BROADBAND LEADERSHIP SUMMARY AND RECOMMENDATIONS

University of North Carolina Asheville

WNC Broadband Project

TEN LESSONS LEARNED

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CHAIR WESTNGN,
UPON INPUT FROM MEMBERS OF THE
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WNC BROADBAND PROJECT

1. As a result of the '96 Telecom Act, broadband infrastructure is treated as a competitive private commodity, not a public utility. Therefore, the infrastructure is only being built where the business case is positive. This benefits urban areas, particularly high-income, densely populated areas, at the expense of non-urban areas and disadvantaged citizens.

2. Therefore, WNC has a growing digital divide, both among our own citizens and compared to major urban areas in the U.S. Broadband modernization, including cellular technology (i. e. 5G) in urban areas, is accelerating, leaving many areas in further behind.

3. 5G cellular technology requires 10 to 100 times more cell towers that must be supported by a deep fiber infrastructure that WNC does not have. So WNC will also be on the wrong side of the digital cellular divide.

4. As the need for faster speeds increase, traditional telecom providers will find it difficult to keep up, creating more customer dissatisfaction and placing greater emphasis on fiber connectivity.

5. The North Carolina legislature limits the ability of local governments to finance broadband infrastructure, thereby creating a disadvantage for WNC where private markets are less attractive to providers.

6. Due to state limitations and broadband being considered a private commodity, local governments have not developed staff expertise or collected data, and have been slow to enact policies to advance broadband.

7. For area leaders, understanding and acting on broadband issues requires less a "technology" expertise than knowledge of governmental policy, financing, market strategies, planning and innovation.

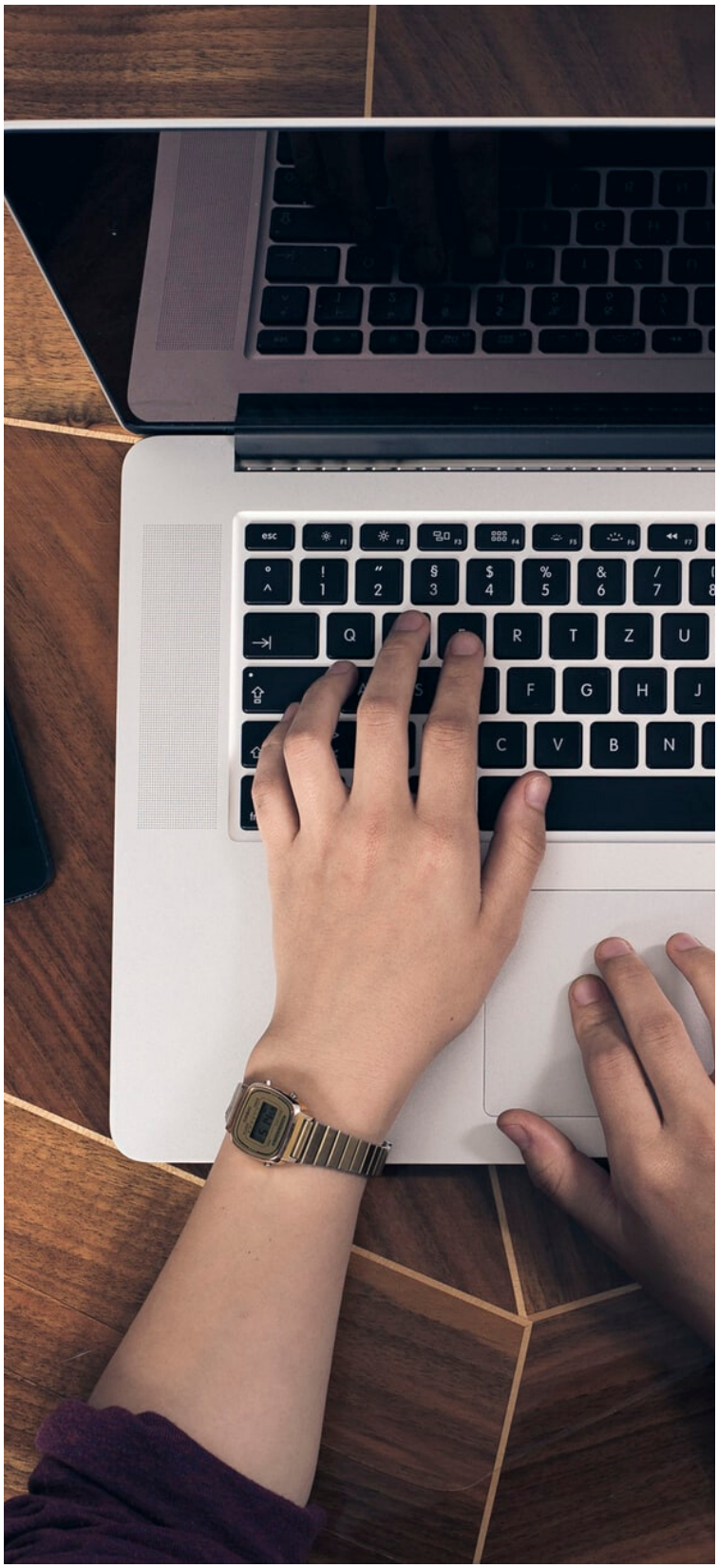
8. Given the expense of modernizing and traditional telecom provider strategies in local non-urban markets, for truly high-speed Internet many citizens may soon have only one wireline provider—the cable provider—or none, resulting in less choice for customers.

9. A region-wide solution for broadband is giving way to local and neighborhood strategies encouraging customers to form cooperatives or local partnerships.

10. The fundamental need in WNC is capital to build out the fiber infrastructure. The capital needs to come from innovative partnerships with citizens, as well as government and foundation money to underwrite infrastructure development for under-privileged communities.

"THE FUNDAMENTAL NEED IN WNC IS CAPITAL TO BUILD OUT THE FIBER INFRASTRUCTURE"- DR. WILLIAM SEDERBURG

SUGGESTIONS FOR LEADERS



REGIONAL ORGANIZATIONS

1. Build regional lobbying organizations and programs based on a common agenda that seeks to improve funding and services from the state and federal governments for underserved areas.

2. Support "building out" middle-mile broadband fiber through organizations such as ERC Broadband, WNC's middle-mile fiber provider for governmental agencies and non-profit organizations.

3. Seek collaborative approaches to attracting funds from foundations, the federal and state governments, the Appalachian Regional Commission and other sources.

4. Build "revenue sharing" models for local citizen groups, such as consumer-owned "cooperatives" (similar to the co-op model used for electrical services).

5. Convene inter-agency governmental conversations about broadband needs and opportunities.

6. Seek to build a common plan for the region's broadband future.

7. Provide technical advice/expertise to governments and citizens interested in broadband deployment.

8. Organize periodic training sessions of governmental officials on broadband initiatives.

9. Develop common "metrics" for measuring need and tracking the digital divide in our region.

EDUCATION

Did you know?

Nationally, 70% of teachers assign homework that requires broadband access, but only 33% of students have access at home.

UNIVERSITIES AND COLLEGES

1. Host and/or convene regional conversations about broadband needs and opportunities, particularly in helping communities plan for their future.

2. Find innovate ways of leveraging university assets to serve the community (e.g., WCU's use of the electrical utility).

3. Ask the school Chief Information Officer and network engineer to provide technical advice/expertise on broadband deployment.

4. Engage students across disciplinary areas in experiential learning projects that address community broadband issues.

5. Leverage/extend the university's infrastructure to students, faculty and staff living outside of the campus boundaries by expanding fiber connectivity and Wi FI systems.

6. Join other leaders in advocating for broadband funding, more equitable delivery systems, and expansion of the current fiber network.

PUBLIC SCHOOLS

1. Assign a staff person to be the broadband liaison with other agencies and organizations.

2. Participate in mapping areas within the school district where broadband is not available, too expensive, or not utilized.

3. Use school resources such as implementing school bus Wi-Fi and participating in Wi-Fi distribution at school locations,

4. Identify and allow school buildings to be utilized as vertical assets.

5. Get students involved with creating solutions for broadband barriers and monitoring internet services at community websites.

GOVERNMENT

LOCAL GOVERNMENT

1. Assign staff to acquire expertise and to be liaisons to broadband advocates and providers.

2. Create a broadband committee of local citizens and business leaders that will partner with other organizations (cities,
schools, counties, regional planning groups) to advocate for broadband funding and needed policy changes.

3. Include broadband in master plans for future development.

4. Require developers to include conduit for fiber when constructing apartments, homes, businesses and recreational sites.

5. Require the Register of Deeds to provide broadband information in property assessment and taxation information. Put that
information in the county GIS data base as public information.

6. Survey area residents about their wants, needs and satisfaction with present services to help governments and providers
identify infrastructure and access deficiencies and opportunities.

7. Conduct community asset analysis (dark fiber, conduits, open space, towers, tall buildings, etc.) to identify opportunities for government to partner with providers.

8. Adopt broadband friendly practices such as low-cost rapid permitting, low-cost rental of government assets such as towers, and "dig once" policies that will reduce cost for providers and increase opportunities for hard-to-reach areas of the community.

9. Once surveys and asset inventories are completed, meet with providers to create positive business cases in order to
attract additional investment through grants, revenue sharing, and/or aggregating demand.

10. Create new programs such as Wi-Fi "hotspots" in community centers, public parks, or other public settings.

STATE OF NORTH CAROLINA

1. Support expansion of GREAT Grants to all regions that have a demonstrated need.

2. Allow cities and counties to invest in dark fiber and conduit infrastructure and allow cities and counties to contract for the delivery of services to high-need areas.

3. Expand the Dept. of Transportation's involvement in broadband by requiring DOT to implement a "dig once" policy; provide, inventory and lease unused fiber to local governments and service providers; and build a state-wide public dark fiber network along all state roads.

4. Support a state bond program to improve "infrastructure" including broadband.

5. Support the state's Broadband Infrastructure Office in adequately mapping current fiber locations, measuring actual internet speed, serving as a resource for local communities and advocating for broadband in the state.

6. Fund innovative initiatives in rural communities to provide health care, education, and economic development opportunities via high-speed broadband technologies

7. Require service providers to supply, by street address, the actual service offer provided today and then hold service providers accountable for delivering the offered service.

CHANGE MAKERS

LOCAL COMMUNITY & NEIGHBORHOOD ACTIVISTS

1. Create a community dialogue, including a community web site, to educate residents on broadband issues, including the digital divide.

2. Inventory services available by street address: for each address, list a) Provider, b) Advertised Service Offered by Provider, and c) Speed of Service Provided as Measured by Local Residents.

3. Issue an RFP or initiate discussions to potential service provider(s) to find partnership solutions to your community broadband challenges that may include supplemental funding and/or aggregating demand.

4. Create and invest in building a positive business case for high-speed Internet in communities and neighborhoods by aggregating demand, raising capital and sharing the risks. In effect, this is creating "co-ops," similar to what was done to address rural telecommunications and electrification needs.

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13%

NO INTERNET

13% of the recent broadband survey responses for Buncombe, Henderson, Transylvania, and Madison Counties reported having no internet access

FOUNDATIONS

1. Prioritize innovative solutions to reducing barriers to high-speed internet services for low-income and underserved areas.

2. Partner with regional banks, private investors, governments, and other foundations to create innovative funding models such as a regional broadband purchasing cooperative.

3. Fund innovative pilot programs to show the impact access to high-speed internet can have on improving health, education or other outcomes.

4. Be a catalyst for bringing diverse groups of organizations and people together in order to build regional strategies for the use of broadband in policy areas such as tele-medicine, education, tourism, and economic development.

5. Host non-partisan conversations with political leaders on the barriers and effective use of technology to improve life in WNC.

6. Help finance the collection and analysis of data related to the delivery of high-speed internet in the region.

7. Research the potential impact of specific interventions (i.e. health, education, etc.) that could be implemented with the availability of high-speed internet.