

Application to DHCD Submitted through CAMS

Roanoke County

Roanoke Universal CBEC Partnership

Application ID: 86508242021113928
Application Status: Pending
Program Name: Virginia Telecommunications Initiative 2022
Organization Name: Roanoke County
Organization Address: 5204 Bernard Drive, SW, Rm 421
Roanoke, VA 24018
Profile Manager Name: Tom Rowley
Profile Manager Phone: (540) 315-0778
Profile Manager Email: trowley@roanokecountyva.gov

Project Name: Roanoke Universal CBEC Partnership
Project Contact Name: Bill Hunter
Project Contact Phone: (540) 777-8552
Project Contact Email: bhunter@roanokecountyva.gov
Project Location: 5925 Cove Road
Roanoke, VA 24019-2403
Project Service Area: Roanoke County

Total Requested Amount: \$1,581,584.00

Required Annual Audit Status: Accepted

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Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
Telecommunications	\$1,581,584.00	\$1,646,138.00	\$3,227,722.00
Other: Total project budget	\$1,581,584.00	\$1,646,138.00	\$3,227,722.00
Total:	\$1,581,584.00	\$1,646,138.00	\$3,227,722.00

Budget Narrative:

The total project budget is \$3,227,722.00 with a requested amount of 49% from VATI (\$1,581,584.00) additional contributions from the Craig Botetourt Electric Cooperative of 25% (\$806,930.00), and from the County of Roanoke of 26% (\$839,208.00)

Questions and Responses:

1. Project Description and Need

Describe why and how the project area(s) was selected. Describe the proposed geographic area including specific boundaries of the project area (e.g. street names, local and regional boundaries, etc.). Attach a copy of the map of your project area(s). Label map: Attachment 1 – Project Area Map.

Answer:

Rural areas of Roanoke County have been in need of broadband connectivity for several years. An increasing number of requests from citizens over the years have brought much attention to these areas of the County which include the Catawba community. There are 495 homes without access to broadband internet speeds in this area of the County.

This proposed project fits into our larger plan to achieve universal broadband coverage for Roanoke County. Roanoke County supports the Commonwealth Connect efforts to bring functional universal broadband to Virginia. And we are focused on digital equity and making broadband affordable for all.

A citizen-based High-Speed Internet Survey was launched in December 2019 to give citizens a way to self-report where minimum broadband speeds are TRULY availability at street level. Along with an online survey promoted by Roanoke County, 10,250 printed survey postcards were mailed to targeted areas of the County, with an additional 14,000 printed survey postcards distributed to the homes of Roanoke County students through a partnership with Roanoke County Schools. A total of 2,608 surveys were returned which allowed staff to map citizen responses and target the unserved area of the County as described below.

2. List existing providers in the proposed project area and the speeds offered. Please do not include satellite. Describe your outreach efforts to identify existing providers and how this information was compiled with source(s).

Answer:

Wireless 4G Broadband Providers

Company Name

Download Speed

AT&T MOBILITY

768 Kbps - 1.5 Mbps

NTELOS

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768 Kbps - 1.5 Mbps

SPRINT

768 Kbps - 1.5 Mbps

T-MOBILE

768 Kbps - 1.5 Mbps

US CELLULAR

768 Kbps - 1.5 Mbps

VERIZON WIRELESS

768 Kbps - 1.5 Mbps

Wireless LTE Broadband Providers

Company Name

Download Speed

AT&T MOBILITY

Minimum 4 Mbps

T-MOBILE

Minimum 4 Mbps

US CELLULAR

Minimum 4 Mbps

VERIZON WIRELESS

Minimum 4 Mbps

Wireline (DSL) Broadband Providers

Company Name

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Download Speed

VERIZON VIRGINIA LLC

Maximum 5 Mbps

3. Describe if any areas near the project have received funding from federal grant programs, including but not limited to Connect America Funds II (CAF II), ACAM, ReConnect, Community Connect, and Rural Digital Opportunity Funds (RDOF). If there have been federal funds awarded near the project area(s), provide a map showing these areas, verifying the proposed project area does not conflict with these areas. Do not include areas awarded to satellite broadband providers. Label Map: Attachment 2 – Documentation on Federal Funding Area.

Answer:

Research reveals no grants have been awarded under any of the listed programs.

4. Describe if any blocks awarded in Rural Digital Opportunity Fund (RDOF), excluding those awarded to satellite internet service providers, are included in the VATI application area. If RDOF areas awarded to terrestrial internet service providers are included in the VATI application, provide a map of these areas and include information on number of passings in RDOF awarded areas within the VATI application area, and Census Block Group ID number for each block group in the project area. Label Attachment: Attachment 3 – RDOF Awarded Areas Form in VATI Area

Answer:

There are no RDOF blocks in this area.

5. Overlap: To be eligible for VATI, applicants must demonstrate that the proposed project area(s) is unserved. An unserved area is defined as an area with speeds below 25/3 mbps and with less than 25% service overlap within the project area for wireless projects and 10% for wireline projects. Describe any anticipated service overlap with current providers within the project area. Provide a detailed explanation as to how you determined the percentage overlap. Label Attachment: Attachment 4 – Documentation Unserved Area VATI Criteria.

Answer:

Our project area is unserved as each section is in rural part of the County where current speeds are less than 10 Mbps Down / 1 Mbps Up. We used a combination of the FCC Maps, USDA Reconnect Maps, BroadbandNow.com, and the citizen broadband reports we collected to determine this. For each citizen broadband report we received we followed up with the citizen(s) inquiring if they had checked with other providers.

Broadband implementation in this area is not anticipated to overlap the provision of minimum broadband speeds of 25/3 by current vendors.

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6. Total Passings: Provide the number of total serviceable units in the project area. Applicants are encouraged to prioritize areas lacking 10 Megabits per second download and 1 Megabits per second upload speeds, as they will receive priority in application scoring. For projects with more than one service area, each service area must have delineated passing information. Label Attachment: Attachment 5 – Passings Form.
- Of the total number of VATI passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area. (Up to 10 points for businesses and community anchor institutions)
 - If applicable, of the total number of RDOF passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area.
 - If applicable, provide the number of passings that will require special construction costs, defined as a one-time fee above normal service connection fees required to provide broadband access to a premise. Describe the methodology used for these projections.
 - If applicable, provide the number of passings included in the application that will receive broadband access because special construction costs have been budgeted in the VATI application. Describe the methodology used for determining which passings with special construction costs were budgeted in the application.
 - Provide the number of passings in the project area that have 10/1 mbps or less. Describe the methodology used for these projections. (up to 15 points)

Answer:

- 495
- 0
- N/A
- N/A

e. 495 - Our project area is unserved as each section is in rural part of the County where current speeds are less than 10 Mbps Down / 1 Mbps Up. We used a combination of the FCC Maps, USDA Reconnect Maps, BroadbandNow.com, and the citizen broadband reports we collected to determine this. For each citizen broadband report we received we followed up with the citizen(s) inquiring if they had checked with other providers.

7. **For wireless projects only:** Please explain the ownership of the proposed wireless infrastructure. Please describe if the private co-applicant will own or lease the radio mast, tower, or other vertical structure onto which the wireless infrastructure will be installed.

Answer:

N/A

8. Speeds: Describe the internet service offerings, including download and upload speeds, to be provided after completion of the proposed project. Detail whether that speed is based on dedicated or shared bandwidth, and detail the technology that will be used. This description can be illustrated by a map or schematic diagram, as appropriate. List the private co-applicant's tiered price structure for all speed offerings in the proposed project area, including the lowest tiered speed offering at or above 25/3 mbps. (up to 10 points)

Answer:

Website link to our broadband site-->

[Bee Online Advantage](#)

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9. Network Design: Provide a description of the network system design used to deliver broadband service from the network's primary internet point(s) of presence to end users, including the network components that already exist and the ones that would be added by the proposed project. Provide a detailed explanation of how this information was determined with sources. Provide information on how capacity for scalability, or expansion, of how the network can adapt to future needs. If using a technology with shared bandwidth, describe how the equipment will handle capacity during peak intervals. For wireless projects, provide a propagation map for the proposed project area with a clearly defined legend for scale of map. Label Map: Attachment 6 – Propagation Map Wireless Project.

Answer:

Network to be designed as illustrated with a typical FTTX configuration

10. Explain how the proposed project achieves universal broadband coverage for the locality or fits into a larger plan to achieve universal broadband coverage for the locality. If applicable, explain the remaining areas of need in the locality and a brief description of the plan to achieve universal broadband coverage. (up to 50 points)

Answer:

Roanoke County is actively working to improve broadband connectivity throughout the community, as part of the "Connect Roanoke County to the World" Strategic Initiative outlined in the [County's 2016 Community Strategic Plan](#).

This year a regional partnership was formed between Roanoke, Botetourt, Franklin Counties, and the Roanoke Valley Broadband Authority. Local providers from Cox Communications, Comcast, B2X On-Line, Segra, Lumos, Blue Ridge Towers, and Shentel all attended. Speakers from the Governors Office and from Revitalize Virginia made presentations to the group on the universal coverages plans of this years VATI Program.

Citizen can find additional information and express concerns at:

<https://www.roanokecountyva.gov/ruralbroadband>

11. Project Readiness

Describe the current state of project development, including but not limited to: planning, preliminary engineering, identifying easements/permits, status of MOU or MOA, and final design. Prepare a detailed project timeline or construction schedule, identifying specific tasks, staff, contractor(s) responsible, collection of data, etc., and estimated start and completion dates. Applicants must include Memorandums of Understanding (MOUs) or Memorandums of Agreement (MOAs) between applicants (drafts are allowable). Label Attachments: Attachment 7 – Timeline/Project Management Plan; Attachment 8 – MOU/MOA between Applicant/Co-Applicant; (up to 20 points)

Answer:

This project has passed engineering and financial commit stages and is approaching final design. Attachment 6 –

Timeline/Project Management Plan is included and identifies all tasks, staffing, contracting work, with estimated

start and completion dates

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12. Has the applicant or co-applicant received any VATI grants? If so, provide a list of these grants, with a detailed summary of the status of each.

Answer:

Craig Botetourt Electric Cooperative's previous VATI grant ((VATI) application id: 59811132018142709 } is completed. I know that Botetourt County recently was going through the close out process with DHCD.

13. Matching funds: Complete the funding sources table indicating the cash match and in-kind resources from the applicant, co-applicant, and any other partners investing in the proposed project (VATI funding cannot exceed 80 percent of total project cost). In-kind resources include, but are not limited to: grant management, acquisition of rights of way or easements, waiving permit fees, force account labor, etc. Please note that a minimum 20% match is required to be eligible for VATI, the private sector provider must provide 10% of the required match. If the private co-applicant cash match is below 10% of total project cost, applicants must provide financial details demonstrating appropriate private investment. Label Attachments: Attachment 9 - Funding Sources Table; Attachment 10 – Documentation of Match Funding

Answer:

The matching funds invested are listed in Attachment 9 - Funding Sources Table. Those funds include all of the costs for the project, including all of the planning, engineering, materials and labor for the installation of the facilities necessary for this project. The matching funds also include the costs of identifying and acquiring any necessary easements.

14. Leverage: Describe any leverage being provided by the applicant, co-applicant, and partner(s) in support of the proposed project. (up to 10 points)

Answer:

Beyond the leverage of using County resources and support for easements and working with VDOT, residents, and the power companies; the co-applicants plan to leverage strong relationships to provide distance learning and workforce training working with the Roanoke County Public Schools (RCPS) and Virginia Western Community College (VWCC).

We will also leverage support from our longstanding working relationship with the Roanoke Regional Commission. In addition, the Roanoke County Board of Supervisors appropriated funds in support of the program, coupled with dedicated time of at least 3 County staff to work on the resulting project. We are also leveraging existing resources which continue work on the five current projects funded by the Roanoke County Board of Supervisors bringing broadband to 350 homes in the County. The County regularly sponsors Civic League meetings where broadband needs are discussed. From those meetings, documents are created from the ideas and questions raised by the residents for use in any potential future projects and will be important assets for this new project and continue the Roanoke County goal for universal coverage.

15. Marketing: Describe the broadband adoption plan.

a. Explain how you plan to promote customer take rate, including marketing activities, outreach plan, and other actions to reach the identified serviceable units within the project area. Provide the anticipated take rate and describe the basis for the estimate. (up to 10 points)

b. Describe any digital literacy efforts to ensure residents and businesses in the proposed project area sufficiently utilize broadband. Please list any partnering organizations for digital literacy, such as the local library or cooperative extension office.

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a. The residents of Roanoke County have been very vocal over the past several years regarding the need for the extension of reliable broadband connectivity to the more rural areas of the County. Craig Botetourt Electric Cooperative actively promotes its products and services in Roanoke County through a multi-faceted marketing campaign that includes both direct and indirect sales, including door hangers and social media.

Craig Botetourt Electric Cooperative and Roanoke County will also work together on a public relations plan to announce the award and the extension of services throughout the county to bring awareness including but not limited to a joint press release and media event (in-person or virtual based on current conditions).

In addition to Craig Botetourt Electric Cooperative's efforts, the County will leverage its in-house channels including its website, Roanoke Valley Television and various social media outlets to market the availability of service as a result of this project. Due to the nature of the impact and the potential community response, it is expected that this project will also be covered by local television, radio, and newspaper.

The anticipated take rate is 60-65 percent based on previous post-pandemic projects.

b. Roanoke County Public Libraries offer a wide range of free computer, Internet use and resource instruction to help people locate, evaluate, and use online resources. County libraries are vital centers for access to digital literacy and as library users continue to change, the County libraries continually evolve to meet the digital needs of our community. Some current programs include:

3D printing, also known as additive manufacturing, turns digital 3D models into solid objects by building them up in layers. The 3D printing process turns a whole object into thousands of tiny little slices, and then makes it from the bottom-up, slice by slice. Those tiny layers stick together to form a solid object.

The Library owns a Lulzbot Taz 6 and a Lulzbot Mini. Both are fused deposition modeling printers, which work on an "additive" principle by printing material in layers. We also offer regular 3D printing and 3D modeling classes for beginners.

Playaway Launchpads feature learning apps grouped together by subject, theme, grade level, and age. Each Launchpad features themed learning packs, such as:

- STEAM
- Early Literacy
- Award Winners
- Language Learning
- Life Skills
- Brain Play
- English Language Arts

Launchpads offer hours of interactive learning and play for children. There's even a section for parents to gain feedback on time spent on the device.

Roanoke County Public Library has placed focused on community digital literacy programs over the past several years, offering free classes most every month at each Library location. Topics range from basic usage of the latest consumer technologies to specific classes dedicated to popular software (Microsoft Office applications, photography apps, social media, networking, etc.) and other popular topics.

16. Project Management: Identify key individuals who will be responsible for the management of the project and provide a brief description of their role and responsibilities for the project. Present this information in table format. Provide a brief description of the applicant and co applicant's history and experience with managing grants and constructing broadband communication facilities. Please attach any letters of support from stakeholders. If the applicant is not a locality(s) in which the project will occur, please provide a letter of support from that locality. Attachment 11 – Letters of Support.

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Answer:

Name

Title

Project Role

Project Responsibilities

Jeff Ahearn

CEO, Craig-Botetourt Electric Cooperative

Project Manager CBEC

Overall manager of project

Mack McCaleb

Manager of Electric Distribution Services, Craig-Botetourt Electric Cooperative

Construction Coordinator

Coordinates construction of fiber facilities with Fujitsu

Tim Kaczmariski, CPA, CGMA

Director of Business Services, Craig-Botetourt Electric Cooperative

Grant Accounting

Tracks grant expenses and prepares reports

Mary Ann Gober

Cooperative Services Associate, Craig-Botetourt Electric Cooperative

Administrative

Performs administrative tasks as necessary

Anthony Bednarczyk

Broadband Executive Engagement Leader, Fujitsu

Construction Collaborator

Constructs fiber facilities

T.B.D.

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Construction Project Manager

Fujitsu

Manager of the construction/sub-contractors

Dave Keller

Vice President of Sales & Business Development, Mid-Atlantic Broadband Communities Corporation

Construction Collaborator

Coordinates access to fiber backbone

Mark Lea

RichWeb/Pixel Factory

Access Lead

Coordinates internet access

County of Roanoke Project Manager: Bill Hunter, Director of Communications & Information Technology. Past project experience includes - Earth Station Satellite transceivers replacement for the USAF Air Mobility Command, Joint Law Enforcement stand-up and deployment for the 1996 Centennial Olympic Games (DOD Office of Special Events), activation of the Law Enforcement Information Center for the 1997 Presidential Inauguration (US Secret Service/Communications Management Control Activity) , Roanoke County Public Safety Center construction (IT Issues), and the Western Virginia Regional Jail construction project (IT Issues)

County of Roanoke Coordination: Heather Kluge, Business Coordinator - 10 years of grant Management Experience (Police, Fire, E911, & Information Technology)

17. Project Budget and Cost Appropriateness

Budget: Applicants must provide a detailed budget that outlines how the grant funds will be utilized, including an itemization of equipment, construction costs, and a justification of proposed expenses. If designating more than one service area in a single application, each service area must have delineated budget information. For wireless projects, please include delineated budget information by each tower. Expenses should be substantiated by clear cost estimates. Include copies of vendor quotes or documented cost estimates supporting the proposed budget. Label Attachments: Attachment 12 – Derivation of Costs; Attachment 13 - Documentation of Supporting Cost Estimates. (up to 10 points)

Answer:

Attachment 12 – Derivation of Costs; Attachment 13 - Documentation of Supporting Cost Estimates are completed and included in the Attachment Section. A detailed budget itemizes the electronics and fiber and includes all construction costs as proposed expenses. Each service area costs are documented.

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18. The cost benefit index is comprised of state cost per unit passed. Individual cost benefit scores are calculated and averaged together to create a point scale for a composite score. Provide the following:

- a. Total VATI funding request

- b. Number of serviceable units
(up to 125 points)

Answer:

a. \$1,581,584.00

b. 495

19. **Commonwealth Priorities (Up to 40 points)**

Additional points will be awarded to proposed projects that reflect Commonwealth priorities. If applicable, describe the following:

- a. Businesses, community anchors, or other passings in the proposed project area that will have a significant impact on the locality or region because of access to broadband.

- b. Unique partnerships involved in the proposed project. Examples include electric utilities, universities, and federal/state agencies.

- c. Digital equity efforts to ensure low to moderate income households in the proposed project area will have affordable access to speeds at or above 25/3 mbps.

Answer:

This proposed project fits into our larger plan to achieve universal broadband coverage for Roanoke County. This proposed project fills many gaps in the rural areas of the County. One of our goals is to provide quality and reliable broadband with redundancy and future proof so all Roanoke County residents and businesses benefit. Our interactive project map documents the project areas. We continue to work with residents who identify areas where service is unreliable, non-existent, or not affordable. Through ongoing speed test and report gathering; we will continue to build project areas for broadband service. Not until after all areas are served with affordable and reliable broadband, will we consider our work done.

The proposed project impacts over 495 homes and home-based businesses in the area, through the introduction of broadband will have a positive economic impact. Providing broadband to these businesses allows them to complete in the global economy and include a telecommuting workforce as part of their growth plans; providing more jobs and more revenue for the County.

Roanoke County Public Libraries offer a wide range of free computer, Internet use and resource instruction to help people locate, evaluate, and use online resources. County libraries are vital centers for access to digital literacy and as library users continue to change, the County libraries continually evolve to meet the digital needs of our community. Some current programs include:

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Launchpads offer hours of interactive learning and play for children. There's even a section for parents to gain feedback on time spent on the device.

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Roanoke County supports the Commonwealth Connect efforts to bring functional universal broadband to Virginia. And we are focused on digital equity and making broadband affordable for all. We review our Broadband plan on an annual basis. Roanoke County is also equally concerned about and working to solve challenges identified in the most recent Commonwealth Connect 2.0. We are working to reduce cost of equipment; implement means to utilize shared

infrastructure for network deployment through support of reduced or no fees for pole attachments or other sharing of infrastructure such as conduit; support waiving the cost of easements for broadband deployment; and through our ongoing broadband survey and community outreach continue filling gaps and identifying borders of coverage; and working with ISPs to focus on technologies and projects which avoid or create difficult to serve areas

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20. Additional Information

Provide the two most recent Form 477 submitted to the FCC, or equivalent, as well as point, polygon, and, for wireless providers, RSSI shapefiles for the project area **in .zip file form**. With attachments 17 through 20, attach any other information that the applicant desires to include. Applicants are limited to four additional attachments.

Label Additional Attachments as:

- a. Attachment 14 – Two most recent Form 477 submitted to the FCC or equivalent
- b. Attachment 15 - Point and Polygon shapefiles, in.zip file form, showing proposed passings and project area
- c. Attachment 16 - For wireless applicants: shapefiles, in .zip file form, indicating RSSI projections in the application area
- d. Attachment 17 – XXXXXXXX
- e. Attachment 18 – XXXXXXXX
- f. Attachment 19 – XXXXXXXX
- g. Attachment 20 – XXXXXXXX

Answer:

N/A

Attachments:

Map(s) of project area, including proposed infrastructure

Attachment1ProjectAreaMap8312021104803.pdf

Documentation of Federal Funding (CAF/ACAM/USDA/RDOF, etc...) in and/or near proposed project area.

Attachment2DocumentationonFederalFundingArea8312021104821.pdf

RDOF Awarded Areas included in VATI Application (Use template provided)

Attachment3RDOFAwardedAreasincludedinVATIApplication8312021104854.pdf

Documentation that proposed project area is unserved based on VATI criteria

Attachment4DocumentationUnservedAreaVATICriteria922021111534.pdf

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Passings Form (Use template provided)

Attachment5PassingsForm913202142626.pdf

Timeline/Project Management Plan

Attachment7TimelineProjectManagementPlan913202142646.pdf

MOU/MOA between applicant/co-applicant (can be in draft form)

Attachment8MOUBetweenApplicantCoApplicant914202144315.pdf

Funding Sources Table (Use template provided)

Attachment9VATIFundingSourcesTable922021111500.pdf

Documentation of Match Funding

Attachment10DocumentationofMatchingFunds913202142715.pdf

Letters of Support

Attachment11LettersofSupport922021111514.pdf

Derivation of Cost/Project Budget (Use template provided)

Attachment12DerivationofCosts913202142944.pdf

Documentation of Supporting Cost Estimates

Attachment13DocumentationofSupportingCostEstimates913202142956.pdf

Two most recent Form 477 submitted to the FCC or equivalent

Attachment14TwomostrecentForm477913202143006.pdf

Point and Polygon shapefiles, in .zip file form, showing proposed passings and project area

RoCoCBECProposalPolygon92202110917.zip

For wireless applicants: shapefiles, in .zip file form, indicating RSSI projections in the application area

RoCoCBECProposalPoints92202110937.zip

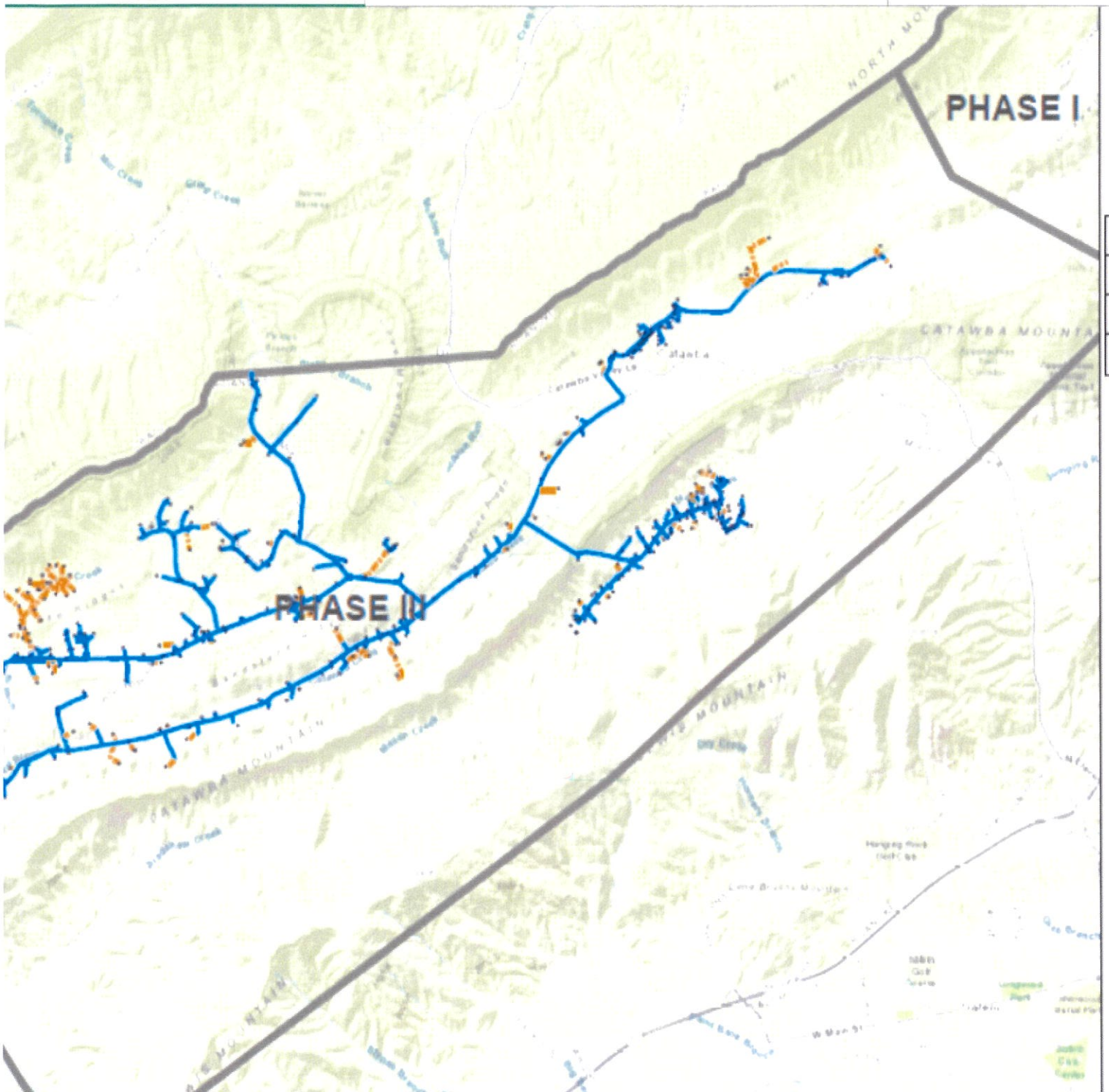
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Notes:

Thank you for the opportunity to extend broadband service to the unserved residence of Roanoke County. This project meets both the spirit and intent of the Virginia Telecommunication Initiative (VATI). I believe these investments have a significant impact on economic development by increasing options for residents to engage in virtual learning, access to telehealth, and telework. These projects also allow opportunities for more home-based businesses to thrive. With the demand for broadband connectivity higher than ever, I am optimistic that VATI submissions like these will be ranked in the top of submissions by the Department of Housing and Community Development.

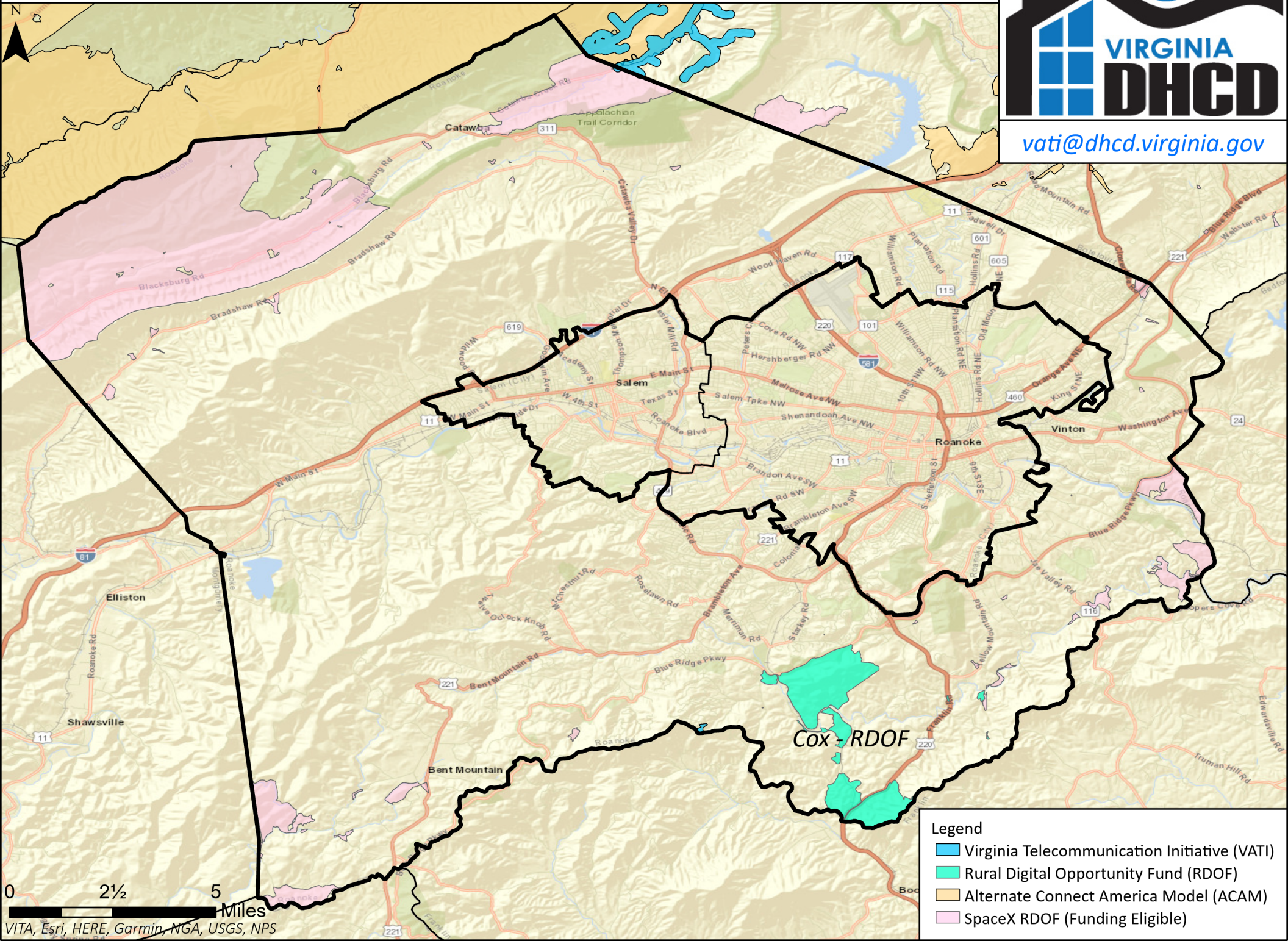


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Broadband Funding in Roanoke County



vati@dhcd.virginia.gov



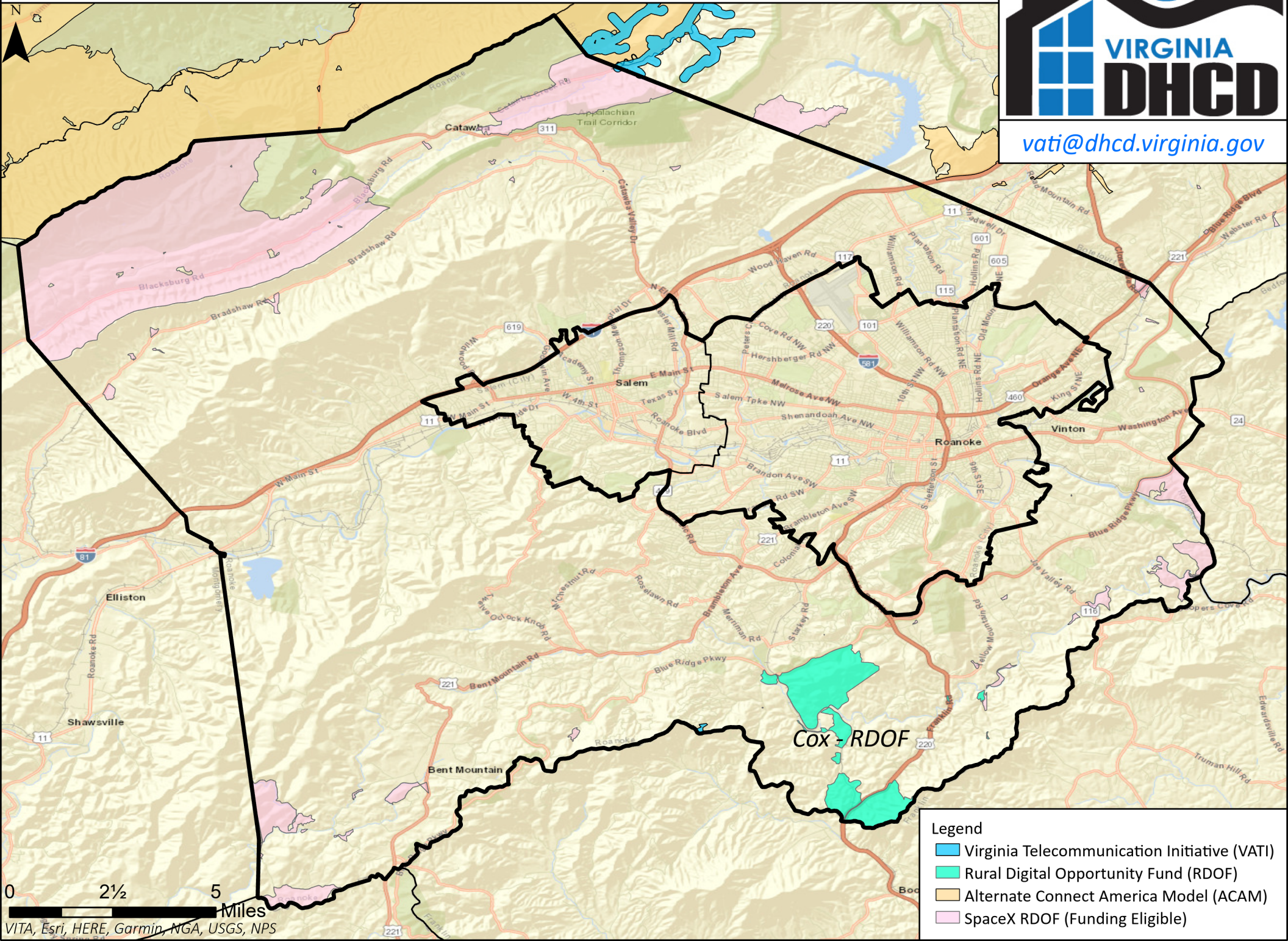
Legend

- Virginia Telecommunication Initiative (VATI)
- Rural Digital Opportunity Fund (RDOF)
- Alternate Connect America Model (ACAM)
- SpaceX RDOF (Funding Eligible)

Broadband Funding in Roanoke County



vati@dhcd.virginia.gov



Legend

- Virginia Telecommunication Initiative (VATI)
- Rural Digital Opportunity Fund (RDOF)
- Alternate Connect America Model (ACAM)
- SpaceX RDOF (Funding Eligible)

0 2 1/2 5 Miles
VITA, Esri, HERE, Garmin, NGA, USGS, NPS



**County of Roanoke
Information Technology**
5925 Cove Road
Roanoke, Virginia 24019



To Whom it may Concern,

The areas proposed in this application meet the 2022 VATI unserved criteria.

These areas are defined as having broadband speeds at or below 25 Megabits per second (Mbps) download and 3 Megabits (Mbps) upload.

The areas proposed by the County of Roanoke meet these criteria.

William F. Hunter
Director, Communications and Information Technology

2022 Virginia Telecommunication Initiative (VATI) Passing Form

Type of Passings	Total Number of Passings in the Project Area ¹	Passings in the Project Area, without Special Construction Costs Required ²	Passings with Special Construction Costs budgeted in the Application ³	Number of Passings with Speeds at 10/1 or below in Project Area ⁴
Residential	495	495	0	495
Businesses (non-home based)	0	0	0	0
Businesses (home-based)	25	25	0	0
Community Anchors	0	0	0	0
Non-residential	0	0	0	0
Total	495	495	0	495

Note: The Total Number of Passings **MUST** be equal to the Residential, Business (non-home based), Non-residential and Community Anchors sum.

Note: Do not include passings in RDOF awarded areas that were awarded to the co-applicant; these passings should be included in the RDOF Passings Form. Passings included in this application in RDOF awarded areas that were not awarded to the co-applicant, unless successfully challenged, are considered unserved and should be counted as passings in this form.

¹ The total number of structures in the project area that can receive service. See definition of passing below for more detail.

² The number of structures in the project area that will not require special construction costs to provide service to. These passings fall within the broadband provider's standard service connection drop length and do not require nonstandard equipment or any additional fees above normal service connection fees required to provide broadband access to a premise.

³ The number of structures in the project area with all construction costs budgeted in the application. These passings will not require any additional special construction costs beyond those budgeted for in the VATI application.

⁴ The number of structures in the project area that do not have access to internet at speeds of at least 10 mbps download and 1mbps upload.

Definitions

Passing – any structure that can receive service. Multi-unit structures may be counted as more than 1 passing, provided individual connections and account are planned at that structure.

Business – An organization or entity that provides goods or services in order to generate profit. Businesses based in residential homes can count if they are a registered business (BPOL, LLC, etc.).

Community Anchor - schools, libraries, medical and health care providers, public safety entities, community colleges and other institutions of higher education, and other community support organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by vulnerable populations, including low-income, unemployed, and the aged.

Non-Residential Passing – places of worship, federal, state, or local facilities or other potential customers that are neither a residence, business or a community anchor as defined above.

CBEC Phase 4 Ronoake County Project Plan

FNC

Daryl Brown

Project Start:

Display Week:

TASK	ASSIGNED TO	PROGRESS	START	END	Weeks	Timeline																																	
						October				November				December				January				February				March				April				May					
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Engineering																																							
Low Level Design	Name	0%	1	13	13	[Gantt Bar from Oct 1 to Oct 13]																																	
Material Acquisition																																							
Long Lead Time Material		0%	3	17	15	[Gantt Bar from Oct 3 to Oct 17]																																	
Other Material		0%	7	19	13	[Gantt Bar from Oct 7 to Oct 19]																																	
Data Center																																							
Run New Cable		0%	14	15	2	[Gantt Bar on Oct 14]																																	
Installation of Supporting Material		0%	15	16	2	[Gantt Bar on Oct 15]																																	
Splicing		0%	25	25	1	[Gantt Bar on Mar 25]																																	
Testing		0%	26	26	1	[Gantt Bar on Mar 26]																																	
Construction																																							
LCP Prep Work		0%	9	9	1	[Gantt Bar on Oct 9]																																	
Make Ready Work		0%	9	12	4	[Gantt Bar from Oct 9 to Oct 12]																																	
Fiber and MST Construction		0%	12	24	13	[Gantt Bar from Oct 12 to Oct 24]																																	
Splicing		0%	24	26	3	[Gantt Bar from Oct 24 to Oct 26]																																	
Testing		0%	25	26	2	[Gantt Bar on Oct 25]																																	

**MEMORANDUM OF UNDERSTANDING
BETWEEN THE COUNTY OF ROANOKE,
VIRGINIA, THE ECONOMIC DEVELOPMENT
AUTHORITY OF ROANOKE COUNTY,
VIRGINIA, AND CRAIG-BOTETOURT
ELECTRIC COOPERATIVE FOR APPLYING FOR
VIRGINIA TELECOMMUNICATIONS INITIATIVE
FUNDING FOR PROVIDING BROADBAND
SERVICES**

I. PARTIES AND PURPOSE

This Memorandum of Understanding (MOU) is made and entered into as of the 14th day of September 2021, by and between Roanoke County, Virginia (the "County"), a political subdivision of the Commonwealth of Virginia, the Economic Development Authority of Roanoke County, Virginia (the "Authority"), a political subdivision of the Commonwealth of Virginia, and the Craig-Botetourt Electric Cooperative ("CBEC"), a Virginia consumer utility cooperative, for the purpose of creating a partnership to prepare and submit an application for grant funding through the Virginia Telecommunications Initiative (VATI) the Virginia Department of Housing and Community Development in an effort to expand and improve broadband services to the citizens of Roanoke County, Virginia.

The County and Authority recognize that in order to attain and maintain a high-quality level of broadband service to the citizens of Roanoke County, a close working relationship with the private internet providers is desirable and will be made possible in large part through state and federal grant funding opportunities.

The Authority is a political subdivision of the Commonwealth of Virginia, authorized to make grants for the purposes of promoting industry, developing trade, and inducing manufacturing, industrial, governmental, nonprofit and commercial enterprises and institutions to locate, remain, or expand facilities in the Commonwealth, under Section 15.2-4905 of the Code of Virginia, 1950, as amended.

The County wishes to make certain funds available to the Authority, and the Authority wishes to make a grant to CBEC, for the purposes of incentivizing CBEC to expand its facilities in Roanoke County, increase jobs and employment, enhance learning opportunities for students, and otherwise expand the tax base of the County while simultaneously assisting in preserving public health in the midst of the COVID-19 crisis.

II. SCOPE OF WORK

The County, Authority, and CBEC desire to cooperatively work together to prepare and apply for grant funding through the 2021 Virginia Telecommunications Initiative (VATI) Funding Program managed by the Virginia DHCD to provide fiber broadband service in several areas of the County by extending their existing fiber network. The application for funding anticipates coverage to

be made available to approximately 495 households and businesses in the County that are currently unserved/underserved. Service is envisioned to be provided through the following infrastructure improvements:

- Placement of approximately 57,341 linear feet of underground fiber optic cable.
- Placement of approximately 253,861 linear feet of aerial fiber optic cable.
- Associated construction and make-ready work.

The County and CBEC agree to provide the necessary funding to construct the projects above to deliver internet service to the homes/businesses in these areas by providing minimum average internet speeds ranging from 50 Mbps/50 Mbps to 1 Gbps. The total cost of these projects is estimated at \$3,227,722.

To obtain necessary project funding, the County agrees to complete a grant funding application, with assistance from CBEC through the DHCD VATI Funding Program requesting \$1,581,584 (49% of the estimated project cost) to be allocated to the above projects. The County will contribute not more than \$839,208 (26% of the estimated project cost) toward completion of the projects. CBEC agrees to provide the remaining project funding to complete the above projects (which is anticipated to be 25% of the project cost).

The parties confirm that a detailed agreement shall be executed if funding is approved to outline all the obligations of the County, Authority, and CBEC and providing performance guarantees for service delivery and maintenance. If funding is approved from DHCD, the parties confirm and understand that CBEC will be responsible for providing the remaining of the funding necessary to complete the project for which DHCD funding was received.

Signatures on following page

IN WITNESS WHEREOF, the parties have executed this Memorandum of Understanding on the day, month, and year indicated:

FOR ROANOKE COUNTY, VIRGINIA:

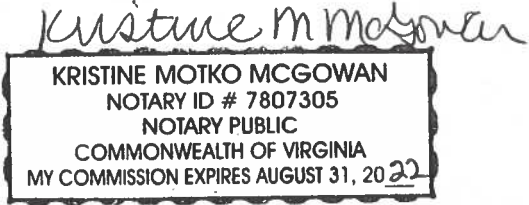
By: 
Daniel R. O'Donnell
County Administrator

COMMONWEALTH OF VIRGINIA
COUNTY OF ROANOKE, to wit:


The foregoing instrument was acknowledged before me this 14th day of September 2021 by Daniel R. O'Donnell, on behalf of Roanoke County, Virginia.

My commission expires Aug. 31, 2022

Registration No. 7807305




Approved as to form:

By: 
Peter S. Lubeck
County Attorney

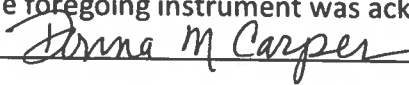
FOR THE ECONOMIC DEVELOPMENT AUTHORITY OF ROANOKE COUNTY:

By: _____
Steven A. Musselwhite
Chairman

FOR CRAIG-BOTETOURT ELECTRIC COOPERATIVE:

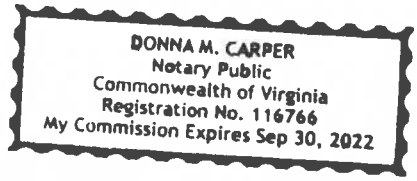
By: 
Jeffrey M. Ahearn
CEO

COMMONWEALTH OF VIRGINIA
COUNTY OF ROANOKE, to wit:

The foregoing instrument was acknowledged before me this 14th day of September 2021 by
, on behalf of CBEC.

My commission expires September 30, 2022

Registration No. 116766



VATI FUNDING SOURCES TABLE

Please fill in the chart below with a description of the project funding source (local, federal, state, private, other), the amount from that source, the percentage of total project funding that source represents, and a description of the current status of the funds (pending, secured, etc.).

Source	Amount	%	Status
REQUESTED VATI	\$ 1,581,584.00	49	Pending
	\$		
CRAIG BOTETOURT ELECTRIC COOPERATIVE	\$ 806,930.00	25	COMMITTED
	\$		
COUNTY OF ROANOKE	\$ 839,208.00	26	COMMITTED
	\$		
	\$		
TOTAL	\$ 3,227,722.00	100 %	



CRAIG-BOTETOURT
ELECTRIC COOPERATIVE

September 7, 2021

Mr. Bill Hunter
5204 Bernard Dr. SW, Suite 300-F
Roanoke, VA 24018

Dear Mr. Hunter,

We are pleased to partner with Roanoke County to apply for funding to extend broadband and VoIP service to unserved residents through the VATI program.

Craig-Botetourt Electric Cooperative is a member/customer owned electric distribution utility licensed to provide electric service in Virginia and West Virginia. We serve over 7,200 meters in Allegheny, Botetourt, Craig, Giles, Montgomery, and Roanoke counties in Virginia. We also serve Monroe County in West Virginia. We are one of twelve electric cooperatives in Virginia. Craig-Botetourt is the smallest with the lowest density measured in member/customers per mile of line. The Cooperative was chartered in August of 1936. It was created under the Rural Electrification Act for providing electric service to rural areas. We are not only overseen by the Virginia State Corporation Commission but also the West Virginia Public Service Commission. We are also administrated by the U.S. Department of Agriculture (USDA), the Rural Utilities Service (RUS). As of July 31, 2021, the Cooperative had a total utility plant of \$47.9 million. We have annual electric distribution sales of around \$12 million. We currently borrow from three different organizations Rural Utilities Service, National Rural Utilities Cooperative Finance Corporation, and CoBank. The Cooperative is governed by a six-member elected board of directors and managed by a CEO who reports to the board.

Craig-Botetourt Electric's wholly owned subsidiary, Craig-Botetourt Energy & Home Services, LLC, dba, Bee Online Advantage, is our broadband and VoIP service provider.

Please accept this letter and our latest RUS Form 7, for our financial statement documentation.

Sincerely,

Jeff Ahearn
CEO, Craig-Botetourt Electric Cooperative &
Bee Online Advantage

PHONE: (540) 864-5121 TOLL FREE: (800) 760-2232
FAX: (540) 283-0585

***CRAIG-BOTETOURT ELECTRIC COOPERATIVE IS AN EQUAL OPPORTUNITY PROVIDER
AND EMPLOYER***

Memorandum

COMMUNICATIONS &



To: DHCD

From: William F. Hunter, Director

Date: September 13, 2021

Re: Matching Funds

The County of Roanoke has committed \$839,208.00 in Capital Improvement Funds toward the completion of the Craig Botetourt Electric Cooperative project applied for in the VATI Grant Application submission.

Good morning,

I am hoping to soon be among the many other citizens of Roanoke County that can say I have an internet provider. I unfortunately am in an area that is currently under served -- 7592 Willow Branch Rd. Boones Mill (but on the Roanoke County side) Cox services Roanoke County but not my area as there are not enough houses to be beneficial to them and I have checked with providers in Franklin County and they tell me they can't cross the county line so I am in NO MAN'S LAND. I would love for my area to be launched into the 21st century.

Thanks for your time & consideration,
Bettie Haupt

We have been without Internet Service since we moved to this rural area some 5 years ago. When I contacted one Internet provider I learned it would cost us \$8000 to get broadband installed. Satellite monthly costs are way outside our budget because we are retired. So I used the library until Covid closed them.

Have you ever tried to do your taxes on a cell phone? Not easy! Our cell phone is our only access to the internet and doing things on a 5.5 x 2.5 screen gets old fast! Also, cell phone access is never at full bars.

We need low cost internet access!

Thank you,
Diane Carter

3663 Bradshaw Rd, Salem, VA 24153

Good morning. I received word you are the gentleman to contact to hopefully receive internet in our area. My husband and I live at 5449 Bandy Road. I have attempted multiple times in our almost 8 years in our home to get reliable internet. I have contacted Cox Communications multiple times, as they serve both ends of our road, but not the small stretch we are located at. The last time I contacted Cox I was told they would have to go through the "forest", and it would cost us \$100,000. We are currently using an unreliable Jet Pack from Verizon Wireless, a jet pack from US Cellular has the same unreliable service. Satellite services like B2X were unavailable to my address, last time I checked.

Our need for reliable internet is extremely important to us as we are both RNs and my husband is planning to obtain his BSN soon, and these programs are almost all distanced learning these days. Our 2 children had the most difficult time getting anything completed when the pandemic first hit when Roanoke County offered online classes until they were able to return to school. Lastly, I need it for my job. My current role is the unit director/manager for the Transfer Center/Bed Placement @ Carilion Clinic. Sometimes with my job I need to access our applications from home after hours, or in emergency situations, or if my children are sick and I cannot make it into the office. My fear is that schools are going to be closed again due to COVID and I would need the ability to work from home, for childcare purposes.

Thank you for your time.
Constance Aaron, RN, BSN

August 19, 2021

Mr. Bill Hunter
Director, Communications & Information Technology
County of Roanoke, Virginia

Subject: Community need for internet

Dear Mr. Hunter,

I am writing to let you know of my need for internet. I am a resident of the Mount Pleasant Area and currently have no internet options, whatsoever, for my home. Having internet available at my home would mean the ability to manage bank accounts and finances from home, communicate with friends, family and co-workers, find and purchase goods not locally available, have information on the most current news, and lastly enhance educational opportunities for my children. This last item is huge, as I know you would agree. I have three school age children and without internet access there is no opportunity for them to do any meaningful online work, and hence fall into the risk of falling behind their peers.

Sincerely,

Danielle Bishop
4928 Brookridge Road
Roanoke, VA 24014

To Whom it May Concern,

My name is Dyanna Desforjes and my husband and I live at 4699 Brookridge Rd in Roanoke, VA. We currently run two businesses out of our home and high speed internet is crucial for our productivity. We have satellite internet now that is mediocre at best. Very slow internet speeds. The internet doesn't work when it rains or snows. With high speed internet, we could be much more productive with our business and ultimately make more money not only for ourselves, but for the state as well. The world is so dependent on high speed internet these days. It doesn't make sense that some houses on our street have access to it and some don't. We have fought multiple times with Cox Cable to service to our home. We have even offered to rent a ditch witch and run the cables down our driveway ourselves. Having high speed internet would also increase the value of homes in the area. Please feel free to reach out to me if needed. Thank you and we appreciate your consideration for a VATI Grant.

Dyanna Desforjes

Bill,

We have had satellite internet since we moved to Catawba twenty years ago. It's so slow it doesn't allow us to do most things people take for granted. Here are a few examples.

After my husband's surgery last month his doctor in North Carolina wanted to see a photo of an incision that wasn't healing properly. My husband had to drive over twenty miles to the Roanoke County library to send the picture, as our uplink speeds are so slow the doctor's app repeatedly timed out.

We can't have remote doctor appointments because we're unable to use Zoom or to video chat, a problem exacerbated by the pandemic. When the roads are bad in the winter, we can't have video appointments then, either.

Yesterday there was severe weather in our area and a tornado a few miles away. Because we have no cell phone service here, we couldn't receive radar, forecasts, or emergency information because we lose our internet in rainy weather. We're literally in the dark when we need weather information to be safe.

We're can't use video in any form to communicate with our family members and friends.

Even with theses limitations, we pay a lot to try to have access to communication and entertainment. Our satellite TV bill is \$197/month, our internet is 94.51, and our land line is 69.05. In spite of that we can never stream anything -- Netflix, sports, Hulu, Peacock, for example - and even the services we pay for (like HBO) are streaming more and more of their content.

Our land line also tends to fail in rainy weather. Then, we have zero access to emergency services.

We need high speed internet!

Thanks, Elizabeth Kayser
7860 Miller Cove Road
Catawba VA 24070

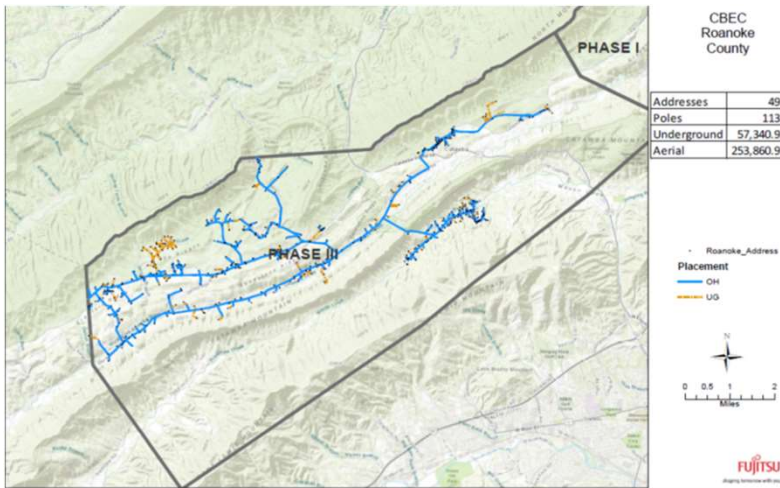
UPDATED ROANOKE COUNTY

Description	Price
Design / Build / Construction	\$ 3,042,654.00
BOND	\$ 35,108.00
TOTAL DB	\$ 3,077,762.00

DROP - 310 ONTs (material)	\$ 44,640.00
DROP Installation (labor)	\$ -
DROP Installation (material)	\$ 85,005.00
TOTAL DROPS	\$ 129,645.00

Maintenance - 5 yr OLT Line Cards (2) GPON line Boards, (10) GPON SFP OLT (I-temp) Class B+, (10) GPON SFP C+ (I-temp) OLT	\$ 20,315.04
TOTAL MAINT	\$ 20,315.04

GRAND TOTAL	\$ 3,227,722.04
--------------------	------------------------



Estimated breakout of the addresses within the Roanoke County BB path footprint:

Name of Boundary	# Residential addresses	Total Addresses	# of ONTs (50% take rate)
Roanoke County Mainline	495	495	248

Price Assumptions

Pricing includes ONT devices and materials

Construction Assumptions

311,202 feet (58.94 Miles) construction path footage

1,132 poles to attach

Total of 284 drops with a maximum of 500 feet

Make Ready is not included; Assumed CBEC will complete as required.

Assumes FNC will supply ONTs and drop material, CBEC will supply/perform drop installation labor for all drops.



CRAIG-BOTETOVRT
ELECTRIC COOPERATIVE

September 7, 2021

Mr. Bill Hunter
5204 Bernard Dr. SW, Suite 300-F
Roanoke, VA 24018

In reviewing the VATI grant application it has come to our attention that documents are required to verify or back up our cost estimates for the chosen project area(s).

As a Electric cooperative, Craig-Botetourt Electric uses internal employees and contracted resources to complete and perform the proposed works as outlined in this grant application. Craig-Botetourt Electric are members of two statewide procurement cooperatives (JUS and TEMA) and can leverage its scale when it comes to the purchasing of equipment and establishing reasonable contract rates for additional labor as needed.

It is our hope that this letter will be sufficient in demonstrating to the review board that our company has done its due diligence to negotiate rates that reflect a reasonable use of resources both for the planning and completion of these last mile projects.

Please accept this letter as an explanation for the absence of attached documentation of supporting cost estimates as requested in the VATI grant application

Sincerely,

Jeff Ahearn
CEO, Craig-Botetourt Electric Cooperative &
Bee Online Advantage

PHONE: (540) 864-5121 TOLL FREE: (800) 760-2232
FAX: (540) 283-0585

*CRAIG-BOTETOVRT ELECTRIC COOPERATIVE IS AT EQUAL OPPORTUNITY PROVIDER
AND EMPLOYER*

Amendment Number TBD
To
Design, Engineering, Construction And Maintenance Agreement
Between
Craig-Botetourt Electric Cooperative
And
Fujitsu Network Communications, Inc.

This Amendment No. **TBD** ("Amendment") to the Design, Engineering, Construction and Maintenance Agreement dated June 18, 2019, (the "Agreement"), is between Fujitsu Network Communications, Inc., a California corporation, with offices at 2801 Telecom Parkway, Richardson, Texas 75082 ("FNC") and Craig-Botetourt Electric Cooperative, a Virginia corporation, having an office and principal place of business at 26198 Craigs Creek Road, PO Box 265, New Castle, VA 24127 ("Customer"), each a "Party" and collectively referred to as the "Parties". Capitalized terms used but not defined herein shall have the meanings as set forth in the Agreement. Unless otherwise stated herein, this Amendment shall take effect upon execution by the last signing party, (the "Amendment **TBD** Effective Date")

WHEREAS, the Parties wish to amend the Agreement to add the design, engineering and construction services to build the Roanoke County BroadBand (BB) path extension to the Customer's fiber network footprint which includes a 58.94 Mile broadband fiber buildout passing 495 potential subscriber addresses ("Roanoke County BB Path"). This buildout encompasses all of Roanoke County.

WHEREAS, the Parties wish to amend the Agreement to update quantities and pricing for the Roanoke County BB Path.

NOW, THEREFORE, in consideration of the above premises and the mutual promises and conditions set forth herein, receipt of which is hereby acknowledged, and intending to be legally bound, the Parties agree to modify the Agreement as follows:

1. The attached Roanoke County Boundary map is hereby added as **Attachment TBD of Exhibit 1** and illustrates the Roanoke county BB Path.
2. The Parties hereby agree to extend the Services defined in **Exhibit 1**; Design and Engineering Services, **Exhibit 2**; Program Management Office and **Exhibit 3**; Construction Services to include the Roanoke County BB Path. The number of potential addresses the engineering design and construction will pass is 495. Pricing for such Services to the Roanoke County BB Path are provided in **Exhibit 10**.
3. **Exhibit TBD**; Roanoke County BB Path is hereby added to the Agreement.
4. Add a new Article **TBD** as follows:
"TBD \$2,750,000. Attachment **TBD**, Exhibit 1 – Roanoke County BB."
5. This Amendment is an integral part of the Agreement. If there are any inconsistencies between a specific term or condition of this Amendment and a specific term or condition of the Agreement, the specific term or condition of this Amendment shall control.

Except as amended hereby, the Agreement shall continue in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused this Amendment to be executed by their duly authorized representatives as of the date set forth below.

Fujitsu Network Communications, Inc.
2801 Telecom Parkway,
Richardson, TX 75082
Fax Number: 972-479-2992 (Legal Dept.)

Craig-Botetourt Electric Cooperative
26198 Craigs Creek Road, PO Box 265,
New Castle, VA 24127
Fax Number: _____

By: _____

By: _____

Print Name: _____

Print Name: _____

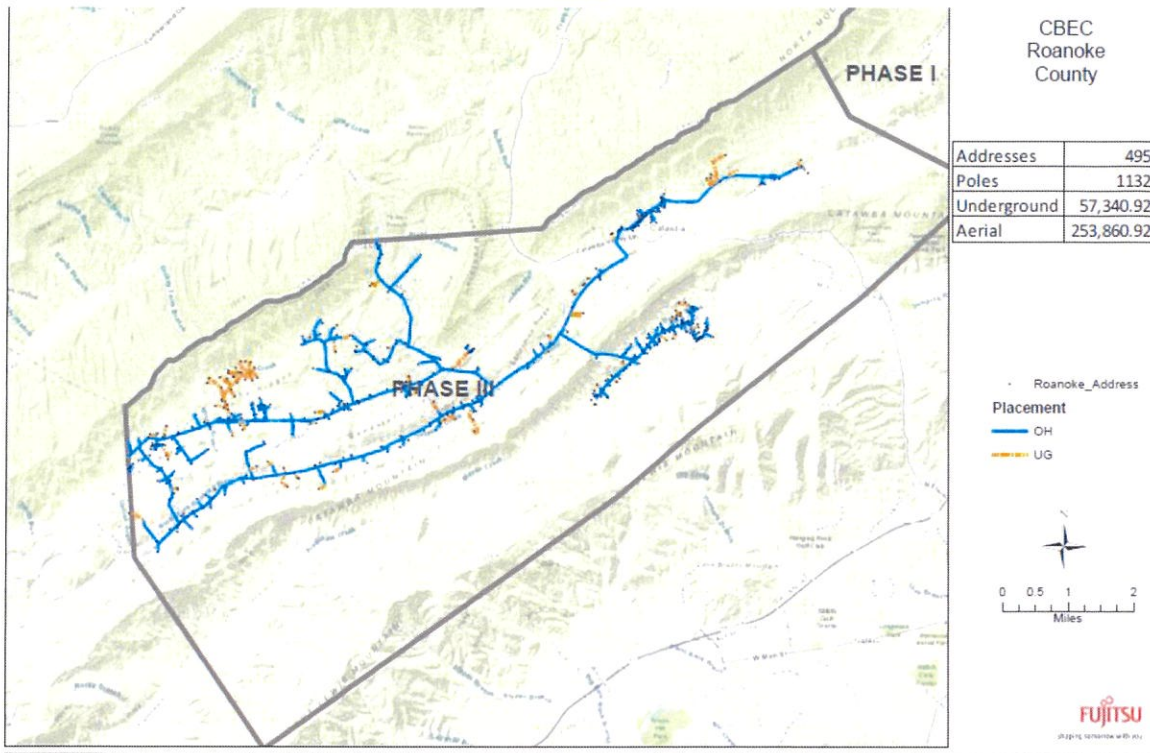
Title: _____

Title: _____

Date: _____

Date: _____

Attachment **TBD** to Exhibit 1



Estimated breakout of the addresses within the Roanoke County BB path footprint:

Name of Boundary	# Residential addresses	Total Addresses	# of ONTs (50% take rate)
Roanoke County Mainline	495	495	248

Price Assumptions

Pricing includes ONT devices and materials

Construction Assumptions

311,202 feet (58.94 Miles) construction path footage

1,132 poles to attach

Total of 284 drops with a maximum of 500 feet

Make Ready is not included: Assumed CBEC will complete as required.

Assumes FNC will supply ONTs and drop material, CBEC will supply/perform drop installation labor for all drops.

EXHIBIT TBD

Roanoke County BB Path

1. INTRODUCTION

This **Exhibit TBD**; describes the updated unit pricing utilized to deliver to the Customer (also "CBEC") in support of Customer's Roanoke County BB Path project. The success of this SOW relies heavily upon key Customer employees and/or Customer advisor involvement as part of the engagement team.

2. TERM

The term of this **Exhibit 10** begins from the **Amendment 5 Effective Date** and continues for 1 year or until the project is completed by FNC, whichever occurs later.

3. ACCEPTANCE

FNC will provide a Job Completion Notice ("JCN") monthly to Customer for Acceptance of the Services completed during the previous month. Customer will return the signed JCN to FNC or notify FNC of its rejection of a Deliverable within ten (10) days after FNC delivers the JCN to Customer. Any Deliverable not rejected within the 10-day period will be deemed accepted by Customer.

4. SCHEDULE

FNC and Customer will develop a mutually agreed detailed schedule for the Customer's services as defined in this SOW following receipt of Customer's purchase order. It is anticipated that the build will take approximately 6 months to complete depending upon moratoriums and material availability.

5. PRICING

FNC's fixed unit price for the Design and Engineering Services, Program Management Office, Construction and Additional Services for the Roanoke County BB Path project are provided in **Table 5-1** below. FNC will invoice Customer upon receipt of a signed JCN. The payment terms are defined in **Section 6** of the Agreement. The Work Unit quantities are budgetary estimates and are subject to change based on actual conditions found and on the duration of the project.

Table 5-1 – Roanoke County Pricing							
Unit ID	Description	Short Description	Unit	Labor Unit Price	Material Unit Price	Qty Units	Total Price
Program Management							
PM-18-PMO1	Program Management– Full project management, construction management and engineering services	PMO	MON	\$41,240.75		14	\$577,370.47
PM-18-BOND	Performance Bond	Bond	EA	\$31,300.71		1	\$31,300.71
OSP Engineering							
TBD	includes all design detail to engineer a backbone, middle mile, or fiber to the home network for an assigned area in order to produce a constructible plant which may include, but not limited to updating high level design with as-found conditions from the field engineering and make ready engineering. Identify permitting required based on high level design, perform any environmental, historical or soil testing if required. Final design to include BOM, Splicing details, construction details, and all internal quality control is complete and the design	ENG-LLD- Detailed design	FT	\$0.17		311202	\$52,664.95

Table 5-1 – Roanoke County Pricing

Unit ID	Description	Short Description	Unit	Labor Unit Price	Material Unit Price	Qty Units	Total Price
	is ready to hand over to construction teams for review.						
TBD	Standard Permitting - all efforts associated with preparing permit applications for the majority ROW owner contained within the project, typically a city or county where the fiber will be deployed: UG permits, temporary use of ROW, cabinet placement, excavation for vaults, placement or pole changeouts, or any permit required by legal body with jurisdiction in the area	ENG-SP-Standard Permitting and ROW	FT	\$0.18		11468	\$2,117.17
OSPE-11-1109	As-building - redline conversion to GIS format, as-built validation, updated splice schematics, updated splicing sheets	As Builts	FT	\$0.11		311202	\$33,514.06
ISP Equipment							
EQP-11-OLT	OLT 4 Chassis / Line Cards 7360 ISAM FX-4 Shelf, (7) GPON SFP OLT (I-temp) Class B+, (5) GPON SFP C+ (I-temp) OLT	OLT Equipment	EA	\$-	\$26,340.00	1	\$26,340.00
TBD	Maintenance and RTU – 5 years (support + repair/return) 7360 ISAM FX-4 shelf (12) GPON SFP (RTU License) (248) ONTs	Maint/RTU	EA	\$-	\$20,315.04	1	\$20,315.04
EFI-11-6101	Test and turn-up of OLT Cards	Test and Turn-up	EA	\$15,565.29		1	\$15,565.29
NDI-CONSULT	Professional Services 20-hour block	Prof Svcs	EA	\$7,684.62		4	\$30,738.46
Drop Installation							
EQP-11-ONT	Residential Gateways	ONT	EA		\$180.00	248	\$44,640.00
TBD	DROP Installation**	ONT	EA		\$342.76	248	\$85,005.00
OSP Construction							
OSP Construction - Aerial Construction							
OSPI-1-01003(1)	Installation of 2 inch riser to facilitate fiber optic cables making the transition from aerial to underground or installation of riser	Installation of 2 inch Riser	EA	\$69.23	\$138.46	113	\$23,469.23
OSPI-6-06007(144)	Placement of all dielectric self-supporting fiber optic cable (ADSS) (144 count) aerial along with storage/risers with normal access to pole with equipment.	Place 144 ADSS FOC Aerial, Normal Access	FT	\$1.92	\$1.00	279247	\$816,260.75
TBD	Tree Trimming	Tree Trimming	FT	\$3.62		7616	\$27,534.77
OSPI-8-08004	Includes mounting LCP cabinet on the pole with all associated hardware. Cabinet will be installed per manufacturer's specifications	Install a Pole mount LCP Cabinet	EA	\$1,230.77		0	\$0.00
OSP Construction - Underground Construction							
OSPI-4a-04004(L)	Install 36" x 48" vault according to manufactures specifications and will placed flush with the ground. Standard vault - rated for pedestrian traffic	Install Large Vault - Standard	EA	\$1,076.92	\$780.94	86	\$159,775.92

Table 5-1 – Roanoke County Pricing

Unit ID	Description	Short Description	Unit	Labor Unit Price	Material Unit Price	Qty Units	Total Price
OSPI-4a-04004(S)	Install 20" x 26" vault according to manufactures specifications and will placed flush with the ground. Standard vault - rated for pedestrian traffic	Install Small Vault - Standard	EA	\$384.62	\$299.33	57	\$38,984.95
OSPI-8-08001	Includes the placement cabinet on existing XL vault along with all hardware need for securing the cabinet to the lid. LCP cabinet will be installed per manufacturer's specifications.	Install LCP Cabinet on a XL vault	EA	\$2,307.69	\$12,144.07	2	\$28,903.52
TBD	Directional drilling/Trench Standard Conditions	Drilling / Trenching	FT	\$26.15	\$0.69	5734	\$153,944.48
	BFO(XX)T-Trench standard conditions	Trenching	FT	\$10.00	\$2.14	51607	\$626,555.08
TBD	Pulling fiber	Fiber Pull	FT	\$1.46	\$1.43	63075	\$182,211.10
TBD	Placement of OLT integrated cabinet with FDH	OLT Place	EA	\$4,307.69	\$16,416.39	1	\$20,724.09
OSPI-4a-04400	Rock Adder	Rock Adder	FT	\$49.23		1147	\$56,467.69
OSP Construction - Fiber Splicing and Testing							
OSPI-7-07001(D)	Preparation of large sized splice enclosure used for large transition splicing (more than 96 splices).	Prep Small Splice Enclosure	EA	\$284.62	\$290.14	61	\$35,059.94
OSPI-7-07001(D)	Preparation of large sized splice enclosure used for large transition splicing (more than 96 splices).	Prep Large Splice Enclosure	EA	\$461.54	\$461.54	16	\$14,769.23
OSPI-7-07004	Preparation of fiber cables into the LCP cabinet, along with the buffer tubes and fibers into the splice trays.	Prep of LCP Cabinet and Fibers	EA	\$538.46	\$7,692.31	3	\$24,692.31
OSPI-7-07005	Preparation of fiber cables into a rack mount fiber termination panel.	Prep Fiber Termination Panel	EA	\$307.69	\$2,307.69	3	\$7,846.15
OSPI-9-09001	Fusion splicing for up to 48 fibers at 1 location. Price per splice.	Splice 1 – 48 fibers	EA	\$46.15	\$0.49	743	\$34,658.09
OSPI-9-09002	Fusion splicing for 49 to 144 fibers at 1 location. Price per splice.	Splice 49 – 144 fibers	EA	\$38.46	\$0.49	371	\$14,451.88
OSPI-9-09003	Fusion splicing for 145 to 432 fibers at 1 location. Price per splice.	Splice 145 – 432 Fibers	EA	\$30.77	\$0.49	314	\$9,816.12
TBD	MST Materials Cost	Material	EA		\$592.73	21	\$12,447.40
OSPI-10-10002	Perform power meter light source test on a fiber	Test Fiber Power Meter and Light Source	EA	\$13.85		1139	\$15,770.77
						ESTIMATED GRAND TOTAL	\$3,227,721.46



September 7, 2021

Mr. Bill Hunter
5204 Bernard Dr. SW, Suite 300-F
Roanoke, VA 24018

RE: FCC 477 Filing

Dear Mr. Hunter,

We are currently filing our first FCC 477 form. We connected our first customer in January of 2021 for the first VATI project (application #59811132018142709). The filing date for the first half of the 2021 has been extended due to Covid-19. We should have all documentation filed by the end of September 2021.

Please accept this letter, in lieu of our FCC 477 filings.

Sincerely,

Jeff Ahearn
CEO, Craig-Botetourt Electric Cooperative &
Bee Online Advantage

PHONE: (540) 864-5121 TOLL FREE: (800) 760-2232
FAX: (540) 283-0585

***CRAIG-BOTETOURT ELECTRIC COOPERATIVE IS AT EQUAL OPPORTUNITY PROVIDER
AND EMPLOYER***