

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Application ID: 75708072020112648
Application Status: In Progress - DHCD
Program Name: Virginia Telecommunications Initiative 2021
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: County of Roanoke VATI 2021
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: \$1,733,908.00

Required Annual Audit Status: No Current Audits Found

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
Telecommunications	\$1,733,908.00	\$1,286,427.00	\$3,020,335.00
Other: Project Totals	\$1,733,908.00	\$1,286,427.00	\$3,020,335.00
Total:	\$1,733,908.00	\$1,286,427.00	\$3,020,335.00

Budget Narrative:

Total project budget is \$3,020,335.00 for four separate areas of the County of Roanoke. Contributions by the County of Roanoke and Cox Communications total \$1,286,427.00 or 43% of the total project budget.

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 Bent Mountain, Bradshaw Road, Cove Hollow Road, and Starlight Lane. There are 327 homes without access to broadband internet speeds in these areas of the County.

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.

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Starlight Lane Community

West of Franklin (Route 220) - Residential access to minimum broadband is not available to homes in the area beginning south of the Blue Ridge Parkway and west of Franklin Road (Route 220), along Starlight Lane south and extending to homes on Boones Chapel Road and Willow Branch Road. The Blue Ridge Parkway, existing railroad crossings, easements, and right-of-ways in this area have all been identified as significant barriers to extending service to this area. From the south end of this area, construction costs and traffic control along Franklin Road (Route 220) have in the past been cited by the incumbent vendor as barriers to expansion.

East of Franklin Road (Route 220) - Adjacent roads lacking minimum broadband access east of Franklin Road (Route 220) include homes on Webb Road, Spottswood Drive, and Dunahoo Drive. Construction costs and traffic control along Franklin Road (Route 220) have in the past been cited by the incumbent vendor as barriers to these unserved areas.

Customers in these areas that report having Internet service self-report as customers of Verizon Wireless, Verizon DSL, or HughesNet Satellite Internet services with speeds well below the broadband standard of 25/3. Citizens in this community also report frequent outages and problems with reliability.

Based on broadband provider website queries, existing broadband (cable/fiber) on Franklin Road currently ends at the 8800 block of Franklin Road, leaving residential homes and commercially viable real estate along nearly two miles of a major transportation corridor without access to broadband services. Extending service to this area will connect an estimated 55 home addresses, with at least five home-based businesses to broadband services, while opening the Franklin Road (Route 220) corridor for future development.

Cove Hollow Community

Situated to the south of Interstate 81 and Route 460, and immediately west of Spring Hollow Reservoir, the Cove

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Hollow Community represents another pocket of hard-to-reach, last-mile connection to broadband services. This community lies within a mountain valley area that is difficult for both traditional cable/fiber installation and also for wireless, satellite, or point-to-point Internet providers.

Railroad crossings to the north of the community, the Roanoke River, and mountain valley terrain have all been identified as barriers to providing Internet service to this community of 32 residential addresses that borders Montgomery County to the west.

Bradshaw Community

The Bradshaw Community also sits within a mountain valley that runs between Fort Lewis Mountain to the south and Catawba Mountain to the north. Current cable/broadband services extend substantially along Bradshaw Road through the 5500 block, per address queries from the incumbent provider's website.

From this endpoint, 131 residential addresses, with 13 self-reported home businesses are without broadband services for more than seven miles extending to the 8700 block of Bradshaw Road at the border to Montgomery County to the west.

Mountain valley terrain, extensive home setbacks from the road, and infrastructure have been noted as challenges to building out broadband connections to these addresses. Extensive wooded areas and mountain valley terrain render coverage from wireless, satellite, or point-to-point Internet providers spotty and unreliable under event the best of conditions.

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Bent Mountain Community

The Bent Mountain community is a rural community located on the Bent Mountain Plateau in southwestern Roanoke County. The community borders Montgomery and Floyd counties to the west.

Existing broadband access is limited to the immediate Bent Mountain Road (Route 221) corridor, with little or no options for residences or developed areas to the west and north of Route 221.

A substantial number of residences on Honeysuckle Road, Poor Mountain Road, and Willet Lane to the north along with additional homes on Rocky Road, Bottom Creek Road, Patterson Drive, and King Brothers Road are all lacking access to minimum broadband Internet speeds.

Although a wireless point-to-point Internet provider is currently serving a small portion of this community, maximum advertised speeds for this provider are currently at or below the minimum 25 mbps up /3 mbps down defined standards for broadband access.

Address queries and citizen survey data identify approximately 109 residential addresses, with eight home-based businesses unserved by minimum broadband speeds.

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	768 Kbps - 1.5 Mbps

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

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	Download Speed
VERIZON VIRGINIA LLC	Maximum 5 Mbps

Starlight Community

Providers to this area were identified through responses to a citizen-based survey and address queries made to the vendors' websites for service availability.

Verizon DSL (telecom provider)

Verizon Wireless (wireless)

Cox (cable / fiber provider) existing service adjacent to the target area

Cove Hollow Community

Providers to this area were identified through responses to a citizen-based survey and address queries made to the

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

vendors' websites for service availability.

Verizon DSL (telecom provider)

Verizon Wireless (wireless)

Comcast (cable / fiber provider) existing service adjacent to the target area

Bradshaw Community

Providers to this area were identified through responses to a citizen-based survey and address queries made to the vendors' websites for service availability.

Verizon DSL (telecom provider)

Verizon Wireless (wireless)

Comcast (cable / fiber provider) existing service adjacent to the target area

Bent Mountain Community

Providers to this area were identified through responses to a citizen-based survey and address queries made to the vendors' websites for service availability.

Cox (cable / fiber provider) existing service adjacent to the target area

MtnNet (point-to-point wireless Internet provider)

Verizon DSL (telecom provider)

Verizon Wireless (wireless)

Communications and Information Technology staff compiled data about existing high-speed Internet availability through cable, fiber, wireless, satellite or fixed point providers and validated this data set through citizen surveys. Survey data was collected online, through hard copy surveys distributed through Roanoke County Public Schools and Roanoke County Public Libraries, and also surveys mailed directly to outlying geographic areas of the County as identified by the County's GIS and Communications and Information Technology staff

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, and Community Connect. If there have been federal funds awarded near the project, provide a map verifying the proposed project area does not conflict with these areas. Describe if there are Rural Digital Opportunity Fund (RDOF) eligible census blocks located in the proposed project area. Label Map: Attachment 2 – Documentation on Federal Funding Area.

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Answer:

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

4. **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 of 25/3 mbps or less and with less than 10% service overlap within the project area. 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 3 – Documentation Unserved Area VATI Criteria.

Answer:

Starlight Community

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

Cove Hollow Road Community

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

Bradshaw Community

Broadband implementation in this area is not anticipated to overlap the provision of minimum broadband speeds of

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

25 mbps up/3 mbps by current vendors.

Bent Mountain Community

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

?

5. 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 4 – Passings Form
 - a. Of the total number of passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area. Describe the methodology used for these projections.
 - b. Provide the number of serviceable units in the project area that have 10/1 mbps or less. Describe the methodology used for these projections.

Answer:

Starlight Community

55 residential addresses

0 businesses (non-home based)

5 businesses (home based)

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

0 non-residential

0 community anchors

Cove Hollow Road Community

32 residential addresses

0 businesses (non-home based)

0 businesses (home based)

0 non-residential

1 community anchors

Bradshaw Community

113 residential addresses

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

0 businesses (non-home based)

13 businesses (home based)

0 non-residential

1 community anchors

Bent Mountain Community

109 residential addresses

0 businesses (non-home based)

8 businesses (home based)

0 non-residential

1 community anchors

b. All units in the four service areas have access to 10/1 or less. Refencing FCC and USDA databases along with

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Citizen Survey Results verify this information.

6. 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:

NOT APPLICABLE

7. 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.

Answer:

The proposed project and construction will be incorporated into the existing hybrid fiber-coax (HFC) network owned and operated by Cox Communications; it will be capable of providing residential and business customers with download speeds of up to 940 Mbps and upload speeds of up to 35 Mbps through the Docsis 3.1 platform.

Cox provides internet speeds ranging from 10mbps/1mbps to up to 940 Mbps/35Mbps. Cox continues to offer a 10Mbps/1Mbps service tier as a low-cost option, ideal for up to three devices and light web surfing, email, and social networking; this is an economical solution for customers who don't want to pay for higher speeds they don't need and won't use.

Residential Pricing Structure:

Package	Speed (up to)	Rack Rate (monthly)	New Customer Promo (monthly)
Starter 10	10/1 Mbps	\$44.99	\$29.99
Connect2Compete*	25/3 Mbps	\$9.95	\$9.95
Straight Up Internet	25/3 Mbps	\$50.00	\$50.00

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Essential 50	50/3 Mbps	\$65.99	\$39.99
Preferred 150	150/10 Mbps	\$83.99	\$59.99
Ultimate 500	500/10 Mbps	\$99.99	\$79.99
Gigablast	940/35Mbps	\$119.99	\$99.99

*for qualifying families

Prices include monthly charges and applicable discounts. Promotional pricing may differ depending on the customer's decision to bundle services and expiration of/changes to promotional pricing. One-time charges, activation fees and monthly equipment fees may apply.

Business/Commercial Internet Pricing Structure:

Cox Business also offers customized enterprise internet solutions, dedicated fiber, HFC internet, and managed WiFi solutions to meet individual needs of businesses. With symmetrical speeds of up to 10+ Gbps, there are solutions to support any size business.

In response to the increase of residents shifting to a work-from-home model, Cox Business launched an enterprise-grade work-at-home connectivity solution which would be available to residents benefiting from this last mile extension. This is a separate internet connection that would go directly to the employee's home and will have the capability to provide remote staff with company-provided services, including broadband, WiFi, McAfee endpoint security and MalBlock to help ensure staff members have the same options for connectivity they would have if they were working in the office.

8. 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

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

and the ones that would be added by the proposed project. Provide a detailed explanation of how this information was determined with sources. 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 5 – Propagation Map Wireless Project.

Answer:

Cox's highly redundant and resilient network is managed around the clock by a full staff of nationwide network professionals that can holistically monitor and manage the Cox network both physically from network operations centers and 100 percent virtually, if needed. Their forward-thinking network management and service assurance philosophy means they have software-enabled and virtualized significant portions of their network to proactively and reactively solve any temporary customer and network issues in a timely and efficient manner.

Cox operates a high-speed, national fiber optic backbone comprised of tens of thousands of fiber miles. The backbone is self-healing through strategic deployment of core infrastructure components. Multiple diverse connections help ensure backbone locations are not isolated in the event of an outage and that they maintain ample capacity to handle peak traffic periods. Their experience includes keeping customers online and connected during wildfires, mudslides, severe weather events and numerous other natural disasters.

Through the video franchise with Roanoke County, Cox Communications has built and maintained a hybrid fiber-coax (HFC) network in the County for more than 40 years for distribution of the company's services (voice, video, data, security, business services) to its subscribers. The technology connects our subscribers to one of the company's 21 critical facilities located in Virginia. These critical facilities contain the company's core network hardware and connections to the internet and public switched telephone network. All network hardware and network connections in our critical facilities have at least two layers of redundancy.

Hybrid fiber coaxial (HFC) networks send signals from the Cox's critical facilities to the communities we service through fiber optic cables. At the local community, a box called an optical node translates the signal from a light beam to radio frequency (RF) and sends it over coaxial cable lines for distribution to our residential and business subscribers. The fiberoptic backbone feeding the communities we service provide adequate bandwidth to allow for timely future expansion and new bandwidth-intensive services.

Cox trains and employs engineers and technicians to ensure we maintain a 99.999% network reliability. Again, the network and hubsite are monitored both locally and nationally 24 hours a day and 365 days a year.

The company constantly monitors its network and upgrades accordingly in order to meet subscriber demand.

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Typical surges in broadband traffic occur in the evenings, on weekends and on holidays. In light of the recent COVID crisis and the number of individuals working from home and students connecting virtually for their education, Cox implemented their processes for peak use to respond appropriately to meet the demand from this shift in usage. They've also successfully virtualized their network operations by executing long-term business continuity strategies, implementing new leading-edge collaboration and predictive analytic tools, providing full functionality mobile workstations and equipping their network operations teams with robust tools to work remotely.

9. 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 6 – Timeline/Project Management Plan; Attachment 7 – MOU/MOA between Applicant/Co-Applicant.

Answer:

With the growing need for connectivity, the County and Cox have been reviewing broadband expansion opportunities on an ongoing basis.

The attached project management plan demonstrates a commitment to reach the 2021 completion date with a steady and phased-in process to include: creating project account, performing field survey for construction, completing Dominion Power pole application process, designing project, securing VDOT permits and private property easements, ordering project materials, setting power supply units, performing aerial and underground construction, activating the network, and releasing the addresses. Cox Communications personnel overseeing the planning and construction phases have thoroughly reviewed the project management plan and timeline to confirm that all resources are available to complete the project by the required time frame.

10. 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 the 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's cash match is below 10% of total project cost, applicants must provide financial details demonstrating appropriate private investment. Label Attachments: Attachment 8 - Funding Sources Table; Attachment 9 – Documentation of Match Funding.

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Answer:

Source	Amount	%	Status
Requested VATI	\$ 1,733,908	57	Pending
Cox Communications	\$ 786,427	26	Funded
County of Roanoke	\$ 500,000	17	Funded
	\$		
	\$		
	\$		
	\$		
Total	\$ 3,020,335	100 %	

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

Answer:

Applicant (County of Roanoke) contributing \$500,000.00

Partner (Cox Communications) contributing \$786,427.00

12. 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.

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.

Answer:

a. While the national average on Take Rate hovers around 30% a resounding 73% of our survey participants in the

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

4 areas proposed said they would take high speed internet if the service were available to them.

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. Cox actively promotes its products and services in Roanoke County through a multi-faceted marketing campaign that includes both direct and indirect sales, outdoor billboards, digital advertising and television commercials (https://www.youtube.com/watch?v=v6dzz-17pK4). This build will benefit from all national and local advertising investments by Cox Communications.

In addition to traditional marketing, Cox is also a strong supporter of local businesses and nonprofits through sponsorships at large venues and events that attract attendees from all across the region like Virginia Tech Football,

Cox's YouTube channel is full of commercials, PSAs, and videos highlighting products, services, and community support programs, too.

Cox 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 Cox'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.

Finally, Cox has been serving Roanoke County for more than 40 years with local employees servicing homes and businesses throughout the region. The Cox brand is well-recognized as a local technology leader and a company that is committed to the communities it serves.

?

?

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

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.???

Cox has several resources for families and businesses in support of digital literacy and maximizing broadband capabilities. This summer, Cox announced a new digital learning platform available to Connect2Compete customers to keep kids engaged in academics while they're out of school. MyFuture is The Boys & Girls Clubs of America's digital platform that empowers children and teens to learn new skills, share accomplishments and earn recognition and rewards via gamification in a safe and fun online environment. This tool is accessible from Cox's Digital Academy, our online learning platform full of computer literacy tips, education videos, tutorials and interactive games. The Digital Academy is a collaboration between several partners, including the American Library Association, DigitalLearning.org, Common Sense media, and Connect Home.??

Cox's YouTube channel (youtube.com/user/CoxCommTV) has a ton of resources available to customers including how to get the most out of their products and how to troubleshoot simple issues with technology like resetting a modem.??

For business customers, CoxBlue.com has a ton of resources for small and medium sized businesses—everything from blog posts on small business trends to how to reopen your business after a shutdown.??

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:

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

-
- 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

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

consumer technologies to specific classes dedicated to popular software (Microsoft Office applications, photography apps, social media, networking, etc.) and other popular topics.

-
- The Starlight Community is served by Roanoke County’s South County Library.

-
- The Cove Hollow Road Community is served by Roanoke County’s Glenvar Public Library.

-
- The Bradshaw Community is served by Roanoke County’s Glenvar Public Library.

-
- The Bent Mountain Community is served by Roanoke County’s Bent Mountain Library.

13. 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 applicant is not a locality(s) in which the project will occur, please provide a letter of support from that locality. Attachment 10 – Letters of Support.

Answer:

Name	Title	
Bill Hunter	Director, CommIT	Project Manager
Brian Gladden	Business Systems Analyst	Internal Project Coordinator
Darren Jones	GIS Specialist	Mapping Liaison
Gray Craig	Public Information Office	Marketing/Publicity

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Sarah Buck	Public Affairs Manager, Cox	Roanoke County Liaison
Dale Pollard	Planning and Construction Manager, Cox	Project Manager

Roanoke County is working with Cox Communications, a nationally recognized provider of broadband, digital cable television and other telecommunications services. Cox Communications is the third largest telecommunications corporation in the United States, serving more than 6 million homes and businesses. Cox and Roanoke County entered into their first cable television franchise agreement more than 40 years ago. Since that time the County and Cox have experienced a collaborative and mutually beneficial working relationship.

Cox Communications has made great progress in connecting unserved residents in Roanoke County as development continues in other parts of the County. However, certain rural areas continue to present great challenges; this grant opportunity presents viable means and solutions to expand services where it would otherwise be financially unfeasible.

Cox is familiar with the VATI grant process, being part of one of the first VATI awards made in 2016. Cox successfully partnered with Gloucester County to bring last mile service to more than 100 homes and businesses in a previously unserved area of the County.

14. 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 11 – Derivation of Costs; Attachment 12 - Documentation of Supporting Cost Estimates.

Answer:

As a nationwide company, Cox uses internal employees and corporate contracted resources to complete and perform the proposed work as outlined in this grant application. Cox is able to leverage its scale when it comes to the purchasing of equipment and establishing reasonable contract rates for additional labor as needed. Therefore, Cox has the benefit of not having to request quotes for individual projects; the costs are standard so they're able to build them in to the costs presented in the table provided and are not adjusted based on geographic location, project size, source of funding, or any other factors. Contracted rates are considered proprietary. It is our hope that this explanation will be sufficient in demonstrating to the review board that Cox has done its due diligence to negotiate rates that reflect a responsible use of resources both for the planning and completion of these last mile projects.

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

15. The cost benefit index is comprised of three factors: (i) state share for the total project cost, (ii) state cost per unit passed, and (iii) the internet speed. From these statistics, 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
- c. Highest residential speed available in proposed project area

Answer:

Total VATI funding request	\$1,733,908
Number of serviceable units	327
State Cost per unit passed	\$5,302
Highest residential speed available	940/35 Mbps

16. Commonwealth Priorities

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

- a. How the proposed project fits into a larger plan to achieve universal broadband coverage for the locality. Explain the remaining areas of need in the locality and a brief description of the plan to achieve universal broadband coverage.
- b. 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.
- c. Unique partnerships involved in the proposed project. Examples include electric utilities, universities, and federal/state agencies.
- d. 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:

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

In 2016 the Roanoke County Board of Supervisors adopted the County's first Community Strategic Plan, a collaborative effort between County leaders, its citizens, and a variety of community stakeholders. The Community Strategic Plan set forth seven Strategic Initiatives to guide the development of Roanoke County, including "Connect Roanoke County to the World" by improving communications and data technology in both the business sector and in residential settings. A key component to this initiative is to expand broadband access to areas outside Roanoke County's developed suburban core to create a stronger, healthier, and more educated community that is economically competitive and resilient to crises caused by natural disasters, pandemics, or economic downturns. It is also our goal to encourage affordable broadband access for students, the elderly, and disabled individuals in our community with low or restricted incomes.

Expanding broadband coverage into the remaining pockets of unserved communities will

-
- Increase economic growth to attract new businesses and to strengthen the small business and home-based businesses in Roanoke County;

•
Provide for enhanced Public Safety and NextGen 911 services planned for our community;

•
Enable distance learning to support Roanoke County Public Schools' award-winning K-12 programs and other online higher education and certificate programs that contribute to a stronger workforce;

•
Expand the use of telemedicine and other online health initiatives that improve the lives of Roanoke County's citizens and promotes the overall wellness of our overall community.

Significant areas of Roanoke County that remain without minimum broadband access include

-

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

- Catawba Valley, the area of Roanoke County located north of Catawba Mountain;

-

Mount Pleasant, specifically addresses on Bandy Road and Old Virginia Springs Road south of Ferguson Valley Road;

-

Brookridge Road from the 4300 block south to Pitzer Road, the entirety of Palmetto Bluff Road, and Pitzer Road from the 4900 block to the Franklin County line to the south;

-

Sugar Camp Creek Road adjacent to the Blue Ridge Parkway in southwest Roanoke County between the 10000 block through the 11000 block.

The areas above have traditionally been hard to serve due to their proximity to the Blue Ridge Parkway, railroad crossings, distance from existing physical plant to support broadband, mountain or valley terrain, or residential density measures that drive commercial providers of broadband service.

?

?b. 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.?

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

The area targeted in this grant application include three religious community anchors that will have an impact on the region when broadband expansion is completed.

?

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

The area targeted in this grant application does not at this time include any unique partnerships other than the County of Roanoke and Cox Communications. The grant application includes expansion of broadband service by an incumbent provider within Roanoke County.

?

?d. 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.???

The Cox Connect2Compete program has been in place for 7 years.?To date,?more than 14,000 families in Virginia have benefited from the program?by having access to a broadband-speed, in-home internet connection.?Families with a student in k-12 that participate in government assistance programs like?Head Start,?NSLP, WIC,?LIHEAP,?SNAP, TANF or who live in government housing qualify for this?service option.??

In addition to Connect2Compete, Cox offers a variety of options for connectivity including a pay-as-you-go

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

option called Straight Up internet which is 25/3 mbps in-home internet with wifi for \$50 per month. This option does not require a contract, credit check or deposit. A modem and all fees are included in the \$50 per month pricing.

In response to the COVID crisis in early 2020, Cox put several programs in place to help support residential and business customers respond to the pandemic and its uncertainty. Plans included offering a low-income internet tier with no annual contract and offering two months of free internet to new Connect2Compete customers. Cox was also able to set up a program to help third-party organizations (I.e., localities, non-profits) and businesses help pay for connectivity for families or employees in response to the pandemic.

Furthermore, Cox committed to supporting the FCC's Keep America Connected initiative by not terminating service to any residential or small business customer because of an inability to pay; waiving any late fees that residential or small business customers incurred because of their circumstances related to the pandemic; and opening Cox Wifi outdoor hotspots to help keep the public connected. A review of Cox's COVID-19 pandemic response efforts are included as an attachment.

17. Additional Information

17. Provide any other information that the applicant desires to include. Applicants are limited to four additional attachments.

Label Additional Attachments as:

- a. Attachment 13 – Two most recent Form 477 submitted to the FCC or equivalent
- b. Attachment 14 – XXXXXXXX
- c. Attachment 15 – XXXXXXXX
- d. Attachment 16 – XXXXXXXX
- e. Attachment 17 – XXXXXXXX

Answer:

No other information for this section

Attachments:

Map(s) of project area, including proposed infrastructure

Attachment1ProjectAreaMaps814202024947.pdf

Application to DHCD Submitted through CAMS

Roanoke County

County of Roanoke VATI 2021

Documentation that proposed project area is unserved based on VATI criteria

VATIUnserved814202030300.pdf

Passings Form (Please use template provided)

Passing814202025010.pdf

Timeline/Project Management Plan

RoanokeCountyProjectPlanxlsx002814202025023.xlsx

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

RoanokeCoxVATIMOUDRAFT2020814202025035.docx

Funding Sources Table

Attachment8FundingSourcesTable081420814202025100.docx

Documentation for match funding

Attachment9ROANOKE814202025120.doc

Derivation of Cost (Project Budget)

CoxDerivationcost814202025131.xlsx

Two most recent Form 477 submitted to FCC

Form477814202025140.pdf

Optional

Attachment16BroadbandinthediaROA2814202025153.pdf

Notes:

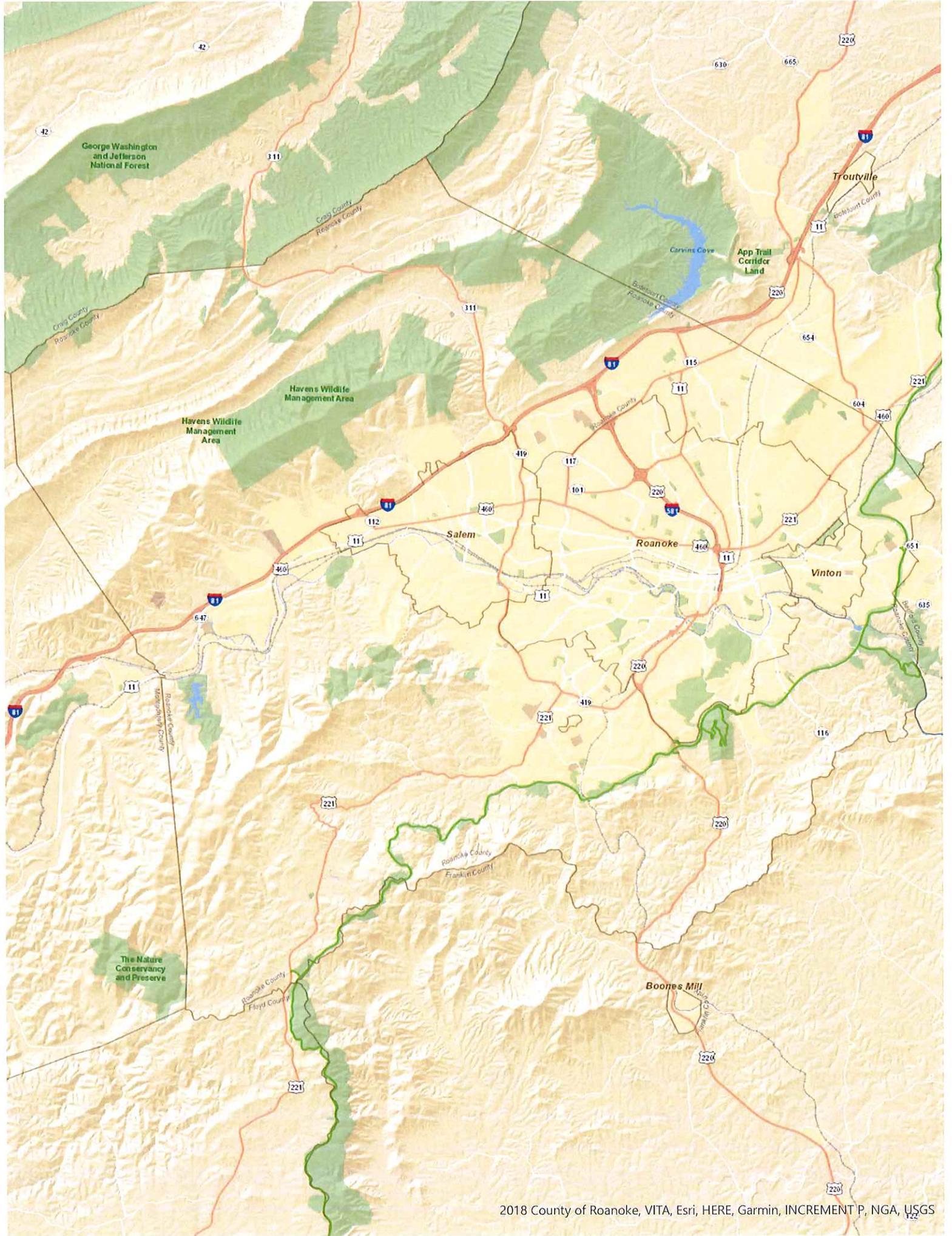
Here are my responses to the most recent VLBN questions: What challenges are you facing in addressing the digital divide during the pandemic? We, the County of Roanoke already knew we had both unserved and underserved prior to the pandemic. We had just completed a survey targeted by direct mail into the areas of the County where we believed the biggest issues were. This was partially based on citizen input we received as surrounding Counties received either VATI Grants or Tobacco money targeted at high speed Internet solutions. Simultaneously we sent surveys home with every student in the Roanoke County Public School (RCPS) system. We received over 2500 valid responses, mapped the results, and have developed address list into to geographical blocks. In

Application to DHCD Submitted through CAMS

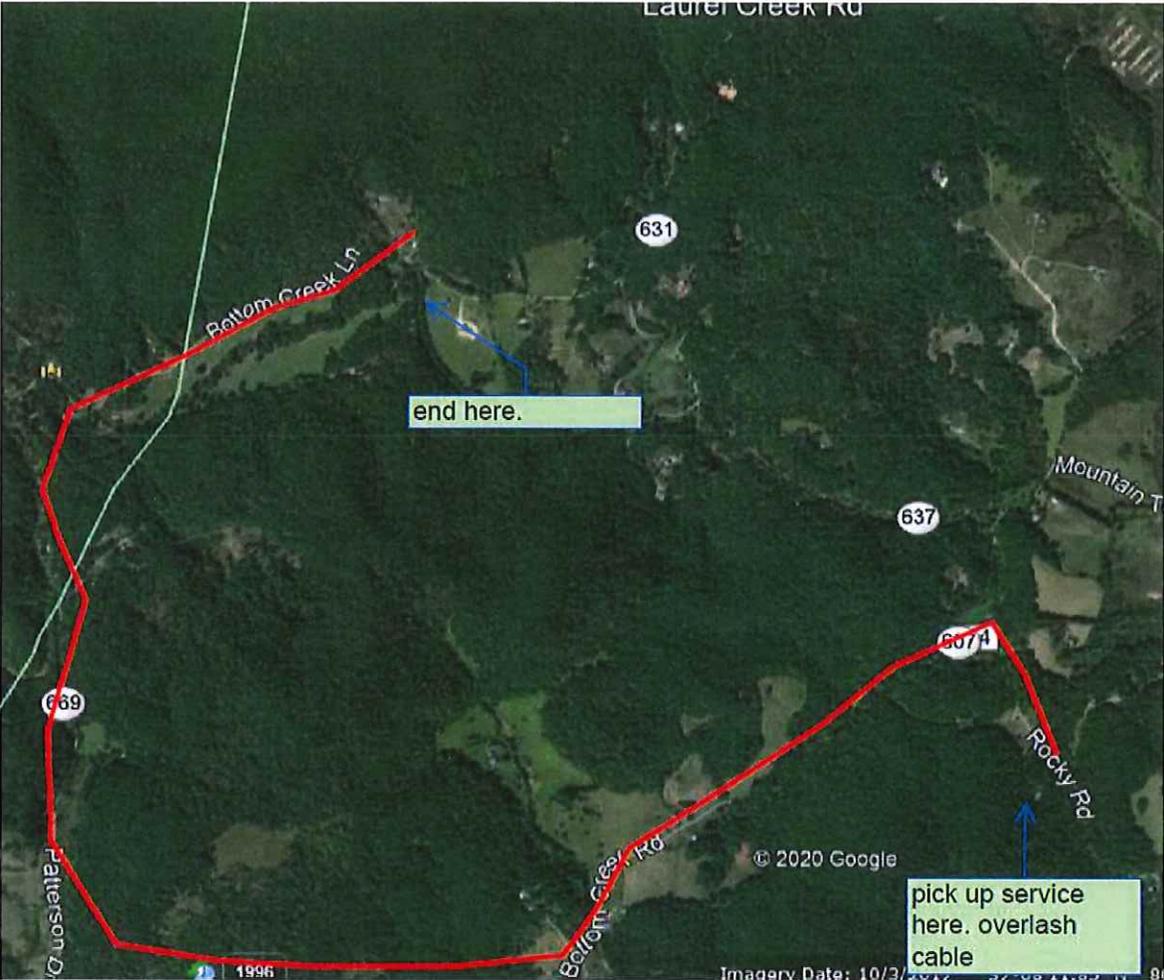
Roanoke County

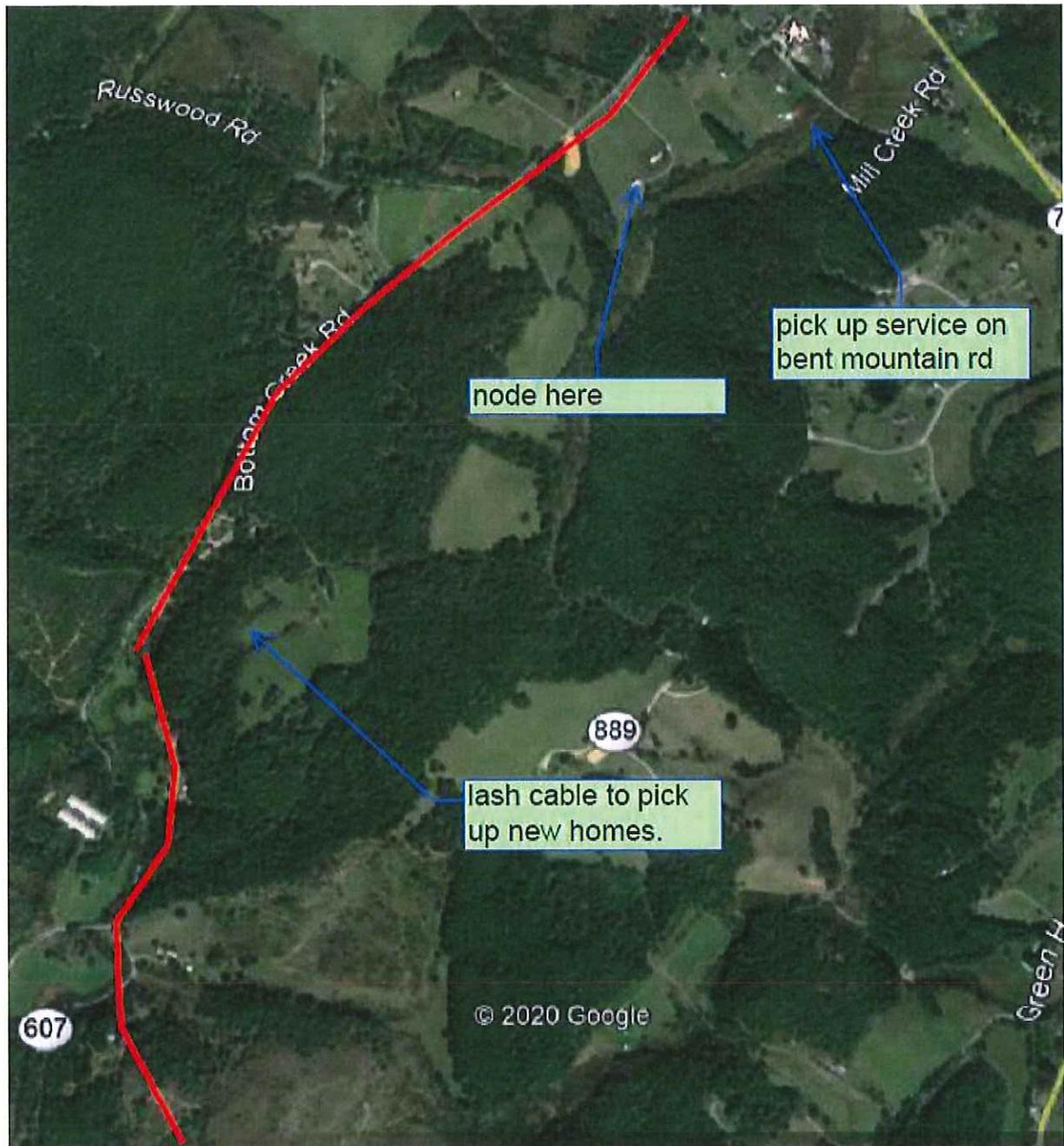
County of Roanoke VATI 2021

preparation for this year's VATI Grant submission we are working with our local providers to develop possible deployment plans. What short term solutions have you implemented or are planning on implementing? Some of the short term solutions include: Expanding Wi-Fi capabilities at our public libraries – the three newest libraries were designed for public access in the parking lots. Advertising public access outside other County facilities Worked with RCPS to open up, with permission, the School Wi-Fi Adding some external access points in areas we know have limited service How can the Commonwealth further help localities with broadband issues during the pandemic? I believe we're playing "catch-up" on this as we. The County of Roanoke, were completely unaware of the size of this issue locally until the "phones started ringing" asking; why isn't Roanoke getting any Grants? This will be our first attempt at a VATI submission so I'm really unsure what the Commonwealth can do further. I'm sure the economics will impact both State and Local Governments for the near future.

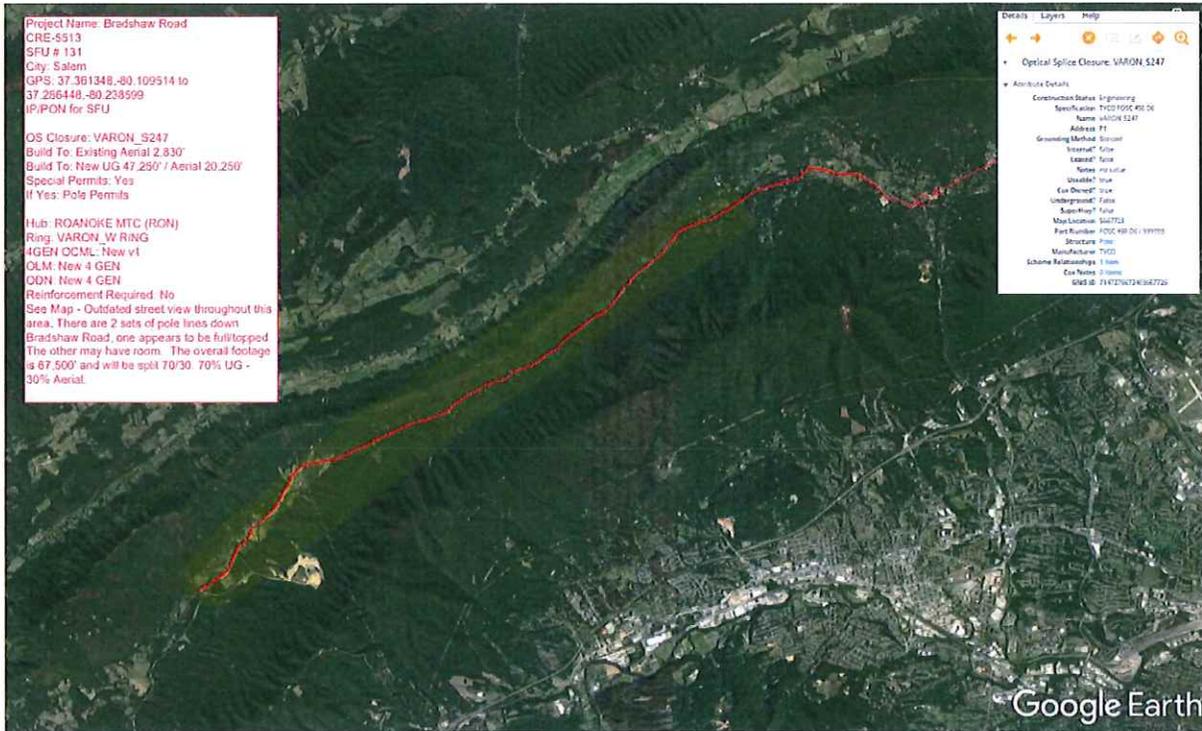


Bent Mountain 1, 2, & 3

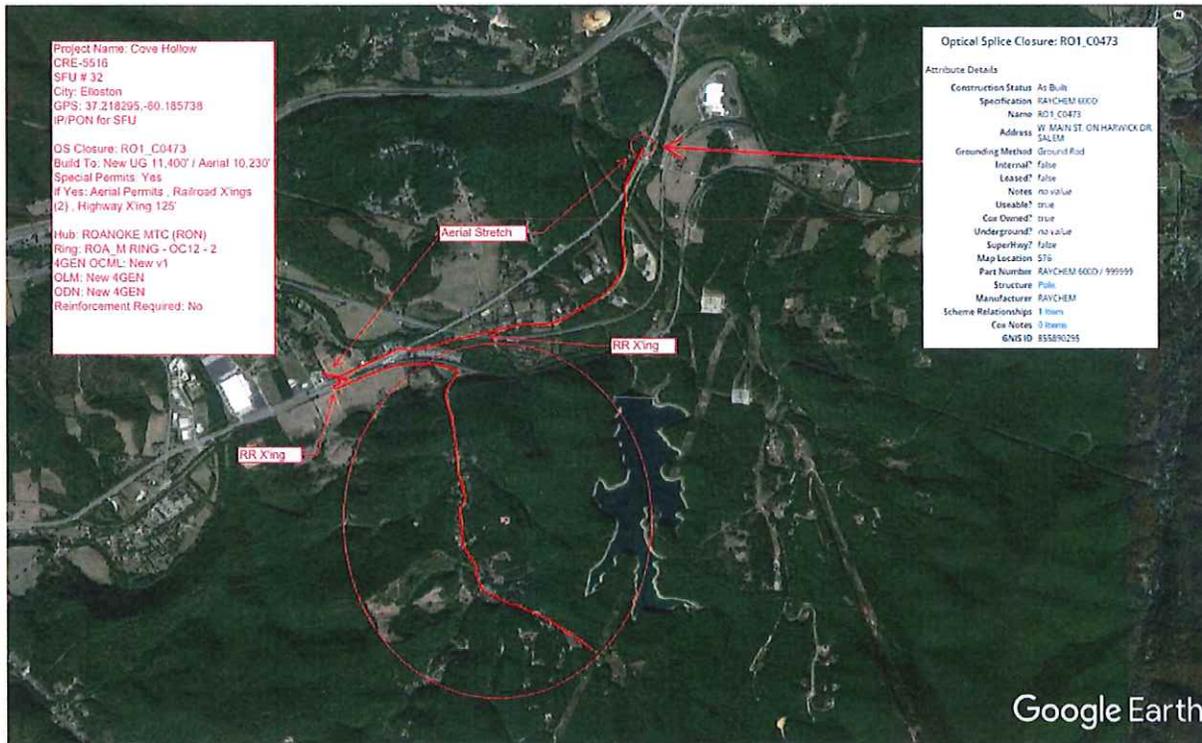




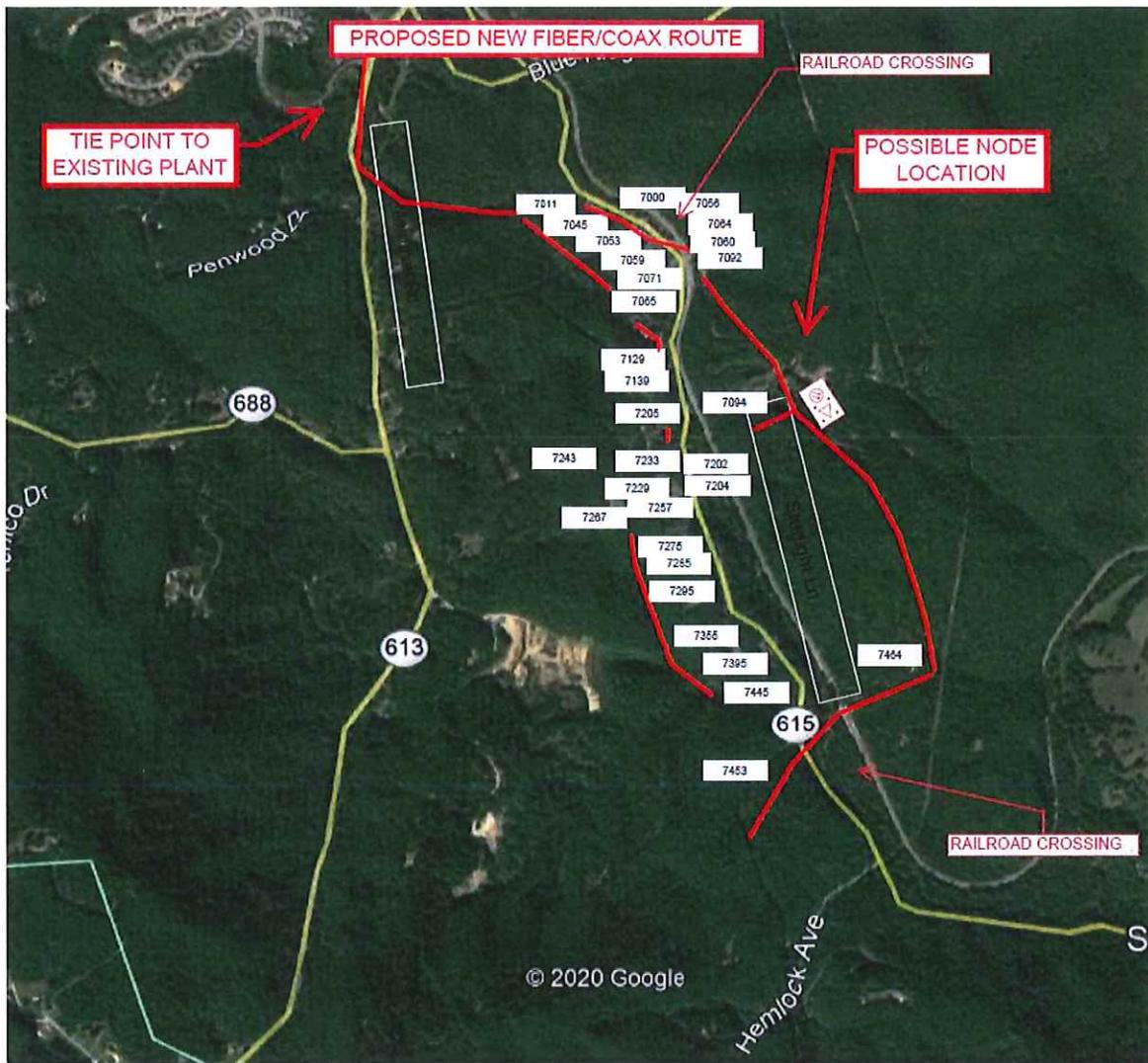
Bradshaw Road

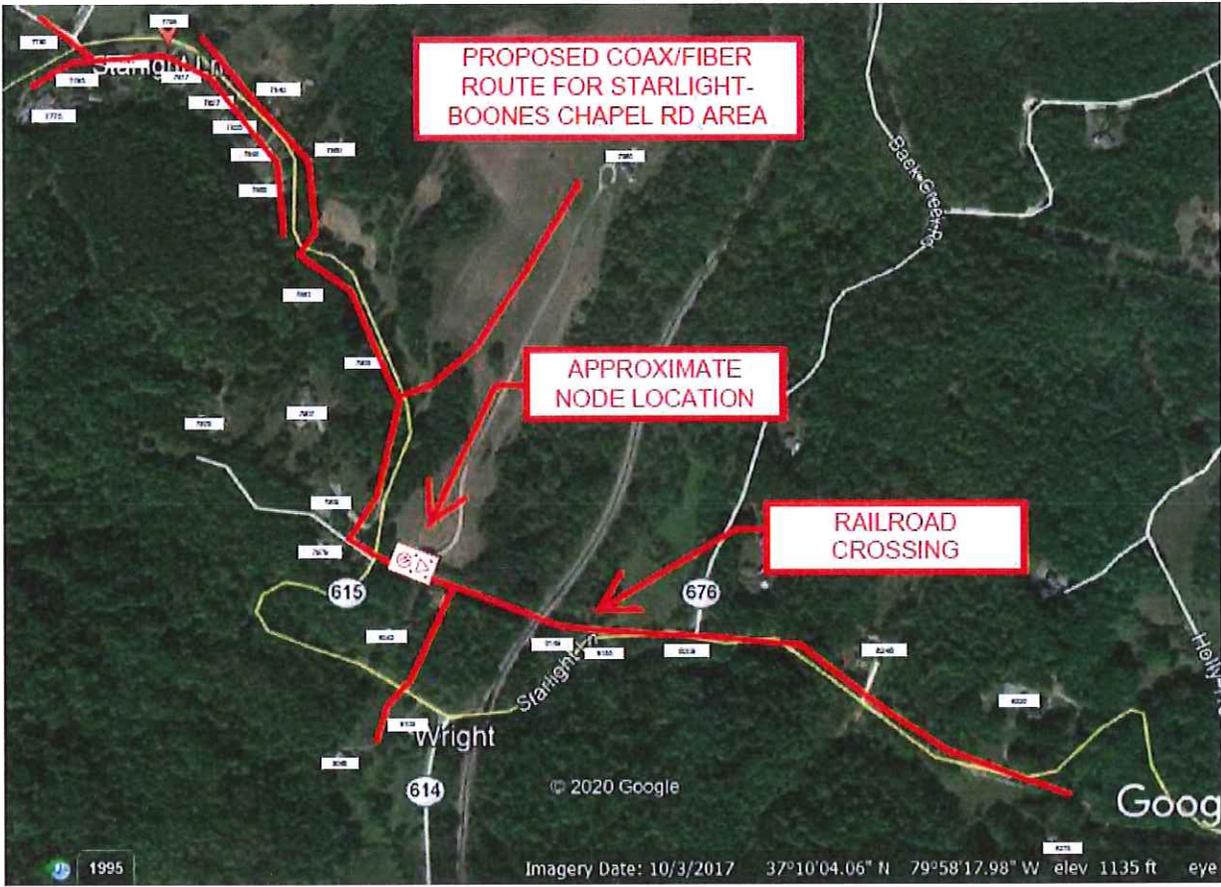


Cove Hollow Road



Starlight Lane 1 & 2





Memorandum

COMMUNICATIONS &



To: DHCD

From: William F. Hunter, Director

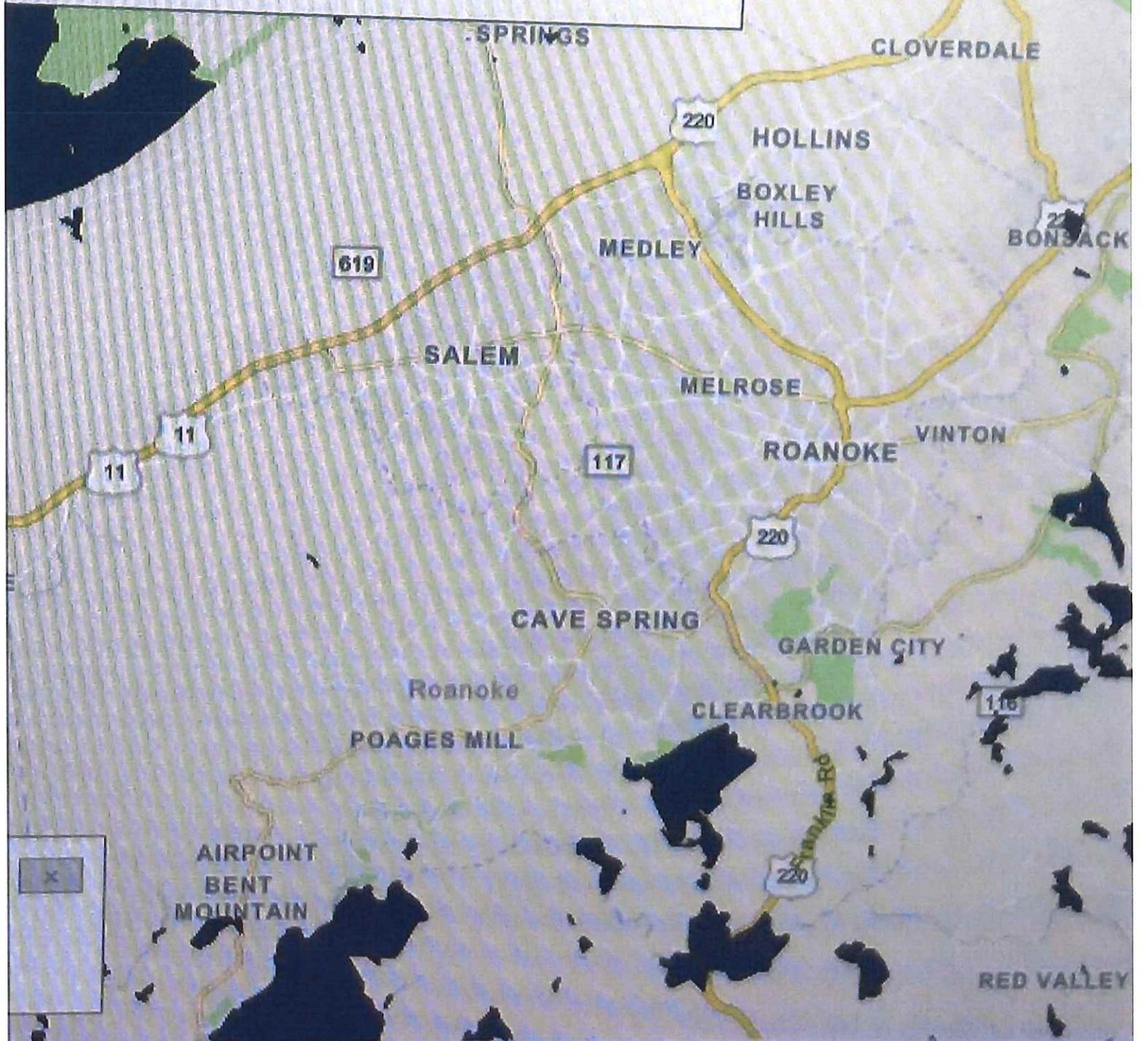
Date: August 17, 2020

Re: Federal Funding

The County of Roanoke is receiving no Federal Funding for the areas applied for in the VATI Grant Application submission. See the attached RDOF Map.

al Digital Opportunity Fund Measure

- Area
- Locations
- Reserve Price
- Eligible Blocks





County of Roanoke Information Technology

5925 Cove Road
Roanoke, Virginia 24019



To Whom it may Concern,

The areas proposed in this application meet the 2021 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 this criteria.

William F. Hunter
Director, Communications and Information Technology

**2021 Virginia Telecommunication Initiative (VATI)
 Passing Form – ROANOKE COUNTY
 STARLIGHT**

Type of Passings	Total Number in Project Area	Number with Speeds at 10/1 or below in Project Area
Residential	55	55
Businesses (non-home based)	0	0
Businesses (home-based)	5	5
Community Anchors	0	0
Non-residential	0	0
Total Number of Passings	55	55

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

Definitions

Passing – any structure that can receive service.

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.

**2021 Virginia Telecommunication Initiative (VATI)
 Passing Form – ROANOKE COUNTY
 COVE HOLLOW**

Type of Passings	Total Number in Project Area	Number with Speeds at 10/1 or below in Project Area
Residential	32	32
Businesses (non-home based)	0	0
Businesses (home-based)	0	0
Community Anchors	1	1
Non-residential	0	0
Total Number of Passings	32	32

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

Definitions

Passing – any structure that can receive service.

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.

**2021 Virginia Telecommunication Initiative (VATI)
 Passing Form – ROANOKE COUNTY
 BRADSHAW**

Type of Passings	Total Number in Project Area	Number with Speeds at 10/1 or below in Project Area
Residential	113	113
Businesses (non-home based)	0	0
Businesses (home-based)	13	13
Community Anchors	1	1
Non-residential	0	0
Total Number of Passings	113	113

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

Definitions

Passing – any structure that can receive service.

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.

**2021 Virginia Telecommunication Initiative (VATI)
 Passing Form – ROANOKE COUNTY
 BENT MOUNTAIN**

Type of Passings	Total Number in Project Area	Number with Speeds at 10/1 or below in Project Area
Residential	109	109
Businesses (non-home based)	0	0
Businesses (home-based)	8	8
Community Anchors	1	1
Non-residential	0	0
Total Number of Passings	117	117

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

Definitions

Passing – any structure that can receive service.

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.

Memorandum

COMMUNICATIONS &



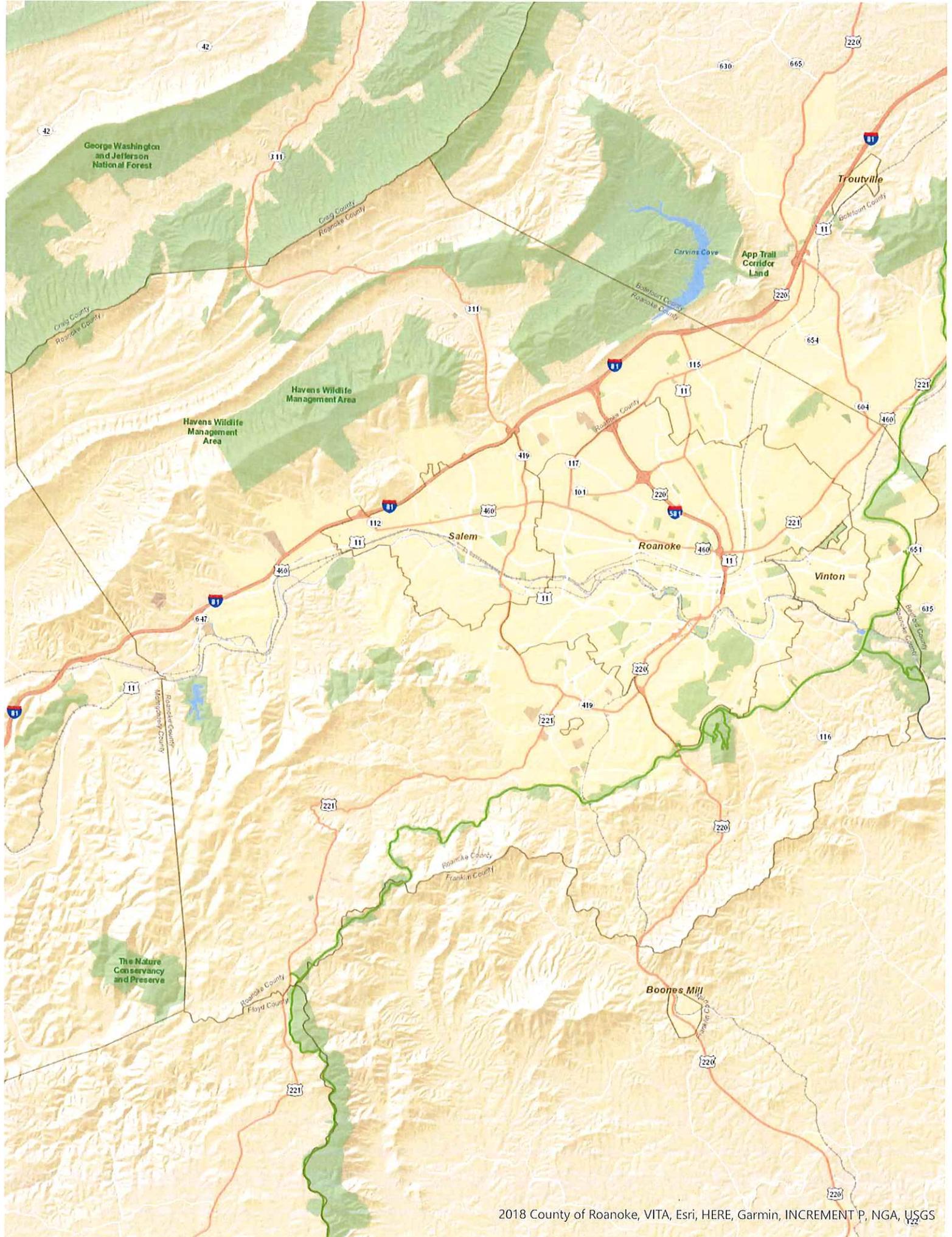
To: DHCD

From: William F. Hunter, Director

Date: August 17, 2020

Re: Wireless Propagation

The County of Roanoke is not proposing any wireless application for the areas applied for in the VATI Grant Application submission. See the attached Propagation Map.



**COUNTY OF ROANOKE, VIRGINIA
AND
COX COMMUNICATIONS HAMPTON ROADS, LLC
MEMORANDUM OF AGREEMENT
FOR
VIRGINIA TELECOMMUNICATIONS INITIATIVE (VATI) GRANT PARTNERSHIP**

THIS MEMORANDUM OF AGREEMENT (this "Agreement") is made this _____ day of _____, 2020, by and between the County of Roanoke, Virginia, a political subdivision of the Commonwealth of Virginia (hereinafter "County") and Cox Communications Hampton Roads, LLC, a Virginia Limited Liability Company (hereinafter "Cox").

WHEREAS, the goal of this Agreement is to set forth the roles and responsibilities of the parties as it relates to partnering on the submission of a Virginia Telecommunications Initiative (VATI) Grant with the goal of obtaining funds to support the extension of existing Cox network to reach un-served residents of Roanoke County, Virginia.

NOW THEREFORE, for and in consideration of the mutual promises, covenants, and warranties, the receipt and sufficiency of which are hereby acknowledged, the parties, intending to be legally bound, hereby agree as follows:

REPRESENTATIONS, WARRANTIES AND COVENANTS OF THE COUNTY:

In addition to the covenants in other sections of this Agreement, the COUNTY represents, warrants and covenants as follows:

Organization, Authorization and Validity. The County of Roanoke, Virginia, a political subdivision of the Commonwealth of Virginia validly existing under the laws of the Commonwealth and has duly authorized, executed and delivered this Agreement. The Agreement is a valid, legal and binding agreement.

Authority. The COUNTY has all requisite authority to execute and deliver and perform its obligations under this Agreement and is not a party to any indenture, contract or other agreement or arrangement, the performance of which by the COUNTY would prevent or materially and adversely affect the COUNTY's ability to perform the terms of this Agreement.

The COUNTY will contribute [an amount to be determined] to the cost of completing the project.

The COUNTY will act as the project manager in relation to the DHCD VATI Grant process and will dedicate certain personnel to the underlying infrastructure project.

REPRESENTATIONS, WARRANTIES AND COVENANTS OF COX:

In addition to the covenants in other sections of this Agreement, Cox represents, warrants and covenants for itself as follows:

Organization, Authorization and Validity. Cox is a duly organized Virginia Limited Liability Company validly existing under the laws of the Commonwealth and has duly authorized, executed and delivered this Agreement. The Agreement is a valid, legal and binding agreement.

Authority. The Cox has all requisite authority to execute and deliver and perform its obligations under this Agreement and is not a party to any indenture, contract or other agreement or arrangement, the performance of which by it would prevent or materially and adversely affect its individual performance under this Agreement.

Implementation of Technology Infrastructure project Cox agrees it will undertake the following tasks to assist with implementation of this Technology Infrastructure Improvement project:

Give approval to be listed as a co-applicant for the 2021 VATI Grant.
Application support providing the following to Roanoke by [DATE]:
Proposed network maps
Details to complete the derivation of costs and budget worksheets
Project management plan including scope of work and timelines
Provide information on service speeds and associated rates
Provide the two most recent 477 FCC filing summary documents
Provide Marketing strategy information
Provide necessary infrastructure materials such as fiber-optic cable
Other items upon request, as able, based on the ability of Cox to do so keeping in mind customer privacy and company interests
Dedicated company resources to gather the aforementioned information.
Funding to support a portion of the overall budget to help meet the 20% minimum contribution requirement from an ISP, locality or the combination of the two.
Confirmation that all projects included in this proposal can be and will be completed within the 12-18 month timeframe as required by the VATI 2021 guidelines.

MUTUAL REPRESENTATIONS, WARRANTIES AND COVENANTS OF THE PARTIES

In addition to the covenants in other sections of this Agreement, the parties represent, warrant and covenant as follows:

Both parties will work together to, to the best of their ability, provide information to successfully meet the requirements as outlined in the VATI 2021 guidelines and evaluation criteria.

Both parties understand the deadline for submission is August 17, 2020 by 11:59 p.m. through the online CAMS process. The County of Roanoke, as the Applicant, agrees to transfer all data to the online application prior to the deadline.

Term of Agreement. (a) The term of this Agreement shall be for two (2) years, with three (2) one (1) year renewal options upon the written agreement of the parties.

Termination. The COUNTY may terminate the contract for cause or for convenience after giving thirty (30) days' notice in writing to Cox. The written notice shall state whether the termination is for convenience or cause. The notice shall be delivered by a commercial courier service or mailed certified with return receipt requested to the address listed herein.

Voluntary Termination. The parties may additionally voluntarily terminate the contract giving sixty (60) days' notice in writing to the other party. The notice shall be delivered by a commercial courier service or mailed certified with return receipt requested to the address listed herein.

Compliance With Applicable Law. Cox shall at all times during the term of this Agreement, including any renewal period, comply with all applicable federal, state, and local laws, Agreements, and regulations. Expressly reserved to the COUNTY is the right to adopt, in addition to the provisions of this Agreement and existing laws, such additional Agreements and regulations as are necessary for the lawful exercise of its police power for the benefit and safety of the public.

Payment of Fees. The COUNTY shall pay all amounts (fees, costs, expenses, compensation allowed by the Roanoke County Code, Roanoke Zoning Agreement and the Code of Virginia, 1950, as amended.

Liability of COUNTY and Indemnification. The COUNTY, its officials, employees, agents, and attorneys, shall not be responsible for any liability of the Cox, any affiliated person or any other person, arising out of or in connection with the installation, maintenance, upgrade, repair or removal of facilities.

The COUNTY and its officials, employees, agents, and attorneys shall have no liability to the Cox, any affiliated Person or any other Person for any special, incidental, consequential or other damages as a result of the exercise of any right of the COUNTY pursuant to this Agreement or applicable law, including, without limitation, the rights of the COUNTY to approve or disapprove the grant, termination, amendment, renewal or transfer of the Franchise, or to otherwise modify all of any part of this Agreement or the Franchise.

To the extent permitted by law, Cox agrees to indemnify, defend and hold harmless the COUNTY, its officers, employees and agents from and against all claims, demands, losses, damages, liabilities, fines, and penalties, and all costs and expenses incurred in connection therewith, including, without limitation, reasonable attorney's fees and costs of defense (collectively, the losses), arising out of any breach by Cox of the terms and conditions of this Agreement, except to the extent proximately caused by the gross negligence or willful misconduct of the COUNTY, its officers, employees and agents. In addition, to the extent permitted by law, Cox shall protect, indemnify, and hold harmless the COUNTY, its officers, agents, and employees, from any and all demands for fees, claims, suits, actions, causes of action, or judgments based on the alleged infringement or violation of any patent, invention, article, arrangement, or other apparatus that may be used in the performance of any work or activity arising out of the use of any fiber optic cabling facilities except to the extent proximately caused by the gross negligence or willful misconduct of the COUNTY, its officers, employees or agents.

General Provisions.

(a)*Authority.* Cox warrants and represents that it has obtained all necessary and appropriate authority and approval from all applicable federal and state agencies or authorities, and upon request by the COUNTY will provide evidence of such authority.

(b)*Other remedies.* Nothing in this Agreement shall be construed as waiving or limiting any rights or remedies that the COUNTY or Cox may have, at law or in equity, for enforcement of this Agreement.

(c)*Severability.* If any section, subsection, sentence, clause, phrase, or other portion of this Agreement, or its application to any person, is, for any reason, declared invalid, in whole or in part by any court or agency of competent jurisdiction, said decision shall not affect the validity of the remaining portions hereof.

(d)*Nonenforcement.* Neither party shall be excused from complying with any of the provisions of this Agreement by any failure of the other party, upon any one or more occasions, to insist upon strict performance of this Agreement or to seek the other party's compliance with any one or more of such terms or conditions of this Agreement.

(e)*Conflicts of law.* If there is a conflict between the provisions of this Agreement and any law, whether federal, state, or COUNTY, including all future laws and Agreements, the law and conflicting Agreement provision will, to the extent reasonably possible, be construed so as to be consistent with each other and if such construction is not reasonably possible, the conflicting provision of this Agreement shall be deemed superseded by such law and have no effect, notwithstanding the contract clause of the United States Constitution.

(f) *Change of law.* Notwithstanding anything in this Agreement, if any federal, state, or local laws or regulations (including, but not limited to, those issued by the Federal Communications Commission or its successor agency) and any binding judicial interpretations thereof (collectively, "Laws") that govern any aspect of the rights or obligations of the parties under this Agreement shall change after the Effective Date and such change (a) declares this Agreement invalid, in whole or in part, or (b) requires the Cox either to (i) perform any act that is inconsistent with any provision of this Agreement or (ii) cease performing any act required by any provision of this Agreement, including any obligations with respect to compensation or other financial obligations pursuant to this Agreement, or (c) alters the COUNTY's jurisdiction or rights related to this Franchise or similar franchises, then either the COUNTY or the Cox shall promptly notify the other of such fact.

Upon receipt of such notification, the parties, acting in good faith, shall determine whether such declaration or requirement has a material and adverse effect on this Agreement. If the parties, acting in good faith, determine that such declaration or requirement does not have a material and adverse effect on this Agreement, then the Cox shall comply with such declaration or requirement. If the parties, acting in good faith, determine that such declaration or requirement does have such an effect or that compliance with such declaration or requirement by the Cox would materially frustrate or impede the ability of the Cox, to carry out its obligations pursuant to, and the purposes of, this Agreement, then the Cox and the COUNTY may enter into good faith negotiations to amend this Agreement. Such materially frustration or impediment of the ability of the Cox shall not include the potential increase in cost or expense to the Cox, nor the choice of location, placement or other requirements of fiber optic cabling facilities. If the parties fail to produce an Agreement which is reasonably acceptable to both the COUNTY and the Cox, then the COUNTY or Cox may accelerate the expiration of the Term so that the Term shall expire on a date determined by the COUNTY and Cox not less than twelve (12) months after such determination.

(g) *Controlling law and venue.* By virtue of entering into this Agreement, Cox agrees and submits itself to the Roanoke Circuit Court in the County of Roanoke, Virginia or in the United States District Court for the Western District of Virginia, Norfolk Division, and further agrees that this Agreement is controlled by the laws of the Commonwealth of Virginia or any applicable federal laws and that all claims, disputes and other matters shall be decided only by such court according to the laws of the Commonwealth of Virginia or any applicable federal laws.

(h) *Captions.* The section captions and headings in this Agreement are for convenience and reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

(i) *Nondiscrimination.* During the performance of this Agreement, Cox agrees that it will not discriminate against any employee or applicant for employment on the basis of race, religion, color, sex, handicap national origin or any other legally-protected class as set forth by the Virginia Values Act or other applicable statutes. Cox agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. Cox, in all solicitations or advertisements for employees placed by or on behalf of Cox, will state that Cox is an equal opportunity employer. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements herein.

(j) *Entire Agreement.* This Agreement, including all Appendices, embodies the entire understanding and Agreement of the COUNTY and the Cox with respect to the subject matter

hereof and merges and supersedes all prior representations, agreements and understandings, whether oral or written, between the COUNTY and Cox with respect to the subject matter hereof, including, without limitation, all prior drafts of this Agreement and any Appendix to this Agreement and any and all written or oral statements or representations by any official, employee, agent, attorney, consultant or independent contractor of the COUNTY or the Cox.

(k)*Delays and Failures Beyond Control of Cox.* Notwithstanding any other provision of this Agreement, the Cox shall not be liable for delay in performance of, or failure to perform, in whole or in part, its obligations pursuant to this Agreement due to strike, war or act of war (whether an actual declaration of war is made or not), insurrection, riot, act of public enemy, fire, flood or other act of God, or sabotage, where the Cox has exercised all due care in the prevention thereof, to the extent that such causes or other events are beyond the control of the Cox and such delay in performance or failure to perform affects only part of the Cox's capacity to perform, the Cox shall perform to the maximum extent it is able to do so and shall take all steps within its power to correct such cause(s).

The Cox agrees that in correcting such cause(s), it shall take all reasonable steps to do so in as expeditious a manner as possible. The Cox shall notify the COUNTY in writing of the occurrence of an event covered by this Section within five (5) business days or a reasonable time period under the circumstances of the date upon which the Cox learns of its occurrence.

(l)*Notices.*

(1) Notices given pursuant to this Agreement shall be in writing and addressed as follows:

To the County:

[CONTACT]

[ADDRESS]

With a courtesy copy to:

[CONTACT]

[ADDRESS]

To COX COMMUNICATIONS HAMPTON ROADS, LLC:

To Cox: Manager, Government and Public Affairs

Attn: Sarah Buck

1341 Crossways Blvd.

Chesapeake, VA 23320

With an optional courtesy copy to:

Richard Strong

6205-B Peachtree Dunwoody Road NE #16-112

Atlanta, GA 30328

(2) Either party may change the address at which it will receive notices by providing written notice of the change to the other party.

(m)*No Agency.* The Cox shall conduct the work to be performed pursuant to this Agreement as an independent contractor and not as an agent of the COUNTY.

(n)*Survival.* All representations and warranties contained in this Agreement shall survive the Term. The Cox acknowledges that certain of the obligations to be performed under this Agreement are to be performed after the Franchise terminates or expires.

(o)*Delegation of COUNTY Rights.* The COUNTY reserves the right to delegate and re-delegate, from time to time, any of its rights or obligations under this Agreement to any body, organization or official. Upon such delegation or re-delegation, references to "COUNTY" in this Agreement shall refer to the body, organization or official to whom such delegation or re-delegation has been made.

Upon receipt of such notice by the Cox, the Cox shall be bound by all terms and conditions of the delegation not in conflict with this Agreement. Any such delegation, revocation or re-delegation, no matter how often made, shall not be deemed an amendment to this Agreement or require any consent of the Cox.

(p)*Modifications.* Except as otherwise provided in this Agreement, (including any Appendix to this Agreement), or applicable law, no provision of this Agreement (nor any Appendix to this Agreement), shall be amended or otherwise modified, in whole or in part, except by an instrument, in writing, duly executed by the COUNTY and the Cox, which amendment shall be authorized on behalf of the COUNTY through the adoption of an appropriate Agreement, resolution or order by the COUNTY, as required by applicable law.

(q)*Reservation of Rights.* The COUNTY reserves the right to adopt or issue such lawful rules, regulations, orders, or other directives governing the Cox's use public property controlled or owned by the County as it shall find necessary or appropriate in the exercise of its police power, and such other orders as the COUNTY shall find necessary or appropriate pursuant to and in furtherance of the purposes of this Agreement, and the Cox expressly agrees to comply with all such lawful rules, regulations, orders, or other directives. If any such exercise of right materially alters any of the terms or conditions of this Agreement, the parties may, acting in good faith, negotiate such change. No rule, regulation, order or other directive issued pursuant to this Section shall constitute an amendment to this Agreement.

(r)*Reports.* At the reasonable request of the COUNTY, the Cox shall promptly submit to the COUNTY such information, as maintained in the ordinary course of business, as the COUNTY may request and as allowed by federal and state law regarding the Cox's placement and location of equipment in the public streets and payments and collections made by Cox pursuant to this Agreement.

(s)*Books and Records, Right of Inspection.* Throughout the Term, the Cox shall maintain in the COUNTY, or make available at Cox's location in the COUNTY or as mutually agreed upon by the COUNTY and Cox within fifteen (15) business days after receipt of written request, or within the time that is reasonable under the circumstances though not to exceed thirty (30) days, complete and accurate books of account, documents and records, or copies thereof, of the business, ownership, and operations of the Cox with respect to Cox's installation, construction, maintenance, upgrade, repair, relocation and removing of the facilities in the Public streets that may be required under this Agreement, including without limitation, all records, as maintained in the ordinary course of business, adequate to enable the Cox to demonstrate, at all times throughout the Term that it is, and has been, in compliance with each term and condition of this Agreement. The COUNTY and its designated representatives shall have the right to inspect, examine and audit, during normal business hours and upon thirty (30) days' notice to the Cox, all such documents, records and other information of the Cox required to be maintained.

(t)*Treatment of Proprietary Information.* The parties acknowledge that the County is bound by the mandates of the Virginia Freedom of Information Act. Access by the COUNTY to the documents, records or other information covered by this Agreement shall not be denied by

the Cox on grounds that such documents, records or information are alleged by the Cox to contain proprietary information, provided that this requirement shall not be deemed to constitute a waiver of the Cox's right to assert that the proprietary information contained in such documents, records or other information, should not be disclosed and to withhold such information upon the agreement of the COUNTY. In order to determine the validity of such assertion and withholding by the Cox, the COUNTY agrees to review the alleged proprietary information at the Cox's premises, subject to the terms as reasonably determined by the parties, and, to limit access to the alleged proprietary information to those individuals who require the information in the exercise of the COUNTY's rights under this Agreement, as reasonably determined by the parties. If the COUNTY Attorney concurs with the Cox's assertion regarding the proprietary nature of such information, the COUNTY will not disclose such information to any Person and will not remove from the Cox's premises the proprietary portion of any document or other tangible thing that contains such proprietary information. If the COUNTY Attorney does not concur with such assertion, then the Cox shall promptly provide such documents, including the alleged proprietary portion thereof, to the COUNTY, provided that the Cox shall not be required to provide the proprietary portion thereof if it promptly notifies the COUNTY of its intentions to challenge the COUNTY Attorney's decision or during the pendency of any court challenge to such provision. The labeling of documents, records or other information as proprietary shall be the sole responsibility of the Cox.

COUNTY OF ROANOKE, VIRGINIA

County Administrator [or other designated signatory]

APPROVED AS TO FORM:

County Attorney

The undersigned hereby agrees to comply with all the terms, requirements and conditions of the above Memorandum of Agreement.

COX COMMUNICATIONS HAMPTON ROADS, LLC

By: _____

Name: _____

Its: _____

Date: _____

State of _____

COUNTY/County of _____, TO WIT;
The foregoing instrument was acknowledged before me this ____ day of _____, 2020,
by , _____ of Cox Communications Hampton Roads, LLC. He/she is personally known to me or
has produced _____ as evidence of identification.

Notary Public

My commission expires _____ My registration number: _____

DRAFT

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	\$ 1,733,908	57	Pending
Cox Communications	\$ 786,427	26	FUNDED
COUNTY OF ROANOKE	\$ 500,000	17	FUNDED
	\$		
	\$		
	\$		
	\$		
TOTAL	\$ 3,020,335	100 %	



Government and Public Affairs
1341 Crossways Blvd.
Chesapeake, VA 23320

August 13, 2020

Ms. Dawn Rago
Buyer, County of Roanoke
5204 Bernard Drive
Roanoke, VA 24018

Dear Ms. Rago,

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

This intent of this letter is to confirm our commitment to matching funds for this project and to provide assurance of our financial ability to do so. Cox Communications is the largest private telecom company in America, proudly serving six million homes and businesses across 18 states. Cox Communications is the largest division of Cox Enterprises, a family-owned, global company founded in 1898 by Governor James M. Cox, that reported \$21B in annual revenues last year.

Over the past 15 years, Cox Communications has invested more than \$2.2 billion in Virginia alone and continues to invest to enhance our network, reach the unserved in our service area, and provide programs to support families in need.

Please accept this letter in lieu of a financial statement documenting current assets due to our position as a privately-held company.

Sincerely,

A handwritten signature in black ink, appearing to read "Sarah". The signature is fluid and cursive.

Sarah Buck
Manager, Public Affairs

Memorandum

COMMUNICATIONS &



To: DHCD

From: William F. Hunter, Director

Date: August 17, 2020

Re: Matching Funds

The County of Roanoke has committed \$500,000.00 in Capital Improvement Funds toward the completion of the areas applied for in the VATI Grant Application submission.

Memorandum

COMMUNICATIONS &



To: DHCD

From: William F. Hunter, Director

Date: August 17, 2020

Re: Letter of Support

The County of Roanoke fully supports the proposed partnership with Cox Communications in the areas applied for in the VATI Grant Application submission. This submission is the culmination of over a year of study and will continue the goal of “Connecting Roanoke County to the World” as set forth in our 2016 Community Strategic Plan.

Internet access has proven to be a critical “utility” during this recent Pandemic and access is even more important now than ever.



Government and Public Affairs
1341 Crossways Blvd.
Chesapeake, VA 23320

August 1, 2020

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

Dear Mr. Hunter,

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.

As a nationwide company, Cox uses internal employees and corporate contracted resources to complete and perform the proposed work as outlined in this grant application. Cox is able to leverage its scale when it comes to the purchasing of equipment and establishing reasonable contract rates for additional labor as needed. Therefore, we have the benefit of not having to request quotes for individual projects; the costs are standard so we're able to build them in to the costs presented in the table provided and are not adjusted based on geographic location, project size, source of funding, or any other factors. Contracted rates are considered proprietary.

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 responsible 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 an attached document as requested in the 2020 VATI Application for question number 14 (attachment 12).

Sincerely,

A handwritten signature in black ink, appearing to read 'Sarah Buck'. The signature is fluid and cursive.

Sarah Buck
Manager, Public Affairs

Starlight Lane 1&2

Product	Total	VATI	Non-VATI	Source of Estimate	Date
Construct approx. 15.93 miles of new fiber optic backbone UG and coax network to include electronics and Make-Ready fiber reinforcement, MTC equipment. Transmit and Receiver laser. CMTS equipment for data @ \$23,708 per mile.	\$ 377,676	\$ 239,944	\$ 137,732	Cox Communications	8/4/2020
Total Cost of Project	\$ 377,676	\$ 239,944	\$ 137,732		

Cove Hollow

Product	Total	VATI	Non-VATI	Source of Estimate	Date
Construct approx. 2.15 miles of new fiber optic backbone UG network to include electronics and Make-Ready fiber reinforcement, MTC equipment. Transmit and Receiver laser. CMTS equipment for data @ \$196,379 per mile.	\$ 422,215	\$ 393,734	\$ 28,481	Cox Communications	8/4/2020
Total Cost of Project	\$ 422,215	\$ 393,734	\$ 28,481		

Bradshaw Rd

Product	Total	VATI	Non-VATI	Source of Estimate	Date
Construct approx. 9.31 miles of new UG and 3.99 areial coaxial network to include electronics and Make-Ready fiber reinforcement MTC equipment. Transmit and Receiver laser. CMTS equipment for data @ \$113,779 per mile.	\$ 1,514,400	\$ 1,351,786	\$ 162,614	Cox Communications	8/4/2020
Total Cost of Project	\$ 1,514,400	\$ 1,351,786	\$ 162,614		

Bent Mountain

Product	Total	VATI	Non-VATI	Source of Estimate	Date
Construct approx. 2.8 miles of new UG coaxial network to include electronics and Make-Ready @ \$38,424 per mile .	\$ 107,589	\$ 68,701	\$ 38,888	Cox Communications	8/4/2020
Construct approx. 37.38 miles of new aerial coaxial network to include electronics and Make-Ready @ \$16,010 per mile.	\$ 598,455	\$ 179,743	\$ 418,712	Cox Communications	8/4/2020
Total Cost of Project A10	\$ 706,044	\$ 248,444	\$ 457,600		



(RETAIN FOR YOUR RECORDS) Form 477 Filing Summary

FRN: **0001834696**

Data as of: **Dec 31, 2019**

Operations: **Non-ILEC**

Submission Status: **Revised - Submitted**

Last Updated: **Jul 13, 2020 10:05:30**

Filer Identification

Section	Question	Response
Filer Information	Company Name	Cox Communications
	Holding Company Name	Cox Communications, Inc.
	SAC ID	279011, 439003, 549017
	499 ID	827138

Section	Question	Response
Data Contact Information	Data Contact Name	Paul Cain
	Data Contact Phone Number	(404) 269-8139
	Data Contact E-mail	paul.cain@cox.com
Emergency Operations Contact Information	Emergency Operations Name	Mark Peay
	Emergency Operations Phone Number	(404) 227-6704
	Emergency Operations E-mail	mark.peay@cox.com
Certifying Official Contact Information	Certifying Official Name	Joiava T. Philpott
	Certifying Official Phone Number	(404) 269-0983
	Certifying Official E-mail	joiava.philpott@cox.com

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	Fixed_Broadband_Deployment_FCC_123119_v3a1_Rem_Block_Island.txt	Jul 13, 2020 09:54:58	312377
	Fixed_Broadband_Deployment_FCC_123119_v3a_CB_XMIT_50.txt	Jul 13, 2020 09:47:21	14
Fixed Broadband Subscription	Fixed_Broadband_Subscription_FCC_123119_v2.txt	Jul 13, 2020 09:47:21	110134
Fixed Voice Subscription	Voice_Telephone_Subscription_Detail_123119.txt	Jul 13, 2020 09:47:21	6687

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Arizona	Cox Communications	Cable Modem – DOCSIS 3.0	1621
		Cable Modem – DOCSIS 3.1	54532
		Optical Carrier/Fiber to the End User	4494
Arkansas	Cox Communications	Cable Modem – DOCSIS 3.1	12510
		Optical Carrier/Fiber to the End User	130
California	Cox Communications	Cable Modem – DOCSIS 3.0	1339
		Cable Modem – DOCSIS 3.1	27577
		Optical Carrier/Fiber to the End User	978
Connecticut	Cox Communications	Cable Modem – DOCSIS 3.1	6062

State	DBA Name	Technology	Blocks
		Optical Carrier/Fiber to the End User	25
District of Columbia	Cox Communications	Cable Modem – DOCSIS 3.1	5
		Optical Carrier/Fiber to the End User	3
Florida	Cox Communications	Cable Modem – DOCSIS 3.0	144
		Cable Modem – DOCSIS 3.1	13927
		Optical Carrier/Fiber to the End User	143
Georgia	Cox Communications	Cable Modem – DOCSIS 3.0	6
		Cable Modem – DOCSIS 3.1	5409
		Optical Carrier/Fiber to the End User	75

State	DBA Name	Technology	Blocks
Idaho	Cox Communications	Cable Modem – DOCSIS 3.1	734
		Optical Carrier/Fiber to the End User	8
Iowa	Cox Communications	Cable Modem – DOCSIS 3.1	1453
		Optical Carrier/Fiber to the End User	4
Kansas	Cox Communications	Cable Modem – DOCSIS 3.1	28843
		Optical Carrier/Fiber to the End User	160
Louisiana	Cox Communications	Cable Modem – DOCSIS 3.0	9
		Cable Modem – DOCSIS 3.1	36100
		Optical Carrier/Fiber to the End User	203

State	DBA Name	Technology	Blocks
Massachusetts	Cox Communications	Cable Modem – DOCSIS 3.1	99
		Optical Carrier/Fiber to the End User	1
Nebraska	Cox Communications	Cable Modem – DOCSIS 3.0	9
		Cable Modem – DOCSIS 3.1	12168
		Optical Carrier/Fiber to the End User	318
Nevada	Cox Communications	Cable Modem – DOCSIS 3.0	19
		Cable Modem – DOCSIS 3.1	17118
		Optical Carrier/Fiber to the End User	263
North Carolina	Cox Communications	Cable Modem – DOCSIS 3.1	25

State	DBA Name	Technology	Blocks
		Optical Carrier/Fiber to the End User	2
Ohio	Cox Communications	Cable Modem – DOCSIS 3.0	1
		Cable Modem – DOCSIS 3.1	2107
		Optical Carrier/Fiber to the End User	3
Oklahoma	Cox Communications	Cable Modem – DOCSIS 3.0	13
		Cable Modem – DOCSIS 3.1	30013
		Optical Carrier/Fiber to the End User	838
Rhode Island	Cox Communications	Cable Modem – DOCSIS 3.0	2
		Cable Modem – DOCSIS 3.1	18534

State	DBA Name	Technology	Blocks
		Optical Carrier/Fiber to the End User	35
Virginia	Cox Communications	Cable Modem – DOCSIS 3.0	27
		Cable Modem – DOCSIS 3.1	34147
		Optical Carrier/Fiber to the End User	155
Total			312391

Fixed Broadband Subscription

Fixed Broadband Subscriptions by State, Technology and End-user Type

State	Technology	Census Tracts	Subscriptions	
			Consumer	Business / Govt Total
Arizona	Cable Modem	19544	1198616	88001 1286617

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Arkansas	Optical Carrier/Fiber to the End User	4143	69323	3944	73267
	Cable Modem	2363	124431	12173	136604
	Optical Carrier/Fiber to the End User	361	2491	376	2867
	Cable Modem	11752	825476	56682	882158
California	Optical Carrier/Fiber to the End User	2386	22140	5346	27486
	Cable Modem	2017	117107	9935	127042
Connecticut	Optical Carrier/Fiber to the End User	152	929	131	1060

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
District of Columbia	Optical Carrier/Fiber to the End User	3	0	3	3
	Cable Modem	3397	230133	19278	249411
Florida	Optical Carrier/Fiber to the End User	495	5126	672	5798
	Cable Modem	1256	72752	6565	79317
Georgia	Optical Carrier/Fiber to the End User	205	2881	208	3089
	Cable Modem	76	6608	645	7253
Idaho	Optical Carrier/Fiber to the End User	7	0	9	9

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Iowa	Cable Modem	431	18298	1294	19592
	Optical Carrier/Fiber to the End User	42	69	44	113
Kansas	Cable Modem	5298	250944	21248	272192
	Optical Carrier/Fiber to the End User	604	1664	737	2401
Louisiana	Cable Modem	9426	402184	37114	439298
	Optical Carrier/Fiber to the End User	1631	5626	2263	7889
Massachusetts	Cable Modem	23	1001	15	1016

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
	Optical Carrier/Fiber to the End User	1	0	1	1
Nebraska	Cable Modem	3529	197093	15161	212254
	Optical Carrier/Fiber to the End User	727	7567	633	8200
Nevada	Cable Modem	8209	548546	41373	589919
	Optical Carrier/Fiber to the End User	1419	24156	1914	26070
North Carolina	Cable Modem	21	480	10	490
	Optical Carrier/Fiber to the End User	2	0	2	2

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Ohio	Cable Modem	1312	47993	3023	51016
	Optical Carrier/Fiber to the End User	31	0	34	34
Oklahoma	Cable Modem	9274	400973	40839	441812
	Optical Carrier/Fiber to the End User	2194	11815	3401	15216
Rhode Island	Cable Modem	4190	190549	17516	208065
	Optical Carrier/Fiber to the End User	355	1015	420	1435
Virginia	Cable Modem	11597	534360	53828	588188

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
	Optical Carrier/Fiber to the End User	1661	6639	2623	9262
Total		110134	5328985	447461	5776446

Fixed Broadband Subscriptions by Bandwidths and End-user Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Subscriptions		
		Consumer	Business / Govt	Total
0.256	0.256	0	167	167
0.384	0.384	0	3327	3327
0.512	0.512	0	6	6
0.768	0.768	0	1	1

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
1.000	0.256	0	5	5
1.000	1.000	0	47	47
1.500	0.384	0	210	210
1.500	0.512	0	3	3
1.500	1.500	0	313	313
2.000	0.384	0	91	91
2.000	2.000	0	2861	2861
3.000	0.384	0	1	1
3.000	0.512	0	1556	1556

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
3.000	3.000	0	152	152
4.000	4.000	0	12	12
5.000	1.000	118	704	822
5.000	2.000	0	417	417
5.000	5.000	0	336	336
6.000	1.000	0	1101	1101
6.000	2.000	0	50	50
6.000	6.000	0	73	73
7.000	7.000	0	3	3

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
8.000	2.000	0	8	8
8.000	8.000	0	8	8
9.000	1.000	0	955	955
9.000	9.000	0	2	2
10.000	1.000	235302	0	235302
10.000	2.000	0	64028	64028
10.000	3.000	0	61	61
10.000	10.000	0	1060	1060
13.000	4.000	0	1	1

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
15.000	1.500	0	1	1
15.000	2.000	41013	0	41013
15.000	3.000	0	7683	7683
15.000	5.000	0	401	401
15.000	15.000	0	20	20
15.500	5.000	0	43	43
20.000	3.000	0	9587	9587
20.000	4.000	0	6	6
20.000	20.000	0	1744	1744

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
25.000	3.000	110247	0	110247
25.000	4.000	0	1556	1556
25.000	5.000	26042	91421	117463
25.000	10.000	0	97	97
25.000	15.000	0	2	2
25.000	25.000	0	64	64
28.000	4.000	0	179	179
30.000	3.000	832837	0	832837
30.000	10.000	0	182	182

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
30.000	30.000	0	770	770
35.000	35.000	0	1	1
40.000	40.000	0	326	326
45.000	45.000	0	10	10
50.000	5.000	0	6842	6842
50.000	10.000	0	104463	104463
50.000	15.000	0	195	195
50.000	50.000	0	3542	3542
60.000	15.000	0	153	153

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
60.000	60.000	0	21	21
70.000	70.000	0	11	11
75.000	10.000	0	4	4
75.000	25.000	0	655	655
75.000	75.000	0	22	22
80.000	10.000	0	8	8
80.000	20.000	0	32	32
80.000	80.000	0	3	3
90.000	90.000	0	4	4

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
100.000	10.000	42182	16	42198
100.000	20.000	0	87706	87706
100.000	30.000	0	115	115
100.000	40.000	0	1	1
100.000	50.000	0	1	1
100.000	100.000	0	5906	5906
120.000	120.000	0	1	1
130.000	130.000	0	2	2
140.000	30.000	0	7	7

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
150.000	10.000	2543852	17	2543869
150.000	20.000	7635	648	8283
150.000	40.000	0	9	9
150.000	150.000	0	117	117
155.000	155.000	0	11	11
200.000	10.000	314662	0	314662
200.000	20.000	0	21820	21820
200.000	200.000	0	1904	1904
250.000	250.000	0	53	53

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
300.000	30.000	903043	13370	916413
300.000	50.000	0	2	2
300.000	75.000	0	19	19
300.000	300.000	0	933	933
400.000	400.000	0	206	206
500.000	35.000	0	2351	2351
500.000	500.000	0	1023	1023
600.000	600.000	0	20	20
700.000	700.000	0	17	17

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
800.000	800.000	0	3	3
1000.000	35.000	272052	1951	274003
1000.000	1000.000	0	1361	1361
2000.000	2000.000	0	104	104
3000.000	3000.000	0	34	34
4000.000	4000.000	0	16	16
5000.000	5000.000	0	40	40
6000.000	6000.000	0	6	6
8000.000	8000.000	0	3	3

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
10000.000	10000.000	0	56	56
12000.000	12000.000	0	1	1
20000.000	20000.000	0	1	1
40000.000	40000.000	0	2	2
100000.000	100000.000	0	1	1
Total		5328985	447461	5776446

Fixed Broadband Subscriptions by Technology, Bandwidths and End-user Type

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Cable Modem	0.256	0.256	0	162	162
	0.384	0.384	0	3320	3320

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	1.000	0.256	0	5	5
	1.500	0.384	0	210	210
	1.500	1.500	0	1	1
	2.000	0.384	0	91	91
	2.000	2.000	0	2764	2764
	3.000	0.384	0	1	1
	3.000	0.512	0	1556	1556
	3.000	3.000	0	16	16
	5.000	1.000	112	672	784

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	5.000	2.000	0	386	386
	5.000	5.000	0	3	3
	6.000	1.000	0	1101	1101
	6.000	2.000	0	49	49
	9.000	1.000	0	955	955
	10.000	1.000	232213	0	232213
	10.000	2.000	0	64008	64008
	10.000	10.000	0	3	3
	15.000	1.500	0	1	1

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	15.000	2.000	40901	0	40901
	15.000	3.000	0	7563	7563
	15.000	5.000	0	143	143
	20.000	3.000	0	9587	9587
	20.000	4.000	0	6	6
	20.000	20.000	0	5	5
	25.000	3.000	109728	0	109728
	25.000	4.000	0	1556	1556
	25.000	5.000	25965	91309	117274

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	25.000	15.000	0	2	2
	28.000	4.000	0	179	179
	30.000	3.000	818059	0	818059
	30.000	10.000	0	182	182
	30.000	30.000	0	2	2
	50.000	5.000	0	6842	6842
	50.000	10.000	0	104290	104290
	50.000	15.000	0	9	9
	60.000	15.000	0	153	153

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	80.000	10.000	0	8	8
	100.000	10.000	41936	16	41952
	100.000	20.000	0	87538	87538
	140.000	30.000	0	7	7
	150.000	10.000	2477507	17	2477524
	150.000	20.000	7590	648	8238
	200.000	10.000	312268	0	312268
	200.000	20.000	0	21751	21751
	300.000	30.000	866642	13298	879940

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	500.000	35.000	0	2339	2339
	1000.000	35.000	234623	1946	236569
Optical Carrier/Fiber to the End User	0.256	0.256	0	5	5
	0.384	0.384	0	7	7
	0.512	0.512	0	6	6
	0.768	0.768	0	1	1
	1.000	1.000	0	47	47
	1.500	0.512	0	3	3
	1.500	1.500	0	312	312

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	2.000	2.000	0	97	97
	3.000	3.000	0	136	136
	4.000	4.000	0	12	12
	5.000	1.000	6	32	38
	5.000	2.000	0	31	31
	5.000	5.000	0	333	333
	6.000	2.000	0	1	1
	6.000	6.000	0	73	73
	7.000	7.000	0	3	3

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	8.000	2.000	0	8	8
	8.000	8.000	0	8	8
	9.000	9.000	0	2	2
	10.000	1.000	3089	0	3089
	10.000	2.000	0	20	20
	10.000	3.000	0	61	61
	10.000	10.000	0	1057	1057
	13.000	4.000	0	1	1
	15.000	2.000	112	0	112

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	15.000	3.000	0	120	120
	15.000	5.000	0	258	258
	15.000	15.000	0	20	20
	15.500	5.000	0	43	43
	20.000	20.000	0	1739	1739
	25.000	3.000	519	0	519
	25.000	5.000	77	112	189
	25.000	10.000	0	97	97
	25.000	25.000	0	64	64

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	30.000	3.000	14778	0	14778
	30.000	30.000	0	768	768
	35.000	35.000	0	1	1
	40.000	40.000	0	326	326
	45.000	45.000	0	10	10
	50.000	10.000	0	173	173
	50.000	15.000	0	186	186
	50.000	50.000	0	3542	3542
	60.000	60.000	0	21	21

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	70.000	70.000	0	11	11
	75.000	10.000	0	4	4
	75.000	25.000	0	655	655
	75.000	75.000	0	22	22
	80.000	20.000	0	32	32
	80.000	80.000	0	3	3
	90.000	90.000	0	4	4
	100.000	10.000	246	0	246
	100.000	20.000	0	168	168

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	100.000	30.000	0	115	115
	100.000	40.000	0	1	1
	100.000	50.000	0	1	1
	100.000	100.000	0	5906	5906
	120.000	120.000	0	1	1
	130.000	130.000	0	2	2
	150.000	10.000	66345	0	66345
	150.000	20.000	45	0	45
	150.000	40.000	0	9	9

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	150.000	150.000	0	117	117
	155.000	155.000	0	11	11
	200.000	10.000	2394	0	2394
	200.000	20.000	0	69	69
	200.000	200.000	0	1904	1904
	250.000	250.000	0	53	53
	300.000	30.000	36401	72	36473
	300.000	50.000	0	2	2
	300.000	75.000	0	19	19

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	300.000	300.000	0	933	933
	400.000	400.000	0	206	206
	500.000	35.000	0	12	12
	500.000	500.000	0	1023	1023
	600.000	600.000	0	20	20
	700.000	700.000	0	17	17
	800.000	800.000	0	3	3
	1000.000	35.000	37429	5	37434
	1000.000	1000.000	0	1361	1361

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	2000.000	2000.000	0	104	104
	3000.000	3000.000	0	34	34
	4000.000	4000.000	0	16	16
	5000.000	5000.000	0	40	40
	6000.000	6000.000	0	6	6
	8000.000	8000.000	0	3	3
	10000.000	10000.000	0	56	56
	12000.000	12000.000	0	1	1
	20000.000	20000.000	0	1	1

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	40000.000	40000.000	0	2	2
	100000.000	100000.000	0	1	1
Total			5328985	447461	5776446

Fixed Voice Subscription

VGE Lines and VoIP Subscriptions by State and End-user Type

State	Total VGE Lines	Consumer VGE Lines	Total VoIP Subscriptions	Consumer VoIP Subscriptions
Alabama	0	0	46	0
Arizona	1964	57	614500	399415
Arkansas	0	0	58591	27936
California	4840	65	535412	335224

State	Total VGE Lines	Consumer VGE Lines	Total VoIP Subscriptions	Consumer VoIP Subscriptions
Colorado	0	0	120	0
Connecticut	14	9	84452	61405
Florida	0	0	112647	66654
Georgia	0	0	40638	25224
Idaho	0	0	3221	2158
Indiana	0	0	32	0
Iowa	38	9	14468	8775
Kansas	520	1	143702	73576
Louisiana	73	29	251410	145709

State	Total VGE Lines	Consumer VGE Lines	Total VoIP Subscriptions	Consumer VoIP Subscriptions
Maryland	0	0	22	0
Massachusetts	0	0	71	0
Missouri	0	0	58	0
Nebraska	1137	99	132700	72490
Nevada	0	0	300899	200109
Ohio	0	0	26330	19726
Oklahoma	3916	12	293816	147297
Rhode Island	539	43	163722	98688
South Dakota	0	0	12	0

State	Total VGE Lines	Consumer VGE Lines	Total VoIP Subscriptions	Consumer VoIP Subscriptions
Texas	0	0	213	0
Utah	0	0	65	0
Virginia	8860	392	406384	220959
Washington	0	0	12	0
Total	21901	716	3183543	1905345

Fixed Voice Subscription (VGE Lines)

VGE Lines Provided to Unaffiliated Providers by State

State	Wholesale	UNE-L
Arizona	0	0
California	0	0

State	Wholesale	UNE-L
Connecticut	0	0
Iowa	0	0
Kansas	0	0
Louisiana	0	0
Nebraska	0	0
Oklahoma	0	0
Rhode Island	0	0
Virginia	0	0
Total	0	0

VGE Lines Provided to End Users by State, Bundle and Product Type

State	by Bundle			by Product Type			
	Total	Sold w/ Internet	Sold w/o Internet	Consumer		Bus-Govt	
				& No PIC	& PIC		
Arizona	1964	110	1854	4	53	1304	603
California	4840	187	4653	1	64	2839	1936
Connecticut	14	8	6	0	9	3	2
Iowa	38	9	29	0	9	4	25
Kansas	520	20	500	0	1	346	173
Louisiana	73	30	43	1	28	40	4
Nebraska	1137	110	1027	0	99	731	307
Oklahoma	3916	108	3808	0	12	2060	1844

State	by Bundle		by Product Type				
	Total	Sold w/ Internet	Sold w/o Internet	Consumer		Bus-Govt	
				& No PIC	& PIC	& No PIC	& PIC
Rhode Island	539	67	472	0	43	247	249
Virginia	8860	156	8704	259	133	6718	1750
Total	21901	805	21096	265	451	14292	6893

VGE Lines Provided to End Users by State, Ownership and Last-mile Medium

State	by Ownership			by Last-mile Medium				
	Total	Owned	UNE-L	Resale	FTTP	Coax	Fixed Wireless	Copper
Arizona	1964	1813	151	0	8	1956	0	0
California	4840	4372	468	0	1212	3628	0	0

State	Total	by Ownership			by Last-mile Medium			
		Owned	UNE-L	Resale	FTTP	Coax	Fixed Wireless	Copper
Connecticut	14	14	0	0	0	14	0	0
Iowa	38	37	1	0	0	38	0	0
Kansas	520	495	25	0	0	520	0	0
Louisiana	73	70	3	0	0	73	0	0
Nebraska	1137	1106	31	0	0	1137	0	0
Oklahoma	3916	3608	308	0	463	3453	0	0
Rhode Island	539	524	15	0	0	539	0	0
Virginia	8860	8445	415	0	522	8338	0	0
Total	21901	20484	1417	0	2205	19696	0	0

Fixed Voice Subscription (iVoIP)

Over-the-top VoIP Subscriptions by State and End-user Type

State	Total	Consumer	Business / Govt
Alabama	46	0	46
Arizona	586	0	586
Arkansas	1	0	1
California	7792	0	7792
Colorado	120	0	120
Connecticut	1	0	1
Florida	24	0	24
Georgia	0	0	0

State	Total	Consumer	Business / Govt
Idaho	0	0	0
Indiana	32	0	32
Iowa	0	0	0
Kansas	973	0	973
Louisiana	205	0	205
Maryland	22	0	22
Massachusetts	61	0	61
Missouri	58	0	58
Nebraska	609	0	609

State	Total	Consumer	Business / Govt
Nevada	753	0	753
Ohio	19	0	19
Oklahoma	383	0	383
Rhode Island	86	0	86
South Dakota	12	0	12
Texas	213	0	213
Utah	65	0	65
Virginia	2440	0	2440
Washington	12	0	12

State	Total	Consumer	Business / Govt
Total	14513	0	14513

All other VoIP Subscriptions by State, End-user Type, Bundle and Last-mile Medium

State	Total	by End-user Type		by Bundle				by Last-mile Medium	
		Consumer	Business / Government	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	Copper
Alabama	0	0	0	0	0	0	0	0	0
Arizona	613914	399415	214499	517841	96073	11607	602307	0	0
Arkansas	58590	27936	30654	47461	11129	238	58352	0	0
California	527620	335224	192396	426545	101075	26289	501331	0	0
Colorado	0	0	0	0	0	0	0	0	0
Connecticut	84451	61405	23046	73333	11118	280	84171	0	0

State	by End-user Type		by Bundle		by Last-mile Medium				
	Total	Consumer	Business / Government	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	
								Wireless	Copper
Texas	0	0	0	0	0	0	0	0	0
Utah	0	0	0	0	0	0	0	0	0
Virginia	403944	220959	182985	302207	101737	3803	400141	0	0
Washington	0	0	0	0	0	0	0	0	0
Total	3169030	1905345	1263685	2562192	606838	67707	3101323	0	0



(RETAIN FOR YOUR RECORDS) Form 477 Filing Summary

FRN: **0001834696**

Data as of: **Jun 30, 2019**

Operations: **Non-ILEC**

Submission Status: **Revised - Submitted**

Last Updated: **Apr 9, 2020 08:57:08**

Filer Identification

Section	Question	Response
---------	----------	----------

Filer Information

Company Name Cox Communications, Inc

Holding Company Name Cox Communications, Inc.

SAC ID 139001, 199018, 219019, 229011, 279011, 359019, 379001, 409029, 419021, 439003, 459012, 549017, 559017, 589001

499 ID 827138

Section	Question	Response
Data Contact Information	Data Contact Name	Paul Cain
	Data Contact Phone Number	(404) 269-8139
	Data Contact E-mail	paul.cain@cox.com
Emergency Operations Contact Information	Emergency Operations Name	Mark Peay
	Emergency Operations Phone Number	(404) 843-5175
	Emergency Operations E-mail	mark.peay@cox.com
Certifying Official Contact Information	Certifying Official Name	Joiava T. Philpott

Section	Question	Response
	Certifying Official Phone Number	(404) 269-0983
	Certifying Official E-mail	joiava.philpott@cox.com

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	Fixed_Broadband_Deployment_FCC_063019_v2.txt	Apr 9, 2020 08:43:04	311672
Fixed Broadband Subscription	Fixed_Broadband_Subscription_FCC_063019.txt	Apr 9, 2020 08:22:19	103061
Fixed Voice Subscription	Voice_Telephone_Subscription_Detail_FCC_063019.txt	Apr 9, 2020 08:22:19	8913

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Arizona	Cox Communications	Cable Modem – DOCSIS 3.0	1620
		Cable Modem – DOCSIS 3.1	54435
		Optical Carrier/Fiber to the End User	4421
Arkansas	Cox Communications	Cable Modem – DOCSIS 3.1	12510
		Optical Carrier/Fiber to the End User	82
California	Cox Communications	Cable Modem – DOCSIS 3.0	2221
		Cable Modem – DOCSIS 3.1	26683
		Optical Carrier/Fiber to the End User	886
Connecticut	Cox Communications	Cable Modem – DOCSIS 3.0	380

State	DBA Name	Technology	Blocks
		Cable Modem – DOCSIS 3.1	5682
		Optical Carrier/Fiber to the End User	12
District of Columbia	Cox Communications	Cable Modem – DOCSIS 3.1	5
Florida	Cox Communications	Cable Modem – DOCSIS 3.0	1502
		Cable Modem – DOCSIS 3.1	12546
		Optical Carrier/Fiber to the End User	132
Georgia	Cox Communications	Cable Modem – DOCSIS 3.0	2180
		Cable Modem – DOCSIS 3.1	3247
		Optical Carrier/Fiber to the End User	57

State	DBA Name	Technology	Blocks
Idaho	Cox Communications	Cable Modem – DOCSIS 3.1	734
Iowa	Cox Communications	Cable Modem – DOCSIS 3.1	1451
Kansas	Cox Communications	Optical Carrier/Fiber to the End User	4
		Cable Modem – DOCSIS 3.0	1
		Cable Modem – DOCSIS 3.1	28820
		Optical Carrier/Fiber to the End User	135
Louisiana	Cox Communications	Cable Modem – DOCSIS 3.0	1290
		Cable Modem – DOCSIS 3.1	34878
		Optical Carrier/Fiber to the End User	118

State	DBA Name	Technology	Blocks
Massachusetts	Cox Communications	Cable Modem – DOCSIS 3.1	99
	Cox Communications	Cable Modem – DOCSIS 3.0	12
	Cox Communications	Cable Modem – DOCSIS 3.1	12153
Nebraska	Cox Communications	Optical Carrier/Fiber to the End User	307
	Cox Communications	Cable Modem – DOCSIS 3.0	20
	Cox Communications	Cable Modem – DOCSIS 3.1	17106
North Carolina	Cox Communications	Optical Carrier/Fiber to the End User	247
	Cox Communications	Cable Modem – DOCSIS 3.1	25
Ohio	Cox Communications	Cable Modem – DOCSIS 3.0	1

State	DBA Name	Technology	Blocks
		Cable Modem – DOCSIS 3.1	2105
		Optical Carrier/Fiber to the End User	2
Oklahoma	Cox Communications	Cable Modem – DOCSIS 3.0	13
		Cable Modem – DOCSIS 3.1	29994
		Optical Carrier/Fiber to the End User	692
Rhode Island	Cox Communications	Cable Modem – DOCSIS 3.0	26
		Cable Modem – DOCSIS 3.1	18520
		Optical Carrier/Fiber to the End User	35
Virginia	Cox Communications	Cable Modem – DOCSIS 3.0	25

State	DBA Name	Technology	Blocks
		Cable Modem – DOCSIS 3.1	34126
		Optical Carrier/Fiber to the End User	132
Total			311672

Fixed Broadband Subscription

Fixed Broadband Subscriptions by State, Technology and End-user Type

State	Technology	Census Tracts	Subscriptions	
			Consumer	Business / Govt Total
Arizona	Cable Modem	18337	1140388	84901 1225289
	Optical Carrier/Fiber to the End User	3796	57803	3370 61173
Arkansas	Cable Modem	2237	122336	12140 134476

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
California	Optical Carrier/Fiber to the End User	313	1691	337	2028
	Cable Modem	10520	812147	55500	867647
	Optical Carrier/Fiber to the End User	2249	18783	5051	23834
Connecticut	Cable Modem	1881	115340	9691	125031
	Optical Carrier/Fiber to the End User	139	782	121	903
District of Columbia	Optical Carrier/Fiber to the End User	3	0	3	3
	Cable Modem	3213	224637	18752	243389
Florida					

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Georgia	Optical Carrier/Fiber to the End User	468	4800	610	5410
	Cable Modem	1174	71668	6370	78038
	Optical Carrier/Fiber to the End User	184	2304	195	2499
Idaho	Cable Modem	71	6414	609	7023
	Optical Carrier/Fiber to the End User	6	0	6	6
Iowa	Cable Modem	410	18321	1309	19630
	Optical Carrier/Fiber to the End User	39	38	40	78

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Kansas	Cable Modem	5061	244902	21190	266092
	Optical Carrier/Fiber to the End User	560	1373	675	2048
Louisiana	Cable Modem	9042	397117	36801	433918
	Optical Carrier/Fiber to the End User	1484	4467	2016	6483
Massachusetts	Cable Modem	22	1044	15	1059
	Cable Modem	3279	196874	15210	212084
Nebraska	Cable Modem	637	6128	549	6677
	Optical Carrier/Fiber to the End User				

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Nevada	Cable Modem	7758	538819	40586	579405
	Optical Carrier/Fiber to the End User	1335	19425	1721	21146
North Carolina	Cable Modem	20	471	10	481
Ohio	Cable Modem	1238	47484	2972	50456
	Optical Carrier/Fiber to the End User	27	0	30	30
Oklahoma	Cable Modem	8804	395711	40405	436116
	Optical Carrier/Fiber to the End User	2049	9453	3296	12749

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Rhode Island	Cable Modem	3988	192958	17658	210616
	Optical Carrier/Fiber to the End User	339	805	392	1197
Virginia	Cable Modem	10794	528311	52993	581304
	Optical Carrier/Fiber to the End User	1584	5420	2422	7842
Total		103061	5188214	437946	5626160
Fixed Broadband Subscriptions by Bandwidths and End-user Type					
	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
0.256		0.256	0	172	172

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
0.384	0.384	0	2560	2560
0.512	0.512	0	8	8
0.768	0.768	0	1	1
1.000	0.256	0	6	6
1.000	1.000	0	47	47
1.500	0.384	0	176	176
1.500	0.512	0	3	3
1.500	1.500	0	344	344
2.000	0.384	0	253	253

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
2.000	2.000	0	3160	3160
3.000	0.384	0	1	1
3.000	0.512	0	1697	1697
3.000	3.000	0	177	177
4.000	4.000	0	16	16
5.000	1.000	297	900	1197
5.000	2.000	0	259	259
5.000	5.000	0	327	327
6.000	1.000	0	1307	1307

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
6.000	2.000	0	64	64
6.000	6.000	0	91	91
7.000	7.000	0	5	5
8.000	2.000	0	12	12
8.000	8.000	0	10	10
9.000	1.000	0	1119	1119
9.000	9.000	0	2	2
10.000	1.000	239394	0	239394
10.000	2.000	0	72064	72064

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
10.000	3.000	0	100	100
10.000	10.000	0	1096	1096
13.000	4.000	0	2	2
15.000	1.000	84503	0	84503
15.000	1.500	0	1	1
15.000	2.000	110675	0	110675
15.000	3.000	0	7750	7750
15.000	5.000	0	486	486
15.000	15.000	0	29	29

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
15.500	5.000	0	84	84
20.000	3.000	0	9701	9701
20.000	4.000	0	6	6
20.000	20.000	0	1702	1702
25.000	3.000	10582	0	10582
25.000	4.000	0	1584	1584
25.000	5.000	0	97940	97940
25.000	10.000	0	140	140
25.000	15.000	0	2	2

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
25.000	25.000	0	68	68
28.000	4.000	0	215	215
30.000	3.000	769167	0	769167
30.000	10.000	0	214	214
30.000	30.000	0	753	753
35.000	35.000	0	2	2
40.000	40.000	0	319	319
45.000	45.000	0	12	12
50.000	5.000	0	5346	5346

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
50.000	10.000	0	99668	99668
50.000	15.000	0	244	244
50.000	50.000	0	3267	3267
60.000	15.000	0	172	172
60.000	60.000	0	25	25
70.000	70.000	0	11	11
75.000	10.000	0	5	5
75.000	25.000	0	710	710
75.000	75.000	0	24	24

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
80.000	10.000	0	12	12
80.000	20.000	0	38	38
80.000	80.000	0	6	6
90.000	90.000	0	4	4
100.000	10.000	2548570	72	2548642
100.000	20.000	0	78729	78729
100.000	30.000	0	139	139
100.000	40.000	0	1	1
100.000	50.000	0	1	1

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
100.000	100.000	0	5112	5112
120.000	120.000	0	1	1
130.000	130.000	0	2	2
140.000	30.000	0	8	8
150.000	10.000	396047	7	396054
150.000	20.000	0	618	618
150.000	40.000	0	11	11
150.000	150.000	0	123	123
155.000	155.000	0	11	11

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
200.000	20.000	0	17913	17913
200.000	50.000	0	1	1
200.000	200.000	0	1570	1570
250.000	250.000	0	50	50
300.000	30.000	861557	11113	872670
300.000	50.000	0	3	3
300.000	75.000	0	20	20
300.000	300.000	0	737	737
400.000	400.000	0	180	180

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
500.000	35.000	0	1594	1594
500.000	500.000	0	841	841
600.000	600.000	0	22	22
700.000	700.000	0	15	15
800.000	800.000	0	6	6
1000.000	35.000	137770	1297	139067
1000.000	1000.000	29652	1026	30678
2000.000	2000.000	0	82	82
3000.000	3000.000	0	22	22

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
4000.000	4000.000	0	15	15
5000.000	5000.000	0	33	33
6000.000	6000.000	0	3	3
8000.000	8000.000	0	2	2
10000.000	10000.000	0	43	43
12000.000	12000.000	0	1	1
40000.000	40000.000	0	2	2
100000.000	100000.000	0	1	1
Total		5188214	437946	5626160

Fixed Broadband Subscriptions by Technology, Bandwidths and End-user Type

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Cable Modem	0.256	0.256	0	167	167
	0.384	0.384	0	2551	2551
	1.000	0.256	0	6	6
	1.500	0.384	0	176	176
	1.500	1.500	0	1	1
	2.000	0.384	0	253	253
	2.000	2.000	0	3049	3049
	3.000	0.384	0	1	1
	3.000	0.512	0	1697	1697

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	3.000	3.000	0	17	17
	5.000	1.000	296	867	1163
	5.000	2.000	0	207	207
	5.000	5.000	0	3	3
	6.000	1.000	0	1307	1307
	6.000	2.000	0	63	63
	9.000	1.000	0	1119	1119
	10.000	1.000	236835	0	236835
	10.000	2.000	0	72045	72045

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	10.000	10.000	0	2	2
	15.000	1.000	84177	0	84177
	15.000	1.500	0	1	1
	15.000	2.000	110282	0	110282
	15.000	3.000	0	7623	7623
	15.000	5.000	0	190	190
	20.000	3.000	0	9701	9701
	20.000	4.000	0	6	6
	20.000	20.000	0	6	6

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	25.000	3.000	10569	0	10569
	25.000	4.000	0	1584	1584
	25.000	5.000	0	97835	97835
	25.000	15.000	0	2	2
	28.000	4.000	0	215	215
	30.000	3.000	756647	0	756647
	30.000	10.000	0	214	214
	30.000	30.000	0	1	1
	50.000	5.000	0	5346	5346

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	50.000	10.000	0	99541	99541
	50.000	15.000	0	12	12
	60.000	15.000	0	172	172
	80.000	10.000	0	12	12
	100.000	10.000	2494401	72	2494473
	100.000	20.000	0	78598	78598
	140.000	30.000	0	8	8
	150.000	10.000	392971	7	392978
	150.000	20.000	0	618	618

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	200.000	20.000	0	17869	17869
	300.000	30.000	832652	11060	843712
	500.000	35.000	0	1592	1592
	1000.000	35.000	136112	1296	137408
Optical Carrier/Fiber to the End User	0.256	0.256	0	5	5
	0.384	0.384	0	9	9
	0.512	0.512	0	8	8
	0.768	0.768	0	1	1
	1.000	1.000	0	47	47

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	1.500	0.512	0	3	3
	1.500	1.500	0	343	343
	2.000	2.000	0	111	111
	3.000	3.000	0	160	160
	4.000	4.000	0	16	16
	5.000	1.000	1	33	34
	5.000	2.000	0	52	52
	5.000	5.000	0	324	324
	6.000	2.000	0	1	1

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	6.000	6.000	0	91	91
	7.000	7.000	0	5	5
	8.000	2.000	0	12	12
	8.000	8.000	0	10	10
	9.000	9.000	0	2	2
	10.000	1.000	2559	0	2559
	10.000	2.000	0	19	19
	10.000	3.000	0	100	100
	10.000	10.000	0	1094	1094

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	13.000	4.000	0	2	2
	15.000	1.000	326	0	326
	15.000	2.000	393	0	393
	15.000	3.000	0	127	127
	15.000	5.000	0	296	296
	15.000	15.000	0	29	29
	15.500	5.000	0	84	84
	20.000	20.000	0	1696	1696
	25.000	3.000	13	0	13

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	25.000	5.000	0	105	105
	25.000	10.000	0	140	140
	25.000	25.000	0	68	68
	30.000	3.000	12520	0	12520
	30.000	30.000	0	752	752
	35.000	35.000	0	2	2
	40.000	40.000	0	319	319
	45.000	45.000	0	12	12
	50.000	10.000	0	127	127

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	50.000	15.000	0	232	232
	50.000	50.000	0	3267	3267
	60.000	60.000	0	25	25
	70.000	70.000	0	11	11
	75.000	10.000	0	5	5
	75.000	25.000	0	710	710
	75.000	75.000	0	24	24
	80.000	20.000	0	38	38
	80.000	80.000	0	6	6

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	90.000	90.000	0	4	4
	100.000	10.000	54169	0	54169
	100.000	20.000	0	131	131
	100.000	30.000	0	139	139
	100.000	40.000	0	1	1
	100.000	50.000	0	1	1
	100.000	100.000	0	5112	5112
	120.000	120.000	0	1	1
	130.000	130.000	0	2	2

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	150.000	10.000	3076	0	3076
	150.000	40.000	0	11	11
	150.000	150.000	0	123	123
	155.000	155.000	0	11	11
	200.000	20.000	0	44	44
	200.000	50.000	0	1	1
	200.000	200.000	0	1570	1570
	250.000	250.000	0	50	50
	300.000	30.000	28905	53	28958

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	300.000	50.000	0	3	3
	300.000	75.000	0	20	20
	300.000	300.000	0	737	737
	400.000	400.000	0	180	180
	500.000	35.000	0	2	2
	500.000	500.000	0	841	841
	600.000	600.000	0	22	22
	700.000	700.000	0	15	15
	800.000	800.000	0	6	6

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	1000.000	35.000	1658	1	1659
	1000.000	1000.000	29652	1026	30678
	2000.000	2000.000	0	82	82
	3000.000	3000.000	0	22	22
	4000.000	4000.000	0	15	15
	5000.000	5000.000	0	33	33
	6000.000	6000.000	0	3	3
	8000.000	8000.000	0	2	2
	10000.000	10000.000	0	43	43

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	12000.000	12000.000	0	1	1
	40000.000	40000.000	0	2	2
	100000.000	100000.000	0	1	1
Total			5188214	437946	5626160

Fixed Voice Subscription

VGE Lines and VoIP Subscriptions by State and End-user Type

State	Total VGE Lines	Consumer VGE Lines	Total VoIP Subscriptions	Consumer VoIP Subscriptions
Arizona	12534	9335	633989	418670
Arkansas	0	0	61707	30177
California	11750	5039	548400	349878

State	Total VGE Lines	Consumer VGE Lines	Total VoIP Subscriptions	Consumer VoIP Subscriptions
Connecticut	1053	979	86949	63796
Florida	0	0	117126	70868
Georgia	0	0	43018	27304
Idaho	0	0	3314	2284
Indiana	0	0	32	0
Iowa	669	640	14461	8912
Kansas	637	11	149949	78895
Louisiana	1589	1502	263717	157630
Massachusetts	0	0	35	0

State	Total VGE Lines	Consumer VGE Lines	Total VoIP Subscriptions	Consumer VoIP Subscriptions
Missouri	0	0	19	0
Nebraska	6606	5323	135283	74308
Nevada	0	0	314330	214462
Ohio	0	0	27754	21121
Oklahoma	5669	971	308717	159111
Rhode Island	6671	5782	167502	101994
Texas	0	0	3	0
Virginia	13696	2613	418402	234798
Total	60874	32195	3294707	2014208

Fixed Voice Subscription (VGE Lines)

VGE Lines Provided to Unaffiliated Providers by State

State	Wholesale	UNE-L
Arizona	0	0
California	0	0
Connecticut	0	0
Iowa	0	0
Kansas	0	0
Louisiana	0	0
Nebraska	0	0
Oklahoma	0	0
Rhode Island	0	0

State	Wholesale	UNE-L
Virginia	0	0
Total	0	0

VGE Lines Provided to End Users by State, Bundle and Product Type

State	by Bundle		by Product Type				
	Total	Sold w/ Internet	Consumer		Bus-Govt		
			Sold w/o Internet	& No PIC		& PIC	
Arizona	12534	8409	4125	721	8614	2503	696
California	11750	4714	7036	91	4948	4087	2624
Connecticut	1053	917	136	11	968	45	29
Iowa	669	557	112	16	624	4	25

State	by Bundle		by Product Type				
	Total	Sold w/ Internet	Sold w/o Internet	Consumer		Bus-Govt	
				& No PIC	& PIC		
			& No PIC	& PIC	& No PIC	& PIC	
Kansas	637	41	596	1	10	372	254
Louisiana	1589	1392	197	106	1396	74	13
Nebraska	6606	4899	1707	132	5191	867	416
Oklahoma	5669	1019	4650	37	934	2484	2214
Rhode Island	6671	5156	1515	126	5656	440	449
Virginia	13696	2538	11158	326	2287	8632	2451
Total	60874	29642	31232	1567	30628	19508	9171

VGE Lines Provided to End Users by State, Ownership and Last-mile Medium

State	Total	by Ownership				by Last-mile Medium			
		Owned	UNE-L	Resale	FTTP	Coax	Fixed Wireless	Copper	
Arizona	12534	12281	253	0	0	12534	0	0	
California	11750	11092	658	0	1199	10551	0	0	
Connecticut	1053	1053	0	0	0	1053	0	0	
Iowa	669	668	1	0	0	669	0	0	
Kansas	637	606	31	0	0	637	0	0	
Louisiana	1589	1582	7	0	0	1589	0	0	
Nebraska	6606	6568	38	0	0	6606	0	0	
Oklahoma	5669	5298	371	0	539	5130	0	0	

State	Total	by Ownership				by Last-mile Medium			
		Owned	UNE-L	Resale	FTTP	Coax	Fixed Wireless	Copper	
Rhode Island	6671	6644	27	0	0	6671	0	0	
Virginia	13696	13153	543	0	729	12967	0	0	
Total	60874	58945	1929	0	2467	58407	0	0	

Fixed Voice Subscription (iVoIP)

Over-the-top VoIP Subscriptions by State and End-user Type

State	Total	Consumer	Business / Govt
Arizona	573	0	573
Arkansas	1	0	1
California	7151	0	7151
Connecticut	1	0	1

State	Total	Consumer	Business / Govt
Florida	19	0	19
Georgia	0	0	0
Idaho	0	0	0
Indiana	32	0	32
Iowa	0	0	0
Kansas	729	0	729
Louisiana	165	0	165
Massachusetts	25	0	25
Missouri	19	0	19

State	Total	Consumer	Business / Govt
Nebraska	377	0	377
Nevada	649	0	649
Ohio	0	0	0
Oklahoma	283	0	283
Rhode Island	87	0	87
Texas	3	0	3
Virginia	2247	0	2247
Total	12361	0	12361

All other VoIP Subscriptions by State, End-user Type, Bundle and Last-mile Medium

State	Total	by End-user Type		by Bundle		by Last-mile Medium			
		Consumer	Business / Government	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	Copper
Iowa	14461	8912	5549	10907	3554	14	14447	0	0
Kansas	149220	78895	70325	114548	34672	381	148839	0	0
Louisiana	263552	157630	105922	218362	45190	1537	262015	0	0
Massachusetts	10	0	10	0	10	10	0	0	0
Missouri	0	0	0	0	0	0	0	0	0
Nebraska	134906	74308	60598	100701	34205	1527	133379	0	0
Nevada	313681	214462	99219	272012	41669	6303	307378	0	0
Ohio	27754	21121	6633	24527	3227	4	27750	0	0

State	by End-user Type		by Bundle		by Last-mile Medium				
	Total	Consumer	Business / Government	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	
								Wireless	Copper
Oklahoma	308434	159111	149323	235741	72693	11116	297318	0	0
Rhode Island	167415	101994	65421	132147	35268	331	167084	0	0
Texas	0	0	0	0	0	0	0	0	0
Virginia	416155	234798	181357	316609	99546	3601	412554	0	0
Total	3282346	2014208	1268138	2650039	632307	61670	3220676	0	0

https://roanoke.com/news/local/roanoke-county-with-20-of-population-lacking-high-speed-internet-access-seeking-proposals-for-broadband/article_44dd14f3-f297-5eed-845e-2849db1bf134.html

Roanoke County, with 20% of population lacking high-speed internet access, seeking proposals for broadband expansion

Alison Graham · Jun 21, 2020 · 0



The area around Bradshaw Road has been known to have internet connectivity problems and is one of the major focus areas for Roanoke County's broadband initiative. The area has 131 un-served addresses.

Courtesy of Roanoke County



Roanoke County is seeking proposals for broadband expansion in five areas of the county with un-served residents and businesses.

The county issued a formal request for proposals Wednesday. Internet providers



https://roanoke.com/news/education/to-bridge-digital-divide-roanoke-county-public-schools-will-provide-nearly-700-hot-spots-in/article_34928d76-7779-5ead-ab4f-a3c20e157342.html

To bridge digital divide, Roanoke County Public Schools will provide nearly 700 hot spots in 2020-21 school year

Claire Mitchell Jun 3, 2020 0

Only \$5 for 5 months



Roanoke County Public Schools will provide hot spots in the fall to students who are without internet access, as the Roanoke County School Board approved the purchase after a half-hour discussion Tuesday evening.

The district will purchase 685 hot spots through the education technology company Kajeet, which will require spending more than \$575,000, according to Information Technology Director Jeff Terry.

Funding sources are unclear; board members want the Roanoke County Board of Supervisors to help pay for the devices, but they decided to approve the order and hash out details later after worrying there may soon be a scarcity following Gov. Ralph Northam's anticipated announcement Thursday about the 2020-21 school year.

With the possibility of distance learning again in the fall for at least part of the semester, the district plans to provide needed resources. The district will provide every elementary-aged family with a laptop in the fall in addition to the existing one-to-one program for older students, and Blackboard, a means for students and teachers to interact online, will expand for all K-12 students.

"Internet service will be essential for students to access online instructional programs and digital materials," Terry said, but not all families have access.

Terry said a recent comprehensive survey found 685 families — down from the original number of 800 surveyed earlier — don't have internet access at home.



https://roanoke.com/news/local/roanoke-county-launches-broadband-survey-for-residents/article_f1a90226-da5b-531e-b760-ab6e2787a77c.html

Roanoke County launches broadband survey for residents

Alison Graham Dec 31, 2019 1

Only \$5 for 3 months



Roanoke County launched a broadband survey to pinpoint pockets of the county that are unserved or underserved by internet providers.

Administrative staff is asking all residents and business owners to complete the survey by the end of February. The county plans to use the data to seek public-private partnerships and grants from the Virginia Telecommunication Initiative program. County Information Technology Director Bill Hunter said multiple internet providers have been active and interested in participating.

"This is the next step in our 2016 Community Strategic Plan of connecting Roanoke County to the world," Hunter said. "The broadband authority was the first part, and now we're finding the areas where our citizens don't have internet or only have inadequate internet."

The survey, which the county rolled out in a soft launch before Christmas, asks residents where they live, if they have high-speed internet and whether they would subscribe to high-speed internet if it were available. There is also a section for general comments.

The survey can be accessed online, and print copies will be available at the county libraries and sent home with children in Roanoke County schools in January. The county will also be mailing surveys to neighborhoods that have known connectivity problems, including areas north of Interstate 81, Catawba, Bent Mountain, Glenvar, Bradshaw Road and Timberview Road.



https://roanoke.com/news/local/education/virginia-educators-try-to-fill-void-of-digital-divide-as-schools-prepare-to-reopen/article_cc886e70-6d38-572c-89d7-e50e752c952c.html

Virginia educators try to fill void of digital divide as schools prepare to reopen

Claire Mittel | Aug 8, 2020 Updated Aug 8, 2020 1

Only \$5 for 3 months

1 of 7



Olivia Molar, 10, receives a laptop from technology resource teacher Tina Coffey on Friday, July 31 at Fort Lewis Elementary School in Salem. Roanoke County Public Schools staff have distributed laptops and hot spots for students to use in the 2020-21 school year to aid in virtual learning.

DON PETERSEN | Special to The Roanoke Times



Three-tenths of a mile.

That's how far the Harless family is from reliable broadband in northern Roanoke County.

"Comcast runs, I think, the first 10 or 15 houses down the road," Bobby Harless said. "And then after that, it's nothing."

RIVET
Stylish furniture
shipped free and fast
with Assembly.

Rivet Revolve Modern Upholstered Armch...
★★★★★ 600

Shop now

are to reopen

Roanoke City Public Schools works with **Cox's Connect2Compete program**, which allows families who aren't current Cox customers, who participate in a government subsidy program and who have at least one child in school to pay a reduced price of \$9.95 per month. Comcast also has a similar program, called **Internet Essentials**.

Ad closed by **criteo**.

Report this ad

Ad choices

Cox Public Affairs Manager Sarah Buck said the company has expanded the program's criteria to help as many families as possible. Since March, Cox has seen a more than 300% increase in Connect2Compete connections in some parts of the state, according to Margaret-Hunter Wade, Cox's public relations director for Virginia. Through Sept. 30, households will receive their first two months free.

"We have been working day in and day out, it seems, for the past several weeks just to think of creative solutions to help these families get connected and not have to worry about one more thing, especially how they're going to pay for their bills," Buck said.

Roanoke City Public Schools spokesman Justin McLeod said the school system plans to offer financial assistance for families, and hot spots will also be available. The city plans to allocate \$1.18 million of its CARES Act funds to youth and education, which include internet access.

Hot spotting solutions

On a recent Friday afternoon in the fluorescent-lit gym of Fort Lewis Elementary School in Roanoke County, staff handed out laptops and a handful

https://roanoke.com/opinion/editorials/editorial-who-we-should-thank-yes-thank-for-rural-broadband/article_ee9839ab-945a-5962-8712-0518841505cf.html

Editorial: Who we should thank (yes, thank) for rural broadband

May 26, 2020 · 1

Only \$5 for 5 months



Here's how fast things have changed.

Until just a few weeks ago — before self-distancing, before stay-at-home orders — only about 1% of the patient visits in the Carilion Clinic system were being handled “virtually” through video calls or sometimes regular phone calls.

Now, about 75% are.

Here's another turn-on-a-dime statistic: Before the pandemic, about 5% of American workers worked from home. Now a Gallup survey says 62% are. That's an awful lot of life that has suddenly moved online — work, school, medicine.

The big question is how much of this will stick once things return to normal, or a “new normal.” The best guess is probably a lot. In the case of all that telemedicine, “I don't think we'll put the genie back in the bottle,” says Carilion President and CEO Nancy Agee. “We've now learned we know how to do it and we can do it. Our clinicians like it and best of all our patients really like it — it's convenient.” She cites the case of the patient who had an appointment for a doctor to check on how on they were healing after surgery. No longer does that patient need to drive to the doctor's office; he or she can simply go online and show the doctor the surgery site. That's the upside. Now the downside. All this depends on people actually having access to broadband which, as we all know,



https://roanoke.com/opinion/commentary/byron-broadband-access-key-to-rural-virginias-future/article_262da056-e540-5acd-bd34-d649496fd390.html

Byron: Broadband access key to rural Virginia's future

Kathy Byron Byron, a Republican, represents the 22nd District in the House of Delegates. She is also a member of the Virginia Tobacco Region Revitalization Commission. Sep 12, 2019



Workers from Mid-Atlantic Broadband Communities Corporation install a wireless broadband tower near the Montvale Public Library in Montvale.

LATHAN GOUMAS | The Lynchburg News & Advance



By Kathy Byron

Byron, a Republican, represents the 22nd District in the House of Delegates. She is also a member of the Virginia Tobacco Region Revitalization Commission.

It has been 20 years since the General Assembly established the Virginia Tobacco Region Revitalization Commission. Founded with a mission to promote economic growth and development throughout our region, the accomplishments and achievements of the tobacco commission have been great and far-reaching.



<https://wfirnews.com/news/rural-broadband-expansion-as-more-work-learn-and-play-at-home>

<https://www.wdbj7.com/content/news/Working-from-home-delivers-benefits-but-highlights-need-for-better-broadband-in-Roanoke-Co-570810021.html>

ADVERTISEMENT

Special Benefits Now Available

Adults over 45 are entitled to the 9 benefits on this list, but most forget to claim them. Quick Ways to Save

Working from home delivers benefits, but highlights need for better broadband in Roanoke Co.



A WiFi equipped van will give students internet access throughout Marianna. (MGN) (WIHG)
By Pete DeLuca



US Senator Tim Kaine (D-VA) sees the coronavirus pandemic as an opportunity for the commonwealth to adapt, overcome and set the stage for major improvements in the future.

"We will have learned some new ways of doing things that we will want to continue long after this public health crisis is done," said Kaine.

Opportunities for growth highlighted by Kaine and Roanoke County leaders in a virtual meeting Wednesday include telecommuting or working from home, telemedicine and long-distance learning for students at all levels.

"But, it only works if you've got good broadband and people have devices that enable them to do it," said Kaine.

ADVERTISEMENT

Quick Ways to Save

Special Benefits Now Available

OPEN

A major hurdle Roanoke County will need to overcome to make those initiatives work long-term is broadband internet connectivity.

A study conducted by the county in the fall shows 33 percent of residents are underserved or unserved when it comes to internet.

"In the new world order here, that we are going to experience coming out of this pandemic is that we have to have tools and infrastructure available that will enable us to prosper," said Beth Doughty, the executive director of the Roanoke Regional Partnership.