

Application to DHCD Submitted through CAMS

Caroline County

VATI 2023 Western Caroline

Application ID: 95706302022140008
Application Status: Pending
Program Name: Virginia Telecommunication Initiative 2023 - Application
Organization Name: Caroline County
Organization Address: 212 N. Main St.
Bowling Green, VA 22427
Profile Manager Name: Tomeka Smith
Profile Manager Phone: (804) 633-3494
Profile Manager Email: tsmith@co.caroline.va.us

Project Name: VATI 2023 Western Caroline
Project Contact Name: David Sadler
Project Contact Phone: (804) 633-1088
Project Contact Email: dsadler@co.caroline.va.us
Project Location: 212 N Main St
Bowling Green, VA 22427-0447
Project Service Area: Caroline County

Total Requested Amount: \$2,032,334.00
Required Annual Audit Status: Under Review

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Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
Telecommunications	\$2,032,334.00	\$5,610,501.00	\$7,642,835.00
Construction	\$1,886,081.50	\$5,206,753.50	\$7,092,835.00
Construction Related Soft Costs	\$146,252.50	\$403,747.50	\$550,000.00
Total:	\$2,032,334.00	\$5,610,501.00	\$7,642,835.00

Budget Narrative:

This application comes out of a collaboration between Caroline County and Verizon Communications. This partnership was created because of the challenges Caroline faces as a rural community. Verizon currently has copper infrastructure, as well as a central office on the west side of the County, which will prove to be a prime foundation for expansion and network modernization. Caroline has put in a great deal of legwork to prepare for opportunities like VATI, as they understand the need for sufficient, equitable access to broadband holds for the future of their communities. They have a Broadband Advisory Committee that reports to their respective Board of Supervisors. Through their work, they have garnered support from local organizations who also see the need for digital equity, and have approved and recently updated a plan for Universal Coverage. This project intends to serve a total of 854 passings, which include 753 residences, 6 community anchor institutions, 19 other locations, and 76 home and commercial business buildings. This results in roughly 72 miles of construction. The total VATI funding request is \$2,032,334. Caroline County will provide a total contribution of \$1,024,800. Verizon will provide a contribution of \$4,585,701, a total of 60% percent of project costs. This project will ensure that residents and businesses have access to quality, affordable broadband service that can meet their current and future needs, including online learning, remote work, and access to state-of-the-art telehealth.

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:

PREFACE: Caroline County selected the project area(s) working in close concert with Verizon and Breezeline. These project areas address all of the remaining 4,764 unserved locations in the County that do not have adequate broadband access, and reflect a complete and universal broadband solution for the final roughly one-third of County residents that don't have access to broadband today. This is a tremendous accomplishment and milestone for the County and its residents. We at Caroline County are confident that DHCD will see the value of this project in meeting the Commonwealth's broadband objectives. While Verizon and Breezeline are not affiliated, they both bring significant contributions to their respective projects and a fervor to work with Caroline in a capacity that delivers on the goal of universal coverage.

Caroline County is one of the last remaining mostly-rural counties located between the two large metropolitan areas of Washington D.C. and Richmond, Virginia. That region is well known globally for being a high tech data hub that attracts huge businesses for the quality of their connections, which highlights the disparity faced by Caroline.

Broadband requirements will increase over time, with more bandwidth-intensive applications. Events such as the COVID-19 pandemic will cause more people to work and learn remotely. That's why Caroline County has seized the opportunity that has been provided by the deluge of state and federal funding as a response.

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The Caroline Board of Supervisors, with the Broadband Advisory Committee's backing, embraced an initial strategy to encourage each of the incumbent providers to expand its footprint. This was advanced by Atlantic Broadband's decision to partner with Caroline, as well as Mathews, Middlesex, and Lancaster County to submit a VATI grant application for FY2021. That grant was awarded and is currently being completed, bringing broadband to the two main "internet deserts" in Caroline. While these areas were perhaps the most challenging to serve, it still left most of the County "unserved," as defined by the terms of the grant. With the arrival of more than \$700 million for broadband infrastructure in Virginia, toward the goal of achieving "universal coverage", the County pursued two grant applications for VATI FY2022. Our partners were Atlantic Broadband and Comcast; we sought funding to support the expansion of their respective plants on either side of I-95. Unfortunately, neither project was chosen to move forward. Undeterred, we have returned with this application to achieve the goal of universal service in Caroline County.

Caroline has selected Breezeline (formerly known as Atlantic Broadband), and Verizon as its partners to connect unserved County residents located west of I-95. Both partners have extensive existing infrastructure near the currently unserved areas, enabling a highly efficient expansion. No additional large, expensive middle mile projects will be needed; the backbone for this expansion is already in place. In partnership with Breezeline, our 2023 application will seek funding for the areas proposed in our 2022 application, in order to preserve and expand the momentum gained from the 2021 award.

Caroline is pleased to partner with Verizon on this application. Their RFP response was detailed and well done. We found them to be flexible - they designed a thorough network deployment that was true to the specifications outlined by the County, and fully consistent with VATI criteria and Commonwealth objectives. Verizon's expertise as one of the largest and most established telecom provider in Virginia, plus its renowned Fios service made Verizon the best option for this partnership to serve the residents of Caroline. Verizon's ability to deliver on large scale projects is nearly unmatched. Their commitment is demonstrated by the 60% of project costs they have agreed to bear.

Verizon is ready to go - they were the first to build fiber optic broadband on a large scale, and now provide Fios broadband service to more than 6 million customers. Verizon is a Fortune 25 company, but still has a local project office on the ground in Caroline County. There are more than 6,600 Verizon employees across the Commonwealth of Virginia. Their capacity to fully staff the project with experienced, skilled, and reliable people is unmatched. This project team's command of the regulatory environment enables their ability to anticipate and tackle problems - local, state or federal - efficiently and completely. The Verizon team, from engineering to planning and project management to construction, leads the industry, including the personnel who will assist customers once broadband is built. The selected subcontractors and consultants must meet the same standard.

Verizon's design addresses the remaining 854 unserved and underserved addresses in Caroline west of I-95, proposing 72 miles of new fiber in total. The scope of the proposed project includes the areas targeted in the County's FY2022 application and beyond; it now addresses all the other unserved and underserved addresses on the west side of I-95.

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2. List existing providers in the proposed project area and the speeds offered. Describe your outreach efforts to identify existing providers and how this information was compiled with source(s).

Answer:

The predominant wireline terrestrial service providers in Caroline are Comcast and Verizon to the West of I-95, and Breezeline to the East. DSL coverage, as well as cell phone and satellite coverage are available throughout, but these technologies generally do not meet the existing standards of adequate broadband access. These have been identified as areas ripe for extension of broadband service, on the basis of the vendors' internal data, County data, and even Comcast's proposal from last year's application. The proposed project areas are a natural fit with Verizon's existing infrastructure, requiring only an upgrade to facilities rather than new backbone build. For example, Verizon has existing DSL copper network facilities that already reach locations within roughly three miles of the Verizon central office. As our partner, Verizon expects to provide broadband service by overlaying fiber optic network facilities along its existing copper network path.

Verizon's Fios broadband Internet access service offers speeds starting at 300 Mbps/300 Mbps all the way up to its Gigabit Connection service, which supports 940 Mbps downloads and uploads to 880 Mbps. These speeds are well in excess of VATI requirements.

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

Answer:

With the exception of RDOF, no area within the Verizon Project polygons has received funding from any of the federal grant programs listed in Question 3. Attachment 2 includes aggregated data from the USDA and USAC, and demonstrates that none of the federal programs administered by those groups fall within the project area. With respect to RDOF, Attachment 5 shows the RDOF funded areas in the Verizon Project area, but RDOF funding in the Verizon Project area was awarded only to SpaceX (satellite provider), not to any wireline provider.

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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 below 100/20 Mbps and with less than 25% service overlap within the project area for wireless projects and 20% for wireline projects. Describe any anticipated service overlap with current providers within the project area. Provide a detailed explanation as to how you determined the percentage overlap. Label Attachment: Attachment 3 – Documentation Unserved Area VATI Criteria.

Answer:

We analyzed the latest FCC 477 data, as well as the existing County broadband availability shapefile. Additionally, it is reported that beside Verizon and Comcast services, there is only satellite and DSL service in the portions of the County west of I-95. Caroline's FY0222 VATI application, in partnership with Comcast, provided for expansion of broadband service in areas not served by Comcast. Using information from that 2022 application, as well as certain proprietary information, Caroline GIS was able to hone down the remaining unserved areas with the exception of Verizon's footprint. Verizon then was able to corroborate that the addresses proposed by the County in this application are not served by Verizon currently. In fact, the County has recognized that every household applied for has no other option for internet above the 3 Mbps download/750 Kbps upload offered by DSL in very limited areas. For the sake of due diligence as a project manager, David Sadler, the County IT Director, first used his intimate knowledge of the County to drive through VATI-awarded areas now being built, and then went on to visit most of the areas included in both applications. Community survey data and data reported via Caroline County's broadband inquiry form (<https://co.caroline.va.us/forms.aspx?FID=70>) helped corroborate the County's GIS data.

Additionally, these project addresses were prequalified by DHCD using a list obtained from The Center for Geospatial Information Technology at Virginia Tech (CGIT), who are working on the states revised broadband availability map with DHCD. The map in **Attachment 3** – "Documentation Unserved Area VATI Criteria" shows unserved census blocks in Caroline, overlaid with the project area. Using this, a "select by attribute" was conducted, selecting all blocks that have advertised max available service of less than 100/20, or blocks with 0 reported providers. In the map, these are depicted in the salmon color, and still cover most of the County. Comcast's and Verizon's current service blocks are overrepresented due to the nature of FCC 477 reporting, so for that application we are positing that all of the declared addresses are underserved by this year's definition of not meeting 100/20, or even the unserved criteria of 25/3 being in recognized internet deserts.

Based on this analysis, there is no anticipated overlap with other service providers in the proposed project area.

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5. Total Passings: Provide the number of total serviceable units in the project area. Applicants are encouraged to prioritize areas lacking 25 Megabits per second download and 3 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 VATI passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area.
- b. If applicable, of the total number of RDOF passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area.
- c. If applicable, provide the number of passings that will require special construction costs, defined as a one-time fee above normal service connection fees required to provide broadband access to a premise. Describe the methodology used for these projections.
- d. If applicable, provide the number of passings included in the application that will receive broadband access because special construction costs have been budgeted in the VATI application. Describe the methodology used for determining which passings with special construction costs were budgeted in the application.
- e. Provide the number of passings in the project area that have 25/3 Mbps or less. Describe the methodology used for these projections. (up to 15 points)

Answer:

A. See **Attachment 4**.

B. See **Attachment 4**.

C. Verizon does not anticipate application of special construction costs to any of the 854 passings. If a need for special construction is identified, Verizon will follow its standard practice, as set forth in its Product Guide online. Typically, this results in no construction charges for residential Fios Home Internet customers for extension of drops to long-setback structures. With respect to new residential subdivisions, multi-tenant dwelling units, commercial development, and mixed-used business and residential development within or outside of the Project Area, Verizon will follow its standard practices for delivery of service and network extensions, including recovery of costs, as set forth in its standard Product Guide. Verizon will also make an effort to promote DHCD's LECAP program, where eligible.

D. Not applicable. Please see the response to subsection C, preceding.

E. As noted in the response to Question 4, above, the County and Verizon believe that all 854 locations lack access to broadband speeds at or above 25/3 Mbps. The response to question 4 details the methodology used to reach this conclusion, and includes a review of business records of both Comcast and Verizon, the only two wireline providers in the proposed Verizon project area. County GIS data that has been developed to support VATI grant applications has evolved and improved. Caroline County now has partnered with every wireline provider capable of providing 'served' level broadband speeds that has a presence in the County. These 854 selected address points are not active fiber customers according to Verizon and Comcast. Only DSL and satellite service are currently available to those customers; each of those options perform at speeds well below the 25/3 criteria.

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6. Describe if any blocks awarded in Rural Digital Opportunity Fund (RDOF) are included in the VATI application area. If RDOF areas are included in the VATI application, provide a map of these areas and include information on number of passings in RDOF awarded areas within the VATI application area, and Census Block Group ID number for each block group in the project area. Label Attachment: Attachment 5 – RDOF Awarded Areas Form in VATI Area

Answer:

Attachment 5 shows RDOF awarded areas in the project zone. Some of the parcels in the project zone overlap with areas in Caroline that have been awarded to SpaceX, a satellite broadband provider. SpaceX is not a wireline provider, so the areas in which it has been awarded do not present any obstacle to award for this application. Also, with the recent FCC rejection of SpaceX' bid, these areas are virtually once again unclaimed by RDOF. Again, there are no RDOF-funded wireline providers in the proposed Verizon project area.

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

Answer:

N/A

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

Answer:

Verizon's network system design is based on deployment of fiber to the premises (FTTP). This results in a 100% fiber optic connection from each customer's location back across Verizon's network to the public Internet, originating from Verizon's existing local office.

The FTTP fiber network to be deployed by Verizon will utilize passive optical networking (PON) technology to provide the optical (laser) signal. This results in a more reliable network that is not dependent on commercial power at intermediate points in its design. The PON network uses passive glass splitters (akin to prisms) that enable multiple customer locations to be served over a single feeder fiber, which is a more efficient way to deploy fiber networks. The current generation of PON technology enables gigabit-level speeds and is referred to as Gigabit PON (GPON). Next generation PON technology coming into the market now is called Next-Gen PON2 technology (NG-PON2) and will be capable of supporting symmetrical speeds up to 10Gbps. Verizon plans to deploy GPON technology in the Project Area, which will support speeds up to 940 Mbps downstream and 880 Mbps upstream, far above the requirements of the VATI program. Verizon's FTTP network architecture also allows for the deployment of NG-PON2 technology in future years when that becomes more widespread.

The GPON signals over the FTTP last-mile infrastructure will terminate in Verizon's existing local central office in Ruther Glen. From there, broadband traffic is routed from the Verizon central office to the global Internet over an existing diverse, redundant network controlled by Verizon. Network diversity helps mitigate the risk of an outage due to fiber cuts, weather, or other events. Verizon's end-to-end control of all network segments from the customer's location to the global Internet provides single-point accountability for service delivery and assurance, and simplifies and streamlines network management, troubleshooting, and repair.

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Verizon's central offices are equipped with backup battery power and generators to help ensure the office equipment keeps running in a commercial power outage and there is no powered equipment in the outside plant. Customers wanting broadband service during commercial power outages can purchase standard battery back-up equipment for their router and other CPE.

The Proposed Network begins with the optical line terminal (OLT) in the existing Verizon central office. Fiber optic cables are run along main feeder routes from the OLT in the central office toward the unserved locations. The fiber optic cables may be placed in underground conduit or attached to utility poles. Verizon's construction methods--aerial or underground--will vary by area and may depend on the availability of existing pole and conduit infrastructure and local requirements. The detailed budget provided by Verizon includes specific assumptions for the mix of aerial and underground placement methods for the proposed network. For underground spans of fiber, Verizon may place vaults, handholes, or ground-mounted cabinets to access the fiber at various points. For aerial routes, Verizon may place ground- or pole-mounted cabinets. Along and at the end of each feeder route, Verizon will place a passive optical splitter to connect each feeder fiber to up to 32 distribution fibers. There may be one or two splitters between the OLT and the customer. Distribution fiber cables terminate at fiber terminals placed in the public right of way on poles, cabinets, vaults, or handholes.

Once completed, when a customer orders service, a fiber drop is run from the nearest terminal in the public right of way to their location. An Optical Network Terminal (ONT) is placed at the customer location depending on the precise design. The ONT terminates the optical signal from the OLT in the central office. The ONT enables connections using Category 5 or 6 inside wire to a broadband home router for Internet service. The ONT also enables connections using RJ-11 cabling (for legacy voice services) and coaxial cable (for connection to existing cable inside wiring, if available). Verizon Fios customers can rent or purchase a broadband router from Verizon or provide their own.

The costs of deploying the drop, the ONT, and CPE installation at the customer location are not included in this application. Verizon will absorb all of those costs on its own, outside the scope of this project. Such costs are incurred only as customers sign-up for Fios service.

Verizon operates its own middle-mile and backbone networks as an ISP to connect our customers to the Internet. See **Attachment 20** for details on our turnkey network management approach. All capacity in the Proposed Network is shared capacity. Verizon engineers and maintains its network to address peaks in utilization. The Proposed Network and network management practices are the same ones that Verizon has been using for over 15 years for its Fios network service up and down the East coast. Verizon's existing network planning and capacity management processes will continue to address the needs for capacity for all of Verizon's customers in Caroline County, including customers on the Proposed Network. Verizon's processes involve automated internal reporting on capacity utilization on individual circuits in our transport and backbone networks, with internal processes that are triggered to augment capacity when circuits reach pre-defined capacity utilization thresholds.

In addition, Verizon maintains an internal speed testing platform that tests broadband speeds on tens of thousands of Fios circuits monthly to confirm that customers are receiving the provisioned speeds. These business processes help ensure that the Fios network delivers the speed capabilities purchased by customers. Verizon intends to utilize speed and performance testing arrangements implemented in compliance with the FCC's requirements for the Connect America Fund grant program. These are the same requirements that the Commerce Department adopted for the BEAD program and are substantially consistent with the methodology utilized by the FCC's Measuring Broadband America program, which Verizon has participated in since its inception over ten years ago and which generate speed test results that can be used to satisfy all existing FCC broadband regulations.

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9. 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 100/20 Mbps. (up to 10 points)

Answer:

Verizon provides a wide range of Fios service offerings, which it continues to update and enhance. The most up-to-date information can always be found on Verizon's website. As noted in response to item 8, Fios is provided over a shared-bandwidth network, engineered, managed and maintained by Verizon. The technology to be deployed is GPON over FTTP. Backhaul circuits from the Verizon central office to the Internet are typically Ethernet or wavelength services, and are managed to ensure sufficient capacity during peak busy periods, which may vary over time.

Verizon Fios Home Internet Plans (Plan Overview Provided in **Attachment 20**)

(Pricing as of 8/23/2022. Subject to Change.)

Service Offering Features Plan Perks Price Notes

Gigabit Connection Ideal for a virtually seamless entertainment experience.

Download speeds up to 940 Mbps

Upload speeds up to 880 Mbps (25x faster than cable providers)

Included w/plan:

Whole-Home Wi-Fi

Router rental included + Wi-Fi extender provided (if recommended/requested)

\$89.99 Per month w/Auto Pay

Four year price guarantee

\$200 gift card (terms and conditions apply)

Router rental included in monthly service price. Wi-Fi extender included in monthly service price (if deemed necessary by technician or on customer request).

500 Mbps Great for multiple users, binge streaming and sharing large files.

Download speeds up to 500

Upload speeds up to 500 Mbps

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\$69.99 per month w/ Auto Pay

Three year price guarantee

\$50 gift card (terms and conditions apply)

300 Mbps Stream and download movies, shows and photos.

Download speeds up to 300Mbps

Upload speeds up to 300Mbps

\$49.99

Two year price guarantee

\$50 gift card (terms and conditions apply)

Fios Forward Discounted Plans (With ACP eligibility)

Gigabit Connection Ideal for a virtually seamless entertainment experience.

Download speeds up to 940 Mbps

Upload speeds up to 880 Mbps (25x faster than cable providers)

Router rental and whole-home WiFi included

\$49.99 Per month w/Fios Forward + Affordable Connectivity Program

Four year price guarantee

\$200 gift card (terms and conditions apply)

500 Mbps Great for multiple users, binge streaming and sharing large files.

Download speeds up to 500 Mbps

Upload speeds up to 500 Mbps

\$29.99 Per month w/Fios Forward + Affordable Connectivity Program

(discounts may vary)

Router rental included

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Three year price guarantee

\$50 gift card (terms and conditions apply)

300 Mbps Stream and download movies, shows and photos.

Download speeds up to 300 Mbps

Upload speeds up to 300 Mbps

FREE w/Fios Forward + Affordable Connectivity Program (discounts may vary)

Router rental included

Two year price guarantee

\$50 gift card (terms and conditions apply)

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

Answer:

The initial version of Caroline's UC Plan was adopted by the Board of Supervisors on September 7, 2021. It was revised and adopted by the Caroline Broadband Advisory Committee on August 15, 2022, and then accepted by the Board of Supervisors August 24, 2022. The approved plan can be seen in **Attachment 19**. The general idea for this plan was for Caroline to partner with the incumbents in order to obtain state and federal funding combined with County and ISP contributions for the build-out of unserved areas in the County. This application comes on the heels of last year's VATI applications, which sought to bring Caroline closer to this UC goal. Those applications were not approved, because their combined scope would have left unserved a portion of the addresses on the west side of I-95. Those VATI applications were submitted shortly after acceptance of the County's UC plan, so it was a disappointment that they were not funded, but the County has confidence in the UC performance of our 2023 VATI applications. Ultimately, this chain of events very well could have enabled a better outcome, due to Caroline's fervor in connecting the unserved resulting in a highly competitive RFP process where Verizon was ultimately selected for complete coverage west of I-95. This application, as well as the other being submitted by Breezeline this round, are the two next steps to accomplish this goal. Both applications will serve areas of the County that don't even have service at 25/3. This proposal was much greater in scope to the submission last year, servicing all of Caroline west of I-95 with Fios service. The other application will completely serve all of Caroline east of I-95. Notably, both partners have proven their willingness to support Caroline by upping their contributions towards project costs, significantly surpassing the minimum required match. Caroline County's committed contribution also exceeds minimum requirements. Together, an award to both of these applications will mark one of the final steps towards the end of Caroline's journey to universal broadband.

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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 are encouraged to extensively discuss, where applicable, easements relating to railroad crossings, federally-owned lands and parks, partnerships with the Virginia Department of Transportation, and mobile home parks. Applicants must include Memorandums of Understanding (MOUs) or Memorandums of Agreement (MOAs) between applicants (drafts are allowable). Label Attachments: Attachment 7 – Timeline/Project Management Plan; Attachment 8 – MOU/MOA between Applicant/Co-Applicant; (up to 10 points)

Answer:

Verizon is ready to begin this project.

Verizon's preliminary review indicates that virtually all of the locations to be served in the Project Area are already serviceable from Verizon's existing copper network in the County. This project will directly overlay those copper facilities with fiber in an FTTP architecture. Verizon does not believe that any railroad crossings will be required, nor will there be any required access to federal land.

The predominant provider of electric utility service in Caroline County and across the proposed Verizon network is the Rappahannock Electric Cooperative (REC). Cost-effective, timely, and efficient access to existing aerial infrastructure greatly increases the likelihood of a broadband project being completed on time. Verizon has worked with REC to make joint-use of each company's pole assets for decades, and Verizon's existing Master Pole Joint-Use Agreement has been in place for over fifteen years.

Verizon has extensive experience working with the Virginia Department of Transportation (VDOT). Knowledge of VDOT's permitting processes and solid working relationships with agency personnel, including the ability to escalate matters and brainstorm creatively to overcome obstacles, is an essential and highly-desirable asset for any broadband network construction project that occupies VDOT right-of-way.

Verizon has the necessary arrangements in place with respect to equipment, supply chain, logistics, contract services, and regulatory compliance to complete the projects proposed in this application in the designated time frame. Verizon's fiber network expansion program adds on average more than 400k premises and over 5,000 route miles of new fiber to our network each year. It is these same time-tested and proven supply chain and related arrangements that will be leveraged to construct the network proposed in this application.

With respect to one of the key inputs--fiber optic cable and accessories--Verizon has a long-standing relationship with Corning, and is including a letter evidencing Corning's willingness and intent to meet our requirements for fiber under its existing supply agreements with Verizon.

Verizon's labor force is in place, is stable, and has high rates of retention throughout Verizon - including the 6,600 Virginians already employed at Verizon. Verizon's large direct workforce of experienced, well-paid, represented employees live and work in the communities of the County and surrounding areas. Where needed, the contractors that work with Verizon are an established and stable group, whose members have a track record of long service prioritizing their work for Verizon and its customers.

Verizon and the County have exchanged a draft of a Memorandum of Understand (a copy of which is attached to this application), and will promptly negotiate and execute a Broadband Deployment Agreement upon receipt of a VATI award.

The project management process that Verizon will use was developed as Verizon built tens of thousands of miles of FTTP network infrastructure around the U.S., beginning in 2005. The process is tested, proven and

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transparent.

Representative Project Schedule

Attachment 7 – Timeline/Project Management Plan is an 18-month representative project schedule that gives a high level layout of the activities described. The following points highlight key elements of the proposed Project Schedule:

- An 18 month overall timeline. The timeline will be expressed in three cycles dividing all of the included residential locations into three PCA groups. As seen in the Gantt chart in **Attachment 7**, each PCA in each cycle is “synchronous.” The continuous work streams help to ensure that once the work of a cycle has begun, the work will not cease until the overall Project is in its final stages.
- Different colors on the chart are used to denote each phase.
- The Fios Ordering/Installation Phase is not in the scope of this project--it is wholly dependent on customers actually placing orders for Fios service. But it is listed in the Gantt chart to demonstrate the point at which that will be possible. Completion of construction and availability of service ordering will be determined by a negotiated verification and acceptance process to be implemented between Verizon and the County.
- Work does not begin on any phase of the project until the execution of a Broadband contract between Verizon and Caroline County, Virginia. Attachment 8 – MOU/MOA between Applicant/Co-Applicant is an attached draft MOU detailing the relationship between Caroline and Verizon regarding this project.

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

Answer:

Caroline and Breezeline (formerly known as Atlantic Broadband) partnered on the Four County project that was awarded \$5,187,674.00 in VATI funding in FY2021 round to serve 1,143 unserved addresses between them. For Caroline, that project aims to offer broadband service to approximately 482 homes along portions of Ladysmith Road, Balty Road, Penola Road and Route 17 east and west of the Town of Port Royal. It is the result of a successful FY2021 Virginia Telecommunications Initiative (VATI) grant application that included a Caroline County contribution of up to \$614,400. The project is expected to be completed by December 31, 2022, barring any unforeseen delays due to ongoing supply chain issues. The build proposed in this current application is built off of the FY 2021 awarded project. The County proposes to extend plant from the areas built by that FY2021 project into the major unserved portions of the County as part of Caroline's plan for universal coverage.

Breezeline has made steady progress on this project in the four-county area. As of August 19, 2022, 92 total locations have been made serviceable. There are 559,680 linear feet of plant constructed, with more to come. While no addresses are yet active in Caroline County, 223,059 feet of plant has been constructed in Caroline.

13. Matching funds: Complete the funding sources table indicating the cash match and inkind resources from the applicant, co-applicant, and any other partners investing in the proposed project (VATI funding cannot exceed 80 percent of total project cost). In-kind resources include, but are not limited to: grant management, acquisition of rights of way or easements, waiving permit fees, force account labor, etc. Please note that a minimum 20% match is required to be eligible for VATI, the private sector provider must provide 10% of the required match. If the private co-applicant cash match is below 10% of total project cost, applicants must provide financial details demonstrating appropriate private investment. If applicants and co-applicants are seeking to include prior expended funds as matching funds, Attachment 11 must be completed. Label Attachments: Attachment 9 - Funding Sources Table; Attachment 10 – Documentation of Match Funding; Attachment 11 - Prior Expended Match Form

Answer:

Verizon will provide approximately 60% of the projected costs. Total projected costs are \$7,642,835, so the amount provided by Verizon will be approximately \$4,585,701 in cash. Caroline County will provide approximately 13.4% of the projected costs, totaling approximately \$1,024,800, in cash.

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

Answer:

Caroline leverages a number of activities that pertain to providing high speed internet. Combined there are years of developing and mapping many of the datasets required to submit, manage, and maintain grant

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funded infrastructure upgrades to the areas identified in **Attachment 1**. In support of grant applications, County GIS Managers have created multiple datasets (e.g., student locations, parcel values by regions, existing fiber/coaxial infrastructure, residents with copper/fiber, preliminary designs with costs, etc.) that can be used in this effort. Substantial prior work has been done by Caroline's broadband steering groups to provide studies and strategic plans to inform the best approach to expand broadband services. Mr. David Sadler, the County IT Director, has been assigned by the County to manage the grant process and buildout. He has devoted many hours of his time in that role. The County will provide a sizable match to Verizon and Breezeline for these multimillion-dollar projects. A significant investment by the County helps ensure that the project will be completed on time and within budget by using County resources (i.e., administrative, management, financial) to execute the Contract.

Additional in-kind activities include Caroline's effort to obtain construction permits for placing utilities through four strategically selected railroad crossings, which originated during the preparation of the FY2021 grant. This is pertinent to the other application's project area, but should be duly noted. Despite the loss of the FY2022 VATI Grant application, Caroline has continued to pursue these permits within the same project areas. Currently, they are in the final stages of review with CSX Transportation. The County also has solid relationships with the School Board and Department of Social Services, who have cooperated extensively to support the County's digital literacy efforts, and to promote Caroline's ubiquitous availability of the Affordable Connectivity Program.

As an in-kind contribution, Caroline offers the services of their broadband boards/authorities to continue throughout the project. They will also assist Verizon and Breezeline with their marketing, as described in the next section. If requested by either provider, the County will provide in-kind assistance. Board members are also exploring potential funding sources, such as the FCC's Lifeline Program and the Affordable Connectivity Program, which may help citizens afford the monthly connection cost.

Verizon is committed to begin the work upon a successful award of the grant. Upon execution and acceptance from DHCD for these projects, Verizon is immediately prepared to begin activities. Verizon is excited to extend its existing internal FTTP build program to connect the rest of Caroline's unserved with their immense infrastructure in the eastern United States.

The Verizon Proposed Network design will significantly build off its embedded network plant in the County. Verizon also has existing relationships with the local electric utility and VDOT. Verizon has a 15+ year track record of successfully deploying its FTTP network solution and Fios service to millions of homes up and down the East coast.

Verizon's credo starts with the phrase--"We have work because our customers value our high-quality communications services." That dedication and commitment to our customers is reflected in every action. Verizon has been the incumbent telephone company in Caroline County for decades. It has long-standing relationships with customers throughout the County. The County believes that these relationships, Verizon's name recognition, and the strength of the brand, will help accelerate adoption of the award-winning Fios Internet services for homes and businesses reached through this project.

Verizon's range of services and pricing plans--including plans for low-income customers that result in free broadband service after application of the FCC's Affordable Connectivity Program subsidy--provide an option for every budget.

The Verizon proposal also leverages Verizon's relationship with Verizon Wireless. Customers can save even more by bundling their Fios Internet service with certain Verizon Wireless 5G data plans--this is an attractive option for customers who already subscribe to Verizon Wireless mobile service.

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People live in houses and multi-tenant buildings, and many of those are owned, built, or managed by major local, regional, and national companies. The Verizon Enhanced Communities (VEC) team is specifically tasked with establishing and maintaining relationships with building owners, developers/builders, and property management companies. Through the VEC Value Program, Verizon's teams will help the building owner, developer/builder, or management company actively promote Fios as a key amenity to all the residents or homeowners, and provide the dedicated, end-to-end support that will keep them happy for years to come. Verizon's marketing arrangements allow VEC personnel to work with the customer to develop marketing programs to drive residents to purchase our Internet services. VEC customers also have the option to enter into a bulk arrangement with Verizon as part of which VEC provides discounted prices off Fios retail services for residents of the building or development. VEC has strong relationships with builders such as NVR/Ryan Homes, Lennar, Pulte Homes and other large developed communities in Virginia, and looks forward to the possibility of strengthening existing relationships and forging new ones through the proposed Fios network expansion project in Caroline County.

All of this, and more, will be brought to bear to maximize leverage and the success of the Verizon Project.

15. Communications Plan: Describe efforts to keep the public informed of project progress and the broadband adoption plan.
- a. Explain how you plan on communicating the project status to stakeholders, including but not limited to County leadership, project areas residents, etc. (Up to 10 points)
 - b. Explain how you plan to promote customer take rate, including marketing activities, outreach plan, and other actions to reach the identified serviceable units within the project area. Provide the anticipated take rate and describe the basis for the estimate. (up to 10 points)
 - c. 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. The County relies on their Information Technology Director, David Sadler, to act as the liaison between its partnering private broadband providers and the County's Board of Supervisors. Mr. Sadler, as well as Mr. Jason Barlow, Chair of the Broadband Advisory Committee, and Jason Jacobus Vice Chair, report on a regular basis progress in broadband to the Caroline County Board of Supervisors at their regular meetings. Committee members attend public festivals and functions to promote broadband expansion, as well as promote this project through social media and community events.

Regarding Verizon's communications, before the project launch kickoff meeting, Verizon's Engineering and Construction Leadership will meet with the County's appointed project manager. Together they will review the proposed list of participants, a draft slide deck containing the agenda, schedule (phases, milestones, etc.), roles and responsibilities, the PCAs, and dependencies by Verizon on approvals, permitting, etc. When those items have been reviewed and approved by the County's project manager, the date and time of the kickoff meeting will be set, and the participants notified of both a virtual and on-site meeting requiring their attendance. The slide deck will be finalized based on the outcome of the initial meeting. Further project reporting will follow DHCD's requirements, as well as the reporting structure as dictated by the County's Board of Supervisors.

B. Verizon has established communications and marketing practices that will ensure that County residents

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are well-informed and up to date regarding

- the construction of broadband infrastructure in the Project area;
- the new Verizon Fios service that will be available to them;
- how to obtain or modify that Verizon Fios service, and;
- how to connect with Verizon to address their questions or customer service needs.

These efforts will include:

- Advance notice of construction - Letters, door hangers, or other notices for residents of areas where construction will be taking place.
- Web-based resources
 - [Verizon/Fios page](#) - general information about Fios service, plans and pricing and how to subscribe, including a "Check Availability" widget that will allow residents simply to enter their street address to determine whether Fios service has become available in their area.
 - Verizon's [Fios Forward](#) program- this page provides information about pricing for low income households, including the Fios Forward program which can leverage the federal ACP program for broadband internet service.
 - [Digital Inclusion/Tech inclusion resources](#)
 - [General Information and Customer Service Resources](#)
- Coordination with County staff, including County communications staff regarding major developments, general status and other matters.
- Marketing communications with the community and individual residents regarding the Fios service that will become available to them.

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- Communications with existing customers about the availability of broadband.

C. Caroline has actively engaged for several years in digital literacy and training efforts through their local libraries. The County's IT team plans to partner with The Caroline Library, a County-operated library system, and the Caroline County Sheriff's department to assist in offering online safety education to its citizens through a combination of in-person training when current COVID restrictions are lifted, and through remote webinars that can be viewed on smartphones where service is available. County schools are pushing to educate parents, students, and teachers in the intricacies of virtual remote learning by holding forums and sharing actions and findings. Additionally, schools have been invested in promoting the Affordable Connectivity Program, lowering the barrier to entry for students and parents and encouraging more online methods of education. With the extensive reach of schools into our community, we will be able to inform many households on options available to them now and in the future.

Caroline will address the needs of citizens who work from home and will present the options in an open forum with all interested/concerned. This effort has been promoted by actively reporting to the Board of Supervisors the activity of the Caroline Broadband Advisory Board. Further, based on demand, the County is looking to organize training sessions, and ask companies that allow work from home to come in and do training. Local businesses are encouraged to meet with business owners of all sizes and explore their needs. For tele-health promotion, the County will hold public sessions with presenters from local home health care providers, pharmacists, and physicians. Staff will contact regional hospitals to bring in tele-health specialists to be presenters and to provide training.

Verizon, for its part, is a leader in helping to address the Digital Divide.

Verizon has established Citizen Verizon—its plan for economic, environmental, and social advancement. Through this program, Verizon is committing \$3B to provide 10 million youths with digital access and skills training, 1M small businesses with resources to help them thrive in the digital economy, and to prepare 500K individuals for future jobs by 2030. Small businesses and residents can access specific information around these programs at <https://www.verizon.com/about/responsibility>.

Verizon provides resources to students, parents, and teachers to support virtual learning activities. More specifically, Verizon has increased the scale of its education work with the STEM Activity Center, an online toolkit that provides STEM resources. These resources offer hands-on activities that students, teachers, and parents can leverage for remote and in-classroom learning created in partnership with non-profit partner Project Lead The Way, to help supplement at-home learning. Verizon has also built a credentialed teacher training program, created with education non-profit partner Digital Promise, focused on digital skills, remote learning, and digital coaching. Open to all educators across the country, including in the County, the courses will help teachers become more efficient and effective with technology-integrated instruction to help them navigate digital learning and provide a better virtual learning experience for students. Information on these programs is available at CitizenVerizon.com/DigitalInclusion.

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16. Project Management: Identify key individuals who will be responsible for the management of the project and provide a brief description of their role and responsibilities for the project. Present this information in table format. Provide a brief description of the applicant and co applicant's history and experience with managing grants and constructing broadband communication facilities.

Answer:

Organization

Department

Role

Description

Verizon

Engineering (OSP)

Senior Manager-Outside Plant

Responsible for the design, engineering, and implementation of Verizon wireline infrastructure in the ILEC footprint. Infrastructure includes fiber and associated equipment installed for new revenue generating services.

Verizon

Contract Services - Buried Structure

Senior Manager-Ntwk Operations

Responsible for planning, sourcing, and managing all external third-party vendors necessary to create any new paths for the Fiber Construction Team.

Verizon

Fiber Construction

Senior Manager-Ntwk Operations

Responsible for managing and overseeing all construction aspects of Verizon's FTTP and core fiber network, including the placing, splicing and test/turnup of next-generation optical networks.

Caroline

Information Technology

Manager - IT

Maintain County oversight on the project and report to the state. Provide resident outreach and support to Verizon.

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17. Project Budget and Cost Appropriateness

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

Answer:

Verizon has deemed **Attachments 12 & 13** as CONFIDENTIAL. These documents have been sent to the VATI email address, vati@dhcd.virginia.gov, as a response to the letter granting FOIA exemption to Verizon.

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

- Number of serviceable units
(up to 125 points)

Answer:

- Total VATI funding request

\$2,032,334.00

- Number of serviceable units

854

19. Commonwealth Priorities (Up to 50 points)

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

- 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.

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

- Digital equity efforts to ensure low to moderate income households in the proposed project area will have affordable access to speeds at or above 100/20 mbps, include information regarding the internet service provider's participation in the Affordable Connectivity Program

- The co-applicant's efforts to mitigate supply chain constraints, including labor shortages and order-to-delivery delays on telecommunications materials required to construct broadband networks.

- The applicant's and co-applicant's efforts to promote broadband adoption, including, but not limited to: telehealth, smart farming, e-entrepreneurship, and distance learning.

Answer:

A. There are 76 identified business passings in this proposed project area. Bringing high-speed connectivity will open the doors for more opportunity; having an online presence will enable those businesses to

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communicate, market to, and retain an expanded customer base. Agriculture operations will be better able to manage application of pesticides, fertilizers, and water to increase the environmental quality aspect of the huge operations that cover much of our County.

The Community Anchor institutions are 6 churches located throughout the project area, all used for activities outside of the normal church services, such as meeting spaces for the Boy Scouts and even food bank distribution. Enabling more community activities and promotion, and even a potential backbone for public wireless access, demonstrates the importance of shared spaces serving as broadband hubs.

Telehealth remains crucial in remote, rural areas. Broadband access for everyone will improve medical care delivered in rural areas and help eliminate the divide that currently exists. These new connections will also be a driver of enhanced public safety functionality and economic growth.

B. Caroline has worked closely with the Virginia Department of Transportation to establish a firm relationship in order to efficiently obtain right-of-way permits in rural parts of the County. Through a VDOT point-of-contact, the County has arranged for their partners to experience minimal friction in the permitting phase of project buildout. Similarly, a relationship has been formed with the Rappahannock Electric Cooperative to fluidly prepare pole make-readys where necessary.

Caroline has engaged its own Department of Social Services, as well as the School Board, to make the public aware of the importance of broadband (helped in part by impact of the pandemic) and to promote the Affordable Connectivity Program and eligibility to all disadvantaged and students alike. Part e. further addresses these actions.

Verizon also boasts various unique partnerships that assist with the objectives of the Commonwealth. Verizon has built a credentialed teacher training program, Citizen Verizon, as mentioned earlier. Verizon is also a leader in creating opportunities for women. Verizon and its partners launched Women's CoLab in October 2021.

There are additional partnerships that strengthen Verizon's stance as an industry leader, detailed in a letter as a part of **Attachment 18**.

C. Verizon is committed to helping ensure that all Americans have access to affordable, reliable broadband and are equipped with the appropriate skills to use it.

All parties to this application are motivated to assist low-income residents, particularly families with school age children, to afford internet service. Verizon provides pricing for internet service that is available for documented, qualified low-income residents through its Fios Forward program. The counties' respective broadband groups will work to identify these residents to assist in their access to broadband.

Additionally, Verizon has made extensive efforts in Virginia to promote ACP. Verizon's teams work with local non-profits that have deep roots in the community, to engage working with low income residents and cooperate with local government agencies such as the DSS and housing authorities to spread the word about ACP. Verizon has launched a program called Fios Forward, which works with those who are ACP eligible to provide their 300/300 Mbps base package for free to anyone who qualifies. Caroline County Schools are now enrolled in the Community Eligibility Provision (CEP) of the USDA's National School Lunch Program (NSLP). Since most households in the County are already eligible for NSLP by having a student, ACP should apply to a majority of the project area based on the criteria.

D. Verizon has prepared a letter to Caroline County addressing their practices pertaining to ensuring supply chain fidelity, as well as a supplementary letter from Corning stating that they are ready to fulfill any supply

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chain obligations in regards to this project, which can be seen in **Attachment 18**. Verizon has a long-standing relationship with Corning.

Verizon has deep relationships across the global supply chain with a wide range of equipment manufacturers, vendors, and suppliers. The scale of sourcing activity enables Verizon to maximize their ability to obtain necessary equipment and services even when supplies run tight.

Verizon's labor force is in place, is stable, and has high rates of retention throughout Verizon -including the 6,600 Virginians already employed at Verizon. There is a large direct workforce of experienced, well-paid, represented employees who live and work in the communities of the County and surrounding areas. The contractors that work with Verizon are an established and stable group, whose members have a track record of long service, prioritizing their work for Verizon and its customers. Finally, Verizon already has in place the regulatory expertise to achieve consistent compliance and adapt to changed circumstances.

E. The County and Verizon both conduct activities to empower their constituents with the required knowledge to take full advantage of broadband resources.

Caroline County currently provides public Wi-Fi access in all branches of its library and all county office buildings. Caroline County Public Schools continues to manage strategically placed standalone Wi-Fi trailers to make internet available in areas that have no service.

The Caroline Broadband Advisory Committee will launch a Public Information Campaign to educate the public on options available to citizens in need of assistance in obtaining a broadband connection. Committee members will attend community functions and provide information to the public on the Plan for Universal Coverage, as well as assistance and up-to-date project status information offered by the private sector partners. The committee will continue to seek solutions that involve more available means of delivery, such as Facebook live events that are available to a higher number of citizens via cell phone. Members will hold an in-person event at the Caroline Community Center on October 22, 2022, called "got broadband?" to inform citizens of their options. Remote options will also be offered to those who do not feel comfortable attending in person.

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Additional Information

Please attach any letters of support from stakeholders. If the applicant is not a locality(s) in which the project will occur, please provide a letter of support from that locality.

Attachment 14 – Letters of Support.

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

Label Additional Attachments as:

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

Answer:

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In **Attachment 14**, there is a resolution from the Caroline County Public School Board, as well as a letter of support from Dr. Sarah Calveric, reinforcing their support and renewing their commitment to a unique partnership in promoting the County's effort to provide broadband to everyone, and eliminating the digital divide. Schools continue to be a vital partner in "getting the word out" by assisting in delivery of information to the vast network of parents they interact with on a regular basis.

Further, there have been a series of activities by citizens who are actively involved in this project, as well as those who see the importance of broadband. David Sadler has engaged with local farmers both in his current position working to prepare these applications, and for nearly 24 years as a private small business owner. He has actively worked with large operations that currently cover a large percentage of Caroline County. During this time farmers have been vocal about the need for broadband for use in precision agriculture to make them more competitive. Evidence of this engagement can be seen in the attached letter from The Caroline County Farm Bureau President Lynwood Broaddus which is an attachment to this application.

Notably, the County has a citizen petition gaining traction in support of the Committee's Universal Coverage plan, as well as these projects specifically. Currently, it has amassed around over 1,030 signatures, and is constantly growing. It can be viewed here:

https://www.change.org/p/bridge-the-digital-divide-in-caroline-county-va?utm_source=share_petition&utm_medium=custom_url&recruited_by_id=8174e480-f408-11ec-999d-d9460859795d

Additionally, Caroline is in the process of constructing a privacy pod in a local library branch to allow citizens to conduct business in a more private setting while using the publicly available internet access. This is a limited and temporary solution designed to address a dire need until a more permanent solution can be placed. The privacy pod is on order and should be arriving before the end of September. It was purchased from Zenbooth with funds from an ARPA sub-grant managed by the Library of Virginia. A privacy pod will allow patrons to attend tele-health appointments, job interviews and legal consultations without the concern of loss of personally identifiable information.

Attachments:

Map(s) of project area, including proposed infrastructure

Attachment1ProjectAreaMaps8242022115829.pdf

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

Attachment2DocumentationofFederalFunding8242022115833.pdf

Documentation that proposed project area is unserved based on VATI criteria

Attachment3DocumentationUnservedAreaVATICriteria8242022115847.pdf

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Passings Form (Use template provided)

Attachment4PassingsForm8242022115905.pdf

Documentation of RDOF awarded area in VATI project Area (Use template provided)

Attachment5RDOFAwardedAreasForminVATIArea8242022115931.pdf

Timeline/Project Management Plan

Attachment7TimelineandProjectManagementPlan8242022120003.pdf

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

Attachment8MOUbetweenApplicantandCoApplicant8242022120028.pdf

Funding Sources Table (Use template provided)

Attachment9FundingSourcesTable8242022120055.pdf

Documentation of Match Funding

Attachment10DocumentationofMatchFunding8242022120137.pdf

Derivation of Cost/Project Budget (Use template provided)

FOIAExemptionDeterminationVerizonCarolineCounty824202242745.pdf

Documentation of Supporting Cost Estimates

FOIAExemptionDeterminationVerizonCarolineCounty824202242807.pdf

Letters of Support

Attachment14LettersofSupport8242022120231.pdf

Two most recent Form 477 submitted to the FCC or equivalent

Attachment15TwomostrecentForm477s8242022120255.pdf

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

Attachment16PointandPolygonshapefiles8242022120323.zip

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Optional

Attachment18CorningLoSSupplyChainCommitmentandUniquePartnershipsLetter8242022120400.pdf

Optional

Attachment19CarolineCountysPlanForUniversalCoverage8242022120954.pdf

Optional

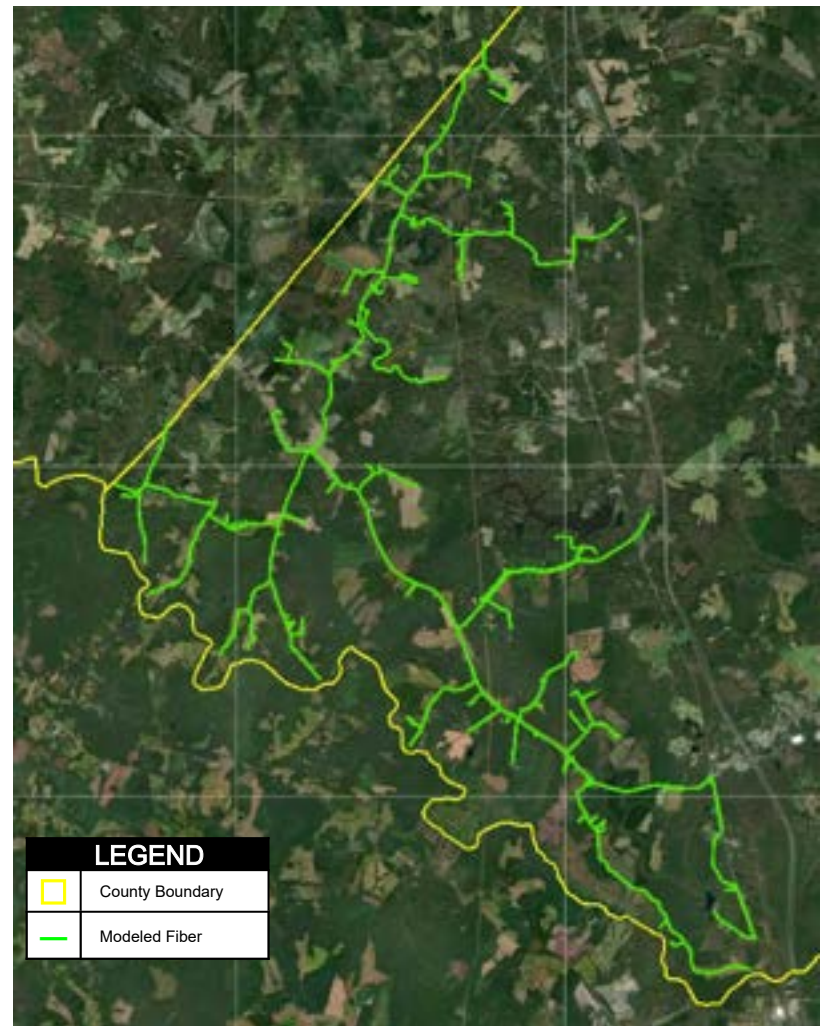
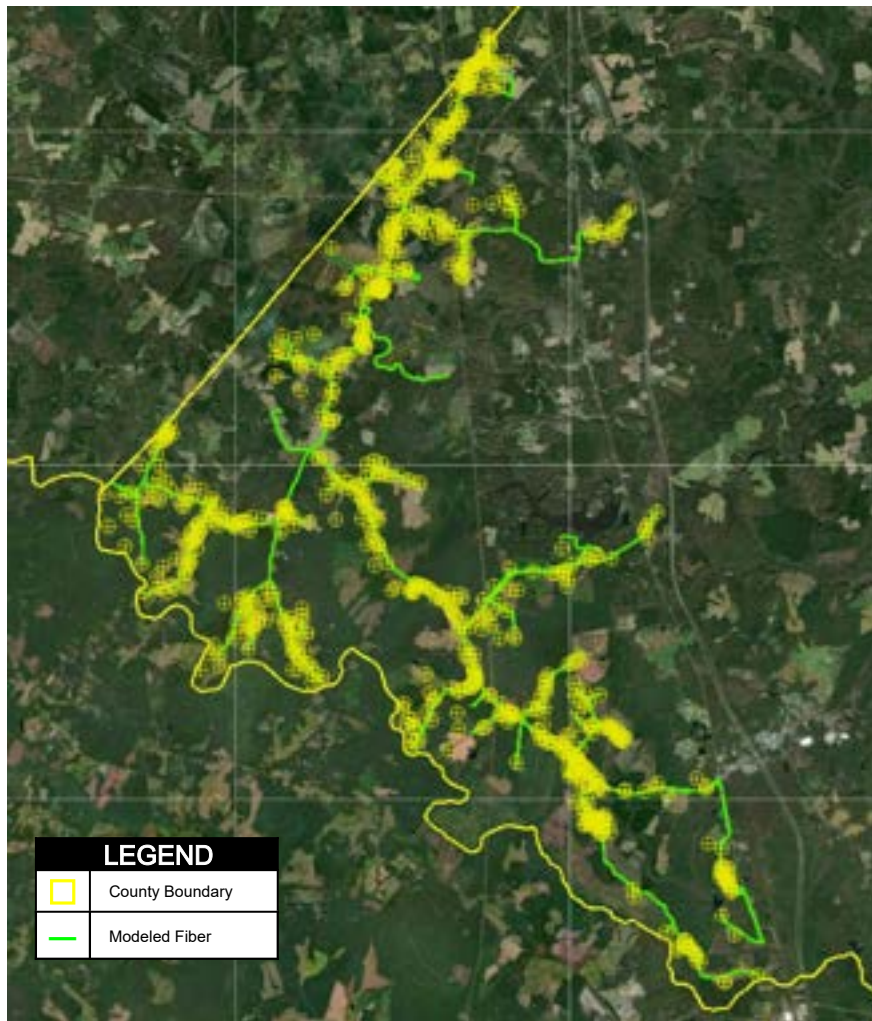
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Broadband Subsidy Analysis

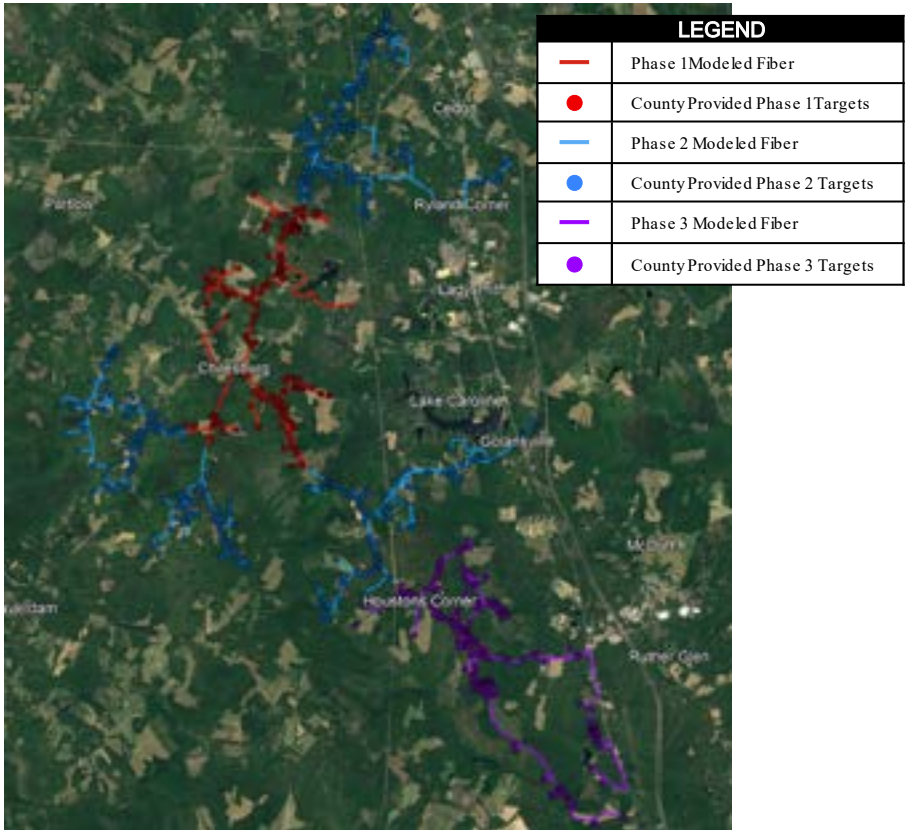
Caroline County
Virginia

Feb 2022





Build Phases



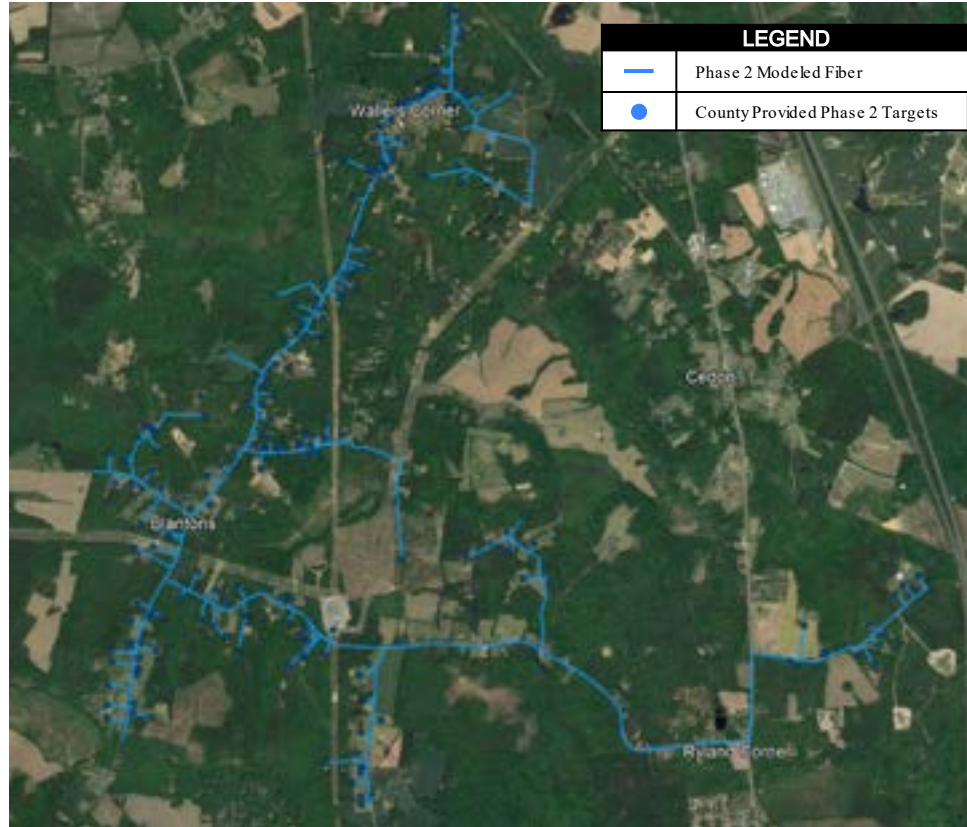
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Phase 1



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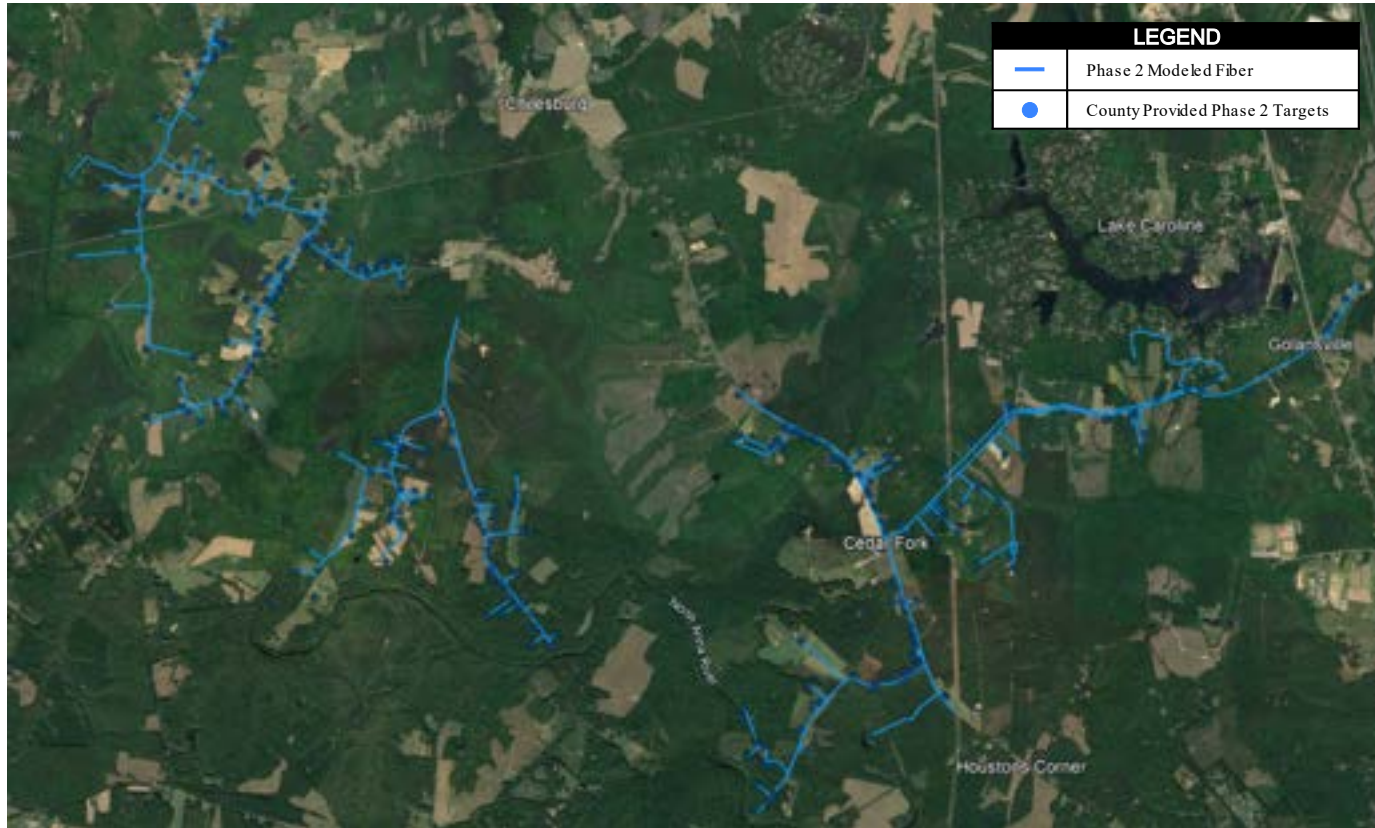
Phase 2- North



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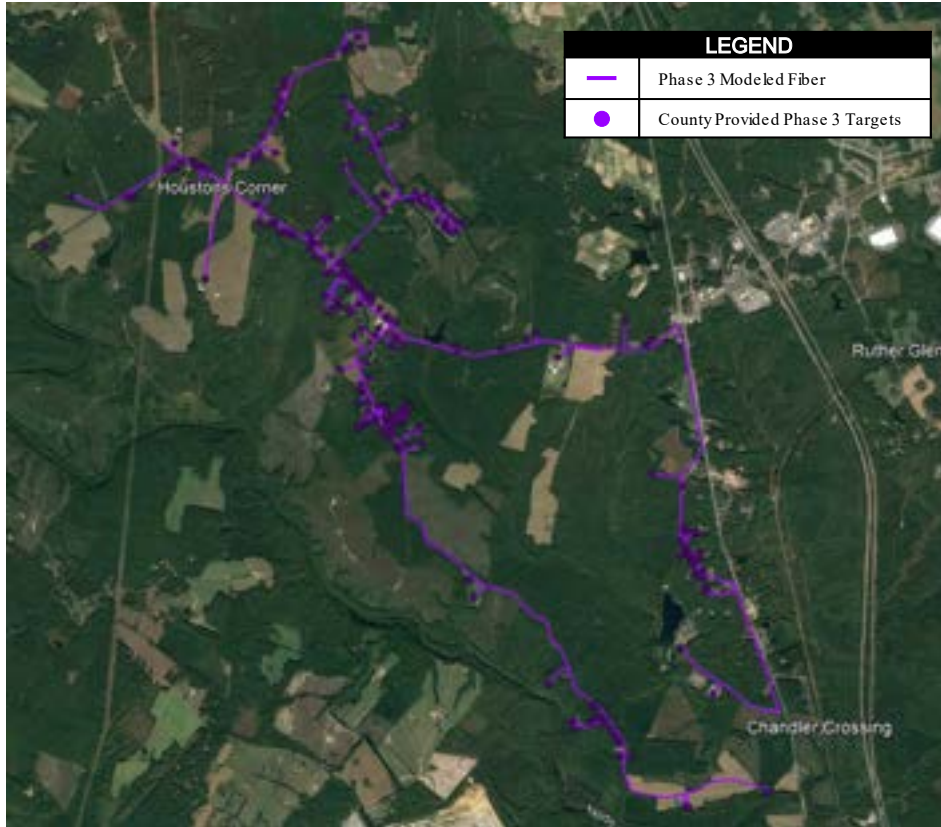


Phase 2- South

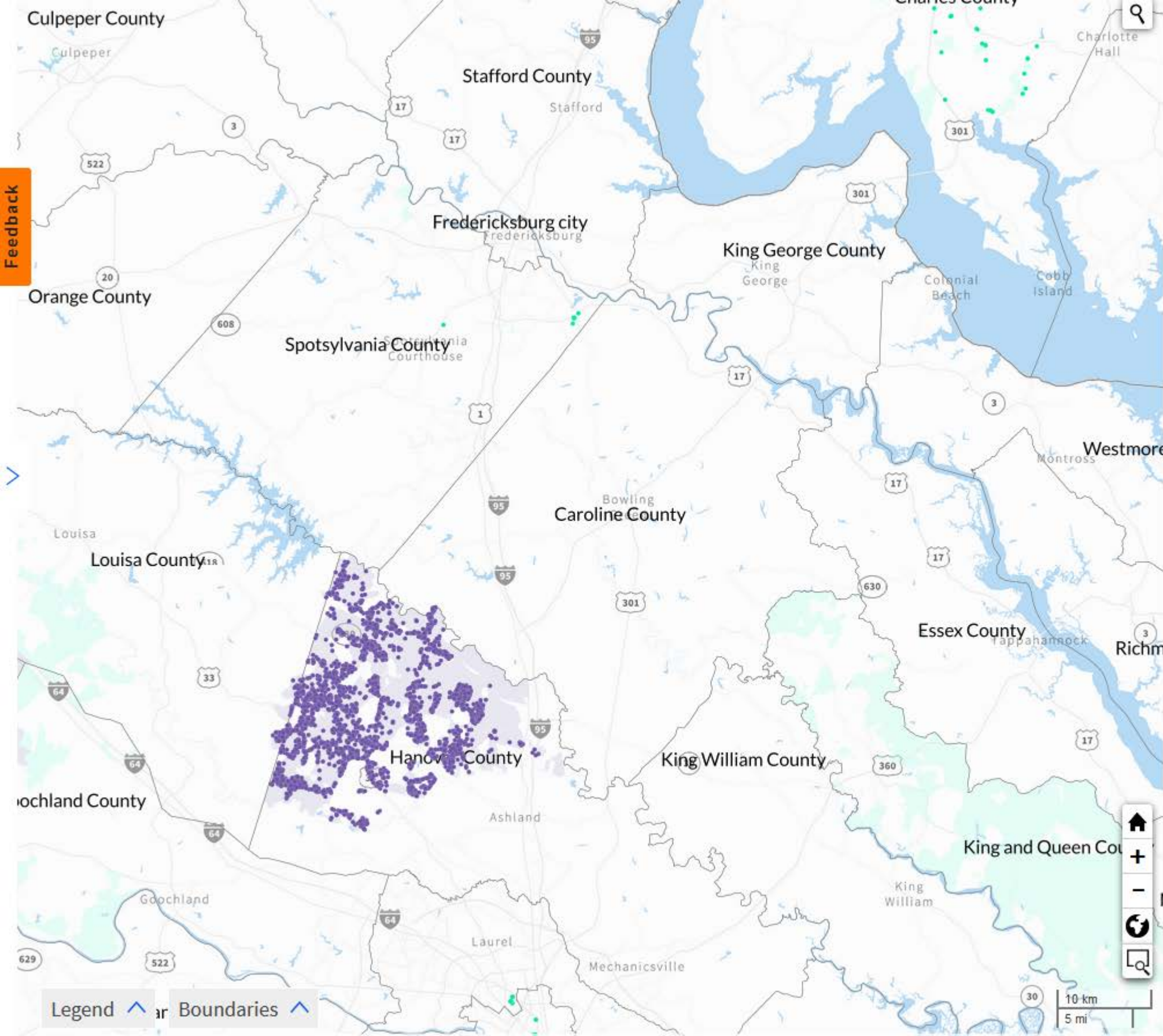


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Phase 3



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Feedback

Fund

- ACAM
- ACAM II
- AK Plan
- CAF-BLS
- CAF II
- CAF II Auc
- RBE

State

All States

Company Name

Search Company Name

Speed (Applicable only to Local Data)

All Speeds

Deployment Year

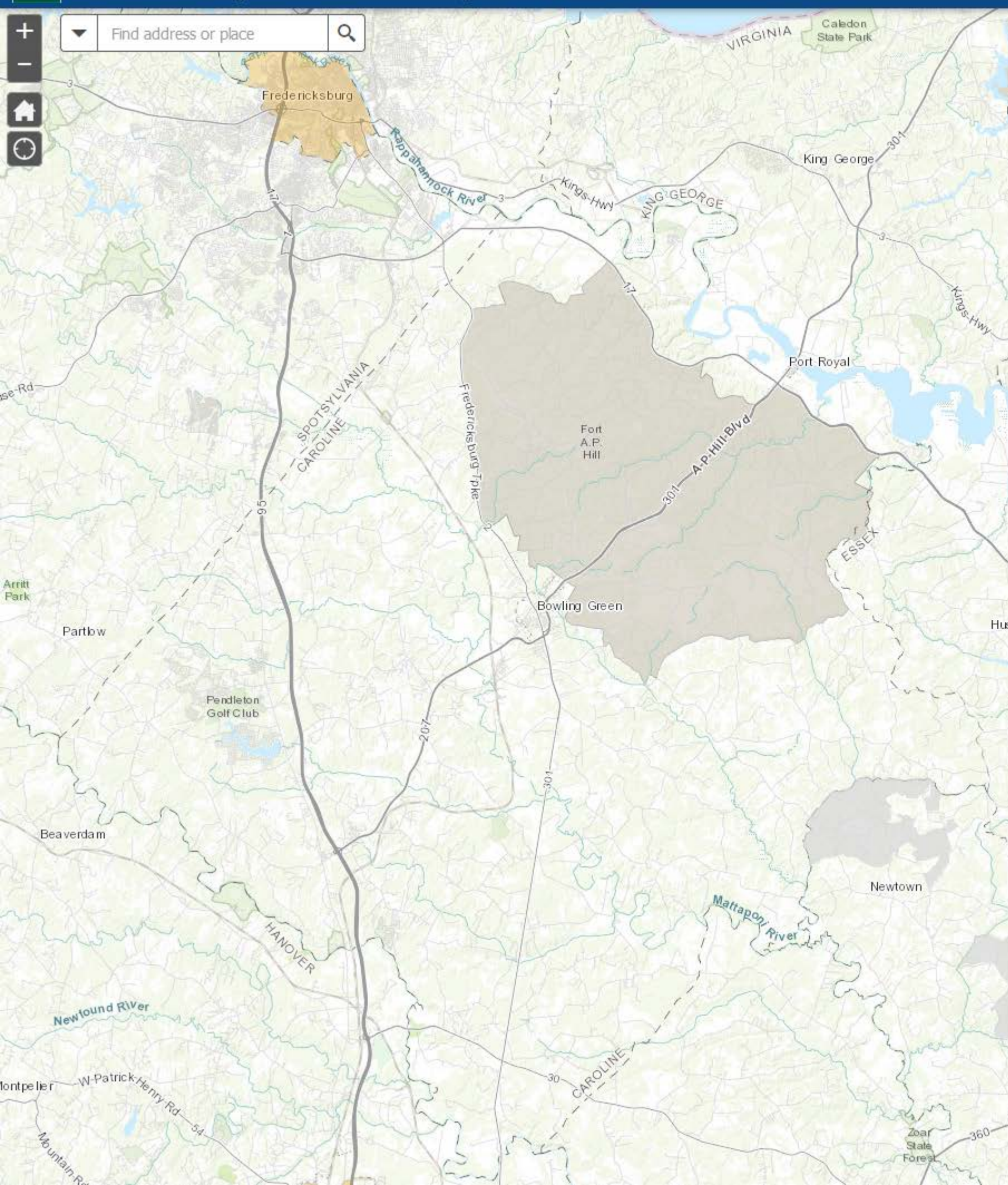
All Years

[Clear All Filters](#)

Legend or Boundaries

Map navigation controls: Home, Zoom In (+), Zoom Out (-), Full Screen, and Search.

Scale bar: 10 km / 5 mi

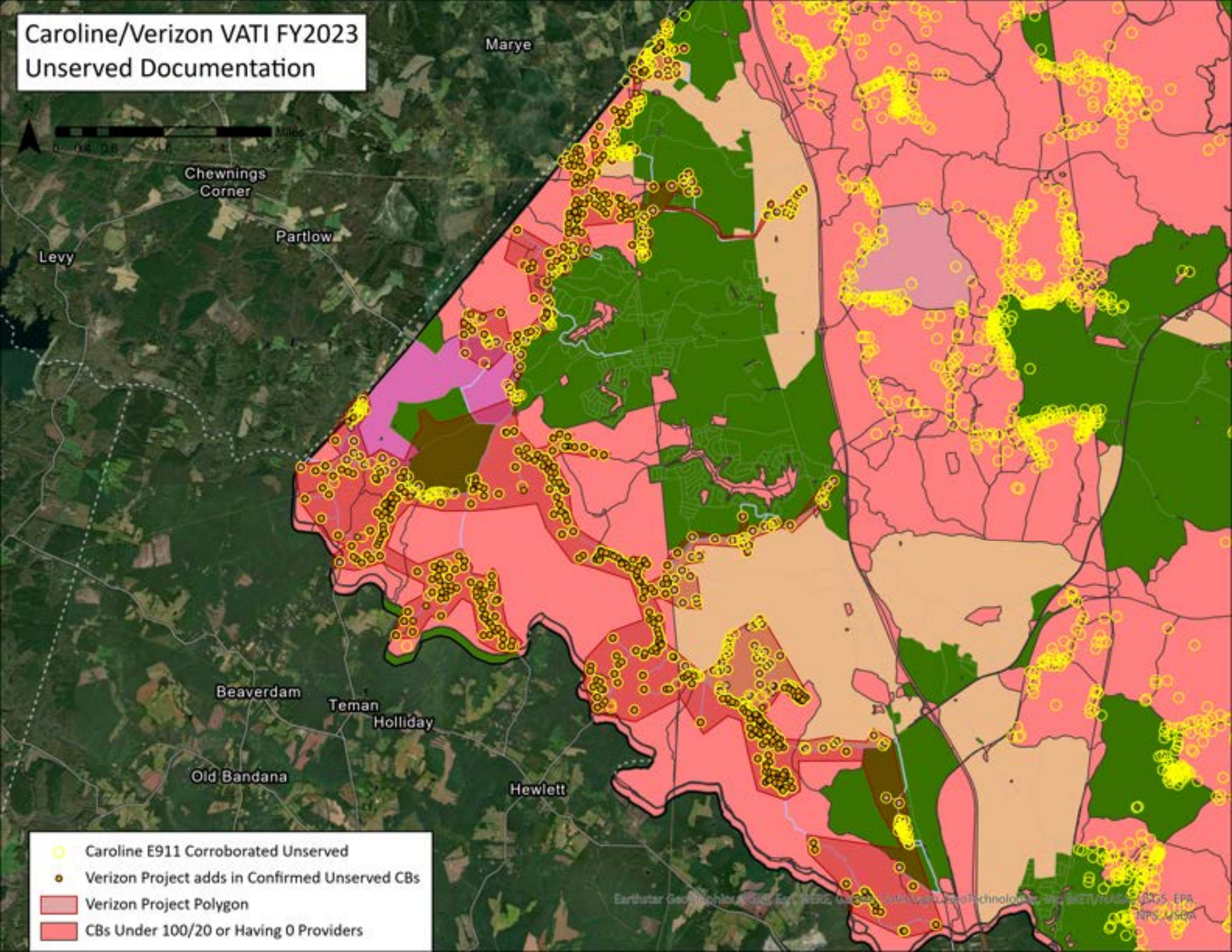


Layer List

Layers

- ☒ Eligibility: Non-Rural Areas
- ☒ Eligibility: Pending Applications
- ☒ Eligibility: Protected Broadband Borrower Service Areas
- ☐ Tribal Lands (2020 Census)

Caroline/Verizon VATI FY2023 Unserved Documentation



2023 Virginia Telecommunication Initiative (VATI) Passing Form

Type of Passings	Total Number of Passings in the Project Area ¹	Passings in the Project Area, without Special Construction Costs Required ²	Passings with Special Construction Costs budgeted in the Application ³	Number of Passings with Speeds at 25/3 or below in Project Area ⁴
Residential	753	753	0	753
Businesses (non-home based)	30	30	0	30
Businesses (home-based)	46	46	0	46
Community Anchors	6	6	0	6
Non-residential	19	19	0	19
Total	854	854	0	854

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

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

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

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

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

⁴The number of structures in the project area that do not have access to internet at speeds of at least 25 mbps download and 3 mbps upload.

Definitions

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

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

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

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

2023 Virginia Telecommunication Initiative (VATI) RDOF Passings Form

Type of Passings	Total Number of Passings in the Project Area that lie within Preliminarily Awarded RDOF Areas ¹
Residential	NA (Only SpaceX Awards)
Businesses (non-home based)	NA (Only SpaceX Awards)
Businesses (home-based)	NA (Only SpaceX Awards)
Community Anchors	NA (Only SpaceX Awards)
Non-residential	NA (Only SpaceX Awards)
Total Number of RDOF Passings	NA (Only SpaceX Awards)

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

Definitions

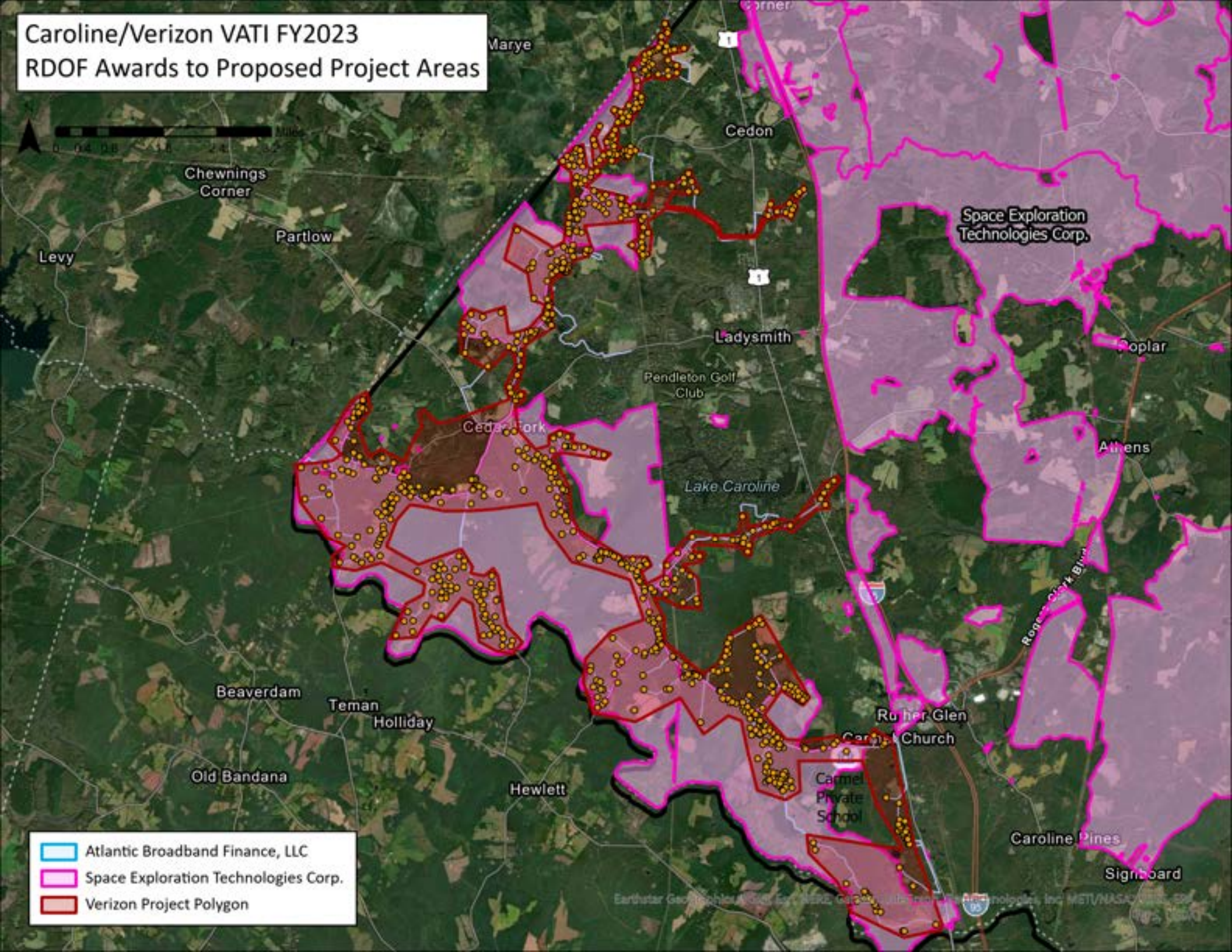
Passing – any structure that can receive service. Multi-unit structures may be counted as more than 1 passing, provided individual connections and account are planned at that structure.

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

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

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

Caroline/Verizon VATI FY2023 RDOF Awards to Proposed Project Areas



Draft--MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding ("MOU") entered into on this 25th day of July, 2022, by and between Verizon South Inc., located at 22001 Loudoun County Parkway, Ashburn, VA, 20147 hereinafter referred to as "Verizon", and the County of Caroline, Virginia, a political subdivision of the Commonwealth of Virginia, located at 212 N. Main Street, Bowling Green, Virginia 22427, hereinafter referred to as the "County" (Verizon and County are collectively referred to as the "Parties"), for the purpose of establishing and achieving various goals and objectives relating to the project contemplated by the Parties.

WHEREAS, the Parties are desirous to enter into this Memorandum to set forth the working arrangements that both Parties agree shall be necessary to pursue their efforts to bring the Project to fruition;

MISSION

The Project is intended to provide the areas of the County with access to broadband Internet service ("Broadband"), in order to meet the future needs of residents and businesses in those areas of the County.

PURPOSE AND SCOPE

The Parties intend for this Memorandum to outline the structure for any binding contracts which the Parties may enter into in the future related to the Project.

OBJECTIVES

The Parties agree to work together to attempt to secure funding and establish policies and procedures that will promote and sustain a market for Broadband availability and intend to work toward delivering a product and/or services that meet or exceed business and industry standards.

RESPONSIBILITIES AND OBLIGATIONS OF THE PARTIES

The Parties agree to work together in good faith and collaboratively in an effort to bring the Project to successful completion. This Memorandum does not create any legal or equitable obligations or rights on the part of either Party and no such obligations or rights shall exist unless and until such time as the Parties may enter into a written agreement signed by both Parties.

SERVICES COOPERATION

The goal of the Project is to provide the following services in the areas of the County contemplated in the Project, which services include, but are not necessarily limited to:

Broadband Internet access services

Phase 1 (beginning after MOU execution): The Parties will work together to apply for Virginia Telecommunication Initiative (“VATI”) grant(s). The Parties anticipate that VATI guidelines will require contributions by Verizon and by the County as matching funds to secure a FY2023 VATI Grant through the Virginia DHCD. DHCD funding shall not exceed 80% of Project costs.

The total budget for the Project is expected to be \$7,642,835. The County agrees to provide a total match of \$[X] in funding for the Project. Verizon agrees to provide a minimum match of \$4,585,701 in funding for the Project. The amount of the VATI Grant to be requested for the Project will be at least \$[X] and the total number of homes projected to be passed by the Project shall be at least 854.

Phase 2 (beginning after Phase 1): Verizon will work with the County to continue Project planning and the Parties will seek additional State and local funding to expand the availability of Broadband service in the County.

TIMELINE

The above outlined scope and objective shall be contingent on the Parties’ ability to obtain the necessary funding required for the Project, as described in any applicable grant or business loan application. Responsibilities with regard to commencement and completion of the Project will be established in any future agreement between the Parties, and may coincide with the period specified in connection with any grants awarded in connection with the Project.

TERM

This MOU shall remain in effect, subject to the termination provisions in this MOU, up until the Parties mutually determine whether they are able to move forward with the Project.

If the Parties are successful in securing sufficient grant funding that they are both willing to move forward with the Project, then they agree to use good faith efforts to negotiate, execute and deliver a formal contract regarding the Project (“Project Agreement”). The Parties contemplate that a Project Agreement will contain terms and conditions, representations, warranties, covenants, and other provisions that are customary in service arrangements of the sort contemplated in this MOU. If the Parties are unable to agree on the terms and conditions of a Project Agreement within 60 days of receiving notice of the award of such grant funding, then either Party may give notice of the termination of this MOU. In that event, the Parties shall have no further obligations to each other under this MOU except for any obligations which are specifically provided to survive a termination of this MOU. This MOU does not create any legal or equitable obligations or legal rights.

AMENDMENT OR CANCELLATION OF THIS MEMORANDUM

This Memorandum may be amended or modified at any time in writing by mutual agreement of both Parties.

In addition, this MOU may be cancelled by either Party without cause on sixty (60) days advance written notice. This MOU may be terminated for cause, where cause for termination may include, but is not limited to, a material breach of any of the provisions contained herein, upon delivery of written notice of such termination to the other Party.

GENERAL PROVISIONS

The Parties acknowledge and understand that they must be able to fulfill their responsibilities under this MOU in accordance with the provisions of the law and regulations that govern their activities. Nothing in this Memorandum is intended to negate or otherwise render ineffective any such provisions or operating procedures. The Parties assume full responsibility for their performance under the terms of this Memorandum.

If at any time either Party is unable to perform its duties or responsibilities under this MOU consistent with such Party's statutory and regulatory mandates, the affected Party shall immediately provide written notice of such to the other Party and, if possible, establish a date for such performance.

LIMITATION OF LIABILITY

No rights or limitation of rights shall arise or be assumed between the Parties as a result of the terms of this MOU.

ARBITRATION/MEDIATION DISPUTE RESOLUTION

The Parties to this MOU agree that should any dispute arise regarding any aspect of their relationship or the Project, including, but not limited to, any matters, disputes or claims, the Parties shall confer in good faith to promptly resolve any such dispute. In the event that the Parties are unable to resolve the issue or dispute between them, then the matter shall be subject to non-binding mediation in an attempt to resolve any and all issues between the Parties.

The Parties agree that venue for any claim or dispute that arises from or through this MOU shall be in the state and Federal courts for Caroline County, Virginia.

NOTICE

Any notice or communication required or permitted under this MOU shall be sufficiently given if delivered in person or by certified mail, return receipt requested, to the address

set forth in the opening paragraph or to such address as one may have furnished to the other in writing.

GOVERNING LAW

This MOU shall be governed by and construed in accordance with the laws of the Commonwealth of Virginia, exclusive of its conflicts of laws rules.

SEVERABILITY CLAUSE

In the event that any provision of this Memorandum shall be deemed to be severable or invalid, and if any term, condition, phrase or portion of this Memorandum shall be determined to be unlawful or otherwise unenforceable, the remainder of the Memorandum shall remain in full force and effect, so long as the clause severed does not affect the intent of the Parties. If a court should find that any provision of this Memorandum to be invalid or unenforceable, but that by limiting said provision it would become valid and enforceable, then said provision shall be deemed to be written, construed and enforced as so limited.

ASSIGNMENT

Neither Party may assign this Memorandum without the prior written consent of the non-assigning Party, whose approval shall not be unreasonably withheld or conditioned. Notwithstanding the foregoing, Verizon shall have the right to assign this MOU without the County's consent to any parent, subsidiary, affiliate, or any person, firm, or corporation that shall control, be under the control of, or be under common control with Verizon, or to any entity into which Verizon may have merged or consolidated or which purchases all or substantially all of the assets of Verizon.

ENTIRE UNDERSTANDING

This MOU reflects the entire understanding and agreement of the Parties pertaining to all matters contemplated hereunder.

MOU SUMMARIZATION

The Parties to this MOU have mutually acknowledged and agreed to the following:

- The Parties to this MOU shall work together in a cooperative and coordinated effort, and in a manner and fashion intended to bring about the achievement and fulfillment of the goals and objectives of the Project.
- It is not the intent of this MOU to restrict the Parties from their involvement in or participation with any other public or private individuals, agencies or organizations or opportunities.

- The Parties to this MOU shall mutually contribute and take part in any and all phases of the planning and development of the Project, to the fullest extent possible.
- This MOU is not a binding contract, and it is not the intent or purpose of this MOU to create any rights, benefits, obligations and/or trust responsibilities by or between the Parties.
- This MOU shall in no way hold or obligate either Party to supply or transfer funds to maintain and/or sustain the Project or the effort to bring it to fruition.
- Should there be any need or cause for the reimbursement or the contribution of any funds to or in support of the Parties' efforts relating to the Project, then such shall then be done in accordance with applicable Virginia laws, regulations and/or procedures, and any Project Agreement which the Parties may enter into in the future.
- In the event that it should become necessary to provide funding for the effort to develop the Project, then any such endeavor shall be addressed in a separate and mutually agreed upon written agreement signed by the Parties or their representatives, in accordance with applicable laws and regulations, and in no way does this MOU provide such right or authority or obligate any Party to provide any such funding.
- The Parties have the right to individually or jointly terminate their participation in this MOU provided that advanced written notice is delivered to the other Party as provided for herein.

AUTHORIZATION AND EXECUTION

The signing of this Memorandum of Understanding does not constitute a formal undertaking, and as such it simply reflects the intentions of the Parties to undertake preliminary efforts to achieve the goals and objectives stated in this MOU.

IN WITNESS WHEREOF, the Parties hereto have set their hands as of the day and year first above written.

Verizon

By:

Title:

CAROLINE COUNTY, VIRGINIA

By:

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	\$ 2,032,334	26.6	Pending
Verizon Contribution	\$ 4,585,701	60	COMMITTED
Caroline County Contribution	\$ 1,024,800	13.4	COMMITTED
	\$		
	\$		
	\$		
	\$		
TOTAL	\$ 7,642,835	100 %	



Caroline County, Virginia

Board of Supervisors

Jeffrey S. Black
Western Caroline District

Clayton T. Forehand
Madison District

Nancy L. Long
Port Royal District

Jeffery M. Sili
Bowling Green District

Floyd W. Thomas
Mattaponi District

Reginald L. Underwood
Reedy Church District

Charles M. Culley, Jr.
County Administrator

Caroline County, VA



June 30, 2022

COUNTY OF CAROLINE, TO-WIT:

At a meeting of the Caroline County Board of Supervisors on June 14, 2022 at the Community Services Center, Milford, Virginia beginning at the hour of 6:00 p.m.

PRESENT: Reginald L. Underwood – Chairman
Jeffrey S. Black – Vice-Chair
Clayton T. Forehand
Nancy L. Long
Jeffery M. Sili
Floyd W. Thomas

Supervisor Thomas moved and Supervisor Long seconded to authorize staff to submit two Fiscal Year 2023 Virginia Telecommunication Initiative (VATI) grant applications to the Virginia Department of Housing & Community Development to provide universal broadband coverage in Caroline County in partnership with the internet service providers Verizon and Breezeline. As part of the applications, the County commits to providing local matching funds in the amount of \$1,024,800 (\$1,200 per passing or 13% of the estimated cost) for the Verizon application (Application #1) and \$3,518,400 (\$1,200 per passing or 16% of the estimated cost) for the Breezeline application (Application #2) for a total of \$4,543,200 in local matching funds.

Roll Call Vote:	Black	Yea
	Forehand	Yea
	Long	Yea
	Sili	Yea
	Thomas	Yea
	Underwood	Yea


Charles M. Culley, Jr.
Clerk to the Board

"Committed To Service, Dedicated To The People"

212 North Main Street, P. O. Box 447, Bowling Green, Virginia 22427

(804)633-5380 – Telephone (804)633-4970 – Fax

www.co.caroline.va.us



July 22, 2022

David Sadler
Director of Information Technology
Caroline County Virginia
212 North Main Street
P.O. Box 447
Bowling Green, Virginia 22427

Dear Mr. Sadler,

The purpose of this letter is to provide documentation regarding the matching cash funding contributions for the broadband project that Caroline County will propose to the Virginia Telecommunication Initiative ("VATI") program in its grant application.

The proposed project represents a joint initiative between Verizon and Caroline County. As indicated in the application, Verizon will provide approximately 60% of the projected costs. Total projected costs are \$7,642,835, so the amount provided by Verizon will be approximately \$4,585,701 in cash. Caroline County will provide approximately 13.4% of the projected costs, totaling approximately \$1,024,800, in cash.

Should you have any questions regarding the information listed above, please do not hesitate to contact me.

Best regards,

A handwritten signature in blue ink, appearing to read "Lori Fountain".

Lori Fountain
Director of Broadband Strategy

Placeholder for Attachment 12 – Derivation of Costs (CONFIDENTIAL)

Verizon is a national internet service provider with significant expertise in project development and implementation costs. Additional documentation to support derivation of costs has been provided to the Department of Housing and Community Development under a FOIA exemption.

Placeholder for Attachment 13 – Documentation to Support Cost Estimates (CONFIDENTIAL)

Verizon is a national internet service provider with significant expertise in project development and implementation costs. Additional documentation to support cost estimates has been provided to the Department of Housing and Community Development under a FOIA exemption.

August 19, 2022

Tamarah Holmes, Ph. D.
Director, Office of Housing & Community Development
600 East Main Street, Suite 300
Richmond, VA 23219

Dear Dr. Holmes:

I am writing in support of the regional Virginia Telecommunications Initiative (VATI) grant application. As President of Caroline County Farm Bureau and a full-time farmer, I have come to realize the importance of broadband in agriculture and firsthand on my farm. Large portions of Caroline County lack access to broadband putting many farmers at a competitive disadvantage, not to mention making our job more difficult and preventing access to the newest technology. There is a big push for precision ag, which would allow operations to for example, monitor crops closely for pests and weeds and apply water only as needed in irrigation. Providing improved surveillance and security of farms and equipment would be achieved. Also, many pieces of farm equipment can upload GPS data to websites, for example, to monitor planting and chemical application to fields. All of this improves with improved Broadband. The VATI grant eases the financial burden of extending broadband service to rural areas such as mine. Your consideration of our application is appreciated.

Sincerely,



Lynwood Broaddus, President
Caroline County Farm Bureau



George Washington Regional Commission
406 Princess Anne Street
Fredericksburg, Virginia 22401
(540) 373-2890
Fax (540) 899-4808
www.gwregion.org

August 16, 2022

Tamarah Holmes Ph.D.
Director, Office of Broadband
600 East Man St. Suite 300
Richmond, VA 23219

RE: VATI 2023 Grant Caroline County

Dear Dr. Holmes:

I am writing in reference to the grant applications submitted by Caroline County for the VATI 2023 grant cycle. As we all know, broadband is now a necessity, not a luxury. The last few years have made it clear that citizens need access to the internet now more than ever. I wish to express support for the applications from Caroline County as well as the County's efforts to provide universal coverage to all of its residents.

The George Washington Regional Commission (GWRC) serves Virginia Planning District 16, which includes the City of Fredericksburg and Caroline, King George, Spotsylvania, and Stafford Counties. Our mission is to coordinate planning to ensure economic competitiveness, reduce redundancy in government, improve efficiency, enhance services, and improve implementation time of regional projects. One important duty of the Virginia Planning District Commissions is to create strategic plans for their regions of service. GWRC's current strategic plan identifies promoting rural broadband internet solutions as a major need and priority within the region.

I acknowledge and appreciate the time and effort that Caroline County's leaders have devoted throughout the years to develop a plan to reach the entire county with broadband infrastructure. Caroline County and its citizens will greatly benefit from the broadband expansion outlined in the grant applications. Access to VATI grant funds will make it possible for Caroline citizens to conduct business and access educational, telemedicine, and economic development opportunities in a quickly changing environment.

With both Verizon and Breezeline as its partners, Caroline has devised an efficient and effective way to expand broadband access to over 4,700 homes that currently do not have an internet connection available, finally bringing an available broadband internet connection to everyone within the county. Without assistance from VATI funding, Caroline County will not be able to complete this project for many years to come.

The efforts of Caroline County in pursuit of achieving universal broadband coverage for all of its residents will further the goals of GWRC's strategic plan and be of great benefit to our region.

Sincerely,

A handwritten signature in black ink, appearing to read "C. Boyles", with a stylized flourish at the end.

Charles P. (Chip) Boyles, II
Executive Director





**On Site P.C.
Serving Caroline County
Since 1998**

David Sadler
Owner
17486 Center Dr. Suite 1D
Ruther Glen, VA 22546

August 11, 2022

Tamarah Holmes Ph.D.
Director, Office of Broadband
600 East Man St. Suite 300
Richmond, VA 23219

I am writing this letter in support of the initiative to deliver broadband at every location in Caroline County. As a small business owner of an Information Technology company in Caroline since 1998, I have personally experienced the challenges business face when fast reliable internet is not available. As the owner of On-Site P.C. I serve both residential and business customers as their IT service partner. Over the past 24 years I have assisted businesses from large agriculture operations, to the small home-based business customers with their IT needs. Unfortunately, due to limitation of broadband availability I have seen small business fail, and larger companies relocate business offices to areas that have broadband sometimes outside our county.

In 1998 when my IT journey began, broadband was a luxury and only larger companies could afford the cost of T1 lines that were considered "as fast as anyone would ever need". The first change that I observed was Websites popped up for nearly every business. As the content on these sites developed, it became obvious that speeds offered even by the T1 lines could not support rich web content. Cable companies expanded into highly populated areas in the County. While many people outside these areas could not understand why they couldn't get high speed internet, as a business owner, I knew that the numbers had to make sense. Companies could not expand in sparsely populated areas because the sheer number of customers could not pay for the cost of expansion. Companies must be profitable or they will not survive. I also realized that technologies such as DSL was limited by the technology used to deliver the internet and was tied to a strict distance limitation. This meant that locations more than

18,000 feet from the central office of the phone company were unable to be served. This was not a decision by the provider but was limitation of technology which left rural customers unserved.

Much of my 24 years in business has been spent working with customers in, or beyond that famous last mile and finding how to get internet where no company would dare serve. I have supported customers as companies attempted to deliver private wireless internet to customers. Again, limited by technology the coverage was spotty, sometimes slow, and often unreliable. Over the years I have seen new startup companies come and go often leaving equipment and filing for bankruptcy while leaving their customers once again without connection to the internet.

At one time it was thought that Cellular data would be the answer. Most of our county has cell phone coverage from one of a handful of providers. Again, as this solution became more widely adopted we saw cell towers become overloaded and service grind down to painfully slow speeds, sometimes providing no more speed than a dialup modem. Some customers that I have served over the years have even buried their own private fiber to extend service offered by Cable providers. No matter what the solution, the fact remains that the need exists.

With Covid my business saw changes just like everyone else. Customer were known to pull old laptops that had been stored away for years out of storage, so that they could exist in a rapidly changing world. Sometimes we could breathe life into dinosaurs only to find that sufficient internet did not exist to allow them to complete necessary tasks. Often times, I have informed my customers that a new computer will not be faster than the slow internet connection they are tied to. Students needed internet access, patients needed telemedicine, and workers needed to work from home due to the workplace being shut down. Now that the world has changed the way it works, these needs will never disappear. While Covid restrictions has eased somewhat, I still face on a day to day basis the same challenges on a different scale. Many work places are staying with the work from home model. This often forces the residents of my county, and my customers to make a difficult decision, move to the internet or give up their jobs. This is a decision than no one wants to make.

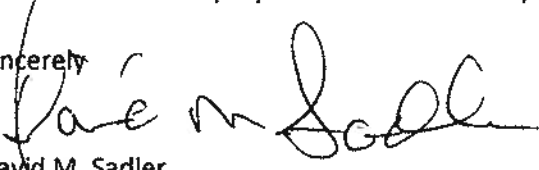
I have monitored and evaluated new technology that promised to be the final answer. Geo-synchronous satellite providers cannot deliver services of VoIP phones, VPN's or internet-based video conferencing, technologies used to overcome everyday challenges. Perhaps newer satellite technology may someday be the answer but as of today speeds are too inconsistent, and coverage too limited, to make this a viable solution for many.

I have extended wirelessly an existing internet connection for over 15 miles to serve a library that was operating 20 computers over a single T1 line. This internet connection could not provide enough bandwidth to allow those in need of shared computers to complete daily tasks. Innovations can often help ease the pain on a temporary basis but the need for a permanent, scalable solution still exists. With the advent of Microsoft windows 10, The need for reliable internet becomes a requirement. The constant feature and security updates released require a 24 X 7 internet connection in order to operate properly and securely. My customers who do not have a quality broadband connection are forced to have all equipment constantly serviced to maintain proper operation. In an attempt to overcome this challenge for my customers, I allow them to share my connection in the parking lot of my business to update computers, attend internet-based meetings and yes, sometimes even work at their jobs. We have all heard the saying internet is no longer a luxury but a necessity. I have seen this first hand and the need for internet continues to grow. I face on a daily basis, customers desperate to find a solution and those that give up because the limited solutions are just too costly. I look forward to the

day, in the not too distant future that everyone will have an affordable, reliable solution to not only surf the internet, but also the ability to conduct the business of day to day life.

I would like to pledge my full support for these two projects that would achieve universal coverage of my county. Coupled with assistance programs offered by the Federal Government, perhaps we can solve the issue of equity in internet availability once and for all.

Sincerely,


David M. Sadler
Owner



CAROLINE COUNTY SCHOOL BOARD

George L. Spaulding, Jr.
Bowling Green

Nancy G. Carson
Mattaponi

JoWanda Rollins-Fells, Ph.D.
Reedy Church

Shawn M. Kelley
Madison

Calvin B. Taylor, Sr.
Port Royal

John I. Copeland
Western Caroline

Sarah Calveric, Ph.D.
Superintendent

16261 Richmond Turnpike
Bowling Green, VA 22427

Office (804) 633-5088
Fax (804) 633-5563

August 10, 2022

Tamarah Holmes Ph.D.
Director, Office of Broadband
600 East Man St. Suite 300
Richmond, VA 23219

Dear Dr. Holmes,

I am writing in reference to the grant applications submitted by Caroline County for the VATI 2023 grant cycle. As we all know, broadband is now a necessity, not a luxury. With the ongoing threat of the COVID-19 pandemic that caused a disruption to our daily lives, it is clear that citizens need access to the internet now more than ever. I am proud to support the applications from Caroline County and support the County's effort to provide universal coverage to all of its residents.

I acknowledge and appreciate the time and effort that Caroline County's leaders have devoted throughout the years to develop a plan to reach the entire county with broadband infrastructure in an effort to bridge the digital divide. Caroline County and its citizens will greatly benefit from the broadband expansion outlined in the grant applications. Access to VATI grant funds will make it possible for Caroline citizens to conduct business and access educational, telemedicine and economic development opportunities in a quickly changing environment.

With both Comcast and Atlantic Broadband as its partners, Caroline has devised an efficient and effective way to expand broadband access to over 4,500 homes that currently do not have an internet connection available. This is a well-planned application to finally bring an available broadband internet connection to everyone within the county. At times, our rural families have been overlooked. Without assistance from VATI funding, Caroline County will not be able to complete this project for many years to come.

I wholeheartedly endorse the Caroline County VATI grant applications and offer my enthusiastic support.

Respectfully,

Dr. Sarah Calveric
Superintendent of Caroline County Public Schools

Explore Today, Impact Tomorrow



COMMONWEALTH OF VIRGINIA
HOUSE OF DELEGATES
RICHMOND

ROBERT D. "BOBBY" ORROCK
POST OFFICE BOX 458
THORNBURG, VIRGINIA 22565

FIFTY-FOURTH DISTRICT

August 12, 2022

COMMITTEE ASSIGNMENTS:
HEALTH, WELFARE AND
INSTITUTIONS (CHAIRMAN)
FINANCE
AGRICULTURE, CHESAPEAKE AND
NATURAL RESOURCES
RULES

Tamara Holmes, Ph.D.
Director, Office of Broadband
Department of Housing & Community Development
600 East Main Street, Suite 300
Richmond, VA 23219

Dear Dr. Holmes,

I am once again requesting you approve Caroline County's applications for a VATI grant for FY 2023 to expand broadband service in our large county with increasing population. The residents of Caroline, like the rest of the state, were forced to use the internet more than ever during the Covid pandemic, and that need continues today. Many county residents are disadvantaged in work, school, telemedicine and other fields due to the persisting lack of broadband availability.

You probably know that Caroline is part of the George Washington Regional Commission (along with Fredericksburg, Spotsylvania, and King George.). The Commission's current strategic plan identifies promoting rural broadband internet solutions as a major priority for our region. To accomplish that important goal, our county leaders devised an efficient plan to expand broadband access to over 4,700 homes with Verizon and Breezeline as partners, as seen in the application. But this project requires VATI funding to complete this critical task in a timely fashion.

For these reasons, I ask you support Caroline County's grant applications.

Sincerely

Robert D. "Bobby" Orrock, Sr.

RDO/dp



August 19, 2023

Tamarah Holmes, Ph. D.
Director, Office of Broadband
Department of Housing & Community Development
600 East Main Street, Suite 300
Richmond, VA 23219

Dear Dr. Holmes,

Caroline County is part of a regional FY 2023 Virginia Telecommunications Initiative (VATI) grant application in partnership with Verizon and Breezeline. Like many largely rural counties throughout the Commonwealth, significant portions of Caroline lack access to broadband. State initiatives such as VATI grants ease the financial burden associated with extending broadband service to sparsely populated areas and are often the make or break factor in determining whether such projects are feasible to rural localities. Our citizens, no less than anyone, deserve this service.

The proposed project will offer broadband service to all homes and businesses in Caroline that currently lack access. Many years ago, I worked up the corporate calling ladder to the president of Verizon to ask why Caroline citizens could not have broadband when there was profit to be made while providing a critical public service. His answer, like everyone below him (they were consistent), was that providing that service, "was not profitable enough". Businesses have rights, but those rights sometimes do not promote fairness and equity in access to critical services. Thanks to VATI grants, we have a chance to overcome the impact of not being profitable enough.

Caroline County, Verizon, and Breezeline have pledged significant matching funds to the project to demonstrate a strong financial commitment to making this a successful grant application.

For these reasons, I believe the project would make excellent use of the VATI grant program, and I am pleased to offer my enthusiastic support for the grant application.

Sincerely,

Gary R. Wilson

Gary R. Wilson
Director, Caroline County
Department of Economic Development

RESOLUTION NO. 2022-0001
SETTING FORTH SUPPORT WITH CAROLINE COUNTY BOARD OF SUPERVISOR TO INCREASE FULL
BROADBAND ACCESS THROUGHOUT CAROLINE COUNTY

WHEREAS, closing the digital divide is important and provides long-term community benefits that include the ability to fully engage in the digital economy, access existing and emerging services, expand economic opportunities and bridge the economic divide; and

WHEREAS, the COVID-19 pandemic has further emphasized the need for available, reliable and affordable broadband services in all communities; and

WHEREAS, the COVID-19 pandemic has caused schools to offer distance learning; and

WHEREAS, we recognize that cost and household income can be a primary barrier to broadband access.

WHEREAS, all residents, businesses and institutions need high speed broadband services where they work, live, learn and play; and

WHEREAS, broadband access enhances business efficiencies, drives job creation throughout the region, and connects customers and partners worldwide to goods and services; and

WHEREAS, high speed broadband is a “green technology” that reduces our impact on the environment, shrinks our regional carbon footprint, offsetting vehicle trips and use of resources; and

WHEREAS, high speed broadband greatly expands the ability of residents to access medical, behavioral, and educational services; and

WHEREAS, high speed broadband enables greater civic participation, brings communities together, and helps improve public safety; and

WHEREAS, effective emergency services require using high speed broadband to integrate data in real time from all available sources, so decision makers have access to the information necessary for the protection of lives and property; and

WHEREAS, to accelerate the deployment of broadband, the primary objective is to deploy private-sector capital as quickly as possible through improved public cooperation; and

NOW, THEREFORE, BE IT RESOLVED on this 8th day of August 2022 that the Caroline County School Board does hereby as follows:

1. Supports FCCs (United States Federal Communications Commission) and Caroline County Board of Supervisors rules, regulations, programs and funding opportunities that support broadband deployment opportunities to bridge the digital divide.
2. Supports Virginia's universal broadband initiative that seeks to accelerate work and support funding towards closing gaps in access to reliable broadband networks throughout the Commonwealth; and
3. Determines that closing the digital divide is important and provides long-term community benefits; and
4. Supports the request for grant funding from the State and/or Federal government for a regional program that provides funding for free internet access for qualifying residents that bridges the economic digital divide; and
5. Supports a minimum broadband speed capability of 100 megabits per second for all residential and business customers within the urban, suburban and rural communities of our region; and
6. Supports working with collaborating jurisdictions to identify broadband opportunity zones in underserved communities; and
7. Supports the adoption of consistent fees and expedited broadband permitting processes within collaborating jurisdictions; and
8. Supports the concept of "Dig Smart" and/or "Dig Once" whereby conduit is installed for future or immediate use for wireless towers, fiber optic or other comparable broadband network installation, whenever underground construction occurs in a roadway.

BE IT FURTHER RESOLVED that a copy of this Resolution shall be transmitted to the Chairman of the Caroline County Board of Supervisors and to all its members.

ADOPTED by the School Board of the Caroline School District, Caroline County, VA at the regular open public meeting thereof, held this 8th day of August, 2022.

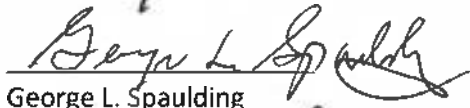
ATTEST: Caroline County School Board:



Dr. Jo Wanda Rollins-Fells, Chair



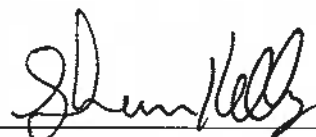
Nancy G. Carson



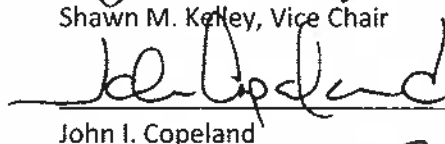
George L. Spaulding



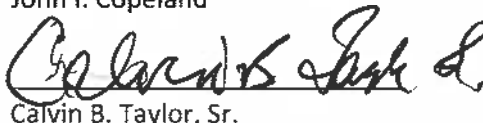
Sarah Calveric, Ph.D., Superintendent



Shawn M. Kelley, Vice Chair



John I. Copeland



Calvin B. Taylor, Sr.

ROBERT J. WITTMAN

1ST DISTRICT, VIRGINIA



HOUSE ARMED SERVICES COMMITTEE
RANKING MEMBER, SEAPOWERS AND PROJECTION FORCES
TACTICAL AIR AND LAND FORCES

NATURAL RESOURCES COMMITTEE
WATER, OCEANS, AND WILDLIFE

CO-CHAIR, CONGRESSIONAL
SHIPBUILDING CAUCUS

CO-CHAIR, CONGRESSIONAL
CHESAPEAKE BAY WATERSHED TASK FORCE

CO-CHAIR, CONGRESSIONAL
PUBLIC HEALTH CAUCUS

CO-CHAIR, CONGRESSIONAL
RURAL BROADBAND CAUCUS

Congress of the United States
House of Representatives
Washington, DC 20515

August 22, 2022

WASHINGTON OFFICE:
2055 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-4261

DISTRICT OFFICES:

STAFFORD OFFICE
95 DUNN DRIVE SUITE 201
STAFFORD, VA 22556
(540) 659-2734

MECHANICSVILLE OFFICE
6501 MECHANICSVILLE TURNPIKE SUITE 102
MECHANICSVILLE, VA 23111
(804) 730-6595

MIDDLE PENINSULA OFFICE
508 CHURCH LANE
P.O. Box 3106
TAPPANHANNOCK, VA 22560
(804) 443-0668

WWW.WITTMAN.HOUSE.GOV

Tamarah Holmes, Ph.D.
Director, Office of Broadband
Department of Housing and Community Development
600 East Main Street, Suite 300
Richmond, VA 23219

Dear Director Holmes:

I am writing in support of the Caroline County FY 2023 Virginia Department of Housing and Community Development Virginia Telecommunication Initiative (VATI) grant applications to expand high-speed broadband availability in the First Congressional District through a partnership with Verizon and Breezeline. Approval of this application would help meet the critical need to buildout high-speed broadband service to residents of Caroline County.

As we all know, broadband is now a necessity, not a luxury. The COVID-19 pandemic caused a disruption to our daily lives. It portrayed that citizens need access to the internet now more than ever. I am proud to support the applications from Caroline County and support the County's efforts to provide universal coverage to all its residents.

I appreciate the time and effort that Caroline County's leaders have devoted throughout the years to develop a plan to reach the entire county with broadband infrastructure in an effort to bridge the digital divide. Caroline County will greatly benefit from the broadband expansion outlined in the grant applications. Access to VATI grant funds will make it possible for Caroline residents to conduct business and access educational, telemedicine and economic development opportunities in a quickly changing environment.

With both Verizon and Breezeline as its partners, Caroline has devised an efficient and effective way to expand broadband access to all residents that currently do not have an internet connection available. Through these applications all homes outlined will have a fiber-optic connection at reliable and high speeds. Both, Verizon and Breezeline, promote their low-cost programs through the Affordable Connectivity Program, which most of the households in Caroline will qualify for, bringing a strong presence of affordable broadband throughout the county. These are well-planned applications to finally bring an available broadband internet connection to everyone within the county. At times, our rural families have been overlooked.

Thank you for your consideration of the Caroline County applications. Moreover, if you have any concerns or questions, please do not hesitate to contact my office.

Sincerely,

A handwritten signature in blue ink, reading "Robert J. Wittman". The signature is fluid and cursive, with a long horizontal stroke at the end.

Robert J. Wittman
Member of Congress



July 27, 2022

David Sadler
Director of Information Technology
Caroline County Virginia
212 North Main Street
P.O. Box 447
Bowling Green, Virginia 22427

Dear Mr. Sadler,

I am writing to confirm that the Form 477 information filed by Verizon with the FCC in the name of Verizon Virginia LLC includes all Virginia study areas of Verizon South Inc. as well as information representing the Verizon South Inc. Form 499 entity, and thus satisfies Verizon South Inc.'s Form 477 regulatory reporting obligations.

Best regards,

Timothy Vogel

Timothy Vogel
Senior Managing Associate General Counsel
Verizon

(RETAIN FOR YOUR RECORDS)
Form 477 Filing Summary

FRN: 0002073203 | Data as of: Jun 30, 2020 | Operations: ILEC | Submission Status: Revised - Submitted | Last Updated: Nov 9, 2020 17:28:41

Filer Identification

Section	Question	Response
Filer Information	Company Name	Verizon Virginia LLC
	Holding Company Name	Verizon Communications Inc.
	SAC ID	190233, 190479, 195040
	499 ID	803930, 806307
Data Contact Information	Data Contact Name	Ian Dillner
	Data Contact Phone Number	(202) 515-2458
	Data Contact E-mail	ian.dillner@verizon.com
Emergency Operations Contact Information	Emergency Operations Name	Andis Kalnins
	Emergency Operations Phone Number	(908) 559-1123
	Emergency Operations E-mail	andis.i.kalnins@verizon.com
Certifying Official Contact Information	Certifying Official Name	Radhika Poduri
	Certifying Official Phone Number	(703) 694-4440
	Certifying Official E-mail	radhika.poduri@verizon.com

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	VA BB Deploy.csv	Nov 9, 2020 16:53:51	119814
Fixed Broadband Subscription	VA BB Sub - Revised.csv	Nov 9, 2020 17:26:39	15998
Fixed Voice Subscription	VA Voice Sub.csv	Nov 9, 2020 16:53:51	2798

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Virginia	Verizon Virginia LLC	Asymmetric xDSL	82088
		Optical Carrier/Fiber to the End User	37726
Total			119814

Fixed
Broadband
Subscription

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

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Virginia	Asymmetric xDSL	5524	75602	21149	96751
	Optical Carrier/Fiber to the End User	10244	894061	27541	921602
	Other Copper Wireline	213	0	9222	9222
	Symmetric xDSL	17	0	17	17
Total		15998	969663	57929	1027592

Fixed Broadband Subscriptions by Bandwidths and End-user Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
0.384	0.384	0	311	311
0.512	0.512	0	856	856
0.768	0.128	373	84	457
0.768	0.768	0	6	6
1.000	0.384	8837	1482	10319
1.500	0.128	42	37	79
1.500	0.384	76	183	259
3.000	0.768	48416	10282	58698
3.000	1.000	594	42	636
4.000	4.000	0	5	5
5.000	0.768	47	2407	2454
5.000	2.000	20	0	20
6.000	6.000	0	4	4
7.000	0.768	13068	5272	18340
10.000	0.768	18	0	18
10.000	1.000	6	4	10
10.000	2.000	1325	9	1334
10.000	10.000	0	366	366
15.000	1.000	4719	1398	6117
15.000	2.000	20	1	21
15.000	5.000	2127	38	2165
15.000	15.000	2407	2	2409
20.000	5.000	1793	21	1814
20.000	10.000	818	12	830

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
20.000	20.000	13	0	13
22.000	22.000	0	10	10
25.000	15.000	287	9	296
25.000	25.000	8277	707	8984
30.000	5.000	1588	69	1657
35.000	35.000	66	46	112
50.000	10.000	4250	146	4396
50.000	20.000	8	23	31
50.000	25.000	62	4	66
50.000	35.000	46	3	49
50.000	50.000	38426	1528	39954
75.000	35.000	91	12	103
75.000	75.000	108744	6309	115053
100.000	100.000	301118	13619	314737
150.000	35.000	0	5	5
150.000	65.000	1	0	1
150.000	150.000	23357	7709	31066
300.000	65.000	17	0	17
300.000	300.000	12581	1800	14381
500.000	500.000	1992	109	2101
940.000	880.000	384033	2999	387032
Total		969663	57929	1027592

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

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Asymmetric xDSL	0.768	0.128	373	84	457
	1.000	0.384	8837	1482	10319
	1.500	0.128	42	37	79
	1.500	0.384	76	183	259
	3.000	0.768	48416	10282	58698
	5.000	0.768	47	2407	2454
	7.000	0.768	13068	5272	18340
	10.000	0.768	18	0	18

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	10.000	1.000	6	4	10
	15.000	1.000	4719	1398	6117
Optical Carrier/Fiber to the End User	3.000	1.000	594	42	636
	5.000	2.000	20	0	20
	10.000	2.000	1325	9	1334
	10.000	10.000	0	85	85
	15.000	2.000	20	1	21
	15.000	5.000	2127	38	2165
	15.000	15.000	2407	2	2409
	20.000	5.000	1793	21	1814
	20.000	10.000	818	12	830
	20.000	20.000	13	0	13
	25.000	15.000	287	9	296
	25.000	25.000	8277	707	8984
	30.000	5.000	1588	69	1657
	35.000	35.000	66	46	112
	50.000	10.000	4250	146	4396
	50.000	20.000	8	23	31
	50.000	25.000	62	4	66
	50.000	35.000	46	3	49
	50.000	50.000	38426	1444	39870
	75.000	35.000	91	12	103
	75.000	75.000	108744	6309	115053
	100.000	100.000	301118	5937	307055
	150.000	35.000	0	5	5
	150.000	65.000	1	0	1
	150.000	150.000	23357	7709	31066
	300.000	65.000	17	0	17
	300.000	300.000	12581	1800	14381
	500.000	500.000	1992	109	2101
	940.000	880.000	384033	2999	387032
Other Copper Wireline	0.384	0.384	0	300	300

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	0.512	0.512	0	856	856
	4.000	4.000	0	5	5
	6.000	6.000	0	4	4
	10.000	10.000	0	281	281
	22.000	22.000	0	10	10
	50.000	50.000	0	84	84
	100.000	100.000	0	7682	7682
Symmetric xDSL	0.384	0.384	0	11	11
	0.768	0.768	0	6	6
Total			969663	57929	1027592

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
Virginia	685057	250707	445206	438536
Total	685057	250707	445206	438536

Fixed Voice Subscription (VGE Lines)

VGE Lines Provided to Unaffiliated Providers by State

State	Wholesale	UNE-L
Virginia	79655	17861
Total	79655	17861

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

State	Total	by Bundle		by Product Type			
		Sold w/ Internet	Sold w/o Internet	Consumer		Bus-Govt	
				& No PIC	& PIC	& No PIC	& PIC
Virginia	685057	300640	384417	68869	181838	345618	88732
Total	685057	300640	384417	68869	181838	345618	88732

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
Virginia	685057	685057	0	0	39132	0	0	645925
Total	685057	685057	0	0	39132	0	0	645925

Fixed Voice
Subscription
(iVoIP)

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

State	Total	Consumer	Business / Govt
Virginia	0	0	0
Total	0	0	0

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
Virginia	445206	438536	6670	441835	3371	445206	0	0	0
Total	445206	438536	6670	441835	3371	445206	0	0	0

(RETAIN FOR YOUR RECORDS)
Form 477 Filing Summary

FRN: 0002073203 | Data as of: Dec 31, 2020 | Operations: ILEC | Submission Status: Original - Submitted | Last Updated: Mar 1, 2021 17:08:08

Filer Identification

Section	Question	Response
Filer Information	Company Name	Verizon Virginia LLC
	Holding Company Name	Verizon Communications Inc.
	SAC ID	190233, 190479, 195040
	499 ID	803930, 806307
Data Contact Information	Data Contact Name	Ian Dillner
	Data Contact Phone Number	(202) 515-2458
	Data Contact E-mail	ian.dillner@verizon.com
Emergency Operations Contact Information	Emergency Operations Name	Andis Kalnins
	Emergency Operations Phone Number	(908) 559-1123
	Emergency Operations E-mail	andis.i.kalnins@verizon.com
Certifying Official Contact Information	Certifying Official Name	Radhika Poduri
	Certifying Official Phone Number	(703) 694-4440
	Certifying Official E-mail	radhika.poduri@verizon.com

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	VA BB Deploy.txt	Mar 1, 2021 13:33:17	119916
Fixed Broadband Subscription	VA BB Sub.txt	Mar 1, 2021 17:05:40	15457
Fixed Voice Subscription	VA Voice Sub Upload.txt	Mar 1, 2021 16:06:55	2804

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
Virginia	Verizon Virginia LLC	Asymmetric xDSL	82010
		Optical Carrier/Fiber to the End User	37906
Total			119916

Fixed
Broadband
Subscription

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

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Virginia	Asymmetric xDSL	5160	68408	18970	87378
	Optical Carrier/Fiber to the End User	10065	919932	26271	946203
	Other Copper Wireline	218	0	9545	9545
	Symmetric xDSL	14	0	14	14
Total		15457	988340	54800	1043140

Fixed Broadband Subscriptions by Bandwidths and End-user Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
0.384	0.384	0	310	310
0.512	0.512	0	856	856
0.768	0.128	327	66	393
0.768	0.768	0	4	4
1.000	0.384	7868	1329	9197
1.500	0.128	19	31	50
1.500	0.384	47	136	183
3.000	0.768	44577	9240	53817
3.000	1.000	482	27	509
4.000	4.000	0	5	5
5.000	0.768	37	2147	2184
5.000	2.000	18	0	18
6.000	6.000	0	4	4
7.000	0.768	11442	4741	16183
10.000	1.000	13	2	15
10.000	2.000	943	7	950
10.000	10.000	0	364	364
15.000	1.000	4078	1278	5356
15.000	2.000	15	1	16
15.000	5.000	1797	30	1827
15.000	15.000	1774	2	1776
20.000	5.000	1296	15	1311
20.000	10.000	554	7	561
20.000	20.000	9	0	9

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
22.000	22.000	0	10	10
25.000	15.000	201	8	209
25.000	25.000	7141	511	7652
30.000	5.000	1166	58	1224
35.000	35.000	53	42	95
50.000	10.000	3400	125	3525
50.000	20.000	5	10	15
50.000	25.000	48	3	51
50.000	35.000	35	3	38
50.000	50.000	36284	1180	37464
75.000	35.000	65	8	73
75.000	75.000	103940	4674	108614
100.000	100.000	281054	15552	296606
150.000	35.000	0	8	8
150.000	150.000	21817	5891	27708
300.000	65.000	39	0	39
300.000	300.000	13866	3123	16989
500.000	500.000	11160	74	11234
940.000	880.000	432770	2918	435688
Total		988340	54800	1043140

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

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Asymmetric xDSL	0.768	0.128	327	66	393
	1.000	0.384	7868	1329	9197
	1.500	0.128	19	31	50
	1.500	0.384	47	136	183
	3.000	0.768	44577	9240	53817
	5.000	0.768	37	2147	2184
	7.000	0.768	11442	4741	16183
	10.000	1.000	13	2	15
	15.000	1.000	4078	1278	5356
Optical Carrier/Fiber to the End User	3.000	1.000	482	27	509

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	5.000	2.000	18	0	18
	10.000	2.000	943	7	950
	10.000	10.000	0	85	85
	15.000	2.000	15	1	16
	15.000	5.000	1797	30	1827
	15.000	15.000	1774	2	1776
	20.000	5.000	1296	15	1311
	20.000	10.000	554	7	561
	20.000	20.000	9	0	9
	25.000	15.000	201	8	209
	25.000	25.000	7141	511	7652
	30.000	5.000	1166	58	1224
	35.000	35.000	53	42	95
	50.000	10.000	3400	125	3525
	50.000	20.000	5	10	15
	50.000	25.000	48	3	51
	50.000	35.000	35	3	38
	50.000	50.000	36284	1096	37380
	75.000	35.000	65	8	73
	75.000	75.000	103940	4674	108614
	100.000	100.000	281054	7545	288599
	150.000	35.000	0	8	8
	150.000	150.000	21817	5891	27708
	300.000	65.000	39	0	39
	300.000	300.000	13866	3123	16989
	500.000	500.000	11160	74	11234
	940.000	880.000	432770	2918	435688
Other Copper Wireline	0.384	0.384	0	300	300
	0.512	0.512	0	856	856
	4.000	4.000	0	5	5
	6.000	6.000	0	4	4
	10.000	10.000	0	279	279

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	22.000	22.000	0	10	10
	50.000	50.000	0	84	84
	100.000	100.000	0	8007	8007
Symmetric xDSL	0.384	0.384	0	10	10
	0.768	0.768	0	4	4
Total			988340	54800	1043140

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
Virginia	644678	230657	420435	412553
Total	644678	230657	420435	412553

Fixed Voice Subscription (VGE Lines)

VGE Lines Provided to Unaffiliated Providers by State

State	Wholesale	UNE-L
Virginia	76746	16524
Total	76746	16524

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

State	Total	by Bundle		by Product Type			
		Sold w/ Internet	Sold w/o Internet	Consumer		Bus-Govt	
				& No PIC	& PIC	& No PIC	& PIC
Virginia	644678	280715	363963	61385	169272	331109	82912
Total	644678	280715	363963	61385	169272	331109	82912

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
Virginia	644678	644678	0	0	36826	0	0	607852
Total	644678	644678	0	0	36826	0	0	607852

Fixed Voice Subscription (iVoIP)

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

State	Total	Consumer	Business / Govt
Virginia	0	0	0
Total	0	0	0

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
Virginia	420435	412553	7882	417027	3408	420435	0	0	0
Total	420435	412553	7882	417027	3408	420435	0	0	0

Form 477 Filing Summary

FRN:
0002073203

Data as of:
Jun 30, 2021

Operations:
ILEC

Submission Status:
Original - Submitted

Last Updated:
Aug 19, 2021 12:43
PM

Filer Identification

Section	Field	Response
Filer Information	Company Name	Verizon Virginia LLC
	Holding Company Name	Verizon Communications Inc.
	Filing Type	ILEC
	SAC ID	190233,190479,195040
	499 ID	803930,806307
Data Contact Information	Data Contact Name	Ian Dillner
	Data Contact Phone Number	(202) 515-2458
	Data Contact E-mail	ian.dillner@verizon.com
Emergency Operations Contact Information	Emergency Operations Name	Andis Kalnins
	Emergency Operations Phone Number	(908) 559-1123
	Emergency Operations E-mail	andis.i.kalnins@verizon.com
Certifying Official Contact Information	Certifying Official Name	Radhika Poduri
	Certifying Official Phone Number	(703) 694-4440
	Certifying Official E-mail	radhika.poduri@verizon.com

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	VA BB Deploy.txt	Aug 19, 2021 12:12 PM	119,884
Fixed Broadband Subscription	VA BB Sub.txt	Aug 19, 2021 12:12 PM	15,440
Fixed Voice Subscription	VA Voice Sub Upload.txt	Aug 19, 2021 12:12 PM	2,800

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
-------	----------	------------	--------

State	DBA Name	Technology	Blocks
Virginia	Verizon Virginia LLC	Asymmetric xDSL	81,786
		Optical Carrier/Fiber to the End User	38,098
Total			119,884

Fixed Broadband Subscription

Fixed Broadband Subscriptions by State, Technology and End User Type

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business/Govt.	Total
Virginia	Asymmetric xDSL	5,093	60,659	17,797	78,456
	Optical Carrier/Fiber to the End User	10,115	936,311	29,130	965,441
	Other Copper Wireline	217	0	9,727	9,727
	Symmetric xDSL	15	0	15	15
Total		15,440	996,970	56,669	1,053,639

Fixed Broadband Subscriptions by Bandwidths and End User Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
0.384	0.384	0	310	310
0.512	0.512	0	854	854
0.768	0.128	298	64	362
0.768	0.768	0	5	5
1.000	0.384	6,785	1,270	8,055
1.500	0.128	16	31	47
1.500	0.384	48	151	199
3.000	0.768	39,686	8,675	48,361
3.000	1.000	503	29	532
4.000	4.000	0	5	5
5.000	0.768	38	2,009	2,047
5.000	2.000	19	0	19
6.000	6.000	0	4	4
7.000	0.768	10,080	4,359	14,439
10.000	1.000	11	4	15
10.000	2.000	956	7	963

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
10.000	10.000	0	379	379
15.000	1.000	3,697	1,234	4,931
15.000	2.000	15	1	16
15.000	5.000	1,948	33	1,981
15.000	15.000	1,677	2	1,679
20.000	5.000	1,235	16	1,251
20.000	10.000	621	12	633
20.000	20.000	8	0	8
22.000	22.000	0	10	10
25.000	15.000	189	7	196
25.000	25.000	6,356	512	6,868
30.000	5.000	1,334	65	1,399
35.000	35.000	43	40	83
50.000	10.000	4,046	150	4,196
50.000	20.000	7	11	18
50.000	25.000	48	3	51
50.000	35.000	38	3	41
50.000	50.000	32,350	1,126	33,476
75.000	35.000	61	9	70
75.000	75.000	92,597	4,462	97,059
100.000	100.000	262,206	17,445	279,651
150.000	35.000	0	7	7
150.000	150.000	18,627	5,578	24,205
300.000	65.000	38	0	38
300.000	300.000	12,138	4,603	16,741
500.000	500.000	10,761	71	10,832
940.000	880.000	488,490	3,113	491,603
Total		996,970	56,669	1,053,639

Fixed Broadband Subscriptions by Technology, Bandwidths and End User Type

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
Asymmetric xDSL	0.768	0.128	298	64	362
	1.000	0.384	6,785	1,270	8,055

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
	1.500	0.128	16	31	47
	1.500	0.384	48	151	199
	3.000	0.768	39,686	8,675	48,361
	5.000	0.768	38	2,009	2,047
	7.000	0.768	10,080	4,359	14,439
	10.000	1.000	11	4	15
	15.000	1.000	3,697	1,234	4,931
Optical Carrier/Fiber to the End User	3.000	1.000	503	29	532
	5.000	2.000	19	0	19
	10.000	2.000	956	7	963
	10.000	10.000	0	90	90
	15.000	2.000	15	1	16
	15.000	5.000	1,948	33	1,981
	15.000	15.000	1,677	2	1,679
	20.000	5.000	1,235	16	1,251
	20.000	10.000	621	12	633
	20.000	20.000	8	0	8
	25.000	15.000	189	7	196
	25.000	25.000	6,356	512	6,868
	30.000	5.000	1,334	65	1,399
	35.000	35.000	43	40	83
	50.000	10.000	4,046	150	4,196
	50.000	20.000	7	11	18
	50.000	25.000	48	3	51
	50.000	35.000	38	3	41
	50.000	50.000	32,350	1,042	33,392
	75.000	35.000	61	9	70
	75.000	75.000	92,597	4,462	97,059
	100.000	100.000	262,206	9,264	271,470
	150.000	35.000	0	7	7
	150.000	150.000	18,627	5,578	24,205
	300.000	65.000	38	0	38

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
	300.000	300.000	12,138	4,603	16,741
	500.000	500.000	10,761	71	10,832
	940.000	880.000	488,490	3,113	491,603
Other Copper Wireline	0.384	0.384	0	300	300
	0.512	0.512	0	854	854
	4.000	4.000	0	5	5
	6.000	6.000	0	4	4
	10.000	10.000	0	289	289
	22.000	22.000	0	10	10
	50.000	50.000	0	84	84
	100.000	100.000	0	8,181	8,181
Symmetric xDSL	0.384	0.384	0	10	10
	0.768	0.768	0	5	5
Total			996,970	56,669	1,053,639

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
Virginia	605,764	212,067	397,574	388,096
Total	605,764	212,067	397,574	388,096

Fixed Voice Subscription (VGE Lines)

VGE Lines Provided to Unaffiliated Providers by State

State	Wholesale	UNE-L
Virginia	69,646	13,925
Total	69,646	13,925

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

State	Total	by Bundle		by Product Type			
		Sold w/ Internet	Sold w/o Internet	Consumer		Business/Govt.	
				& No PIC	& PIC	& No PIC	& PIC
Virginia	605,764	259,607	346,157	44,882	167,185	311,732	81,965

State	Total	by Bundle		by Product Type			
		Sold w/ Internet	Sold w/o Internet	Consumer		Business/Govt.	
				& No PIC	& PIC	& No PIC	& PIC
Total	605,764	259,607	346,157	44,882	167,185	311,732	81,965

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
Virginia	605,764	605,764	0	0	34,603	0	0	571,161
Total	605,764	605,764	0	0	34,603	0	0	571,161

Fixed Voice Subscription (iVoIP)

Over-the-Top VoIP Subscriptions by State and End User Type

State	Total	Consumer	Business/Govt.
Virginia	0	0	0
Total	0	0	0

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/Govt.	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	Copper
Virginia	397,574	388,096	9,478	394,022	3,552	397,574	0	0	0
Total	397,574	388,096	9,478	394,022	3,552	397,574	0	0	0

Reminder: You must continue to use Census 2010 geographic codes in FCC Form 477.

For help or assistance, please contact (877) 480-3201 or (717) 338-2834 (TTY) or you may submit an [online e-support ticket](#).

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Form 477 Filing Summary

FRN:
0002073203

Data as of:
Dec 31, 2021

Operations:
ILEC

Submission Status:
Original - Submitted

Last Updated:
Feb 24, 2022 12:39
PM

Filer Identification

Section	Field	Response
Filer Information	Company Name	Verizon Virginia LLC
	Holding Company Name	Verizon Communications Inc.
	Filing Type	ILEC
	SAC ID	190233,190479,195040
	499 ID	803930,806307
Data Contact Information	Data Contact Name	Ian Dillner
	Data Contact Phone Number	(202) 515-2458
	Data Contact E-mail	ian.dillner@verizon.com
Emergency Operations Contact Information	Emergency Operations Name	Andis Kalnins
	Emergency Operations Phone Number	(908) 559-1123
	Emergency Operations E-mail	andis.i.kalnins@verizon.com
Certifying Official Contact Information	Certifying Official Name	Kathleen J Makas
	Certifying Official Phone Number	(908) 559-2855
	Certifying Official E-mail	kathleen.makas@verizon.com

Data Submitted

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	VABB Deploy.txt	Feb 23, 2022 05:14 PM	94,149
Fixed Broadband Subscription	VABB Sub.txt	Feb 23, 2022 05:23 PM	11,931
Fixed Voice Subscription	VAVoice Sub Upload.txt	Feb 23, 2022 05:00 PM	2,427

Fixed Broadband Deployment

Census Block Counts by State, DBA Name and Technology

State	DBA Name	Technology	Blocks
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State	DBA Name	Technology	Blocks
Virginia	Verizon Virginia LLC	Asymmetric xDSL	61,142
		Optical Carrier/Fiber to the End User	33,007
Total			94,149

Fixed Broadband Subscription

Fixed Broadband Subscriptions by State, Technology and End User Type

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business/Govt.	Total
Virginia	Asymmetric xDSL	3,873	54,362	16,339	70,701
	Optical Carrier/Fiber to the End User	7,824	955,637	27,176	982,813
	Other Copper Wireline	228	0	9,723	9,723
	Symmetric xDSL	6	0	7	7
Total		11,931	1,009,999	53,245	1,063,244

Fixed Broadband Subscriptions by Bandwidths and End User Type

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
0.384	0.384	0	303	303
0.512	0.512	0	853	853
0.768	0.128	240	71	311
0.768	0.768	0	3	3
1.000	0.384	5,980	1,222	7,202
1.500	0.128	15	35	50
1.500	0.384	29	141	170
3.000	0.768	36,063	7,898	43,961
3.000	1.000	661	17	678
4.000	4.000	0	5	5
5.000	0.768	33	1,757	1,790
5.000	2.000	24	0	24
6.000	6.000	0	4	4
7.000	0.768	8,621	4,082	12,703
10.000	1.000	12	3	15
10.000	2.000	935	1	936

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
10.000	10.000	0	378	378
15.000	1.000	3,369	1,130	4,499
15.000	2.000	28	0	28
15.000	5.000	1,578	22	1,600
15.000	15.000	1,909	3	1,912
20.000	5.000	1,107	2	1,109
20.000	10.000	465	6	471
20.000	20.000	6	0	6
22.000	22.000	0	10	10
25.000	15.000	250	5	255
25.000	25.000	5,888	315	6,203
30.000	5.000	1,163	30	1,193
35.000	35.000	54	23	77
50.000	10.000	3,040	132	3,172
50.000	20.000	11	11	22
50.000	25.000	51	2	53
50.000	35.000	8	9	17
50.000	50.000	27,365	813	28,178
75.000	35.000	61	3	64
75.000	75.000	94,550	2,742	97,292
100.000	100.000	238,277	18,679	256,956
150.000	35.000	0	19	19
150.000	150.000	16,437	3,940	20,377
300.000	65.000	76	0	76
300.000	300.000	9,730	5,717	15,447
500.000	500.000	245	39	284
940.000	880.000	551,718	2,820	554,538
Total		1,009,999	53,245	1,063,244

Fixed Broadband Subscriptions by Technology, Bandwidths and End User Type

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
Asymmetric xDSL	0.768	0.128	240	71	311

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
	1.000	0.384	5,980	1,222	7,202
	1.500	0.128	15	35	50
	1.500	0.384	29	141	170
	3.000	0.768	36,063	7,898	43,961
	5.000	0.768	33	1,757	1,790
	7.000	0.768	8,621	4,082	12,703
	10.000	1.000	12	3	15
	15.000	1.000	3,369	1,130	4,499
Optical Carrier/Fiber to the End User	3.000	1.000	661	17	678
	5.000	2.000	24	0	24
	10.000	2.000	935	1	936
	10.000	10.000	0	91	91
	15.000	2.000	28	0	28
	15.000	5.000	1,578	22	1,600
	15.000	15.000	1,909	3	1,912
	20.000	5.000	1,107	2	1,109
	20.000	10.000	465	6	471
	20.000	20.000	6	0	6
	25.000	15.000	250	5	255
	25.000	25.000	5,888	315	6,203
	30.000	5.000	1,163	30	1,193
	35.000	35.000	54	23	77
	50.000	10.000	3,040	132	3,172
	50.000	20.000	11	11	22
	50.000	25.000	51	2	53
	50.000	35.000	8	9	17
	50.000	50.000	27,365	729	28,094
	75.000	35.000	61	3	64
	75.000	75.000	94,550	2,742	97,292
	100.000	100.000	238,277	10,498	248,775
	150.000	35.000	0	19	19
	150.000	150.000	16,437	3,940	20,377

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business/Govt.	Total
	300.000	65.000	76	0	76
	300.000	300.000	9,730	5,717	15,447
	500.000	500.000	245	39	284
	940.000	880.000	551,718	2,820	554,538
Other Copper Wireline	0.384	0.384	0	299	299
	0.512	0.512	0	853	853
	4.000	4.000	0	5	5
	6.000	6.000	0	4	4
	10.000	10.000	0	287	287
	22.000	22.000	0	10	10
	50.000	50.000	0	84	84
	100.000	100.000	0	8,181	8,181
Symmetric xDSL	0.384	0.384	0	4	4
	0.768	0.768	0	3	3
Total			1,009,999	53,245	1,063,244

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
Virginia	578,415	198,205	376,891	365,788
Total	578,415	198,205	376,891	365,788

Fixed Voice Subscription (VGE Lines)

VGE Lines Provided to Unaffiliated Providers by State

State	Wholesale	UNE-L
Virginia	66,035	10,622
Total	66,035	10,622

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

State	Total	by Bundle		by Product Type	
		Sold w/ Internet	Sold w/o Internet	Consumer	Business/Govt.

State	Total	by Bundle		by Product Type		by Ownership	
		Sold w/ Internet	Sold w/o Internet	Consumer		Business/Govt.	
				& No PIC	& PIC	& No PIC	& PIC
Virginia	578,415	243,886	334,529	51,817	146,388	306,673	73,537
Total	578,415	243,886	334,529	51,817	146,388	306,673	73,537

VG E 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
Virginia	578,415	578,415	0	0	33,040	0	0	545,375
Total	578,415	578,415	0	0	33,040	0	0	545,375

Fixed Voice Subscription (iVoIP)

Over-the-Top VoIP Subscriptions by State and End User Type

State	Total	Consumer	Business/Govt.
Virginia	0	0	0
Total	0	0	0

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/Govt.	Sold w/ Internet	Sold w/o Internet	FTTP	Coax	Fixed Wireless	Copper
Virginia	376,891	365,788	11,103	373,260	3,631	376,891	0	0	0
Total	376,891	365,788	11,103	373,260	3,631	376,891	0	0	0

Reminder:

Use 2010 Census geographies for data as of June 30, 2021 and before.
Use 2020 Census geographies for data as of December 31, 2021 and after.

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July 26, 2022

To: Grant Review Committee
Re: Verizon Grant Application

Corning Incorporated is pleased to support Verizon in their pursuit of closing the digital divide across the United States. Since our two companies launched the fiber-to-the-home revolution nearly two decades ago, and by embracing a collaborative partnership, more than 18 million American homes have been passed by Verizon's high-speed fiber broadband with many more to come.

In accordance with existing supply agreements, Corning is prepared to meet Verizon's project requirements for fiber optic cable and connectivity solutions necessary for the deployment of Verizon's fiber-to-the-premise broadband networks.

Corning invented the world's first low-loss optical fiber more than 50 years ago, ushering in the telecommunications revolution and expanding the bandwidth of human potential. Our existing capacity and record investments in new manufacturing facilities enable us to stand ready to support this historic era of connecting all Americans to high-speed fiber broadband.

Sincerely,

A handwritten signature in dark ink, reading "Stephen C. Mitchell", is written over a thin horizontal line.

Stephen Mitchell

Senior Vice President, Carrier Networks

Corning Optical Communications

We build connections so the world can make them.



August 9, 2022

David Sadler
Director of Information Technology
Caroline County Virginia
212 North Main Street
P.O. Box 447
Bowling Green, Virginia 22427

Dear Mr. Sadler,

I am writing to highlight some of the unique relationships that Verizon has with respect to the Commonwealth, key businesses in Caroline County, and County residents. We believe these relationships enhance Verizon's ability to execute on the proposed broadband network build and to successfully provide broadband service to the targeted locations.

Our Customers: Verizon's Credo starts with the phrase--"We have work because our customers value our high-quality communications services." That dedication and commitment to our customers is reflected in everything we do. Verizon has been the incumbent telephone company in Caroline County for decades and has long-standing relationships with customers throughout the County. We believe these relationships, our name recognition, and the strength of the Verizon brand, will help accelerate adoption of our award-winning Fios Internet services for homes and businesses reached through this project. Verizon's range of services and pricing plans--including plans for low-income customers that result in free broadband service after application of the FCC's Affordable Connectivity Program subsidy--provide an option for every budget. And customers can save even more by bundling their Fios Internet service with certain Verizon Wireless 5G data plans--this is an attractive option for customers who already subscribe to Verizon Wireless mobile service.

Our Infrastructure Arrangements: The predominant provider of electric utility service in Caroline County and across the proposed Verizon network is the Rappahannock Electric Cooperative (REC). Cost-effective, timely, and efficient access to existing aerial infrastructure greatly increases the likelihood of a broadband project being completed on time. Verizon has worked with REC to make joint-use of each company's pole assets for decades, and our existing Master Pole Joint-Use Agreement has been in place for over fifteen years.

State Agencies: As an operator of communications networks that criss-cross the Commonwealth, Verizon has extensive experience working with the Virginia Department of Transportation (VDOT). Knowledge of VDOT's permitting processes and solid working relationships with agency personnel, including the ability to escalate matters and brainstorm creatively to overcome obstacles, is an essential and highly-desirable asset for any broadband network construction project that occupies VDOT right-of-way.

Local and National Builders, Developers and Property Managers: People live in houses and multi-tenant buildings, and many of those are owned, built, or managed by major local, regional, and national companies. The Verizon Enhanced Communities (VEC) team is specifically tasked with establishing and maintaining relationships with building owners, developers/builders, and property management companies. Through the VEC Value Program, our team will help the building owner, developer/builder, or management company actively promote Fios as a key amenity to all the residents or homeowners, and provide the dedicated, end-to-end support that will keep them happy for years to come. Verizon's marketing arrangements allow VEC personnel to work with the customer to develop marketing programs to drive residents to purchase our Internet services. VEC customers also have the option to enter into a bulk arrangement with Verizon as part of which VEC provides discounted prices off our Fios retail services for residents of the building or development. VEC has strong relationships with builders such as NVR/Ryan Homes, Lennar, Pulte Homes and other large developed communities in Virginia, and looks forward to the possibility of strengthening existing relationships and forging new ones through the proposed Fios network expansion project in Caroline County.

Best regards,



Lori Fountain
Director of Broadband Strategy



August 9, 2022

David Sadler
Director of Information Technology
Caroline County Virginia
212 North Main Street
P.O. Box 447
Bowling Green, Virginia 22427

Dear Mr. Sadler,

This letter shall serve as confirmation that Verizon has the necessary arrangements in place with respect to equipment, supply chain, logistics, contract services, and regulatory compliance to complete the projects proposed in this application in the designated time frame. Verizon's fiber network expansion program adds on average more than 400k premises and over 5,000 route miles of new fiber to our network each year. It is these same time-tested and proven supply chain and related arrangements that will be leveraged to construct the network proposed in this application.

Verizon has deep relationships across the global supply chain with a wide range of equipment manufacturers, vendors, and suppliers. We leverage these relationships to drive lower costs and higher quality for our customers. The scale of our sourcing activity enables us to maximize our ability to obtain necessary equipment and services even when supplies run tight.

With respect to one of the key inputs--fiber optic cable and accessories--Verizon has a long-standing relationship with Corning, and is including a letter evidencing Corning's willingness and intent to meet our requirements for fiber under its existing supply agreements with Verizon.

Our labor force is in place, is stable, and has high rates of retention throughout Verizon - including the 6,600 Virginians already employed at Verizon. Our large direct workforce of experienced, well-paid, represented employees live and work in the communities of the County and surrounding areas. Where needed, the contractors that work with Verizon are an established and stable group, whose members have a track record of long service prioritizing their work for Verizon and its customers.

Finally, Verizon already has in place the regulatory expertise to achieve compliance and adapt to changed circumstances.

Best regards,

A handwritten signature in blue ink, appearing to read "Lori Fountain". The signature is written in a cursive, flowing style.

Lori Fountain
Director of Broadband Strategy

Caroline County's Plan For Universal Coverage

as developed and approved by

The Caroline Broadband Advisory Committee

In August of 2020 The Caroline Broadband Advisory Committee adopted a strategic plan which outlined the guidelines that it would use to guide future discussions involving broadband.

The goal is to extend affordable broadband internet service access to every resident and business in the county who lacks access to broadband. Caroline County comprises approximately 549 square miles and has approximately 30,000 residents.

The estimated cost of expanding broadband to all unserved citizens of Caroline County is nearly 29 million dollars. Currently, Caroline County has committed 4.5 million dollars to support the expansion of broadband.

The county and committee recognize the physical and fiscal challenges of deploying broadband in rural areas and had previously leveraged VATI grants to financially support a public-private partnership to deploy segments of internet service throughout the county with existing internet service providers.

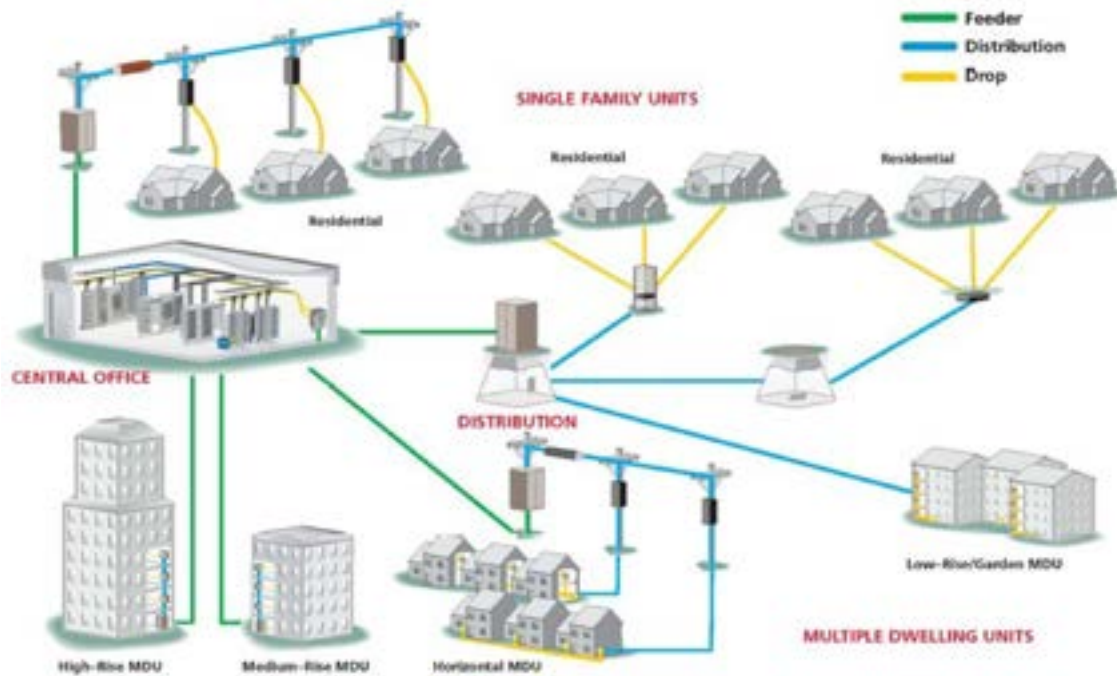
Due to the expansion of VATI funding for 2022 and the state's desire to realize universal coverage for every county in the state, the committee quickly adapted to the updated VATI proposal requirements for universal coverage. Due to demand, and other factors, Caroline County's VATI 2022 proposal, ultimately, was not awarded.

Despite the setback, the plan for universal coverage remains the same for the current round of VATI funding. The county will form a public-private partnership with internet service providers that are committed to complete the work within the anticipated time frames required by DHCD under the VATI Grant program.

Additionally, the Caroline Broadband Advisory Committee completed a request for proposal in order to select the best partner for all unserved addresses west of 95. This will ensure that there will be no gaps that would potentially prevent Caroline County from being awarded the VATI funding. Caroline has partnered with Verizon for this project area.

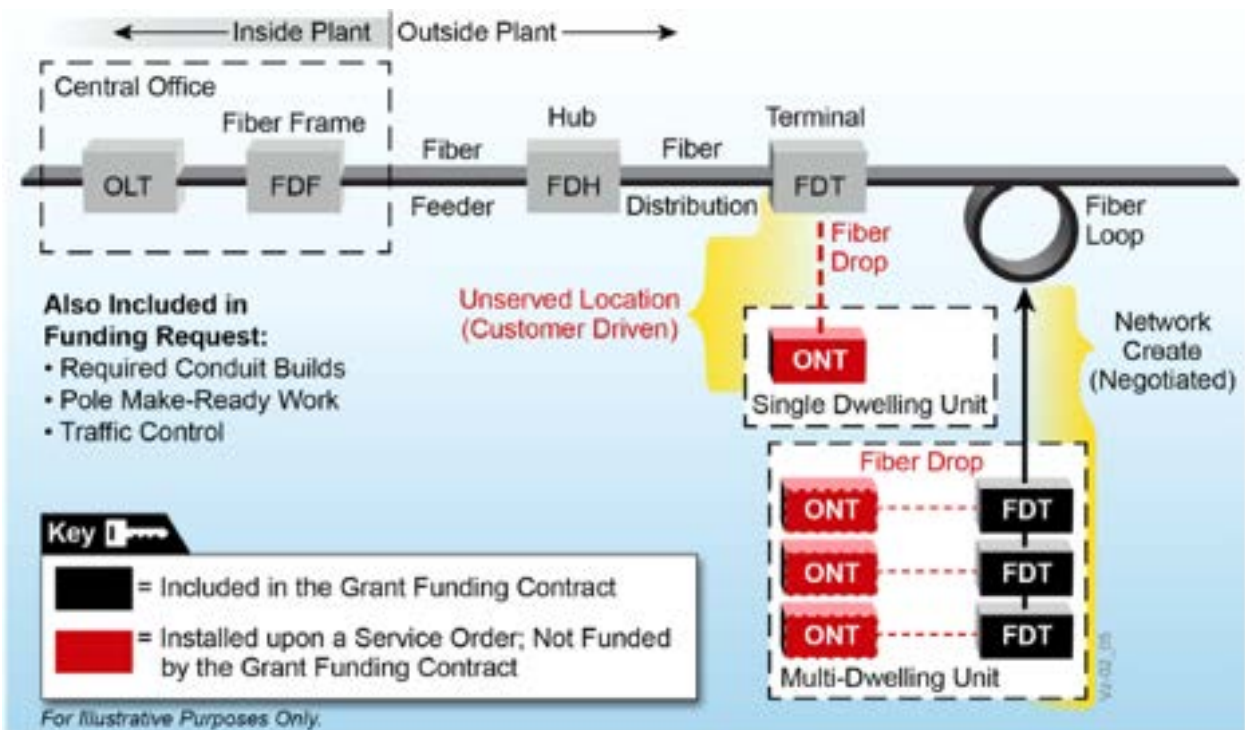
Thanks to the willingness of Breezeline, formerly Atlantic Broadband, to partner with Caroline County to provide coverage for all unserved locations east of 95, the Broadband Advisory Committee decided to prioritize the Dawn Area, then followed by Woodford and Corbin. Sparta/Central point is covered in Breezeline's awarded RDOF funding. Additionally, Breezeline has pledged 11.6 million to complete coverage of all areas East of 95. The Eastern Area Plan for universal Coverage is defined in the attached Caroline County /ABB FY2022 Project Areas map.

V2.0 updated 8/14/2022



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FTTP Distribution



ISP/OSP Funded Components

ADDITIONAL INFORMATION

Other Benefits of Working with Verizon on a Broadband Expansion Project

Supply Chain

Verizon has deep relationships across the global supply chain with a wide range of equipment manufacturers, vendors, and suppliers. We leverage these relationships to drive lower total deployment costs and higher quality for our customers. The scale of our sourcing activity enables us to maximize our ability to obtain necessary equipment and services even when supplies run tight.

Workforce

Verizon's workforce in Caroline County will perform fiber placement, splicing and testing work on this project as well as Fios Home Internet installations. Verizon provides this workforce with excellent employee benefits like medical, dental, life insurance, disability, and access to a 401(k) with a company match. In addition, these employees have generous paid time off available to them as well as the ability to take advantage of several other benefits like tuition assistance, an employee assistance plan and robust training/development programs.

Cybersecurity

Verizon is a recognized leader in cybersecurity. Verizon's Data Breach Investigative Report is an annual must-read for corporate and government CISOs, CSOs, CTOs, and CIOs. Verizon's global network security team has sensors deployed across our network, across America and around the world, and is always on the alert for the latest zero-day exploits and malicious activities. Verizon has relationships across industry and government that enable us to obtain the latest in threat intelligence. The cybersecurity countermeasures that we deploy on our backbone network to protect our business and government customers from hackers and other bad actors can benefit our Fios customers whose services are connected to that same backbone network.

Sustainability

As reported in Verizon's Task Force on Climate-related Financial Disclosures (TCFD) report, Verizon's fiber-delivered broadband services are at least 100 times more efficient on a kilowatt hour (kWh) per gigabyte basis than copper delivered broadband services. For more information, see the ERM Certification Verification Services Independent Assurance Statement (<https://www.verizon.com/about/sites/default/files/Verizon-2021-Energy-Comparison-Analysis.pdf>).

Wireless Service Expansion

Verizon is one of the largest licensed wireless service providers in the County. Deployment by Verizon of fiber infrastructure to locations throughout the County will also support the expansion of Verizon's mobile and fixed wireless services to these areas in the future.

Local Contractor Base

Verizon's expansion of its network in Virginia helps the community, as Verizon has spent annually in the last two years alone \$518M in 2021 and \$603M in 2020 with suppliers and vendors in the Commonwealth of Virginia.

Global Accessibility

Fios Home Internet customers also benefit from the breadth and reach of Verizon's global network and relationships. Verizon is not just a Virginia company--Verizon provides communications services to customer locations in over 100 countries around the world, with a diverse workforce spanning over 40 countries. Our global reach and relationships benefit our customers in the County and elsewhere.

Because Verizon is an established provider, Fios customers benefit from a whole host of advanced capabilities and features.

Robust Firewall/Parental Controls

The Fios router is equipped with the latest Wi-Fi technology and has a robust firewall and parental control feature to give customers more control and security over their broadband experience.

Convenience.

Fios Home Internet includes many convenient features. Multiple users can use the service simultaneously without sacrificing speed or bandwidth, even during peak hours.

Support.

Verizon also provides professional installation services, and Fios service includes 24/7 technical support so customers can get answers when they need them.

Cybersecurity

Verizon is a recognized leader in cybersecurity. Verizon's Data Breach Investigative Report is an annual must-read for corporate and government CISOs, CSOs, CTOs, and CIOs. Verizon's global network security team has sensors deployed across our network, across America and around the world, and is always on the alert for the latest zero-day exploits and malicious activities. Verizon has relationships across industry and government that enable us to obtain the latest in threat intelligence. The cybersecurity countermeasures that Verizon's deploy on its backbone network to protect its business and government customers from hackers and other bad actors can benefit Fios customers whose services are connected to that same backbone network.

Privacy and an Open Internet.

Verizon is strongly committed to customer privacy and to an open Internet, as evidenced by our Privacy Policy (<https://www.verizon.com/about/privacy/>) and Broadband Commitment (<https://www.verizon.com/broadbandcommitment>).

Get Free Fios Home Internet

Fios Forward makes home internet even more affordable for ACP customers.



FREE home internet with ACP and Fios Forward.

We're proud to keep people connected by participating in the FCC's Affordable Connectivity Program. Customers approved for the program, can get free Fios Home Internet with Verizon's Fios Forward discount. Qualifying households who sign up for this Fios Mix and Match plan can enjoy speeds of 300/300 Mbps for \$0/mo.

Start here to learn more:
verizon.com/fiosforward

Fios Mix and Match Internet for

\$0/mo

300/300 Mbps internet speeds

- No annual contract
- No data caps
- No bill surprises
- Deposit waived
- No taxes and fees
- No equipment charges
- Autopay not required

verizon.com/fiosforward

Affordable Connectivity Program (ACP) is a government program providing eligible households with internet service discounts. One program discount per household. Limited-time offer for eligible residential customers signing up for a Fios Mix & Match internet plan. May not combine with all offers. Fios Mix & Match available in select areas. Wired speeds advertised. Wireless speeds may vary due to device limits, multiple users, network & other factors. See verizon.com/yourspeed for more info. © 2022 Verizon. 9676_0322 •

Creating the networks that move the world forward.



The 2021 acquisition of TracFone Wireless Inc. positions Verizon as the leading pre-paid, value, and premium wireless carrier by expanding Verizon's portfolio, bringing enhanced access to its industry-leading wireless network and comprehensive suite of mobility products and services. Other TracFone brands, including Straight Talk Wireless and Total Wireless, among others, along with Verizon's Visible brand offer additional value plans for every family and budget.

Affordable Mobile Plans using Verizon's Nationwide Network

	Connection	Single Line Starting Price*	With ACP Credit*	With Lifeline Credit*	With ACP & Lifeline Credit*
SafeLink	4G LTE & 5G Nationwide**	Pre-paid service	Free unlimited talk / text, 10 GB data / month	Free 350 voice minutes, unlimited texts, 4.5 GB data / month	Free unlimited talk/text, 25 GB data / month, 5 GB hotspot data
Verizon	5G Nationwide**	\$35 / month per line with auto pay & paperless billing, unlimited data	\$5 / month per line with auto pay & paperless billing	\$25.75 / month per line with auto pay & paperless billing	Free with auto pay & paperless billing

Affordable Home Internet

Verizon Home Internet plans are now even more affordable for qualifying households with Fios Forward, 5G Home Internet and LTE Home Internet.

	Speed	With ACP Credit*	General Rate*
Fios Forward	300 Mbps; no data cap	Free including router at no charge	\$25 / month with wireless bundle†, auto pay & paperless billing
5G Home Internet	5G Ultra Wideband; no data cap	Free with wireless bundle†, auto pay & paperless billing	\$25 / month with wireless bundle†, auto pay & paperless billing
LTE Home Internet	4G LTE; no data cap	Free with wireless bundle†, auto pay & paperless billing	\$25 / month with wireless bundle†, auto pay & paperless billing

Sign up for ACP with Verizon at
<https://www.verizon.com/home/promo/affordable-connectivity-program/>



*Does not include taxes, fees or router charges. The Affordable Connectivity Program (ACP) is limited to one monthly service discount per household.

**With 5G enabled phone.

† With 5G Play More, Do More or Get More plan

Prices as of 6.15.2022



The Affordable Connectivity Program

The Affordable Connectivity Program (ACP) was created by Congress and implemented by the Federal Communications Commission (FCC) to assist eligible households to pay for internet services. The ACP will provide assistance to customers needing to connect to jobs, healthcare, and virtual classrooms.

Ways in which households can qualify for ACP:

- Household income
- Participation in certain government assistance programs
- Participation in Lifeline

Income

You are eligible for the ACP if your income is 200% or less than the Federal Poverty Guidelines. The guideline is based on your household size and state.

Participation in certain government assistance programs

You are eligible for the ACP if you (or someone in your household) participate in one of these programs:

- Supplemental Nutrition Assistance Program (SNAP), formerly known as Food Stamps
- Medicaid
- Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
- Supplemental Security Income (SSI)
- Federal Public Housing Assistance (FPHA)
- Veterans Pension and Survivors Benefit
- Free and Reduced-Price School Lunch Program or School Breakfast Program, including at U.S. Department of Agriculture (USDA) Community Eligibility Provision schools
- Received a Federal Pell Grant in the current award year

Qualify Through Your Child or Dependent

Any member of your household can make your household eligible if they participate in one of the programs above. For example, if your child or dependent participates in the Free and Reduced-Price School Lunch Program or is enrolled in a USDA Community Eligibility Provision school, your household qualifies for the ACP benefit.

To learn more or enroll in ACP, visit www.affordableconnectivity.gov

