003-425
- Established as the primary Internet policy and planning body for the rural and urban distressed areas of the state
- Mandated to track availability of and deployment of high-speed Internet service across North Carolina
- Advocate and serve as catalyst for infrastructure build-out in underserved areas
- In July 2006, sunset was extended to Dec. 31, 2011



e-NC Focus – Two-fold

1) Tracking and Supply-Building

- 100 County Report on Availability of High-Speed Internet Services (released annually)
- GIS Mapping of Telecommunications Infrastructure
- Service Inquiries
- Connectivity Incentives Grants

2) Demand-Building

- Citizens Survey
- e-Communities, public access, digital literacy training
- Program and applications development



Service Providers in N.C.

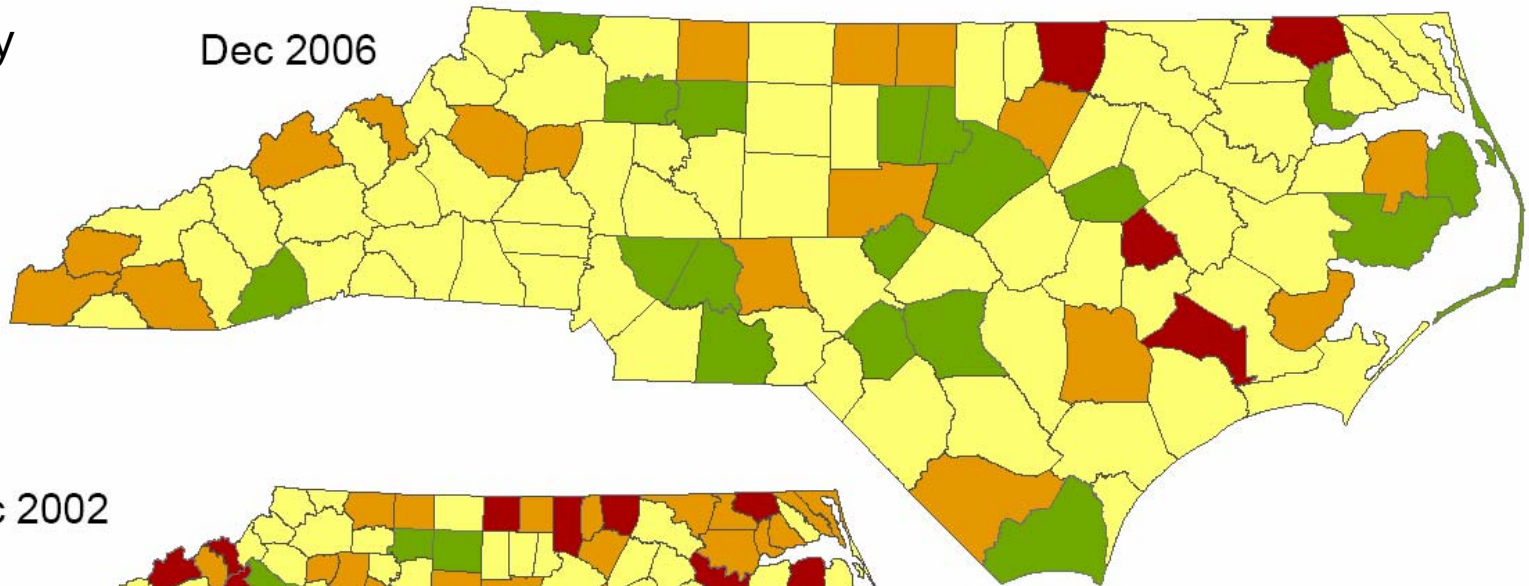
- **ILECs – AT&T, Embarq, Verizon, Windstream**
- **Independent Telephone Companies**
- **Telephone Membership Cooperatives**
- **Cable Companies**
- **Wireless providers**
- **Satellite providers**

Change in Connectivity, 2002-2006

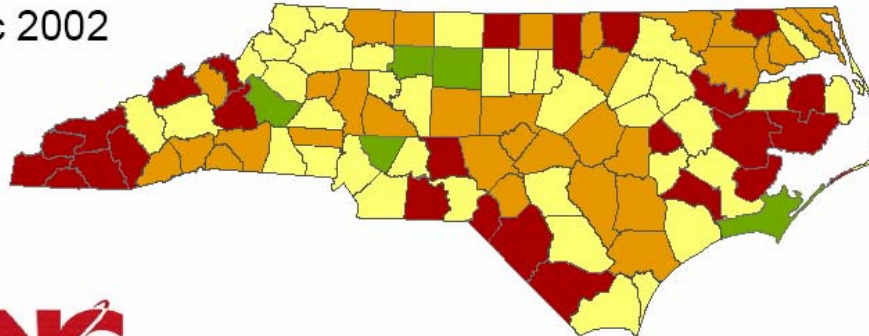
High Speed Internet Access Increase in North Carolina

83.54%
connectivity
available,
Dec. 06

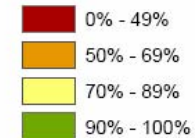
Dec 2006



Dec 2002



High Speed Availability
DSL & Cable Modem



Source: Based on data supplied
by Service Providers.



3/4/08

e-NC Tracking – 3 Tools

Tracking and Mapping

- **100 County Report on Availability of High-Speed Internet Services**
(released annually)
- **GIS Mapping of Telecommunications Infrastructure**
(www.e-nc.org)
- **Citizens Survey**
(conducted every 2-3 years, tracks subscriber information)

Tracking/Mapping program launched in 2001 with initial inventory of telecommunications across the state conducted for e-NC by KPMG.

GIS mapping and Citizens Surveys launched in 2001.

100 County Report launched in 2002.



Explanation of Technologies Tracked in 100 County Report

- **Cable Modem**
- **DSL**

Not included:

- **Wireless**
- **Satellite**
- **Fiber**



e-NC Authority: Determining Internet Access

North Carolina's e-NC Authority info@e-NC.org

e-NC Information e-NC Programs Research Projects e-NC Publications News Updates

e-NC in my county
Select County

Public Internet Access
Select County

Digital Literacy
Select County

Search for Internet Providers
Enter your phone number:

ISP login

Keyword Search:

Advanced Search

Site Map

High-Speed Internet Access in North Carolina

Rutherford County

Rural – Tier 2
Median Household Income - \$31,122
Population – 63,287
Households – 25,346
High-Speed Internet Access – 56.58%

Access Providers

- Cable
 - Northland Com County.
 - Northland prov Chimney Rock, Rutherfordon, County, but do
- Telcos
 - Bellsouth prov
 - Bellsouth prov City, Lake Lure Black Mountain access.
- Satellite

e-NC Authority's Telecom GIS - Service Provider Mapping System - Mozilla Firefox

100 County Report

Telecom/Cable GIS



e-NC Authority: Determining Internet Access 100 County Report



High-Speed Internet Access in North Carolina

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Median Household Income - \$31,122
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High-Speed Internet Access – **56.58%**

Access Providers

Cable

Households with Access – **0.00%**

Northland Communications has the cable TV franchise in Rutherford County.

Northland provides provides cable TV service in Alexander Mills, Bostic, Chimney Rock, Cliffside, Ellenboro, Forest City, Lake Lure, Ruth, Rutherfordton, Sandy Mush, Six Points, Spindale and areas of Rutherford County, but does not provide cable modem service.

Telcos

Households with Access – **56.58%**

Bellsouth provides telephone service in Rutherford County.

Bellsouth provides DSL access to areas of its Caroleen, Ellenboro, Forest City, Lake Lure and Rutherfordton exchanges. The areas served by the Black Mountain, Lattimore and Lawndale exchanges do not have DSL access.

Satellite

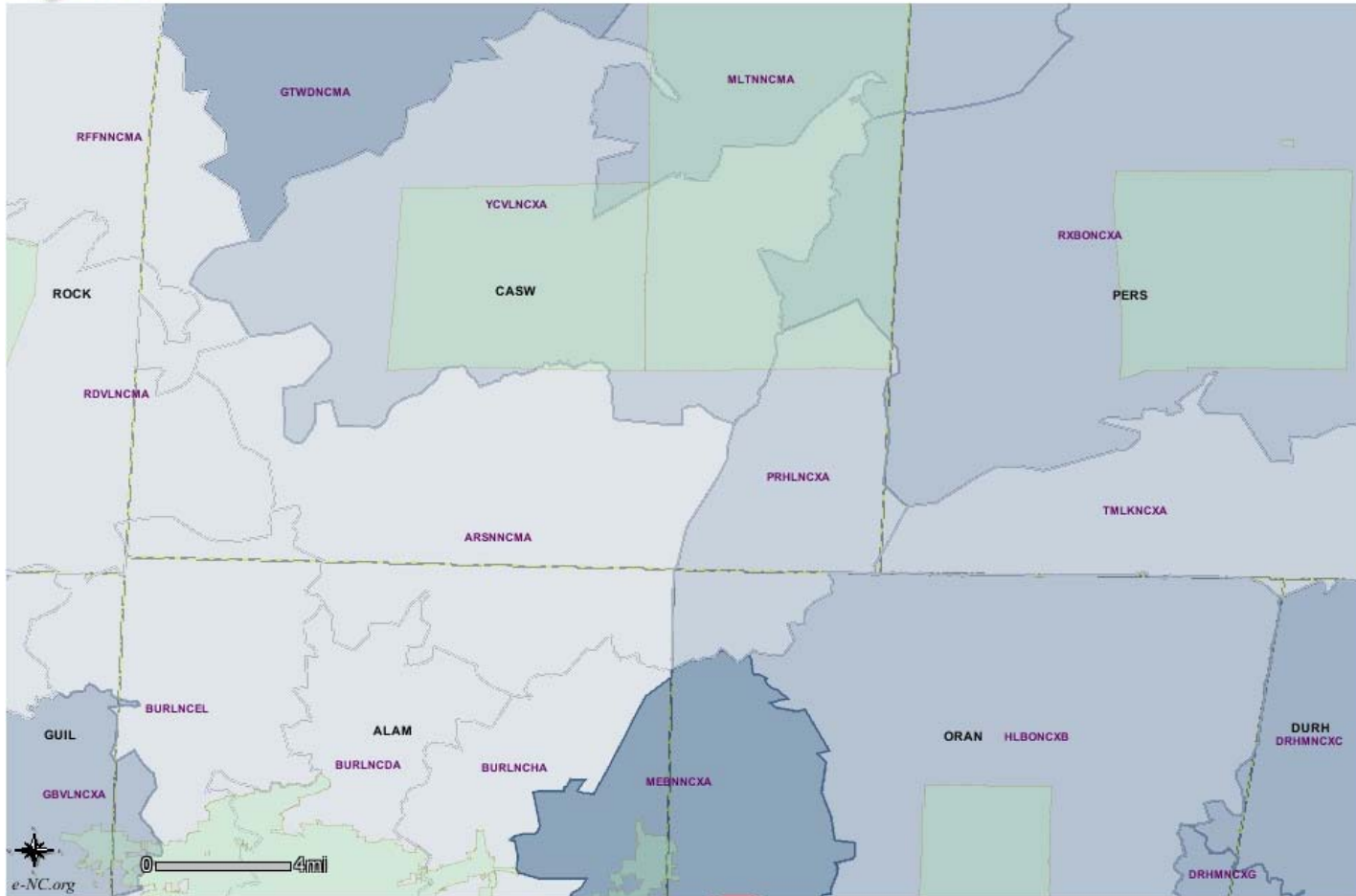
The GIS view showed DSL available to the entire area



Example of e-NC's GIS Mapping Program



Active Tool Mode:
Identify



Map Data Layers

You must zoom in for greyed-out layers to become available for viewing.

[Refresh Map](#)

Visible Active

- Wireless Towers
- CLLI Central Offices
- Distressed Schools
- Public Internet Access Sites
- TV Stations
- Water Towers
- TowerMap Towers
- Health Care Facilities
- Public Airports
- Unincorporated Communities
- Railroads
- BlueRidge Parkway
- Interstates
- Primary Highways
- Secondary Highways
- Local Streets
- Major Rivers
- Wireless Tower Service Areas
- Cable Modem Service Areas
- Activated Cable Franchise Areas
- % DSL Capable Lines
- Wire Center

[% DSL Capable Lines](#) (Click to open layer info. page.)

Record ID	CLLI Code	SPU Service Location ID	Provider Name	Website	City	Has DSL	DSL Service Loop Quality Pot	DSL From_Client Max_Speed	DSL To_Client Min_Speed	DSL To_Client Max_Speed	DSL To_Client Min_Speed
1	ARSNNCMA	ARSNNCMA	AT&T	WWW.ATT.COM	ANDERSON	Yes	0	1500 Kb/s (?)	256 Kb/s (?)	0 Kb/s (?)	128 Kb/s (?)



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e-NC Authority: Determining Internet Access



Active Tool Mode:
Zoom In

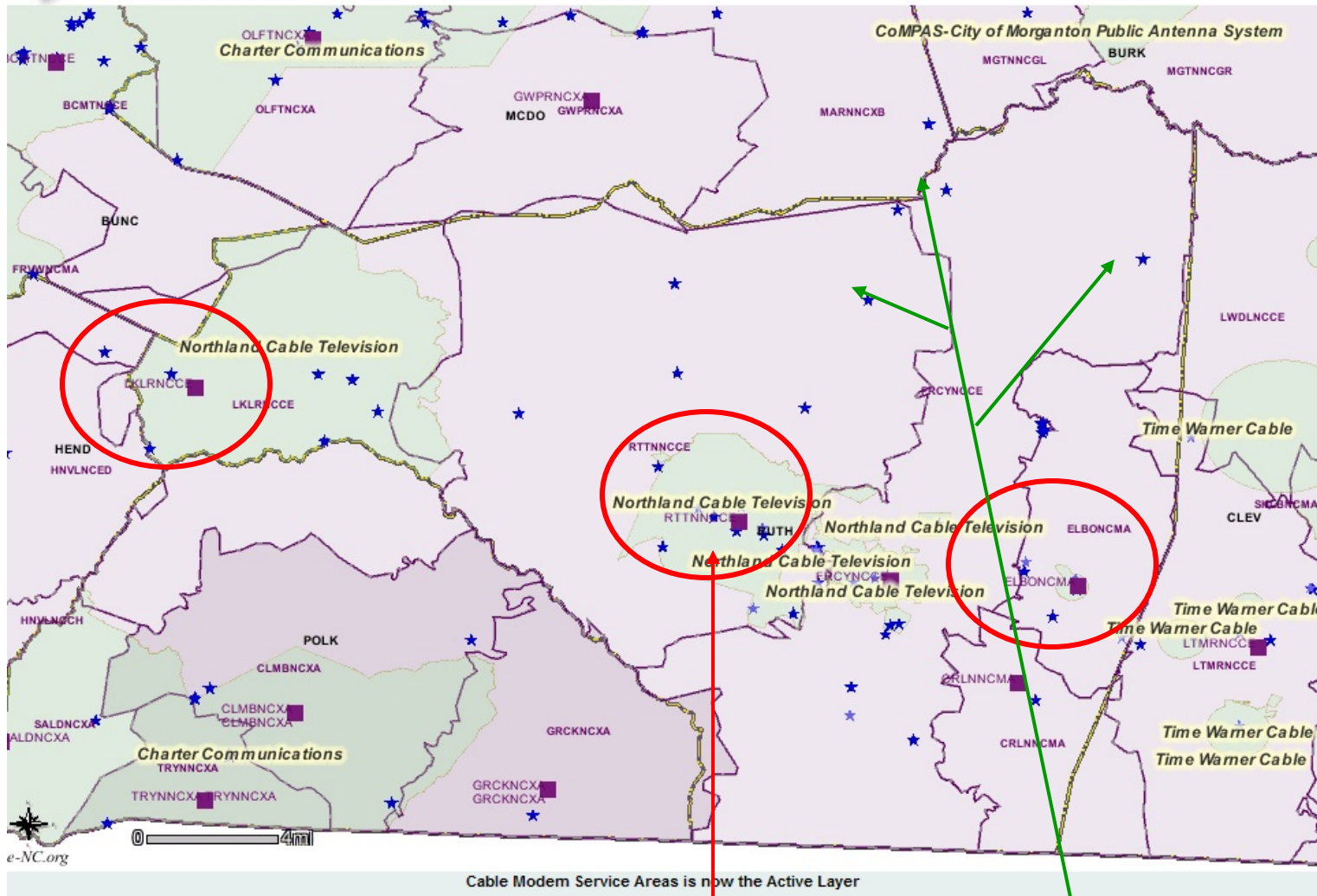
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- Local Streets
- Major Rivers
- Wireless Tower Service Areas
- Cable Modem Service Areas
- Activated Cable Franchise Areas
- DSL Service Areas
- Wire Center Boundaries
- Area Codes
- LATA Regions
- Incorporated Cities
- Major WaterBodies



Cable Modem Service Areas is now the Active Layer

Central Offices

Towers

e-NC Authority: Determining Internet Access

Points to remember:

- No one source tells all the story!
- If DSL is available at a wire center, the entire area is shaded on the GIS. The reality is that service is available within a 3 mile radius of the central office.
- Some local ISPs resell DSL service from the ILECs.
- Information for the GIS comes from the Providers, Media Prints, MapInfo



Why Does It Matter?

- 1) Tracking of high-speed and broadband Internet is the first step to figuring out how to increase build-out: what policies need to be implemented, what areas are underserved...
- 2) Broadband is an essential utility, without which individual states and the country cannot remain competitive in the global economy.
- 3) Citizens want to know where they can get access, so they can utilize this critical infrastructure.



Build-out Challenges

- e-NC focus – last-mile service
- “Business case” challenge – telecom service providers rarely expand infrastructure as a gesture of goodwill
- Divide and conquer – N.C. is deceptively large (85 of 100 counties are considered to be rural)
- Topography challenges – mountains, bodies of water, forests
- Teaching them to fish – many elected leaders have lacked basic digital literacy and understanding



The Need for Big Broadband

Bigger Vision, Bolder Action, Brighter Future; Capturing the Promise of Broadband for North Carolina and America

Released June 2008 by the New America Foundation

By The Baller Herbst Law Group for the e-NC Authority

Go to www.e-nc.org for a copy of the report

And to read about the benefits of broadband

Recommendations !!!!!!!

Federal legislation setting the standards for realistic data to be provided annually by all providers to the states.

A requirement for the state to provide the data in a format that is useful and usable to its policy makers, citizens, counties and municipalities of the state.

----- We would like to hear yours.



To Reach Us

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