Community Assessments & Broadband Profiles: Planning and Considerations for Counties and Region

For the Southwestern Commission, November 2017
Taking the time to understand the current broadband coverage and assets within your region can help you develop a more comprehensive approach to attracting the desired middle-mile or last-mile broadband providers to your area.

Where Are You Now?
Recommended Steps to Consider:
County-Level & Regional Planning

Broadband Assessment

- Research Existing Broadband Providers

- Evaluate Broadband Service Gaps

- Research Underutilized Broadband Infrastructure

Meet with County, education, healthcare, government and the business community to review public infrastructure, assets, and resources that may have the potential to support broadband initiatives. The purpose of these meetings will be to understand and document possible assets such as fiber, pole, conduit, vertical assets and Right-of-Way access and more.

- Community-wide Infrastructure Inventory and Database

- Evaluate Infrastructure Gaps
County-Level & Regional Planning

- **Broadband Assessment Examples** – Population Density, Broadband Coverage, Speeds

Population per Census Block

Broadband Coverage by Provider by Census Block

Building smarter schools, richer corporations, and integrated communities.
County-Level & Regional Planning

- **Broadband Assessment** – Research Existing Providers, Coverage and Service Gaps
County-Level & Regional Planning

- **Broadband Assessment** – Research Existing Providers, Coverage and Service Gaps
County-Level & Regional Planning

- **Broadband Assessment** – Research Existing Providers, Coverage and Service Gaps

![Average Download/Upload Speed by Zone chart]

*Building smarter schools, richer corporations, and integrated communities.*
County-Level & Regional Planning

- **Broadband Assessment** – Research Existing Providers, Coverage and Service Gaps

---

**Is Service Available To You?**
- No: 14% (No Response: 665, No: 502, Yes: 1897, Not Sure: 431)
- Yes: 54% (No Response: 866, No: 1194, Yes: 1435)

**Do You Subscribe?**
- No Response: 34% (No Response: 1154, No: 1178, Yes: 561, Not Applicable: 602)

**Is Service Sufficient?**
- No Response: 17% (No Response: 1154, No: 1178, Yes: 561, Not Applicable: 602)
Southwestern Commission
Broadband Survey
Building smarter schools, richer corporations, and integrated communities.
### Services in your area

According to data from the Federal Communications Commission, the following services are available in your area. Please confirm whether they are available at your actual address, as the FCC data is based on census blocks and not by individual address.

<table>
<thead>
<tr>
<th>Provider</th>
<th>Max Download</th>
<th>Available to You?</th>
<th>Do You Subscribe?</th>
<th>Sufficient for your Needs?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Warner Cable Inc</td>
<td>300.0Mbps</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Cable Modem – DOCSIS 3.0</td>
<td></td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>AT&amp;T North Carolina VDSL</td>
<td>75.0Mbps</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>No</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Source: [FCC Broadband Availability](https://www.fcc.gov/broadband-access)
This will test the speed of your current Internet connection. The test requires just a click of the button and takes only about a minute to run. To get the most accurate speed test, make sure 1) you are taking the test from the address you provided on the homepage and 2) pause streaming video, gaming, music, or other heavy uses of the network. If you are not taking this survey from the address you entered on the homepage, please remember to un-check the box below before continuing.

I am performing this test at the address I entered on the homepage.

START TEST
Broadband Aggregation & Adoption Tool

Questions

Please answer the questions below.

1. Do you currently have Internet service at your home?
   - Yes
   - No

1a. If not, what is the primary reason?
   - Not available
   - Too expensive
   - Not relevant or needed
   - Lack of skills/knowledge to use it
   - No computer or device
   - Not applicable (I currently have service)

2. Please select the type of service to which you currently subscribe:
   - Wired (cable, DSL)
   - Cellular data (mobile phone)
   - Fixed wireless (from a local Wireless Internet Service Provider)
   - Satellite
   - A combination (wireless and wired, wireless and cellular, satellite and cellular, etc.)
   - I don’t have service

3. What is the download speed you currently pay for?
   - 1.5Mbps to 3Mbps
   - 3Mbps to 6Mbps
   - 6Mbps to 10Mbps
   - 10Mbps to 25Mbps
   - 25Mbps to 50Mbps
   - 50Mbps to 100Mbps
   - 100Mbps to a Gigabit or more
   - I don’t know
   - I don’t have service
Broadband Aggregation & Adoption Tool
Residential

4. Does the speed you currently subscribe to meet your needs?
- Yes
- No
- I don’t have service

5. On average, how many devices do you have that connect to your Internet service (including laptops, tablets, smartphones, televisions, etc.)?
- 1-2
- 3-4
- 5 or more
- I don’t have service

6. If additional competitive services were available to you, to which package would you subscribe?
- Internet only
- Internet and TV
- Internet and home phone
- Internet, TV, and home phone
- TV only
- None of the above

7. Who are or would be the primary users of Internet at your address? (Please check all that apply.)
- School age child(ren) - K-12
- Adult(s) - Ages 19-35
- Adult(s) - Ages 36-50
- Adult(s) - Ages 50-65
- Adult(s) - Ages 66 and older
- No one would use this service
8. Would anyone in your household take online classes if sufficient Internet service were available?
   - Yes
   - No

8a. Would anyone in your household telecommute or start a home-based business if sufficient Internet service were available?
   - Yes
   - No

8b. Would anyone in your home use telemedicine or social support applications (e.g. "virtual doctor visits") if sufficient Internet service were available?
   - Yes
   - No

9. How important is Internet access to your ability to earn a living?
   - Critical
   - Very important
   - Somewhat important
   - Neutral
   - Not important

9a. How important is Internet access to your quality of life?
   - Critical
   - Very important
   - Somewhat important
   - Neutral
   - Not important

10. Are there any comments you wish to share regarding broadband service or Internet access in your region?
<table>
<thead>
<tr>
<th>Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please answer the questions below.</td>
</tr>
<tr>
<td>1. Do you currently have Internet service at your business?</td>
</tr>
<tr>
<td>☐ Yes</td>
</tr>
<tr>
<td>☐ No</td>
</tr>
<tr>
<td>1a. If no, what is the primary reason?</td>
</tr>
<tr>
<td>☐ Not available</td>
</tr>
<tr>
<td>☐ Too expensive</td>
</tr>
<tr>
<td>☐ Not relevant or needed</td>
</tr>
<tr>
<td>☐ Lack of skills/knowledge to use it</td>
</tr>
<tr>
<td>☐ No computer or device</td>
</tr>
<tr>
<td>☐ Not applicable (I currently have service)</td>
</tr>
<tr>
<td>2. What Internet connection speed are you paying for (download speed)?</td>
</tr>
<tr>
<td>☐ Level 1 (768Kbps to 1.5Mbps)</td>
</tr>
<tr>
<td>☐ Level 2 (1.5Mbps to 4Mbps)</td>
</tr>
<tr>
<td>☐ Level 3 (4Mbps to 10Mbps)</td>
</tr>
<tr>
<td>☐ Level 4 (10Mbps to 100Mbps)</td>
</tr>
<tr>
<td>☐ Level 5 (more than 100Mbps)</td>
</tr>
<tr>
<td>☐ I don't know</td>
</tr>
<tr>
<td>☐ We do not have Internet service</td>
</tr>
<tr>
<td>3. How important is an Internet connection to your business/ability to earn a living?</td>
</tr>
<tr>
<td>☐ Critical</td>
</tr>
<tr>
<td>☐ Very important</td>
</tr>
<tr>
<td>☐ Somewhat important</td>
</tr>
<tr>
<td>☐ Neutral</td>
</tr>
<tr>
<td>☐ Not important</td>
</tr>
<tr>
<td>4. Would anyone in your company telecommute if sufficient Internet service were available?</td>
</tr>
<tr>
<td>☐ Yes</td>
</tr>
<tr>
<td>☐ No</td>
</tr>
</tbody>
</table>
5. Which of the following categories best describes your type of business?

- Agriculture
- Retail
- Construction
- Service industry/Hospitality
- Manufacturing
- Professional Services
- Government/Industry
- Healthcare
- Real estate
- Other

6. How many employees (full and part-time) do you currently have at this location?

- 1-5
- 6-25
- 26-50
- Over 50

7. Are there any other comments regarding broadband in your region that you wish to express?
Southwestern Commission
Broadband Survey
County-Level & Regional Planning

Broadband Assessment

• Research Underutilized Broadband Infrastructure
  Meet with County, education, healthcare, government and the business community to review public infrastructure, assets, and resources that may have the potential to support broadband initiatives. The purpose of these meetings will be to understand and document possible assets such as fiber, pole, conduit, vertical assets and Right-of-Way access and more.

• Community-wide Infrastructure Inventory and Database

• Evaluate Infrastructure Gaps
County-Level & Regional Planning

- Research Underutilized Broadband Infrastructure
  Identify Existing Assets: Fiber Connections, Towers, etc.
County-Level & Regional Planning

Sample Cherokee County Infrastructure Map
County-Level & Regional Planning

Broadband Assessment

Demand Aggregation and Market Opportunities
(Documenting Potential Adoption)

• Survey local residents and businesses to understand what type of service they want and will subscribe to (ECC Broadband Aggregation & Adoption Tool)
• Identify Community Anchor Institutions and commercial locations close to potential fiber routes that represent immediate market opportunities
• This data can then be packaged to help make the business case for last-mile service, and can be utilized to attract providers to the region
County-Level & Regional Planning

Demand Aggregation and Market Opportunities – ECC Broadband Aggregation & Adoption Tool
County-Level & Regional Planning

- Market Opportunities

*Market Opportunities within ¼ Mile of Fiber Network*
Those are some of the key planning steps.

What are some big projects, potential models or partners around the state?...
North Carolina’s Electric Cooperatives

1. Albemarle EMC, Hertford
2. Blue Ridge Electric, Lenoir
3. Brunswick EMC, Shallotte
4. Cape Hatteras Electric Cooperative, Buxton
5. Carteret-Craven Electric Cooperative, Newport
6. Central EMC, Sanford
7. Edgecombe-Martin County EMC, Tarboro
8. EnergyUnited, Statesville
9. Four County EMC, Burgaw
10. French Broad EMC, Marshall
11. Halifax EMC, Enfield
12. Haywood EMC, Waynesville
13. Jones-Onslow EMC, Jacksonville
14. Lumbee River EMC, Red Springs
15. Pee Dee EMC, Wadesboro
16. Piedmont EMC, Hillsboro
17. Pitt & Greene EMC, Farmville
18. Randolph EMC, Asheboro
19. Roaneke Electric Cooperative, Ahoskie
20. Rutherford EMC, Forest City
21. South River EMC, Dunn
22. Surry Yadkin EMC, Dobson
23. Tideland EMC, Pantego
24. Tri-County EMC, Dudley
25. Union Power Cooperative, Monroe
26. Wake EMC, Wake Forest

North Carolina Electric Membership Corporation (NCEMC)
3400 Sumner Blvd., Raleigh, NC 27616

Tarheel Electric Membership Association Inc. (TEMA)
8730 Wadford Dr., Raleigh, NC 27616

North Carolina Association of Electric Cooperatives, Inc. (NCAEC)
3400 Sumner Blvd., Raleigh, NC 27616

GreenCo Solutions, Inc. (GreenCo)
3400 Sumner Blvd., Raleigh, NC 27616
Roanoke Electric Cooperative

Building smarter schools, richer corporations, and integrated communities.
Wireless Ring off of Fiber Backbone
Building smarter schools, richer corporations, and integrated communities.
NC Telephone Cooperatives

Building smarter schools, richer corporations, and integrated communities.
Electri-Cities of North Carolina

North Carolina Public Power Communities

Building smarter schools, richer corporations, and integrated communities.
Orange County & Town of Hillsborough

REQUEST FOR QUALIFICATIONS
Design, Permitting, & Construction Administration for Orange County – Town of Hillsborough Fiber Optic Network
October 13, 2017

Summary
Orange County and the Town of Hillsborough are collaborating on a joint fiber optic network project to connect our respective facilities. Hillsborough is the county seat of Orange County and as such, our two governments share Hillsborough's downtown. Many of our other facilities are also located in close proximity to each other and/or potentially share a common route for fiber. We would like to collaborate on the design and build out of our respective fiber networks to take advantage of economies of scale.

We anticipate that routes in common will be primarily underground in separate conduits, with unique Orange County routes being aerial and unique Town of Hillsborough routes being underground. The Town of Hillsborough would like to build a redundant loop that has excess capacity to allow for future needs as well as the option to lease to a third-party last mile provider.
So What Now?

Determine Where You Are

- Where Is Your County Now with Information Gathering? 
  (Broad, Detailed)

- County Assets and Fiber – What do you have, what are you considering?

- What Are Your Other Local and Regional Assets? 
  Who are Your “Alternative Providers”?

- What Are Your Goals? What Is A Good Starting Point? 
  County-facility Project, Particular Community of Focus, Homework Gap, Adoption & Digital Inclusion…
For questions please contact:

Angie Bailey
Sr. Broadband Consultant
ECC Technologies, Inc.
13341 New Falls of Neuse Rd.
Raleigh, NC 27614

Mobile: 919-384-6360
Email: abailey@ecctec.com
www.ecctec.com