

SECTION 2: EXECUTIVE SUMMARY

Regional Broadband Project - Building Broadband Capacity in WNC

ARC FY2017

Project Title

Regional Broadband Project – Building Broadband Capacity in western North Carolina

Project Grantee

Land of Sky Regional Council

Counties Served

Buncombe, Transitional

Henderson, Transitional

Madison, At Risk

Transylvania, Transitional

Goal/Strategy

Strategic Investment Goal 3: Critical Infrastructure: Invest in Critical Infrastructure - especially broadband; transportation including the Appalachian Development Highway System; and water/wastewater systems.

Action Objective 3.1: Promote the productive and strategic use of broadband and other telecommunications infrastructure to increase connectivity and strengthen economic competitiveness.

NC Strategy 3.1.5 Assist North Carolina's 29 Appalachian counties in charting a direction for telecommunications and securing assistance in implementing short and long-term strategies in community and economic development efforts.

Purpose

This project will create a regional broadband deployment plan that will be a plan of action toward achieving comprehensive broadband connectivity. The plan will include the identification of local assets and implementation prioritization.

Funding

Source	Amount	Percentage
ARC	\$47,500	50%
Local	\$35,000	37%
Private	\$12,500	13%
Total \$	\$95,000	100%

Project Description

Land of Sky Regional Council and Education and Research Consortium (ERC) of the Western Carolinas will identify existing infrastructure, determine priority areas for connection and develop a locally driven deployment plan for implementing broadband expansion and capacity improvements throughout the five county area. This project will work with local jurisdictions and other stakeholders to leverage investment and existing infrastructure. The project will occur June 1, 2017 through September 30, 2018.

Strategic Rationale

It is rapidly becoming the case that all economic activity depends on the Internet in some way. Inadequate internet access (lack of high-speed broadband infrastructure) limits the economic capacity of individuals and the communities they live in. Sparsely populated and rural areas are at a disadvantage because the economics of deploying the required infrastructure do not fit the profit models of typical, large, incumbent telephone or cable companies. This project will enable a small region to identify the barriers and opportunities for having this infrastructure and to do something about it. It is being designed in a way that can be leveraged for other communities.

Collaborative Partnerships

It is not possible for outside entities to sweep in and make advanced broadband infrastructure appear. Local leadership and engagement is required. This project will assist in identifying and developing local leadership, and the tools to facilitate knowledgeable decision-making. Land of Sky Regional Council is partnering with municipalities, counties, Southwestern Commission, and regional partner ERC who will contribute knowledge of local conditions. The NC Broadband office, businesses, health providers, and other key stakeholders are also engaged in the project.

Project Sustainability & Capacity

Land of Sky Regional Council brings considerable experience with economic development planning and implementation. Staff has existing relationships with key leaders in the community and broad grant administration experience. ERC's experience is in building and operating middle-mile broadband infrastructure and contributing to State and National policy governing broadband. This project will build capacity within the municipalities, counties, and economic development entities to identify and leverage available infrastructure to drive broadband to benefit the community. ERC will develop asset maps and assist with data analysis for deployment of middle mile, last mile, and high gigabit broadband, as applicable. The outputs will be incorporated into the approach ERC uses with communities to build infrastructure capacity; which will be enhanced as a result of this project.

Impact Measures

Outputs of this project include:

1. Convene regional and county broadband meetings
2. Work with Education & Research Consortium of the Western Carolinas to perform a broadband analysis for the region – focusing primarily on rural areas not being served by WestNGN
3. Compile the community profiles for each County
4. Draft Regional Broadband deployment plan
5. Manage a web-page with information, FAQs, and resources
6. Complete all reporting required

Outcomes to be derived from this project are:

1. Local leadership equipped and empowered to drive broadband deployment
2. Tools for the greater western North Carolina region to conduct similar processes
3. Greater broadband connectivity within the region
4. Job creation in the knowledge and technology based industries

1. Goals and Strategies

Strategic Investment Goal 3: Critical Infrastructure: Invest in Critical Infrastructure - especially broadband; transportation including the Appalachian Development Highway System; and water / wastewater systems.

Action Objective 3.1: Promote the productive and strategic use of broadband and other telecommunications infrastructure to increase connectivity and strengthen economic competitiveness.

NC Strategy 3.1.5: Assist North Carolina's 29 Appalachian counties in charting a direction for telecommunications and securing assistance in implementing short and long-term strategies in community and economic development efforts.

2. Project Description

Purpose Statement

This project will identify local assets and develop community profiles and strategies that can assist communities bridge barriers to broadband infrastructure.

Statement of Need

Developing a structure for broadband deployment is critical to the region's economic opportunities for attracting businesses and entrepreneurs in advanced technologies, export opportunities and professional and technical services. High-speed access is also critical for training the region's workforce to a level that the advanced manufacturing sector and other technologies demands. **Without direct and focused investment in this infrastructure, the region will slip further behind the rest of the state's technology advancements.**

Work Plan

This project will create a regional broadband deployment plan that will be a plan of action toward achieving comprehensive broadband connectivity.

Land of Sky Regional Council will serve as project coordinator to convene municipal and community partners to develop a broadband deployment process for the region. This process will include:

- Facilitating regional and county level broadband meetings
- Asset mapping of key, existing infrastructure and development of community profiles
- Identify priority locations for connections to serve rural, at-risk communities (i.e. community centers, telehealth locations, fire departments, etc.)
- Create deployment plan

This process will coordinate with other efforts planned or underway in western North Carolina to further advance the entire western region in building this critical infrastructure. Since this region is more rural and mountainous than other broadband efforts within the state, the approach and

outcomes will need to be adapted to our unique assets. The Education & Research Consortium of the Western Carolinas will provide expertise and support to this effort through the asset mapping, broadband analysis, and deployment plan.

Land of Sky Regional Council will work with the Education & Research Consortium of the Western Carolinas, local government teams, and regional stakeholders to develop the following tools and components for the communities:

1. Convene regional and county broadband meetings
2. Work with Education & Research Consortium of the Western Carolinas to perform a broadband analysis for the region – focusing primarily on rural areas not being served by WestNGN
3. Compile the community profiles for each County
4. Draft Regional Broadband deployment plan
5. Manage a web-page with information, FAQs, and resources
6. Complete all reporting required

Education & Research Consortium of the Western Carolinas will work with all associated groups to:

1. Complete the deliverables named for the Land of Sky Regional Council (above)
2. Perform, document, and/or assist develop a broadband analysis for each county engaged in this project
3. Facilitate and document community assets that, combined, will support the desired infrastructure investment.

Counties served through this project include:

- Buncombe, Transitional
- Henderson, Transitional
- Madison, At Risk
- Transylvania, Transitional

3. Strategic Rationale

Economic activity largely depends on the Internet in some way. Inadequate Internet access (lack of high-speed broadband infrastructure) limits the economic capacity of individuals and the communities they live in. Sparsely populated and rural areas are at a disadvantage because the economics of deploying the required infrastructure do not fit the profit models of typical, large, incumbent telephone or cable companies.

Broadband is also a critical component to address the growing digital divide within areas of low wealth in our urban and rural communities. Without an intentional, targeted approach to address where and how these connections can be made, progress implementing broadband deployment to these areas will be limited. This project will enable a small region to identify the barriers to having this infrastructure and to do something about it.

Project benefits & Comprehensive Economic Development Strategy Priority

This project, as proposed, addresses one of the highest priority target areas in the Land of Sky Regional Council 2015 *Comprehensive Economic Development Strategy*. The lack, or under capacity, of broadband infrastructure in the region is listed as a predominant concern for emerging sectors such as technology, life sciences, telehealth, and other knowledge-based industries. Economic developers and Chambers of Commerce have identified broadband connectivity as a key indicator for economic opportunities within the region - both inside and outside the urban centers.

The Asheville Metropolitan Statistical Area is determined by the US Census Bureau and is currently comprised of the majority of three counties: Buncombe, Haywood, and Henderson. It is the most populated area (nearly 450,000) and the economic hub for the western region. This project began as a discussion topic among community leaders and North Carolina State University and has evolved to include the entire region. The need for broadband infrastructure has been acknowledged by all partners within the project and is driving it forward.

Progress to Date

The Regional Broadband Project began with the convening of a working group in November 2015 that included both the Land of Sky Regional Council and the Education and Research Consortium of the Western Carolinas, among others. The working group began after North Carolina State University leadership presented the Triangle Next General Network (NGN) Project to leadership in the Asheville area. The leadership asked a small group to organize and investigate the opportunities to increase high-speed broadband to the region. This was the start of what has become the WestNGN Broadband Project. Six municipalities, North Carolina State University, University of North Carolina Asheville, Asheville-Buncombe Chamber of Commerce, Education & Research Consortium of the Western Carolinas and Land of Sky Regional Council have nearly completed development of an RFI to attempt to attract high-speed gigabit investment in the urban centers of Asheville, Hendersonville and Waynesville.

The WestNGN process has sparked action and momentum for broader attention to the entire region, particularly the more rural areas. This application is to build on this momentum to develop a regional scope and focus on the rural areas, small towns, and populations of low wealth throughout the region. We will build on the data gathered and information learned so far to facilitate this next step in strengthening a more robust, regional broadband network. The work will entail focused asset mapping in Transylvania and Madison with coordination in Buncombe and Henderson of areas not served through WestNGN, i.e. the small towns and rural areas within the counties.

4. Collaborative Partnerships

This project has a breadth of engaged partners and stakeholders. The partners also envision this group expanding as the project develops and more is learned about strategies for infrastructure deployment. Currently, Land of Sky Regional Council is facilitating collaboration among municipalities, universities, community leaders, elected officials, key nonprofits,

chambers of commerce, and regional partner Education & Research Consortium of the Western Carolinas, who will continue to contribute knowledge of local, regional and state conditions. The North Carolina state broadband office, businesses, community colleges, workforce development, medical providers, and other key stakeholders are also engaged in the project.

Current project partners include:

Local Governments

UNC-Asheville

Community Stakeholders

Education and Research Consortium (ERC)

NC State University

NC Broadband Office

Community Care of Western North Carolina

WNC Communities

5. Project Sustainability and Capacity

Grant Management:

As the region's Local Development District, Land of Sky Regional Council has been working with municipalities, businesses and supporting organizations in the areas of economic development, infrastructure, project development, and a number of other direct services for 50 years. We have partnerships with workforce development organizations, community colleges, economic development groups, marketing organizations, business entities, and more. We currently administer nearly 100 various funding sources for projects and have a strong project management and financial department.

Key Partner:

The Education & Research Consortium of the Western Carolinas has been deploying fiber across rural western North Carolina since 2002 and is a recognized leader and partner to communities across our mountains. The award winning Education & Research Consortium of the Western Carolinas network and nationally recognized staff are bold advocates for improved broadband infrastructure and access while its 950+ mile network serves our region from Sparta to Franklin.

Project Team Bios:

Erica Anderson joined Land of Sky Regional Council in 2010 and became the Economic & Community Development Director in 2013. She has 14 years of experience working with communities to implement appropriate development initiatives in the fields of agriculture, energy, environment, transportation, and economic development. Erica leads the Department divisions which include Planning, Transit, and Transportation. Her responsibilities include personnel, budget, public relations, grant writing and project management. Erica holds a master's degree in Urban and Regional Planning from Virginia Polytechnic University. Erica's resume is attached to the Project Narrative.

Hunter Goosmann is the Executive Director of the nonprofit Education & Research Consortium of the Western Carolinas, Inc. In this role for over ten years, he is responsible for building, operating, and supporting broadband Internet access across western North Carolina via the Education & Research Consortium of the Western Carolinas middle mile network and data center.

Goosmann has worked nationally and internationally in the Telecommunications and Information Technology fields. He has spoken widely about middle-mile networks and the need for the growth of rural broadband access. Additionally, he is a strong community advocate and serves on the Board of Directors for the North Carolina Technology Association, is the Vice-Chair of the Board of Directors for Lit Networks, and is the Board President of the Bob Moog Foundation. He has served on the Boards of Directors of the Asheville Chamber of Commerce, the Asheville/Buncombe Economic Development Coalition, Meet the Geeks, the Health Adventure, and the Asheville Symphony. He is also currently an adjunct professor of Management at the University of North Carolina at Asheville and is an ardent supporter of technical entrepreneurship.

This project will build capacity within the municipalities, counties, and economic development entities to identify and leverage available infrastructure to drive broadband to benefit the community. Education & Research Consortium of the Western Carolinas will analyze and develop strategies for deployment of middle mile, last mile, and high gigabit broadband, as applicable. The asset mapping and analysis will be incorporated into the approach Education & Research Consortium of the Western Carolinas uses with communities to build the middle mile network and infrastructure capacity; which will be enhanced as a result of this project.

6. Impact Measures

Outputs of this project include:

1. Asset mapping for identifying existing broadband networks
2. Facilitate development of community profiles
3. Facilitate stakeholder and county broadband meetings
4. Maintain a web-page with information, FAQs, and resources
5. Complete broadband analysis of existing infrastructure
6. Complete broadband deployment plan identifying location, type, and cost estimates for implementation
7. Quarter and final reports

The outcomes to be derived from this project are:

1. Local leadership equipped and empowered to drive broadband deployment
2. A model for the greater western North Carolina region to conduct similar processes
3. Greater broadband connectivity within the region
4. Job creation in the knowledge and technology based industries

Measurable Impacts:

A goal of the Regional Broadband Project is to develop planned deployment for broadband infrastructure in the region. The intent of the project is to highlight the conditions, assets, and collaboration of regional jurisdictions in order to gain better service, greater capacity, and expanded infrastructure at competitive costs. Broadband is not necessarily the 'leader' for industries to locate in an area, but businesses are unwilling to locate to areas without adequate broadband. It is now considered a necessary infrastructure component for economic development, health centers, educational institutions, and workforce solutions. These are key elements to build a competitive workforce and attract technology and knowledge-based businesses and entrepreneurs to the region.

Measuring job creation or retention due to broadband infrastructure expansion is challenging with existing metrics. However, economic developers and service providers have conveyed time and again the need for broadband for technological industry, telehealth, advanced manufacturing and other target sectors in the region. Infrastructure in the western region is challenging and much more expensive given the mountains, rivers and rock. Without targeted innovation and collaborative investment in this infrastructure, this region will continue to lag and fall further behind the rest of the state in technological capability.

The Regional Broadband Project has leveraged \$35,000 of cash investment from local funds to serve as match for this project. ERC is investing an additional \$12,500 in-kind match. Additional investment is anticipated as this project continues to expand and grow in the region.

SECTION 4: BUDGET INFORMATION AND SUPPORTING MATERIALS*Regional Broadband Project - Building Broadband Capacity in WNC**ARC FY2017***1. Detailed Budget & Budget Narrative**

The following table provides a detailed budget with sources of matching funds.

Regional Broadband Project

Output	Funding			Totals
	ARC	Local	In-Kind	
Asset mapping	\$ 5,000	\$ 5,000	\$ 5,000	\$ 15,000
Facilitate development of community profiles	\$ 4,000	\$ 6,000		\$ 10,000
Create Broadband deployment plan	\$ 20,000	\$ 18,000		\$ 38,000
Facilitate broadband meetings	\$ 3,000	\$ 2,500		\$ 5,500
Broadband Analysis	\$ 12,000		\$ 7,500	\$ 19,500
Reporting & Project Management	\$ 3,500	\$ 3,500		\$ 7,000
TOTALS	\$ 47,500	\$ 35,000	\$ 12,500	\$ 95,000
% Totals	50%	37%	13%	100%

Budget Narrative:

Dedicated time from staff and partners will provide the expertise and facilitation needed to develop the Regional Broadband Project to its fullest potential. This project includes:

1. Personnel, Fringe and Indirect (\$50,000) – This will cover staff time of 400 hours toward the tasks listed in the phased work plan. These include facilitation of the meetings, website development and maintenance, contracting, mapping, analysis, plan development, and reporting.
2. Travel – (\$3,500) includes travel within and outside the region to conduct data analysis, stakeholder meetings, Steering Committee meetings, partner meetings and any technical training necessary for Land of Sky Regional Council staff or the partners.
3. Supplies – (\$1,500) – Meeting materials, surveys, maps, and data sheets will be necessary throughout this project.
4. Contractual (\$27,500) – This category includes \$27,500 contractual for Education and Research Consortium of the Western Carolinas to conduct asset mapping and data analysis of the region. They will be matching this contract with \$12,500 of in-kind cost-share. As noted technical experts in broadband infrastructure their fully burdened rate is \$90.57/hour.

2. Non-ARC Funding Commitments***In-Kind:***

The Education and Research Consortium of the Western Carolinas will contribute \$12,500 of in-kind funds to the Regional Broadband Project, as shown in the attached letter.

Local Match:

Land of Sky Regional Council is contributing \$35,000 of cash investment from local funds to serve as match for this project.

3. ARC Match Rate Calculation

Counties Served

- Buncombe, Transitional
- Henderson, Transitional
- Madison, At Risk
- Transylvania, Transitional

4. Additional Documentation

Letters of Commitment for the following partners are included:

- UNC-Asheville
- Community Stakeholder
- Education and Research Consortium of the Western Carolinas
- NC State University
- Community Care of Western North Carolina