

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

**Application ID:** 86508312021161355

**Application Status:** Pending

**Program Name:** Virginia Telecommunications Initiative 2022

**Organization Name:** New River Valley Regional Commission

**Organization Address:** 6580 Valley Center Drive  
Radford, VA 24141

**Profile Manager Name:** Jessica Barrett

**Profile Manager Phone:** (540) 639-9313

**Profile Manager Email:** jbarrett@nrvc.org

**Project Name:** Bland, Montgomery, Pulaski Counties VATI 2022

**Project Contact Name:** Kevin Byrd

**Project Contact Phone:** (540) 639-9313

**Project Contact Email:** kbyrd@nrvc.org

**Project Location:** 6580 Valley Center Dr  
Radford, VA 24141-5691

**Project Service Area:** Bland County, Montgomery County, Pulaski County

**Total Requested Amount:** \$69,745,774.00

**Required Annual Audit Status:** Pending Review

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

## Budget Information:

Cost/Activity Category	DHCD Request	Other Funding	Total
<b>Telecommunications</b>	<b>\$69,745,774.00</b>	<b>\$69,811,120.00</b>	<b>\$139,556,894.00</b>
Construction	\$69,745,774.00	\$69,811,120.00	\$139,556,894.00
<b>Total:</b>	<b>\$69,745,774.00</b>	<b>\$69,811,120.00</b>	<b>\$139,556,894.00</b>

### Budget Narrative:

All entities prepared a high level design for the project and developed an indicative bill of materials based on that design. The cost estimates that form the basis of the project budget for each County reflect current pricing available. AEP telecom's cost estimate for the project includes only fiber that will be used to provide service drops to the unserved customers or providing fiber to supply these fibers. There is no fiber included in this estimate outside the three county area and no electronics or infrastructure that is not relevant to service broadband to the unserved customers. See Attachments 12 and 13 for each delineated ISP service area (APB/Pulaski County and GigaBeam/Bland County/Montgomery County) detailed budget and documentation of cost estimates.

## 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:

Project areas were selected based on reports prepared by Thompson & Litton and Blue Ridge Advisory Services (County Consultants), completed June 29, 2021, at the request of Bland, Pulaski, and Montgomery Counties. These reports deemed the proposed project areas to be “unserved by broadband” as that term is defined in Section 56-585.1:9 of the Virginia Code; less than 10% of the residential and commercial units are capable of receiving broadband service at speeds of 25/3 Mbps.

Specifically, all areas of Bland County are part of the proposed project area with the exception of a small area in the northern section of the county near Rocky Gap, including the I-77 corridor to the north and a 7-mile area along Rt 613 extending east and west of I-77.

The majority of Pulaski County is included in the proposed project area, with the exception of the Town of Pulaski, and areas to the east including US Route 11, E. Main St and Bob White Blvd. toward Dublin, and the Town of Dublin, including Cleburne Blvd to the north and south and US Route 11 east to the City of Radford, including a portion of the Fairlawn area near Peppers Ferry Blvd. have access to broadband speeds greater than 25/3 Mbps and are excluded from the proposed project area.

The majority of Montgomery County is included in the proposed project area. Areas within Blacksburg and along Prices Fork Rd to the west of Blacksburg, areas around Christiansburg west of Hwy 460 and south to I- 81, including S. Franklin St, have access to broadband speeds greater than 25/3 Mbps and are excluded in the proposed project area. The McCoy community in the northwest part of Montgomery County along two miles of McCoy Rd has access to broadband speeds greater than 25/3 Mbps and is also excluded in the proposed project area. All other areas of Montgomery County, with the exception of these areas in Blacksburg, Christiansburg and McCoy, were found to be unserved by broadband and therefore are eligible for inclusion in the proposed project area.



# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

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

**Answer:**

According to the Federal Communications Commission's (FCC) database, there are existing providers in the project areas. However, widespread diagnostic interviews and surveys of the project areas indicated the majority of residential and some business areas had no access to reliable, high speed internet. A summary of internet speeds/providers from surveys is below.

**Bland County**

**Pulaski County**

**Montgomery County**

ISP

Speed

ISP

Speed

ISP

Speed

CenturyLink

10/1 Mbps

CenturyLink

10/1 Mbps

Segra (commercial only)

1 Gbps

Verizon

10/1 Mbps

Verizon

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

10/1 Mbps

Citizens

10/1 Mbps

Xfinity/Comcast-limited availability

>25/3 Mbps

Xfinity/Comcast-limited availability

>25/3 Mbps

Lumos Networks

10/1 Mbps

Xfinity/Comcast-limited availability

>25/3 Mbps

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

**Answer:**

Pulaski and Montgomery Counties have not received federal funding for the proposed project areas. Bland County was awarded ARC (Appalachian Regional Commission) Power Grant Funds to develop a fiberoptic network along Rte. 52. Those funds will be allocated to assist with the last mile deployment of fiber along that corridor in this project proposal. Approval has been obtained from ARC. A copy of the original ARC project map is attached (Attachment 2).

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

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

**Answer:**

No RDOF awards are applicable to these project areas.

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

**Answer:**

The project areas within the counties of Bland, Pulaski, and Montgomery have been submitted to the state through the utility leverage program to be designated by the Department of Housing and Community Development as “unserved by broadband” as that term is defined in Section 56-585.1:9 of the Virginia Code. The project area boundaries were determined based on information contained in two reports (completed June 29, 2021), prepared by Thompson & Litton and Blue Ridge Advisory Services (County Consultants) and the Supplemental Broadband Study of Montgomery County, included as **Attachment 17**. The proposed project areas consist of portions of the counties where less than 10% of the residential and commercial units are capable of receiving broadband services of at least 25/3 Mbps **Attachment 4**. Included in the reports are detailed descriptions of the outreach efforts that were used to identify existing ISPs and to avoid overlap. Briefly, the reports were compiled by performing targeted interviews of knowledgeable officials in all three Counties and by conducting broadband customer surveys in all three counties, and the results were validated through discussions with county administrators and their staff.

Per the FCC’s “Fixed Coverage Broadband” map, it would appear as though there is over a 10% service overlap.

However, the FCC’s coverage map is somewhat misleading in its representation of these areas, as the census tracks cover a large rural geographic area and our assessments indicates the majority of the areas are unserved.

6. Total Passings: Provide the number of total serviceable units in the project area. Applicants are encouraged to prioritize areas lacking 10 Megabits per second download and 1 Megabits per second upload speeds, as they will receive priority in application scoring. For projects with more than one service area, each service area must have delineated passing information. Label Attachment: Attachment 5 – Passings Form.
- a. Of the total number of VATI passings, provide the number of residential, business, non-residential, and community anchors in the proposed project area. (Up to 10 points for businesses and community anchor institutions)
- 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 10/1 mbps or less. Describe the methodology used for these projections. (up to 15 points)

**Answer:**

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

a. The total number of passings from all three county's project areas is 22,976. When broken down into counties the totals are:

Bland County: 3,272, with 98% of those passings at or below 10/1 Mbps internet speeds.

Montgomery County: 11,177, with 76% of those passings at or below 10/1 Mbps internet speeds.

Pulaski County: 8,527, with 15% of those passings at or below 10/1 Mbps internet speeds.

b. n/a

c. **Bland County:** None.

**Montgomery County:** None.

**Pulaski County:** For the first twelve months after service is available at any location within the proposed project, All Points' standard installation fee of \$99 will include any length of service drop required to make service available to that location. All Points' detailed design for the project calculated the projected service drop length for all locations in the proposed project area and the average drop length used to determine the project budget is based on the weighted average drop length indicated by the project design.

d. Bland County is a unique challenge because of its mountainous terrain, sparse population, and 1/3 of the county being part of the Jefferson National Forest, with 56 miles of the Appalachian Trail. All of these create challenges in development of broadband infrastructure. This broadband project will cover approximately 355 square miles and provide access to approximately 3,272 passings. That is approximately 9.2 passings per square mile. Several of those passings, approximately 145, will require additional construction costs due to their locations. These additional construction costs are needed in order to achieve universal broadband coverage.

e. Internet speeds were determined based on the county-wide broadband assessment as well as information from the existing ISP websites in regards to service areas.

**Bland:** 3,053 passings in the project area are at or below 10/1 Mbps.

**Montgomery:** 8,479 passings within the project area are at or below 10/1 Mbps internet speed.

**Pulaski:** 1,281 passings within the project area are at or below 10/1 Mbps internet speed.

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

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

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

**Answer:**

**APB:**

In Pulaski, the last-mile fiber-to-the-home network will offer four speed tiers that are fully symmetrical with no data caps:

50/50 Mbps - \$59.99

100/100 Mbps - \$79.99

500/500 Mbps - \$99.99

1/1 Gbps - \$109.99

With a flat \$5 service fee to cover applicable taxes and FCC fees.

Customers will also have the ability to subscribe to VOIP phone service with multiple calling features and local and continental US long distance calls included for an additional \$14.99 per month.

Because the Pulaski network is a FTTH network, the only locations where sharing of bandwidth may occur are at a fiber concentration cabinet or at the network core. All Points Broadband has planned more than adequate capacity to consistently deliver advertised speeds to all customers.

**GigaBeam:**

Planned offerings will include:

100Mbps x 100Mbps - \$59

250Mbps x 250Mbps - \$79

500Mbps x 500Mbps - \$99

1Gbps x 1Gbps - \$129 (includes our enhanced managed wifi service marketed as "GigaBeam GigaFi Enhanced WiFi")

The bandwidth will be shared (as is on all broadband networks) and all broadband will be delivered on a fiber to the premise network based on XGS-PON 10Gbps x 10Gbps capable network that far exceeds capacity and capability to provide the above plans.

9.

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

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:

An in-depth description of the Network Design by each ISP can be found in **Attachment 19**. In brief:

### GigaBeam:

GigaBeam Networks operates a hybrid Fiber to the Premise and Fixed Wireless network throughout southern West Virginia and southwestern Virginia. The proposed network design for Bland and Montgomery County Project is a fiber to the premise network utilizing XGS-PON (10Gbps Symmetrical Passive Optical Network) technology. XGS-PON is an updated standard for Passive Optical Networks (PON) that can support higher speed 10 Gbps symmetrical data transfer and is part of the family of standards known as Gigabit-capable PON, or G-PON. XGS-PON = 10 Gb Symmetrical PON.

The Bland/Montgomery Project is unique in that it is a collaborative effort between Appalachian Power (Apco), an investor-owned utility, and GigaBeam Networks to construct a fiber to the premise network for internet access. Apco will construct approximately 204 miles of fiber to support their "smart grid" infrastructure for electrical service. This network will be overbuilt and the excess fiber will be leased by GigaBeam to provide internet connectivity to the unserved locations throughout both counties.

Apco will build this last/middle mile infrastructure including fiber, splicing and RTD's. GigaBeam will supply the drops and necessary electronics for the network. Apco is also constructing the head end building that will be included in the lease of fiber. The fiber will be constructed in the "power space" of the pole which allows for faster installation at a lower cost with make ready costs significantly lower than a standard telcom deployment.

Fiber also leased from Apco will connect the head end to our current network infrastructure providing connectivity to data centers in Ashburn and Richmond, VA. Initially 10 Gb transport (upgradable to 100 Gb) will be terminated to the service router at the head end. The service router will be connected to each OLT located throughout the network via 10 Gigabit connections (upgradable to 100 Gb).

Apco fiber will provide service availability to the large portion of the unserved locations in both counties. However, approximately 415 miles of additional fiber will be constructed to extend the network and connect the final unserved customers not in range of their fiber build.

### Network Layout/Design

In agreement with Apco, Gigabeam is standardizing on a network design involving plug and play multiport terminals to connect drop cables to the Apco fiber infrastructure. This simplifies the installation of the drop cables, minimizes splicing necessary to do the drop and decreases the timeframe to complete the drops.

### All Points Broadband:

The All Points project is a new FTTH deployment that will make FTTH service available to currently unserved

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

locations in Pulaski County. The network includes approximately 456 miles of distribution fiber. Of these, approximately 347 miles will be built by All Points and approximately 109 miles will be built by AEP.

At completion, All Points' network in Pulaski will include three upstream connection points to All Points' network core in the data center cluster in Ashburn, Virginia and an independent connection to All Points' redundant network core in the Cermak data center in Chicago, Illinois.

All existing and new fiber distribution infrastructure will use all-dielectric self-supporting ("ADSS") fiber cable, with AFL Telecommunications ("AFL") as the principal cable manufacturer. Because ADSS cable is fully self-supporting and requires no messenger wire, it can be installed in a single pass, resulting in lower construction costs and more rapid deployment timeframes. ADSS is optimized for deployments on electric utility poles and infrastructure and can be placed in closer proximity to conductors, which reduces pole make ready expense. The project will use cables of various strand counts, generally ranging from 24 to 288 strands, depending on the specific network segment.

Approximately 90% of the fiber distribution routes will be aerial and 10% of fiber distribution routes will be underground.

The network will include approximately 12 fiber feeder hubs and approximately 32 fiber distribution hubs. Service drops will be made to one of approximately 1,611 fiber distribution terminals.

The network has been designed to be scalable and expandable to meet future needs and as end user demands require higher bandwidth connections.

For example, throughout all distribution routes, a minimum of 12 fiber strands will be reserved to accommodate future needs. This will ensure sufficient distribution capacity so that no additional fiber routes would need to be constructed to offer service to any new locations built in the proposed project area after project completion.

At all feeder and distribution hubs, sufficient capacity has been reserved to enable the network to be upgraded to offer 10 gigabit, symmetric service, to all end users on the network in the future as consumer demands require higher bandwidth connections. All distribution terminals have been sized to accommodate additional connections in the future to accommodate new and in-fill development without requiring additional splicing.

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:**

Bland, Pulaski and Montgomery Counties invested into the Broadband Assessment studies to determine which areas are unserved or underserved by broadband within these counties. This project will complete the region's ongoing efforts to bring universal, modern internet service to every citizen within Bland, Pulaski and Montgomery Counties.

**Four critical objectives will be achieved within these counties:**

1. Every citizen of Bland, Pulaski and Montgomery Counties have reliable access to high-speed internet
2. Families with school-aged children will be a priority

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

3. Knowledge workers must have ubiquitous access to high-speed internet
4. County leadership desires a market-based solution

## **Bland County:**

Key findings in the Broadband Assessment indicate every community in Bland County has pocket areas that are considered unserved (less than 25/3 Mbps). Most reliable high-speed internet service in this county is centered around the interstate (I-77). Outside of that vicinity are unserved pockets amid mountainous terrain that pose a challenge to establishing reliable service, which makes securing grant funding imperative to providing broadband in this rural county. During the pandemic, an even greater need for reliable internet services revealed the disparity in this county. Most rely on mobile hot spots or public spaces (libraries/school parking lots) for internet access. Employees and students were unable to work/learn from home. For example, the IT Director of the school system does not have internet services available at his home.

In partnership with AEP, these funds will help build two primary fiber routes to ensure adequate infrastructure to connect with existing fiber networks and to build the framework for addressing nearby unserved and underserved communities.

## **Pulaski County:**

Key findings in the Broadband Assessment for Pulaski County indicate that many are disenfranchised due to the lack of broadband availability. During the pandemic the work from home mandates pose a challenge to some residents and students that must rely on wifi hotspots at school parking lots, community center and parks. Survey data indicated everything south of the lake and along the river – including Hiwassee, Snowville and Allisonia – have no dependable broadband. Not only are workers and students effected, but also retirees and grandparents are unable to connect to family and friends. In addition, the County's goal to grow their population to 40,000 by 2030 is affected due to real estate being undervalued because of lack of broadband.

In partnership with AEP, these funds will help build two primary fiber routes (Rt. 693/605 Corridor and Rt. 601 Corridor) to ensure adequate infrastructure to connect with existing fiber networks and to build the framework for addressing nearby unserved and underserved communities.

## **Montgomery County:**

Key Findings in the Supplemental Broadband Assessment for Montgomery County indicate the majority of the county, outside of Blacksburg, Christiansburg and the area of McCoy, was found to be unserved by broadband. Survey results indicate availability and affordability are the two biggest factors as to why households do not have internet access. Of those that do have internet access in these areas of the county 44% have DSL, satellite or hot spot and are considered unserved.

The proposed fiber routes will allow unserved areas of Shawsville, Centerville, Elliston/Lafayette, Allegheny Springs and Den Hill Road areas to be connected to broadband internet access.



# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

## **Project Readiness**

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

### **Answer:**

The project area includes unserved areas that have been identified through customer surveys contracted by the Counties and has been submitted to DHCD for certification through the utility leverage program. The Counties have selected their ISPs (APB and GigaBeam) to supply coverage to unserved citizens and MOU's have been drafted between each county and their ISP as well as the ISPs and AEP. AEP has completed a conceptual design and estimate for their fiber that the ISPs will use to serve the unserved customers. AEP/APCo is currently putting together testimony to be filed with the SCC in early November 2021. Based on easement legislation in 2020, APCo will provide notice to any land owners/existing easement holders affected by the APCo fiber installation. This same process was used in the Grayson County project with great success and has had no issues to date. The ISPs have developed their fiber designs and estimates. More specifically:

### **Pulaski County/All Points Broadband:**

Pulaski County began working with APB on a FTTH deployment to achieve universal coverage in the county in October 2020. APB and AEP began developing an integrated network design for Pulaski County in May of 2021. That high level design was refined through several iterations with input from Pulaski County, adjusted to include all areas identified as unserved by the County, and finalized in July of 2021. All Points and Pulaski entered into an MOU (see Attachment 8) regarding submission of All Points' portion of this project for VATI funding in July of 2021.

All Points has reviewed the bill of materials for its portion of this project with its principal suppliers and All Points' cable manufacturer, AFL global, has committed sufficient manufacturing capacity to ensure that the fiber required for All Points to complete its portion of the project will be available to All Points on the timeframe set forth in All Points' project management plan (Attachment 7) (see letter from AFL global included in Attachment 13).

Because All Points' fiber has been designed to place all new fiber distribution routes within public rights of way or within areas subject to existing easements held by AEP, APB does not anticipate requiring a significant number of new easements.

APB will construct its last-mile infrastructure concurrently with AEP's construction. APB will deploy and provision service terminals and service drops in conjunction with AEP's construction schedule so that end users can be connected to the network as soon as there is distribution fiber in place to connect their location to All Points' network core.

Once construction has commenced, APB will be able to rapidly deliver service to customers who have pre-registered their locations for service.

To ensure the network is successfully and promptly used by presently unserved locations, APB will begin marketing the network to potential customers as soon as the SCC has ruled on AEP's petition for approval to the SCC.

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

## Montgomery and Bland Counties/GigaBeam:

Montgomery and Bland Counties chose to work with GigaBeam as their ISP. Bland County and GigaBeam entered into a Public/Private Partnership agreeing to work together to expand broadband services within Bland County. Montgomery County and GigaBeam currently have a MOU in draft form for the project. The initial design of the network improvements has been completed by GigaBeam and AEP. The Appalachian Power Utility Leverage Project is still subject to SCC approval and this project will coincide in construction and buildout to APCO's planned build. As SCC approval is being processed, we will begin work on low level design, engineering and acquiring materials. We anticipate construction can begin in Spring of 2022 but this could vary depending upon SCC approval.

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:

Bland County received VATI funds (\$50,000) in 2015 for Planning and 2016 for the Hollybrook Project. The Hollybrook Project was built under the 10/1 Mbps guidance using a fixed wireless solution. Approximately 200 homes/businesses were connected under that project. The current VATI project plans to overlap that area to provide faster speeds and to reach homes and businesses that were unable to connect due to lack of line of site to broadband equipment.

APB received a VATI grant in the 2021 application cycle for another project that will achieve universal FTTH access within the project area in four counties on Virginia's Northern Neck (the "Northern Neck Initiative"). Like the project proposed in this application, the Northern Neck Initiative was a partnership between All Points, another investor-owned utility leveraging the Utility Leverage Statute, and participating counties. The SCC petition for approval of Dominion's participation in the Northern Neck Initiative was submitted in September of 2020, and the SCC's final order approving that project was issued in March of 2021. Construction of fiber distribution routes for the Northern Neck Initiative commenced in July of 2021 and construction is now underway. Customer installations are on schedule to commence in December 2021, and the overall project is on schedule for completion in the third quarter of 2023.

Montgomery County received a VATI 2021 grant to serve 1,292 passings in eastern Montgomery County. This project included \$919,569 in VATI funds and Montgomery County funds of \$140,767, and GigaBeam providing \$347,301 in matching funds including in-kind work and fiber extensions. The scope of this project has changed from fixed wireless to Fiber to the Home for all 1,292 passings. Montgomery County has submitted all documents needed to finalize the DHCD Contract.

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

### Answer:

Funding Sources Table and Documentation of Match Funding documents are attached as Attachments 9 and 10.

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

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:**

The project will be primarily using the utility leverage program. Appalachian Power will be constructing approximately 204 miles of fiber optic network that will be utilized in this project to provide service to customer directly on the route of that fiber and extend from that build with additional fiber to provide universal access to the 10Gbps capable network. We will also be leveraging an ARC grant in Bland County providing \$459,764.00 in funds to build a portion of the fiber optic network. Bland County will also waive any local permitting fees associated with this project and will provide staff support throughout the duration of the project. If needed, Bland County will also provide lay down yard during the construction at no additional costs.

Montgomery County has received a VATI 2021 grant to serve 1,292 passings in eastern Montgomery County. This project included \$919,569 in VATI funds and Montgomery County funds of \$140,767, and GigaBeam providing \$347,301 in matching funds including in-kind work and fiber extensions. The scope of this project has changed from wireless to Fiber to the Home for all 1,292 passings. Montgomery County has submitted all documents needed to finalize the DHCD Contract. In addition, the County has agreed to waive all permitting and similar fees related to the project.

Pulaski County has provided extensive in-kind support to the planning process that resulted in the proposed project. Since September of 2021, senior members of the County's department have participated in regular coordination meetings with the APB project team. The County has also agreed to provide all required support for the SCC Petition process on an in-kind basis. In addition, the County has agreed to waive all permitting and similar fees related to the project.

APB has dedicated a full-time sales manager who will oversee all marketing and adoption activities within the County and APB has allocated a \$175,000 marketing budget for the project in its first two years (which is not included in the project budget set forth in this application).

15. Marketing: Describe the broadband adoption plan.

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

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

**Answer:**

a.

**All Points Broadband**

APB has already performed substantial marketing activities. To date, more than 300 surveys have been completed by residents and property owners who have provided their contact information, pre-registered for service and requested to be contacted when service becomes available at their location.

APB has also prepared an extensive marketing campaign to ensure that customers are promptly connected to the network to begin receiving service as soon as it is available. Sample materials for this marketing campaign can be

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

found in Attachment 18.

APB has dedicated a full-time sales manager who will oversee all marketing and adoption activities within the first two years.

The initial marketing phase will begin with a series of mailings to all serviceable locations in the project area, as well as a series of joint-marketing events and public meetings to be conducted in conjunction with community organizations and members of the County Board of Supervisors. APB will also use its website, social media platforms, yard sign ads in the project area, and local media to market the service.

APB will use the Crowd Fiber tool to accept pre-registrations from customers and to keep those customers informed regarding the deployment schedule, so that these customers will be ready to subscribe and receive service as soon as it is available at their locations. All Points will provide resources and best practices from the National Digital Equity Center, the National Digital Inclusion Alliance, and NTIA's BroadbandUSA toolkits.

As each area of the network is nearing completion, APB will also send an additional series of direct mail to all potential customers in the project area highlighting APB's commitment to provide service to any location within the first 12-months for the same installation charge of \$99. The fact that customers can receive service for the same cost, regardless of drop length, is projected to increase take rates.

In addition, APB will continue to use its website and social media channels, billboards, and public meetings in conjunction with the County to market the project.

The anticipated take rate for the project is 75%, which is projected to be achieved during the first 30 months of project deployment. To project take rates for this project, APB commissioned an independent third party to perform a residential survey and conjoint analysis, which was completed in June of 2021. Excerpts from this third-party analysis is attached as part of Attachment 18.

## **GigaBeam**

Gigabeam would market the service in the project area in conformity to current marketing plans including:

- Door hangers
- Radio Ads
- Social Media
- TV Ads
- Newspaper Ads
- Community Events
- Charitable work: Sponsorships

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

Based on conversations with other areas where new service has been introduced and confirmed in GigaBeam's experience, residents see the company doing the preliminary field work and construction near their homes and inquire about the coming service - even asking if they can be connected right there and then. While this is a passive marketing role for the provider, it will also serve as a marketing piece for launching the service.

GigaBeam anticipates a take rate of 60% in the project area and this number is based on previous experience in deployment of projects like this in unserved areas.

**b.**

## **From Montgomery:**

With the support from Mountain Valley Charitable Foundation, there may be an opportunity to partner on various digital literacy efforts. Information on utilizing broadband could be available at the Meadowbrook Community Center, which Mountain Valley Charitable Foundation operates. The Montgomery County Economic Development Department, in collaboration with Montgomery County Public Information, has designed a "Broadband 101" campaign to better educate citizens on topics such as how different sources of broadband work and a high-level overview of the County's efforts to extend broadband service. The information will ideally be used both digitally on Montgomery County's social media accounts and website, as well as physically printed to be displayed in public spaces such as the government building and libraries. The campaign should kick off before the end of 2021.

## **Bland County:**

Bland County have very active local library, cooperative extension office, farmers' market, Chamber of Commerce, and civic groups. Upon broadband internet becoming available, the County of Bland will coordinate with these groups, as well as Bland County Public Schools, to provide digital literacy programs and services.

## **Pulaski County:**

All service offerings made available through this project will be eligible for the federal Emergency Broadband Benefit program and future affordability programs available to low-to-moderate income ("LMI") households.

APB and the County will partner with the County's library system to conduct digital literacy training and awareness events.

APB has developed a Digital Inclusion Academy through Google for Education, based on best practices and recommendation from the National Digital Equity Center, the National Digital Inclusion Alliance, and NTIA's BroadbandUSA toolkits, which includes courses such as "Use Digital Tools for Everyday Tasks", "Avoid Online Scams", "Build Healthy Digital Habits", "Edit Your Resume", and others of a similar nature. All Points will offer free access to this Academy and all related courses to all locations within the proposed project area and all County residents.

The County will support community events to ensure that residents and businesses in the proposed project area are aware of their new ability to access broadband, and of the affordable pricing tiers offered by APB.

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

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

**Answer:**

## **Key Individual**

### **Roles and Responsibilities**

### **Previous Experience**

*Kevin Byrd*

NRVRC, Project Administration

As executive director of the NRVRC has been involved in DHCD projects in a management and participatory capacity for the last 13 years and will provide oversight of the project.

*Elijah Sharp*

NRVRC, Project Administration

As deputy executive director of the NRVRC has been involved in DHCD projects in a management and participatory capacity for the last 9 years and will provide advisement on a week to week basis.

*Anna Champion*

NRVRC, Project Administration/Day-to-day project management and grant administration

As project manager for the NRVRC has been involved with managing highly complex projects and organizing teams for implementation. Attention to detail and focus on execution are key skills.

*Eric Workman*

Bland County, Local Project Contact

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

As county administrator in Bland County, has been involved with multiple DHCD projects in a management and participatory capacity for the last 11 years.

*Craig Meadows*

Montgomery County, Project Administration

Involved with multiple DHCD projects in a management and participatory capacity for the last 12 years and will oversee local coordination of the project.

*Brian Hamilton*

Montgomery County, Project Administration

As Economic Development Director, Mr. Hamilton has worked on a broadband study with DHCD, VATI 2021 Grant award, and will provide direct project management of VATI 2022. Experience in a management capacity for the last 12 years and will oversee local coordination of the project.

*Jonathan Sweet*

Pulaski County , Project Administration

Over 20 years project management and county administration experience with a proven track record and specialty in economic and community development.

*Clayton Howlett*

Pulaski County , Project Manager

18 year background in system administration and network management. Successfully managed several broadband projects.

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

*Chris Barton*

AEP - Broadband Project Manager

Responsible for internal coordination efforts related to broadband project development in Virginia and West Virginia.

11 years' experience coordinating major utility projects. Currently managing the Grayson County Broadband Pilot in VA as well as the Logan and Mingo project in WV.

*Amanda Cox*

AEP – External Affairs Manager

Responsible for external coordination efforts related to broadband project development and execution.

8 years' experience coordinating projects involving state partners, legislators, local elected and appointed officials, ISPs and others.

*Michael Clemons*

CEO & CTO – GigaBeam Networks

Overall project management, engineering, and grant compliance for ISP operations

24 years' experience in building and operating an internet service provider company

*Adam Blankenship*

COO – GigaBeam Networks

All construction activities for GigaBeam's portion of the project

11 years' experience in deployment and operations management of ISP services



# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

*Jimmy Carr– CEO (APB)*

CEO, APB

Responsible for overall project coordination and financing.

Founder of All Points and former member of the Board of Directors of the Wireless Internet Service Providers Association. He represents the rural broadband industry on the Virginia Broadband Advisory Council.

*Sean Flora*

Director of Fiber Construction, APB

Sean and his team are responsible for delivering best-in-class, fiber-to-the-home networks to All Points' partners and customers. Sean spent 19 years at Cincinnati Bell in roles of increasing responsibility, including Senior Manager of OSP Construction and Contracts and Senior Manager of OSP Engineering.

*Brandon Ogilvie*

CFO, APB

Leads APB's finance and capital investment initiatives and oversees its accounting and administrative functions.

*Tom Innes*

SVP of Public-Private Partnerships, APB

Tom works with All Points' partners to structure public-private partnerships that bring high-quality, FTTH broadband to unserved areas. He also manages APB's human capital functions.

*Chuck Hogg*

SVP of FTTH Deployments, APB

Co-founded and spent 13 years growing Shelby Broadband, a highly successful, rural-focused ISP. Served on the Board of the Wireless Internet Service Providers Association for 10 years and currently serves as its Vice Chairman.

*Ajit Pai*

Partner, Searchlight Capital Partner

Served as Commissioner and Chairman for the FCC from 2012-2021.

The **NRV Regional Commission** has provided grant administration and project management on DHCD grants and has delivered services aligned to DHCD goals to our local governments as a planning district commission for more than 50 years. The Regional

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

Commission will provide day-to-day grant administration of this project. **Bland, Montgomery and Pulaski Counties** have successfully provided grant administration and project management on a variety of DHCD grants with their existing Leadership Teams. Their robust staffs have successfully managed an array of grants from the Virginia Department of Environmental Quality, Virginia Economic Development Partnership, DHCD, the Federal Economic Development Administration, VATI and others. **GigaBeam Networks, LLC** is a locally owned and operated WISP (wireless internet service provider) with offices in Rich Creek and Bluefield, VA. GigaBeam offers service in 8 regional counties over 3 states (Virginia, West Virginia, and Kentucky). Currently, residential speeds up to 50Mbps are offered throughout the network footprint and up to 100Mbps coming soon. Also being deployed is one of the first "5G" wireless networks in Bluefield that will offer speeds up to 1Gbps. **All Points Broadband** is a highly successful rural broadband provider that operates last-mile fiber, fixed-wireless, and hybrid-fiber-wireless networks serving locations in Virginia, West Virginia, Maryland, and Kentucky. All Points has grown through acquisitions and organic network expansions. All Points has successfully managed numerous rural broadband deployments in partnership with rural Counties, and it has managed the development of a similar multi-partner broadband initiative on the Northern Neck.

## 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:**

To develop the project budget, all entities prepared a high level design for the project and developed an indicative bill of materials based on that design. The cost estimates that form the basis of the project budget for each County reflect current pricing available. AEP telecom's cost estimate for the project includes only fiber that will be used to provide service drops to the unserved customers or providing fiber to supply these fibers. There is no fiber included in this estimate outside the three county area and no electronics or infrastructure that is not relevant to service broadband to the unserved customers. See Attachments 12 and 13 for each delineated ISP service area (APB/Pulaski County and GigaBeam/Bland County/Montgomery County) detailed budget and documentation of cost estimates.

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:**

- \$69,745,774
- 22,976 passings total in three Counties.

## 19. **Commonwealth Priorities (Up to 40 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 25/3 mbps.

### **Answer:**

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

**a.** Diagnostic interviews in Bland County for the Broadband Assessment indicate that unserved passings include trailheads at the Appalachian Trail, business parks, Camp Rowland, Holly Brook Community Center and Wolf Creek Indian Village.

Diagnostic interviews in Pulaski County for the Broadband Assessment indicate that unserved passings include business parks, Camp Ottari, Camp Powhatan, Claytor Lake State Park, Commerce Park, Draper Valley Golf Course, park, trailheads and the Pulaski County Industrial Park.

Through the process of the Montgomery County Broadband Assessment, it was determined that 260 businesses and 129 community anchors were underserved in the project area. Specifically, the County wants to “provide greater access to broadband capabilities to the Urban and Village Expansion Areas and Villages in Montgomery County.”

**b.** For several years all three counties partnering on this project have struggled to find ways to increase broadband access to areas that are un/under-served. Each have worked with existing providers, local internet service providers and providers not currently in their market all in an attempt to increase broadband access and speeds. It was not until AEP came to the table with a significant fiber project did the realization of providing universal broadband become a reality.

This is a unique project bringing together three counties with substantial rural populations that are greatly lacking internet access while portions of their counties may have service. As a result, there is a significant internet disparity in all three counties impacting many low to moderate income households outside of town limits. By working with a major electric utility, all three counties will be able to provide residents and businesses with universal broadband coverage with speeds much greater than the 25/3 minimum requirements. Absent the partnership presented in this proposal, universal broadband coverage would not be possible.

**c.** Efforts to ensure digital equity will be addressed by partnering with the schools located within the project area and developing a digital equity model. Learning.com provides the framework for building a digital literacy program, which includes ensuring digital equity. Implementation models from this framework could be pursued.

Bland, Montgomery, and Pulaski Counties’ VATI 2022 grant provides Fiber to the Home (FTTH) for every citizen in the counties not currently served by 25/3 broadband service. This service will be provided to all citizens covering all social economic status, rural locations, and housing developments currently that is not served by broadband.

Economic access is just as important as physical access to high-speed internet. The collaboration of these partners for this project is designed to make the construction of this much needed infrastructure possible, but also at a cost that will allow the ISPs to offer competitive pricing.

In addition, the counties, working with their local Department of Social Services, Public Schools, the ISPs, and civic organizations, will develop solutions to address individual cases of need.

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission  
Bland, Montgomery, Pulaski Counties VATI 2022

---

## 20. Additional Information

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

Label Additional Attachments as:

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

### Answer:

- a. uploaded
- b. uploaded
- c. n/a
- d. Attachment 17 - Broadband Assessment of Unserved Areas
- e. Attachment 18 - Marketing Plan-Pulaski
- f. Attachment 19 - Detailed Network Design

### Attachments:

Map(s) of project area, including proposed infrastructure

Attachment1ProjectAreaMap914202175448.pdf

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

Attachment2DocumentationonFederalFundingArea914202182534.pdf

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

Documentation that proposed project area is unserved based on VATI criteria

Attachment4DocumentationUnservedAreaVATICriteria914202185307.pdf

Passings Form (Use template provided)

Attachment5PassingsForm914202122313.pdf

Timeline/Project Management Plan

ProjectManagementPlan914202120127.pdf

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

CoApplicant914202182358.pdf

Funding Sources Table (Use template provided)

Attachment9FundingSourcesTable914202120607.pdf

Documentation of Match Funding

Attachment10DocumentationofMatchFunding914202122915.pdf

Letters of Support

Attachment11LettersofSupport914202141319.pdf

Derivation of Cost/Project Budget (Use template provided)

Attachment12DerivationofCosts914202123955.pdf

Documentation of Supporting Cost Estimates

Attachment13DocumentationofSupportingCostEstimates914202124248.pdf

Two most recent Form 477 submitted to the FCC or equivalent

Attachment14TwomostrecentForm477914202184217.pdf

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

Attachment15PointandPolygonShapefiles914202184823.zip

# Application to DHCD Submitted through CAMS

New River Valley Regional Commission

Bland, Montgomery, Pulaski Counties VATI 2022

---

Optional

Attachment17BroadbandAssessmentofUnservedAreas914202185404.pdf

Optional

Attachment18MarketingPlanPulaski9142021111833.pdf

Optional

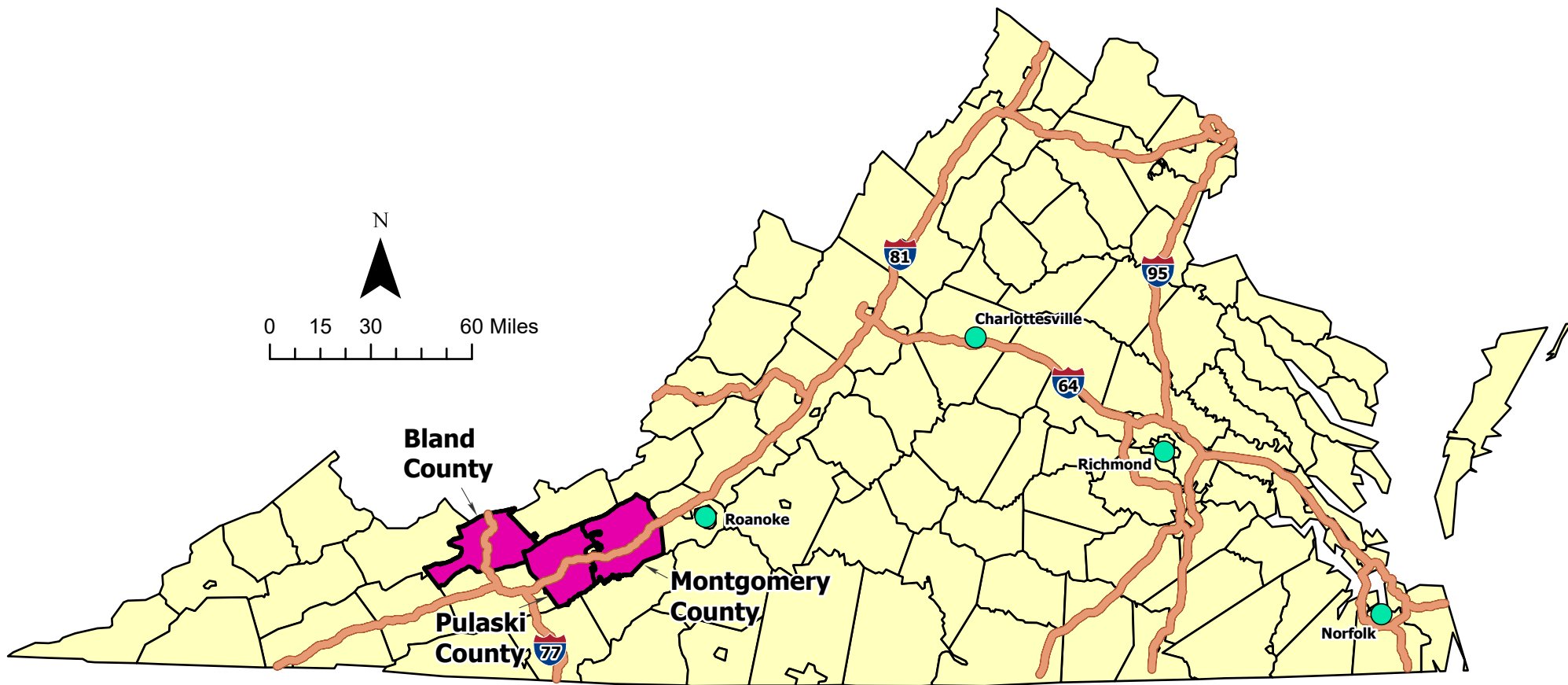
Attachment19DetailedNetworkDesign9142021124258.pdf

According to the Federal Communications Commission’s (FCC) database, there are existing providers in the project areas. However, widespread diagnostic interviews and surveys of the project areas indicated the majority of residential and some business areas had no access to reliable, high speed internet. A summary of internet speeds/providers from surveys is below.

<b><u>Bland County</u></b>		<b><u>Pulaski County</u></b>		<b><u>Montgomery County</u></b>	
<b>ISP</b>	<b>Speed</b>	<b>ISP</b>	<b>Speed</b>	<b>ISP</b>	<b>Speed</b>
CenturyLink	10/1 Mbps	CenturyLink	10/1 Mbps	Segra (commercial only)	1 Gbps
Verizon	10/1 Mbps	Verizon	10/1 Mbps	Citizens	10/1 Mbps
Xfinity/Comcast-limited availability	>25/3 Mbps	Xfinity/Comcast-limited availability	>25/3 Mbps	Lumos Networks	10/1 Mbps
				Xfinity/Comcast-limited availability	>25/3 Mbps

# Attachment 1

## Project Area Maps







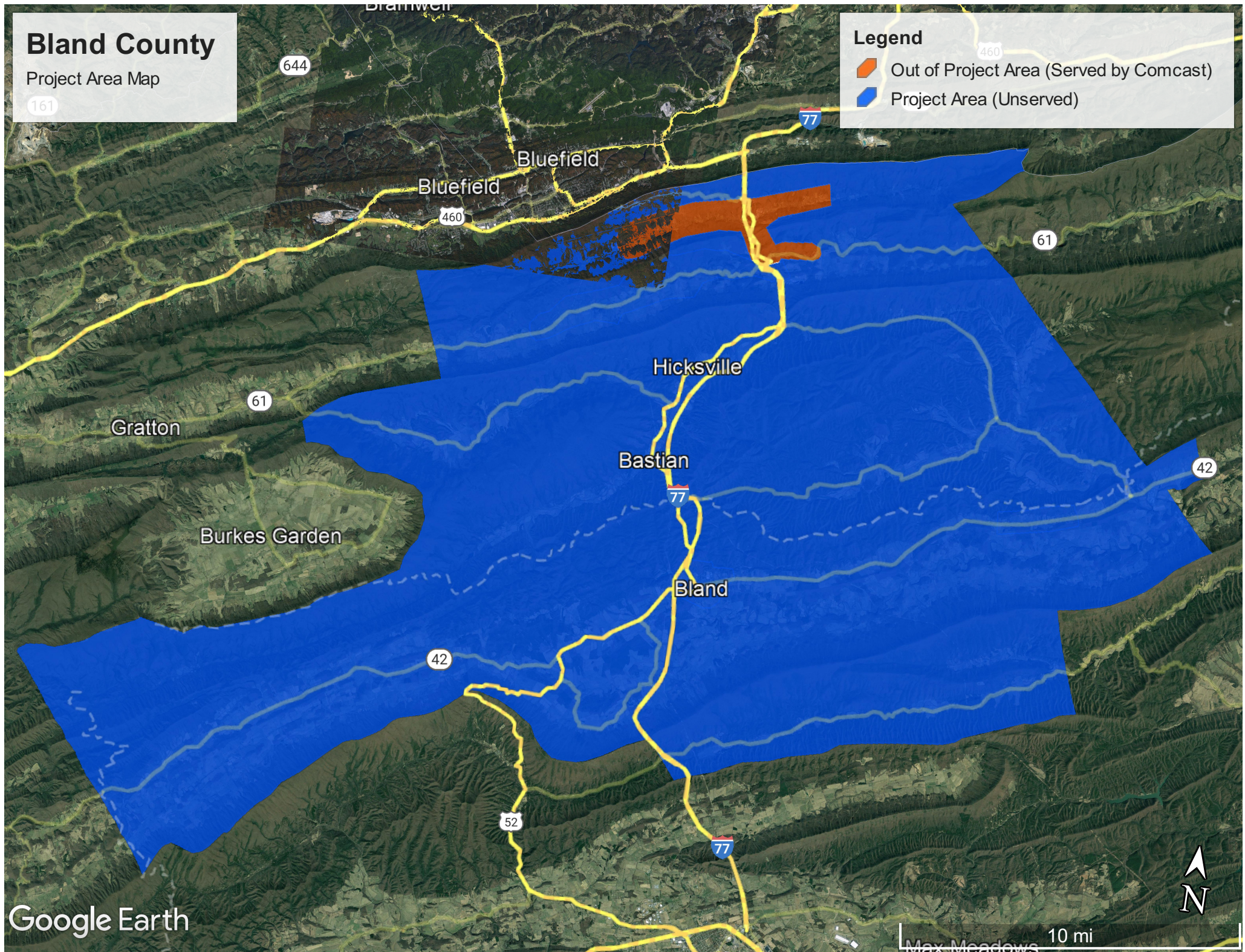
# Bland County

Project Area Map

161

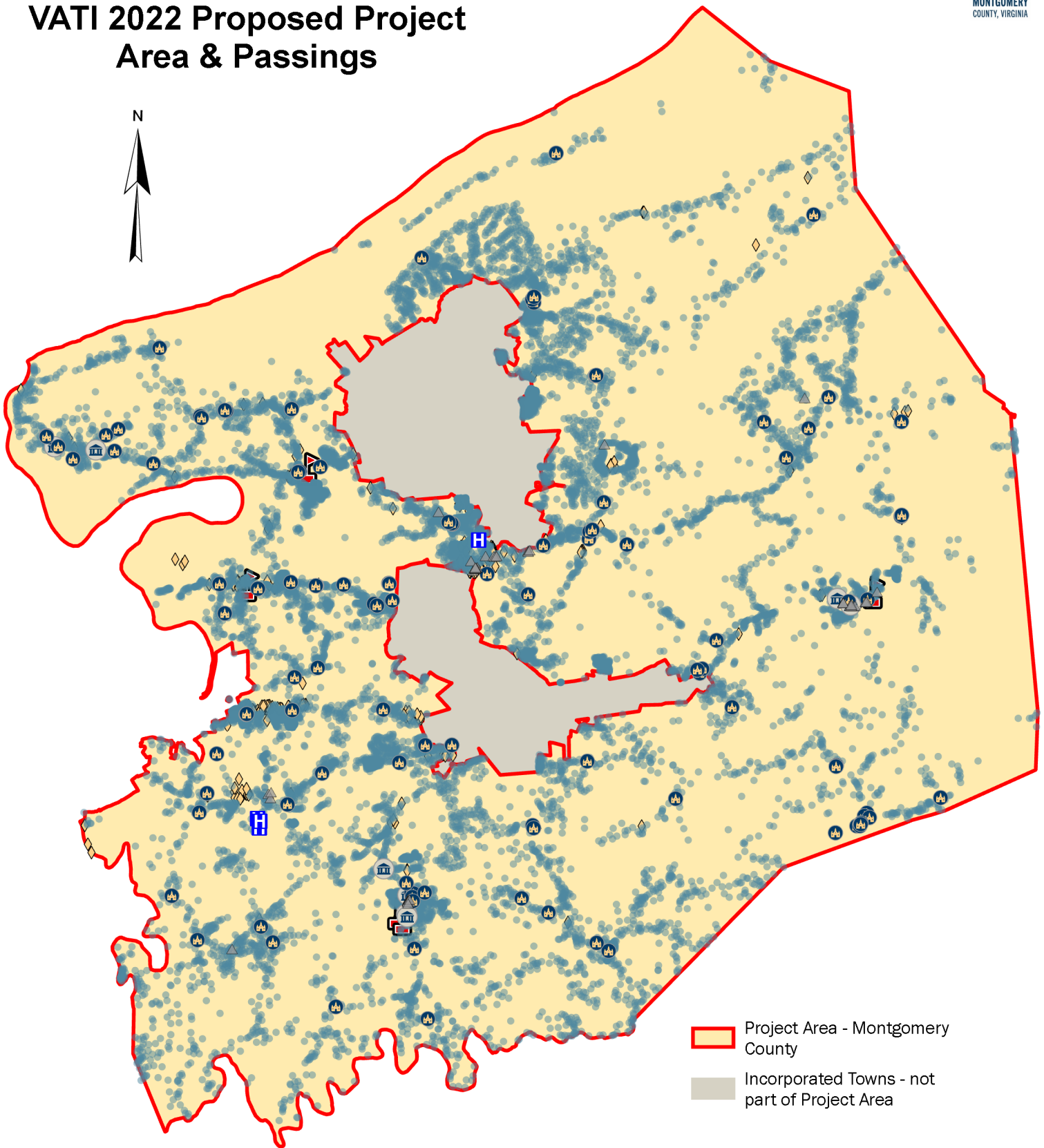
## Legend



-  Out of Project Area (Served by Comcast)
-  Project Area (Unserviced)





# Montgomery County, VA VATI 2022 Proposed Project Area & Passings



-  Project Area - Montgomery County
-  Incorporated Towns - not part of Project Area

### Address Type



School (6)



Residential (14,111)



Library (0)



Government Building (8)



Place of Worship (111)

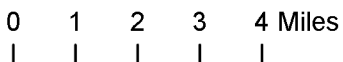


Hospital/Medical (4)

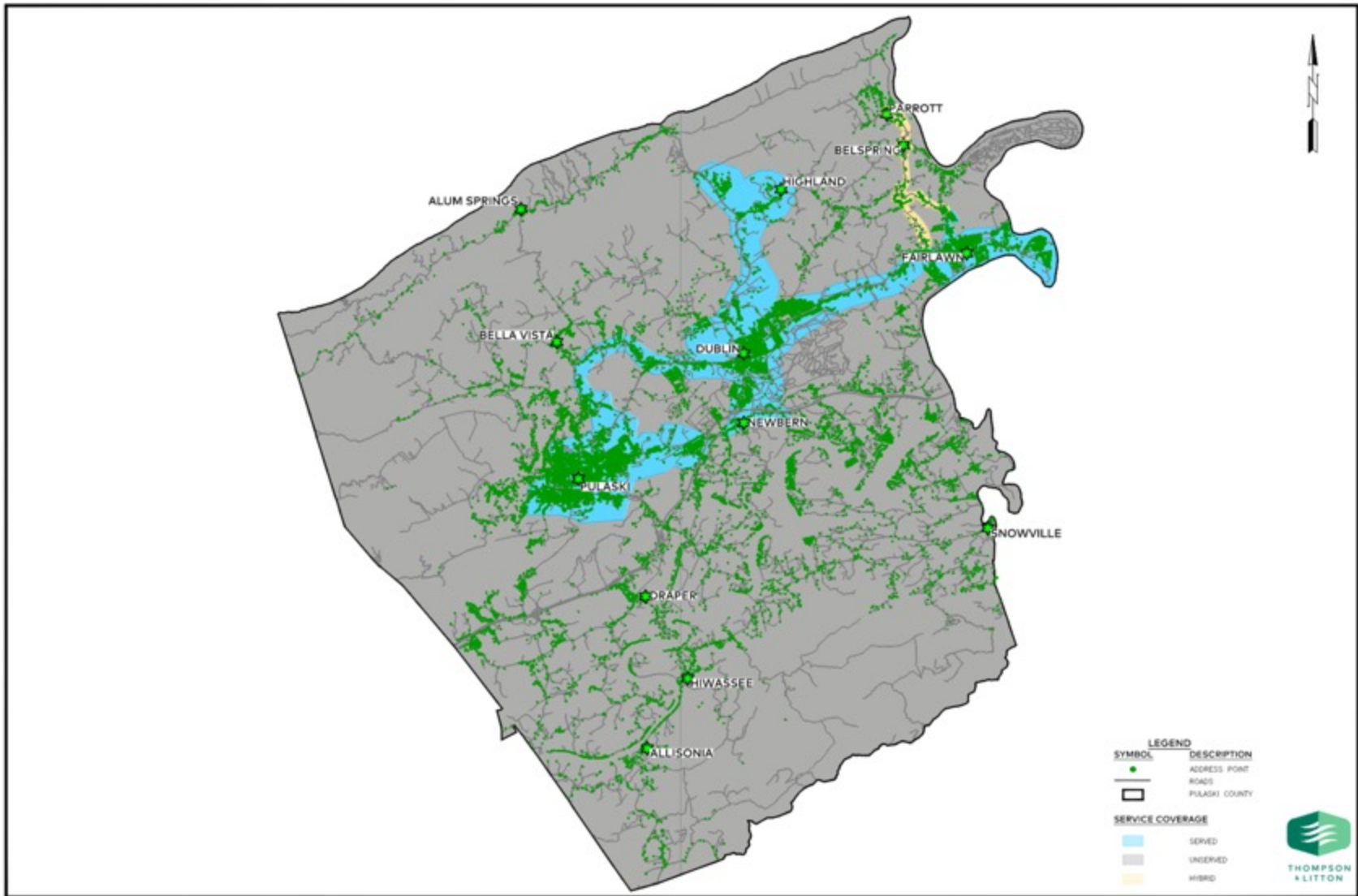
Business (50)



Other Commercial (255)

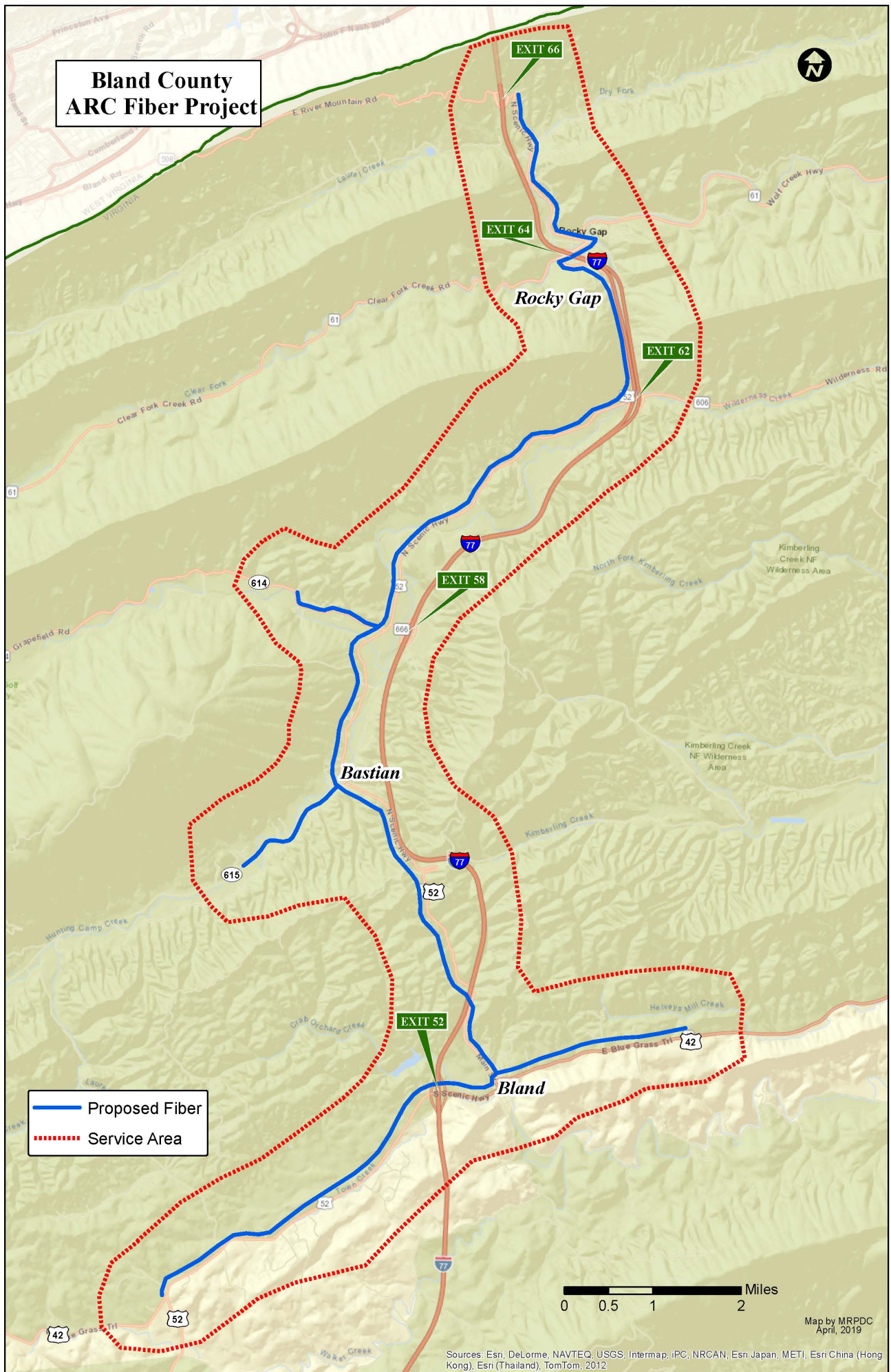


# Pulaski County Survey – By Service





# Bland County ARC Fiber Project



— Proposed Fiber  
- - - Service Area

0 0.5 1 2 Miles

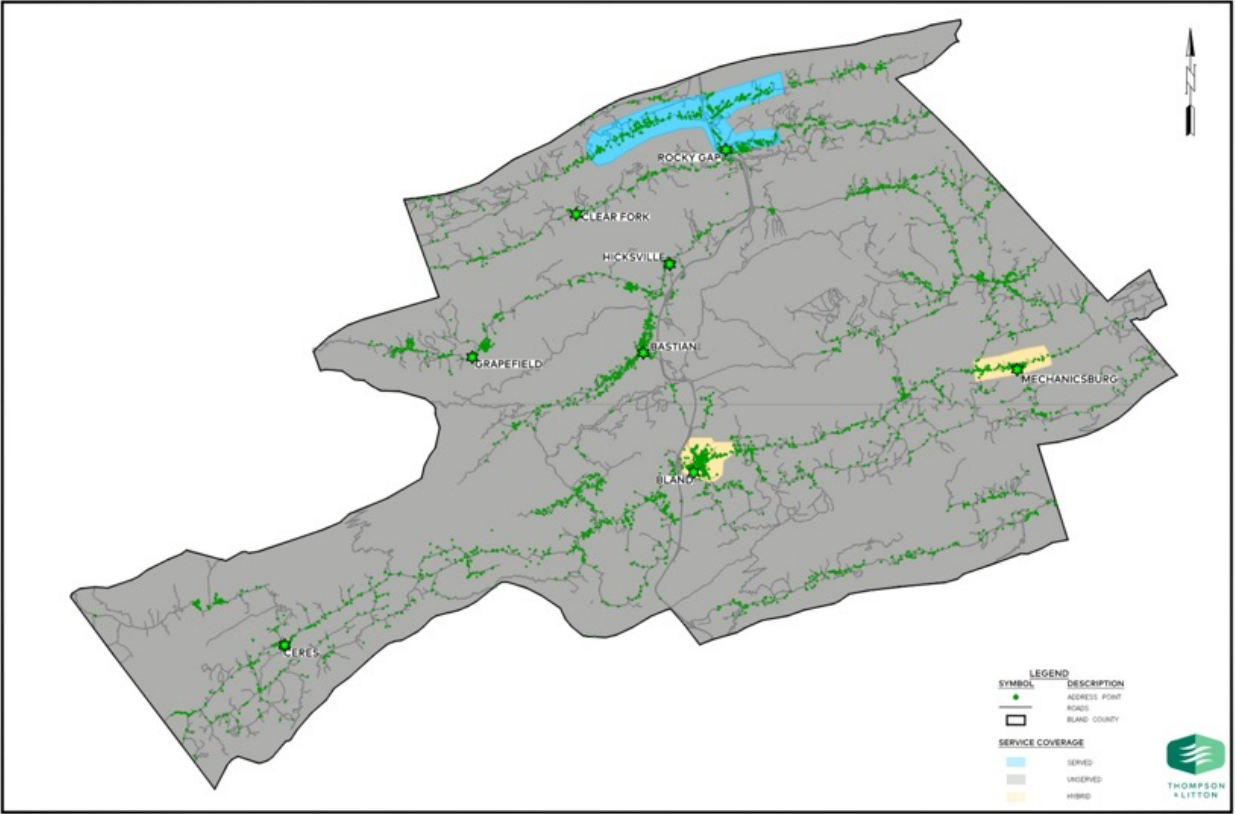
Map by MRPDC  
April, 2019

Sources: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, NRCAN, Esri Japan, METI, Esri China (Hong Kong), Esri (Thailand), TomTom, 2012

# Bland County Survey – By Service

Unserved Communities - Bland County
Bastian
Bland
Ceres
Clear Fork
Dry Fork
Grapefield
Hollybrook
Laurel
Little Creek
Rocky Gap

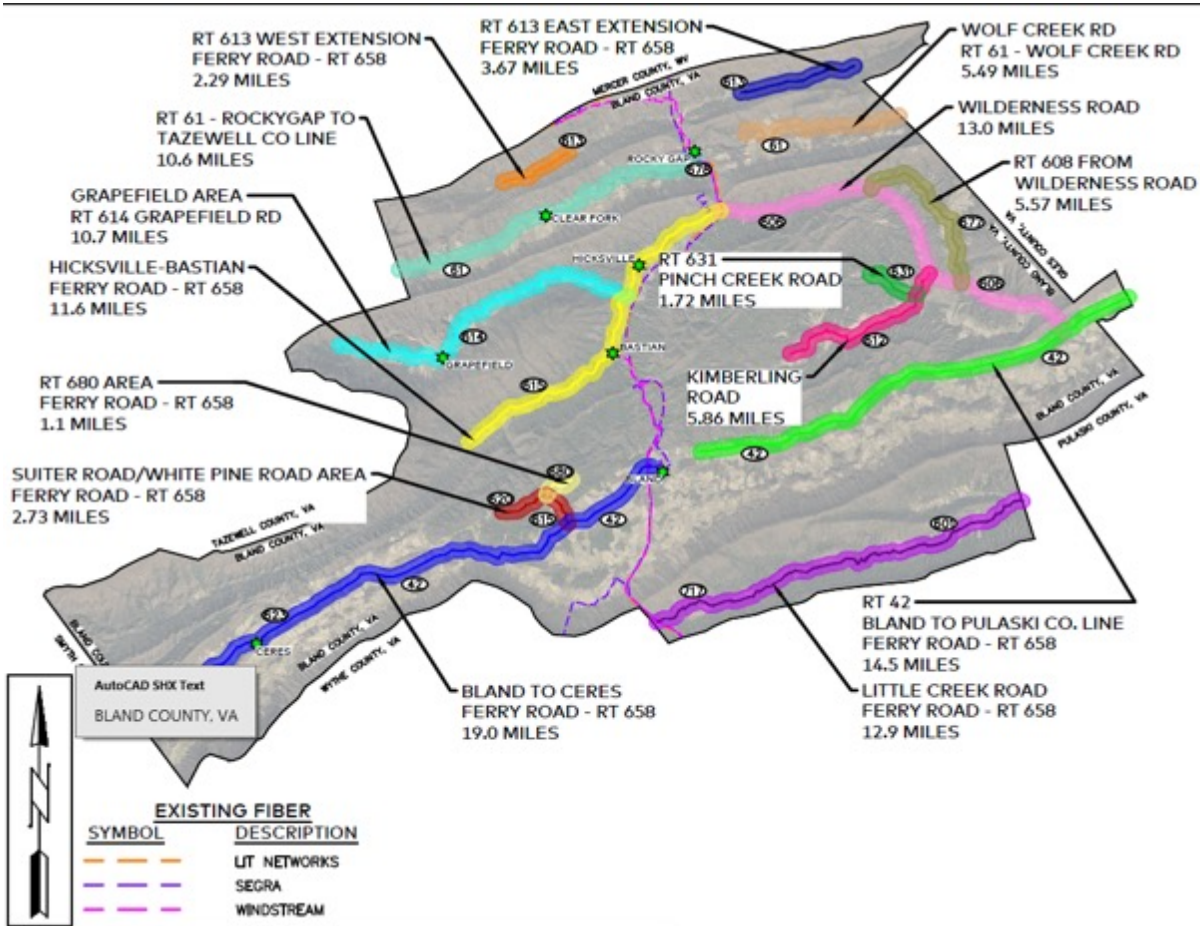
Unserved - Other - Bland County
Appalachian Trail (Trailheads)
Business Parks
Campgrounds (Camp Rowland)
Holly Brook Community Center
Wolf Creek Indian Village (Bastian)





# Bland County Proposed Project Map

© All Rights Reserved 2021

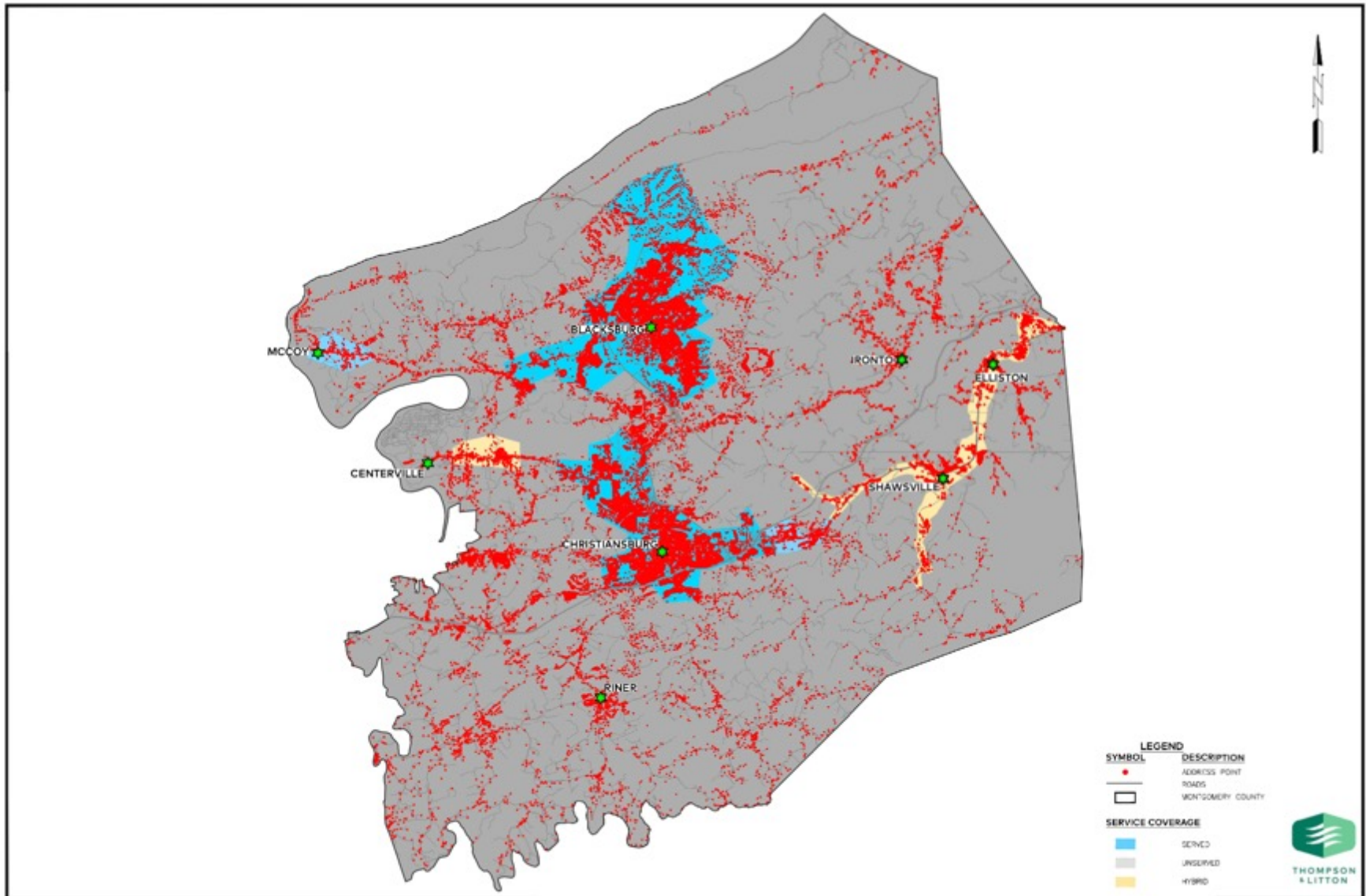


PROJECT AREA	HUD MARGINAL HOUSES	HUD ELIGIBLE	NON-CDBG HOUSES IN PROJECT AREA	TOTAL HOUSES
BAND TO CERES	---	---	329	329
GRAPEFIELD	85	---	138	223
HICKSVILLE-BASTIAN	49	---	347	396
KIMBERLING ROAD	---	16	43	59
LITTLE CREEK ROAD	---	---	136	136
RT42-BLAND TO PULASKI CO. LINE	---	111	141	252
WILDERNESS ROAD	1	116	101	218
WOLF CREEK ROAD	---	---	---	83
RT 608 FROM WILDERNESS ROAD	---	50	22	72
RT 61 - ROCKY GAP TO TAZEWELL CO. LINE	121	---	58	179
RT 613 EAST EXTENSION	---	---	73	73
RT 613 WEST EXTENSION	48	---	---	48
RT 631 PINCH CREEK ROAD	---	---	---	39
RT 680 AREA	---	---	---	57
SUITER ROAD/WHIE PINE ROAD AREA	---	---	---	74

**LEGEND**

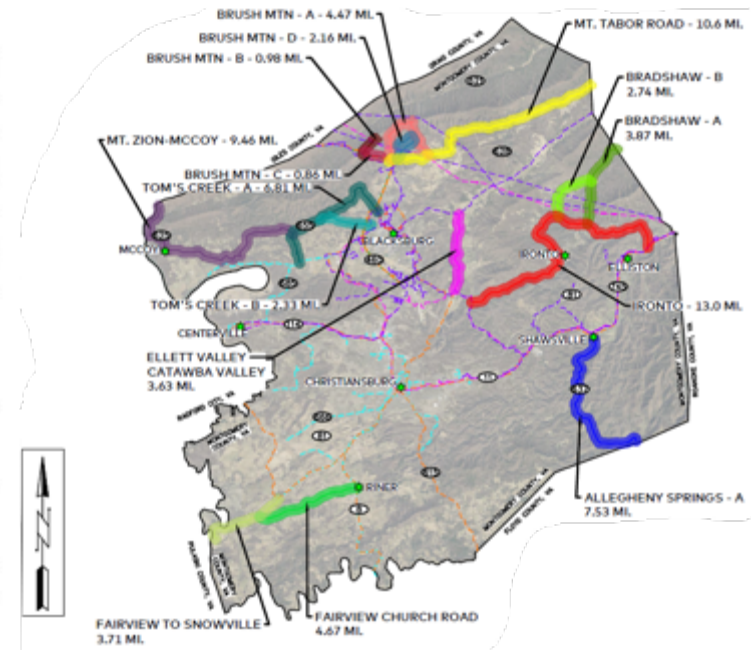
SYMBOL	DESCRIPTION
	BAND TO CERES
	GRAPEFIELD
	HICKSVILLE-BASTIAN
	KIMBERLING ROAD
	LITTLE CREEK ROAD
	RT42-BLAND TO PULASKI CO. LINE
	WILDERNESS ROAD
	WOLF CREEK ROAD
	RT 608 FROM WILDERNESS ROAD
	RT 61 - ROCKY GAP TO TAZEWELL CO. LINE
	RT 613 EAST EXTENSION
	RT 613 WEST EXTENSION
	RT 631 PINCH CREEK ROAD
	RT 680 AREA
	SUITER ROAD/WHIE PINE ROAD AREA
	BLAND COUNTY

# Shaded Map



# Proposed Network Route

PROJECT AREA	HUD MARGINAL HOUSES	HUD ELIGIBLE	NON-CDBG HOUSES IN PROJECT AREA	TOTAL HOUSES
ALLEGHENY SPRINGS - A	1	---	307	307
BRADSHAW - A	---	---	133	133
BRADSHAW - B	---	---	113	113
BRUSH MTN - A	---	---	168	168
BRUSH MTN - B	1	---	50	51
BRUSH MTN - C	---	---	131	131
BRUSH MTN - D	---	---	77	77
ELLETT VALLEY-CATAWBA VALLEY	---	38	154	192
FAIRVIEW CHURCH ROAD	---	---	276	276
FAIRVIEW TO SNOWVILLE	---	---	138	138
IRONTO	---	228	338	566
MT. TABOR ROAD	---	---	277	277
MT. ZION-MCCOY	466	---	34	500
TOM'S CREEK - A	26	---	1527	1553
TOM'S CREEK - B	---	---	814	814





# Pulaski County Survey – By Service

## Unserved\* – Pulaski County

© All Rights Reserved 2021

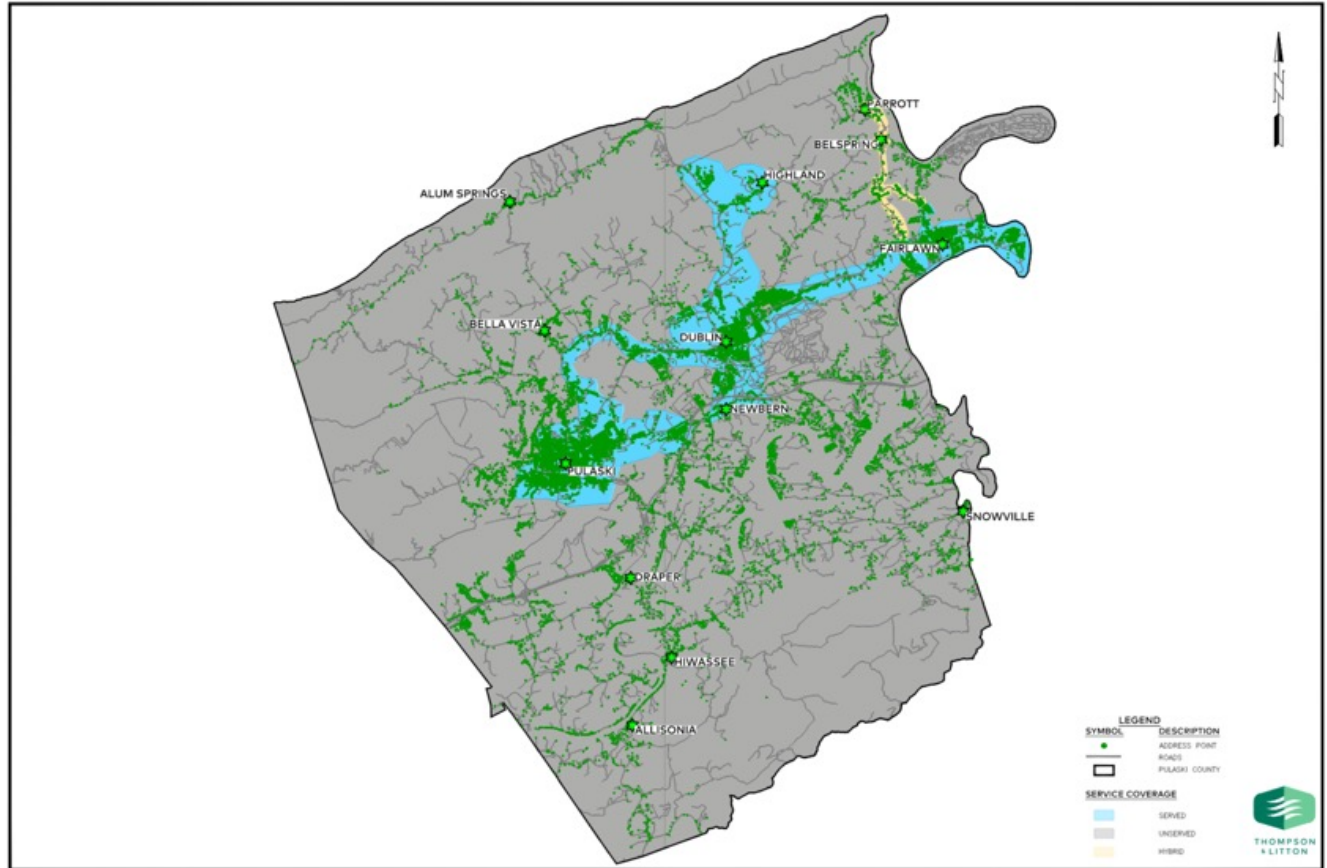
Unserved Communities - Pulaski County
Allisonia
Belspring
Caseknife
Delton
Draper
Dublin
Fairlawn
Hiwassee
Little Creek
Mount Olivet
New River
Newbern
Parrott
Pulaski
Robinson Tract
Snowville

Unserved - Other Areas - Pulaski County
Business Parks
Camp Ottari
Camp Powhatan
Claytor Lake State Park
Commerce Park
Draper Valley Golf Course
Parks
Pulaski County Industrial Park
Trailheads

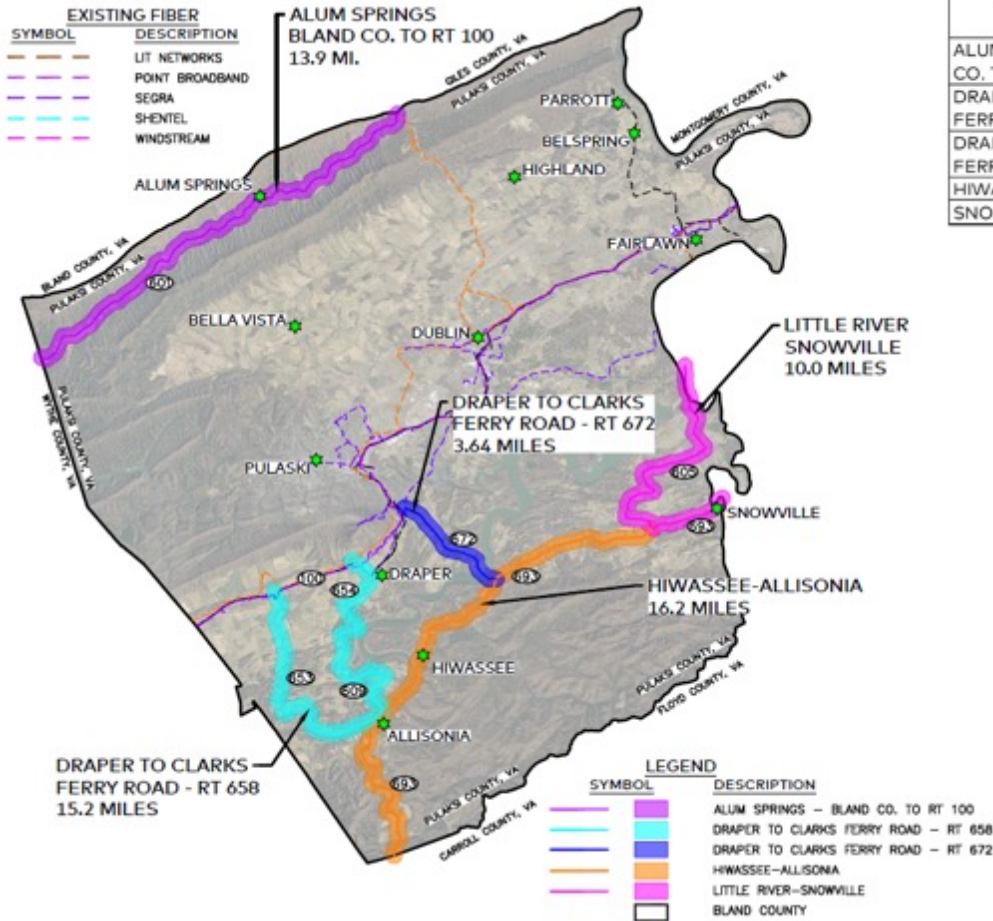
\*Source: Diagnostic Interviews



30



# Pulaski County Proposed Project Map



PROJECT AREA	HUD MARGINAL HOUSES	HUD ELIGIBLE	NON-CDBG HOUSES IN PROJECT AREA	TOTAL HOUSES
ALUM SPRINGS - BLAND CO. TO RT 100	---	---	209	209
DRAPER TO CLARKS FERRY ROAD - RT 658	287	19	110	416
DRAPER TO CLARKS FERRY ROAD - RT 672	---	3	107	110
HIWASSEE-ALLISONIA	39	317	159	476
SNOWVILLE	---	---	191	191

# 2022 Virginia Telecommunication Initiative (VATI) Passing Form

## Pulaski County Project Area

Type of Passings	Total Number of Passings in the Project Area <sup>1</sup>	Passings in the Project Area, without Special Construction Costs Required <sup>2</sup>	Passings with Special Construction Costs budgeted in the Application <sup>3</sup>	Number of Passings with Speeds at 10/1 or below in Project Area <sup>4</sup>
Residential	7748	7748		1187
Businesses (non-home based)	356	356		63
Businesses (home-based)	22	22		2
Community Anchors	5	5		2
Non-residential	418	418		29
<b>Total</b>	<b>8527</b>	<b>8527</b>		<b>1281</b>

**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.

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

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

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

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

## Bland County Project Area

Type of Passings	Total Number of Passings in the Project Area <sup>1</sup>	Passings in the Project Area, without Special Construction Costs Required <sup>2</sup>	Passings with Special Construction Costs budgeted in the Application <sup>3</sup>	Number of Passings with Speeds at 10/1 or below in Project Area <sup>4</sup>
Residential	3116	2996	120	2917
Businesses (non-home based)	88	77	11	79
Businesses (home-based)				
Community Anchors	45	37	8	39
Non-residential	23	17	6	18
<b>Total</b>	<b>3272</b>	<b>3127</b>	<b>145</b>	<b>3053</b>

**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.

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

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

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

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

# Montgomery County Project Area

Type of Passings	Total Number of Passings in the Project Area <sup>1</sup>	Passings in the Project Area, without Special Construction Costs Required <sup>2</sup>	Passings with Special Construction Costs budgeted in the Application <sup>3</sup>	Number of Passings with Speeds at 10/1 or below in Project Area <sup>4</sup>
Residential	11177	All passings will be covered in the VATI 2022 Grant.	All passings will be covered in the VATI 2022 Grant.	8382
Businesses (non-home based)	260			
Businesses (home-based)	(Could not calculate)			
Community Anchors	129			97
Non-residential	45			
<b>Total</b>	11611		All passings will be covered in the VATI 2022 Grant.	8479

**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.

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

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

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

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

## Definitions

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

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

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

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

# Attachment 7 - Timeline/Project Management

**Bland/Montgomery/Pulaski VATI 2022 Summary Timeline**

			Year 1												Year 2												Year 3												
			Months																																				
			1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	13	1	2	3	4	5	6	7	8	9	10	11	12
TASK	ASSIGNED TO	Responsible Entity																																					
Grant Administration	Kevin Byrd	NRVRC																																					
DHCD Unserved Customer Area Determination	Amanda Cox	APCo																																					
APCo Filing and Determination from SCC	Amanda Cox	APCo																																					
AEP Engineering and Construction	Amanda Cox	APCo																																					
Permitting	Jimmy Carr/Michael Clemons	APB/GigaBeam																																					
ISPs Construction	Jimmy Carr/Michael Clemons	APB/GigaBeam																																					
Project Closeout	Kevin Byrd	NRVRC																																					









## DARK FIBER LEASE AGREEMENT

THIS DARK FIBER LEASE AGREEMENT (“**Agreement**”), made and entered into January \_\_, 2020 (“**Effective Date**”) between \_\_\_\_\_, a \_\_\_\_\_ (state) corporation (“**Lessor**”) having offices at [INSERT ADDRESS], and \_\_\_\_\_ a \_\_\_\_\_ (state) corporation, having an office at [INSERT ADDRESS] (“**Lessee**”). Lessor and Lessee being collectively referred to as the “Parties”.

WHEREAS, Lessor owns and operates, and is constructing extensions of, a fiber optic communication system (the “**Lessor System**”) within the state of [STATE] in conjunction with and as a part of its electrical system, and;

WHEREAS, Lessee is interested in leasing and Lessor is willing to permit Lessee to lease the designated unlit strands of fiber optic cable identified in Exhibit A (the “**Lessee Fibers**” as defined further herein) in one or more segments of the Lessor System, each referred to herein as a “**Route**”, and Lessee has agreed to use the Lessee Fibers in accordance with the terms and conditions of this Agreement.

NOW THEREFORE, the Parties agree as follows:

### 1. DEFINITIONS

- 1.1 **Acceptance** has the meaning ascribed to it in Section 8.4.
- 1.2 **Acceptance Date** has the meaning ascribed to it in Section 8.4.
- 1.3 **Acceptance Testing** has the meaning ascribed to it in Section 8.2.
- 1.4 **Agreement Term** has the meaning ascribed to it in Section 4.1.
- 1.5 **Annual Lease Fee** means the annual fee for use of the Lessee Fiber as established by Lessor and set forth in Exhibit E or in connection with Lessee’s lease of Dark Fiber in an Extended Lessor System under Section 8.5.
- 1.6 **Annual Routine Maintenance Fee** has the meaning ascribed to it in Exhibit D.
- 1.7 **Assessments** has the meaning ascribed to it in Section 18.1.
- 1.8 **Colocation Agreement** means a colocation agreement between Lessor and Lessee entered into by the Parties contemporaneously with or subsequent to this Agreement.
- 1.9 **Confidential Information** means all strategic, functional, technical, financial, marketing, sales, promotional and other information (including all related know-how, implementation, operational methods and procedures, private easements, utility agreements, permits, other right-of-way granting documents, specifications, designs, plans, drawings, data, prototypes, and other technical and/or business information) related to the business of a Party, which is disclosed by one Party to the other Party, to the extent that such information is marked or identified as confidential or proprietary or

would normally be considered confidential under the circumstances. Information that (a) is independently developed by the receiving Party, (b) is lawfully received by the receiving Party free of any obligation to keep it confidential, or (c) becomes generally available to the public other than by breach of this Agreement, shall not be considered Confidential Information.

- 1.10 Costs** means all actual, documented, and reasonable on-site costs incurred and computed in accordance with: (i) the established accounting procedures used by Lessor to bill third parties for reimbursable projects; and (ii) generally accepted accounting principles. Such Costs include the following: (a) fully loaded labor rates, including wages, salaries, and benefits together with overhead allocable to such labor costs; (b) cost of materials, contract services, and supplies, plus twenty percent (20%); and (c) other direct costs and out-of-pocket expenses, including sales, use or similar taxes, etc.
- 1.11 Dark Fiber** means one or more strands between two specified locations through which an associated light, signal or light communication transmission must be provided to make the strands functional. Lessor is not responsible for providing any of the equipment to light Lessee Fiber.
- 1.12 Delivery Date** means the date on which Lessor notifies Lessee that the Dark Fiber in a Route or Route Segment is ready for Acceptance Testing upon (i) for new construction, Lessor's completion of the installation of the Dark Fiber in that Route or Route Segment, or (ii) for an existing Route or Route Segment, Lessor's determination that the Dark Fiber is ready for Acceptance Testing.
- 1.13 Disclosing Party** has the meaning ascribed to it in Section 24.1.
- 1.14 Effective Date** has the meaning ascribed to it in the Preamble.
- 1.15 End User** means an end user or potential end user of Lessee Services provided using the Lessee Fibers and Equipment.
- 1.16 Equipment** means communications and networking electronics, facilities used for service drops, and other equipment owned or leased from third parties by Lessee and used in connection with lighting the Dark Fiber and providing the Lessee Services. Equipment does not include the Dark Fiber or any equipment, facilities, or property owned or leased from third parties by Lessor.
- 1.17 Estimated Delivery Date** has the meaning ascribed to it in Section 8.1.
- 1.18 Evaluation Period** means the period of twenty-one (21) days after Lessee receives the Fiber Test Results.
- 1.19 Event of Default** has the meaning ascribed to it in Section 15.1.
- 1.20 Exhibits** has the meaning ascribed to it in Section 2.3.
- 1.21 Extended Lessor System** has the meaning ascribed to it in Section 8.5.1.1.

- 1.22 Fiber Test Results** means the results from Fiber Testing described in Exhibit C.
- 1.23 Fiber Testing** means the testing described in Exhibit C.
- 1.24 Force Majeure Event** has the meaning ascribed to it in Section 17.
- 1.25 Initial Agreement Term** has the meaning ascribed to it in Section 4.1.
- 1.26 Interconnection/Demarcation Location** has the meaning ascribed to it in Section 2.2.
- 1.27 Lease** has the meaning ascribed to it in Section 2.1.
- 1.28 Lease Renewal Term** has the meaning ascribed to it in Section 4.2.
- 1.29 Lease Term** has the meaning ascribed to it in Section 4.2.
- 1.30 Lessee** has the meaning ascribed to it in the Preamble.
- 1.31 Lessee Fibers** has the meaning ascribed to it in the Recitals.
- 1.32 Lessee Interference** has the meaning ascribed to it in Section 7.4.
- 1.33 Lessee Services** means communications services that Lessee may provide to End Users using the Lessee Fibers and Equipment.
- 1.34 Lessee Side.** The side of the Interconnection/Demarcation Location on which Lessee is responsible for paying for and maintaining the Lessee System.
- 1.35 Lessee System.** The fiber optics system owned or controlled by Lessee on Lessee Side of the Interconnection/Demarcation Location, including the Equipment.
- 1.36 Lessor** has the meaning ascribed to it in Preamble.
- 1.37 Lessor Interference** has the meaning ascribed to it in Section 7.3.
- 1.38 Lessor System** has the meaning ascribed to it in the Recitals.
- 1.39 Non-Routine Maintenance Fee** has the meaning ascribed to it in Exhibit D.
- 1.40 Outage** means a condition during which Lessee is unable to carry traffic on the Lessee Fibers due to a break or other problem with the Lessee Fibers.
- 1.41 Party** means Lessee or Lessor.
- 1.42 Person** means a natural person, corporation, partnership, limited liability company, association, trust, unincorporated organization, or other legal entity or organization, or a governmental authority.

- 1.43 **Pole Attachment Agreement** means any pole attachment agreement between Lessor and Lessee entered into by the Parties contemporaneously with or subsequent to this Agreement.
- 1.44 **Proportionate Share** has the meaning ascribed to it in Section 5.9.3.
- 1.45 **Receiving Party** has the meaning ascribed to it in Section 24.1.
- 1.46 **Regulations** has the meaning ascribed to it in Section 17.
- 1.47 **Relocation** has the meaning ascribed to it in Section 5.9.1.
- 1.48 **Renewal Agreement Term** has the meaning ascribed to it in Section 4.1.
- 1.49 **Required Rights** has the meaning ascribed to it in Section 11.1.
- 1.50 **Route** has the meaning ascribed to it in the Recitals.
- 1.51 **Route Segment** has the meaning ascribed to it in Section 8.1.
- 1.52 **Specifications** means the specifications as set forth in Exhibits B and C.
- 1.53 **Substantial Taking** has the meaning ascribed to it in Section 6.
- 1.54 **Taking** has the meaning ascribed to it in Section 6.

2. SCOPE OF AGREEMENT

- 2.1 As of the Acceptance Date for each Route, or Route Segment, as applicable, Lessor will grant to Lessee a lease in the Lessee Fibers along the respective Route, or Route Segment (each, a “**Lease**”). Each Lease is granted on the terms of and subject to the covenants and conditions set forth herein. The Leases granted hereunder do not provide Lessee with any ownership interest in or other rights or physical access to, control of, modification of or encumbrance in any manner of, or other use of the Lessor System, or any rights with respect to the Lessee Fiber, except as explicitly provided for herein.
- 2.2 The Leases include: (a) the right for Lessee to have its Lessee System connected to the Lessee Fibers at the interconnection/demarcation locations identified in Exhibit A or subsequently added to Exhibit A or otherwise modified by mutual agreement of the Parties (each an “**Interconnection/Demarcation Location**”); and (b) the exclusive, unrestricted right to use the Lessee Fibers for the transport of telecommunications signals and the provision of Lessee Services to End Users.
- 2.3 The following exhibits (“**Exhibits**”), attached hereto, are by this reference incorporated herein.

Exhibit A	Route/Route Segment Description and Diagrams
Exhibit B	Fiber Specifications

Exhibit C	Fiber Testing and Results
Exhibit D	Maintenance Specifications and Procedures
Exhibit E	Lease Payments
Exhibit F	Contact List
Exhibit G	Lessee Request Form

- 2.4** The Interconnection/Demarcation Location shall be the points that define where issues of ownership and maintenance begin and end. For the avoidance of doubt, Lessee is responsible for any and all costs on the Lessee Side of the Interconnection/Demarcation Location, including without limitation the Costs of extending the fibers from the Interconnection/Demarcation Location on the Lessee Side and the Costs of the Lessee System.
- 2.5** It is the intent of the Parties for each Lease to be a conveyance of a leasehold interest from Lessor to Lessee upon Acceptance of the Lessee Fibers for the duration of the Lease Term and any Lease Renewal Term. Lessee may not sublet or otherwise permit use of the Lessee Fibers to third-parties, unless otherwise agreed upon by the Parties.
- 2.6** Lessor is not transferring or granting to Lessee any other interest or estate in the Lessee Fiber, Lessor System equipment, attachment points, backbone extensions, private property access, building entrances, conduit or any other property interest, including any fee, easement, or any franchise rights, except as expressly set forth herein. This Agreement is not a contract for electric service. Electric service may be provided to Lessee by application to Lessor and pursuant to Lessor's rules and regulations. This is also not a franchise agreement for providing cable, video, Internet or telecommunication services. Nothing in this Agreement will be construed to require Lessor to engage in any activity that would result in its becoming a telecommunications service provider, cable service provider, Internet service provider, telephone company, communications carrier, or any other kind of common carrier, or any kind of utility other than an investor owned electric utility.
- 2.7** Nothing in this Agreement shall be construed in any manner to limit the Lessor's right of use of, or right to lease or license to others, Lessor's utility poles, colocation structures, attachment points (other than the Interconnection/Demarcation Locations), backbone extensions, private property access, building entrances, conduit, or the remaining Dark Fiber not leased in this Agreement.
- 2.8** As between the Parties, Lessor will remain the legal owner of the Lessee Fiber. Nothing in this Agreement will be interpreted to give or convey to Lessee any ownership property right, or any title or interest of ownership in such Lessee Fiber, even if it may be or become attached to or embedded in realty. Further, Lessee will not have any interest in, or any rights whatsoever with respect to, any of the Dark Fiber in the Lessor System, other than the Lessee Fiber pursuant to the terms of this Agreement.
- 2.9** As between the Parties, Lessee is solely responsible for providing Equipment (if any) to light the Lessee Fiber. As between the Parties, Lessee shall retain all ownership or other property interests, rights and titles in and to any Equipment, even if it may be or become attached to or embedded in realty. Lessee is responsible for installing

maintaining, and replacing the Equipment. As between the Parties, Lessor shall retain all ownership rights and titles in and to any equipment, facilities, or real property owned by Lessor.

- 2.10** All ownership rights, title, and intellectual property rights in and to any Equipment or Lessee Services remain in Lessee or Lessee's licensors. All ownership rights, title and intellectual property rights in and to the Lessor System, including without limitation the Dark Fiber, remain in Lessor or Lessor's licensors.

**3. PAYMENTS**

**3.1 Rate.**

3.1.1 Lessee will pay the Annual Lease Fee for each Lease within five (5) days of the later of either the Acceptance Date of such Lease or the date on which Lessor invoices Lessee in accordance with Section 3.2, and thereafter annually as invoiced by Lessor and payable in accordance with Section 3.2; provided, however, that if Lessor fails to provide at least sixty (60) days' prior written notice to Lessee of the Estimated Delivery Date, the initial Annual Lease Fee for such Lessee Fibers will be payable on the later of (a) the Acceptance Date and (b) the date that is sixty (60) days from the date on which Lessor provided such notice. The annual lease payment will consist of the Annual Lease Fee for the Lease and the use of the Lessee Fibers in accordance with the rates set forth in Exhibit E.

3.1.2 Lessee will pay to Lessor an annual fee for Routine Maintenance during the Term, as described in Exhibit D. The Annual Routine Maintenance Fee for the first year of a Lease and each year thereafter shall be payable contemporaneously with the Annual Lease Fee for that Lease.

**3.2 Invoicing Process.**

3.2.1 Lessor will provide an initial invoice to Lessee for the Annual Lease Fee and Annual Routine Maintenance Fee upon or after the Acceptance Date for such Lease, and shall thereafter annually invoice Lessee in advance for the Annual Lease Fee and Annual Routine Maintenance Fee. Lessor will deliver invoices to Lessee at an address that Lessee specifies.

3.2.2 Except as provided in Section 3.1.1 for payment of the initial invoice for the Annual Lease Fee and Annual Maintenance Fee, Lessee will tender payment within thirty (30) days of the date of Lessee's receipt of each invoice.

3.2.3 Late Payments. If Lessee does not pay the Annual Lease Fee when due, Lessor may assess a late fee of one percent (1%) per month (not to exceed the maximum rate allowed under applicable law) on all amounts payable pursuant to this Agreement.

**4. TERM AND TERMINATION**

- 4.1 **Agreement Term.** The term of this Agreement shall begin on the Effective Date and shall be in effect for a period of five (5) years from the Acceptance Date of the latest Lease (“**Initial Agreement Term**”), unless terminated earlier as otherwise provided for in this Agreement, and shall automatically renew for successive five (5) year periods (each a “**Renewal Agreement Term**” and together with the Initial Agreement Term, the “**Agreement Term**”). Either Party may terminate the Agreement at the end of a Renewal Agreement Term, by notifying the other Party of its intent not to renew at least ninety (90) days prior to the end of that Renewal Agreement Term. Notwithstanding the foregoing, in the event that any Lease remains in effect following such termination, this Agreement shall govern and continue in effect with regard to such Lease until the termination of such Lease. Lessor reserves the right to increase the Annual Lease Fee, or any other fee hereunder, for the Renewal Agreement Term following the Initial Agreement Term or any subsequent Renewal Agreement Term, by providing at least one hundred and twenty (120) days’ written notice prior to the end of the Initial Agreement Term or the applicable Lease Renewal Term.
- 4.2 **Lease Term.** The term of each Lease shall commence on the Acceptance Date for such Lease and continue for a period of five (5) years from the later of such Acceptance Date or the latest Acceptance Date of a Lease under this Agreement (the “**Lease Term**”), unless terminated earlier as otherwise provided for in this Agreement. Thereafter, the term of each such Lease shall automatically renew for a period of five (5) years on the anniversary of the expiration date of the Lease Term and any subsequent renewal term (each a “**Lease Renewal Term**”) pursuant to the terms of the Agreement. Either Party may terminate a Lease at the end of a Lease Renewal Term, by notifying the other Party of its intent not to renew at least ninety (90) days prior to the end of that Lease Renewal Term; provided, however, that Lessee shall continue to be responsible to Lessor for the Lease to be terminated through the end of the notice period.
- 4.3 Upon the termination of a Lease Term or Lease Renewal Term, the Lease shall immediately terminate and all rights of Lessee to use the Lessee Fibers, or any part thereof, shall cease and Lessor shall owe Lessee no additional duties or consideration.
- 4.4 Upon termination of this Agreement, or any individual Lease, Lessor may immediately disconnect Lessee Fibers at the Interconnection/Demarcation Location associated with the terminated Lease(s). Lessee will within thirty (30) days disconnect and remove any Equipment at the Interconnection/Demarcation Location, or any other agreed upon location, in a neat and orderly manner and repair all damage directly caused by such removal at Lessee’s sole expense, excluding normal wear and tear. If not removed within thirty (30) days, Lessor may remove the Equipment or assume title to such Equipment. For purposes of this Section 4.4, Equipment does not include any service drop provided by Lessor that is subject to a Pole Attachment Agreement between the Parties.
5. **MAINTENANCE, OPERATION AND RELOCATION**



- 5.1 Lessor shall provide Routine Maintenance of Lessee Fiber as defined in accordance with the requirements and procedures set forth in Exhibit D (“**Maintenance Specifications and Procedures**”). The Annual Routine Maintenance Fee covers the items set forth in Exhibit D, but does not cover damage done to the Lessee Fibers from fiber breaks, car accidents, fires, acts of God, or incidents outside of Lessor’s control. Lessee shall cooperate with and assist, as may be reasonably required, Lessor in performing said maintenance.
- 5.2 In the event of fiber breaks, Lessor agrees to use reasonable efforts to respond promptly and restore Lessee Fiber within the parameters of the Specifications; provided, however, that Lessee shall solely be responsible, at its own expense, for restoring an Outage caused by a failure of light, signal, light communication transmission or any other failure of the Equipment. In the event of an emergency maintenance situation, Lessee will notify Lessor, and Lessor will use reasonable commercial efforts to dispatch personnel expeditiously to be on-site (allowing for delays caused by circumstances beyond the reasonable control of Lessor). The goal of emergency restoration splicing shall be to restore service promptly. This may require the use of some type of mechanical splice, such as the “3M Fiber Lock” to complete the temporary restoration. Permanent restorations will take place after the temporary splice is complete. Lessee shall also be solely responsible, at its own expense, for the operation, maintenance and repair of all terminal equipment and facilities required in connection with the use of Lessee Fibers and Equipment. Lessor shall have no liability to Lessee or its End Users in the event Lessor is unable, due to the demands of restoring electric service in Lessor’s service area, to comply with this Section 5.2
- 5.3 Lessor shall provide to Lessee as-built drawings for the Route or Route Segment, which shall contain the Interconnection/Demarcation Locations, the particular Dark Fiber that will constitute Lessee Fibers(s), and any description of the manner for interconnection to the Lessee Fibers for underground and aerial plant. Lessor will provide Lessee access to Lessee Fiber by cable stub taken by Lessor from the Lessee Fiber to the Interconnection/Demarcation Location set forth in Exhibit A. Lessee may splice its own fiber optic cable to the cable stub provided by Lessor in the agreed upon Interconnection/Demarcation Locations. In addition to attaching to the cable stub, to the extent that Lessee wishes to collocate Equipment at a distribution panel, cable pedestal or other facility attached to Lessor poles, or other facilities, or within a collocation space provided in a manhole or handhole, such access shall be the subject of a separate Pole Attachment or Colocation Agreement between the parties.
- 5.4 In the event that the Parties agree to the provision of Interconnection/Demarcation Locations in addition to those specified in Exhibit A, and Lessee requests Lessor to perform any of the following, Lessee agrees to reimburse Lessor the Costs of Lessor (i) constructing manholes/handholes for Lessee; (ii) accomplishing all sheath openings and stub out of Lessee Fibers; and (iii) splicing Lessee Fibers optic cable to Lessee Fibers. Any requests made by Lessee pursuant to this Section 5.4 shall be submitted using the form attached hereto as Exhibit G (the “Lessee Request Form”) and must be sent via email to Lessor at [tcom\\_eng\\_carrier\\_services@aep.com](mailto:tcom_eng_carrier_services@aep.com) or any other email address specified by Lessor.

- 5.5 Should Lessee's splices or other work not be placed and maintained in accordance with the provisions of this Agreement, Lessor may at its option correct said condition. Lessor shall notify Lessee in writing prior to performing such work whenever practicable. However, when such conditions pose an immediate safety threat, interfere with the performance of Lessor's service obligations, or pose an immediate threat to the physical integrity of Lessor's facilities, Lessor, may perform such work and take such action that it deems necessary without first giving notice to Lessee. As soon as practicable thereafter, Lessor shall advise Lessee of the work performed and the action taken and shall endeavor to arrange for re-accommodation of Lessee Fiber so affected. Lessee shall promptly reimburse Lessor for all Costs incurred by Lessor for all such work, action, and re-accommodation performed by Lessor.
- 5.6 Lessee, at its sole cost and expense, shall (i) use Lessee Fiber and (ii) conduct all work in or around the Interconnection/Demarcation Location consistent with industry standard safety terms and guidelines, including but not limited to standards and guidelines published by the Occupational Safety and Health Administration of the United States Department of Labor, along with any safety terms provided by Lessor to Lessee, so as not to physically, electronically or inductively conflict or interfere or otherwise adversely affect the Lessor System, joint users, or other authorized Lessees.
- 5.7 Lessee must obtain prior written authorization from Lessor approving any future work and the party performing such work before Lessee shall perform any work in or around the Interconnection/Demarcation Location.
- 5.8 In the event Lessee receives information that the Lessor System or Lessee Fiber is damaged, it shall notify Lessor of said damage by phone at: 1-888-8AEPNMC, which is a 24 hour, 7 day per week notification number. In the event Lessor receives information that Lessee Fiber is damaged, Lessor will notify Lessee of said damage by phone at Lessee's emergency telephone number. The call shall be directed to the supervisor on duty, and the caller shall provide the following information.
1. Name of Company making report.
  2. Location reporting problem.
  3. Name of contact person reporting problem.
  4. Telephone number to call back with progress report.
  5. Description of the problem in as much detail as possible.
  6. Time and date the problem occurred or began.
  7. State whether or not the problem presents a jeopardy situation to the Lessor System or Lessee Fibers.

5.9 **Relocation.**

- 5.9.1 If Lessor moves, replaces or changes the location, alignment or grade of a Route or Route Segment (“**Relocation**”), Lessor shall concurrently relocate the Lessee Fiber located in such Route or Route Segment. Lessor shall provide Lessee thirty (30) calendar days’ prior notice of any such Relocation, if possible. Lessee will cooperate in good faith with Lessor to facilitate any Relocation. If Lessee does not consent for Lessor to relocate Equipment, then Lessee will be responsible for relocating its Equipment during any Relocation. Lessor shall have the right to direct such Relocation, including the right to determine the extent of, the timing of, and methods to be used for such Relocation, provided that any such Relocation:
- 5.9.1.1. Shall be constructed and tested in accordance with the Specifications;
  - 5.9.1.2. will not result in a materially adverse change to the end points of the Routes or Route Segments; and
  - 5.9.1.3. Lessor will use reasonable efforts to perform such work at a time that will not unreasonably interrupt service to the Lessee System, subject to safety considerations.
- 5.9.2 In the event of an emergency, Lessor shall have the power at any time to remove or relocate any pole, wire, cable or structure that presents an imminent danger to life or property at Lessor’s sole discretion without incurring any liability for such removal or Relocation, other than as a result of Lessor’s negligence or willful conduct, provided that Lessor shall restore such pole, wire, cable or structure that has been cut or removed as soon as commercially reasonable and be responsible for such removal and/or Relocation Costs.
- 5.9.3 If the Relocation is because of an event of Force Majeure, pursuant to Section 17, or of any governmental or third party authority, including a Taking, as defined in Section 6, by right of eminent domain, Lessee shall reimburse Lessor for Lessee’s Proportionate Share, as defined below, of the Costs of the Relocation of Lessor System. To the extent Lessor receives reimbursement from a third party which is allocable to a Relocation of Lessor System, it will credit or reimburse Lessee for its Proportionate Share of the reimbursement. If Lessor relocates Lessor System solely for its own benefit, Lessee shall not be required to reimburse Lessor for the Costs of the Relocation of Lessor System. Lessee’s (“**Proportionate Share**”) shall be a fraction the numerator of which shall be the number of Lessee Fibers and the denominator of which shall be the total number of Dark Fibers in Lessor System. If any stub connecting to the Lessee Fiber and associated Interconnection/Demarcation Location are impacted by the Relocation, Lessee will bear the full expense associated with re-establishing the stub and Interconnection/Demarcation Location to the Lessee Fibers.

## 6. EMINENT DOMAIN

If there is a taking of Lessee Fiber in a particular Route or Route Segment by right or

threat of eminent domain (a “**Taking**”) which, as agreed by the Parties, or in the absence of such agreement as determined pursuant to the provisions of Section 16 (Dispute Resolution) of the Agreement, results in the remainder of Lessee Fiber in such Route or Route Segment being unable to be restored to a condition suitable for Lessee’s business needs within ninety (90) days from the date of a Taking (“**Substantial Taking**”), the Lease for such Route or Route Segment shall terminate. In such event any Annual Routine Maintenance Fee shall abate from the date of Taking for such Route or Route Segment and any previously paid Annual Routine Maintenance Fee attributable for any period beyond such date minus twenty percent (20%) shall be returned to Lessee for such Route or Route Segment. If there shall be a Taking which does not constitute a Substantial Taking, the Lease for such Route or Route Segment shall not terminate but Lessor expeditiously shall restore the Route or Route Segment to its condition before the Taking in accordance with the provisions of Section 5 (**Maintenance, Operation and Relocation**).

7. ACCESS AND USE OF LESSEE FIBER

- 7.1 Lessee will have right of access to the Lessee Fiber at the Interconnection/Demarcation Location exclusively through its connection to the cable stub provided by Lessor. In addition, to the extent that Lessee desires to collocate Equipment at the Interconnection/Demarcation Location or at such other agreed upon location owned or controlled by Lessor, such access shall be the subject of a separate Pole Attachment or Colocation Agreement between the Parties, as described in Section 5.3 above. The Interconnection/Demarcation Locations shall be physically situated such that Lessee or Lessee’s authorized contractors can reasonably and safely access such locations to perform their tasks.
- 7.2 Lessor acknowledges that it has no right to use the Lessee Fiber during the Lease Term.
- 7.3 Lessee has the right to use the Lessee Fiber free from any interferences, impairment, or disruption caused by Lessor’s or any other Person’s use of the Lessor System (“**Lessor Interference**”). If Lessee experiences Lessor Interference, Lessee will notify Lessor, and provide supporting documentation regarding the claimed Lessor Interference, including its cause, if known, and Lessor will promptly investigate such claims, and where validated, abate such Lessor Interference. In the event that Lessor Interference causes an Outage and Lessor fails to abate such Lessor Interference within forty-eight (48) hours of receiving notice from Lessee, then notwithstanding the foregoing, Lessee may simultaneously seek to resolve the matter through the dispute resolution procedures set forth in Section 16. For the avoidance of doubt, any Outage resulting from Lessor’s performance of Routine or Non-Routine Maintenance and Relocation activities pursuant to Section 5 of this Agreement and pursuant to the terms of any Pole Attachment Agreement between the Parties will not constitute Lessor Interference for purposes of this Section 7.3.
- 7.4 Lessor has the right to use the Lessor System (other than the Lessee Fiber) free from any interferences, impairment, or disruption caused by Lessee’s use of the Lessee Fiber (“**Lessee Interference**”). Lessee will not use the Lessee Fiber in a way that causes Lessee Interference with the use of the Lessor System (other than the Lessee Fiber) by Lessor. If

Lessor experiences Lessee Interference, Lessor will notify Lessee and Lessee will promptly abate such Lessee Interference. In the event that Lessee Interference causes the Lessor System (other than the Lessee Fiber) to be unable to carry Lessor's or other Lessees' data traffic, and Lessee fails to abate such Lessee Interference within forty-eight (48) hours of receiving notice from Lessor, then notwithstanding the dispute resolution procedures set forth in Section 16, Lessor may immediately seek to enforce its rights under this Section 7.4 through specific performance, preliminary injunction, or a temporary restraining order.

- 7.5 Lessee shall not cause a mechanic's, materialman's, or vendor's lien, or any similar lien to become attached to the Lessee Fiber or otherwise encumber the Lessee Fiber. In the event Lessee becomes aware of any Lessee caused lien or encumbrance, Lessee shall promptly notify the Lessor in writing, and promptly take all steps needed to cause such lien to be discharged and released of record without cost to Lessor.
- 7.6 Lessee's use of the Lessee Fiber will at all times comply with all applicable governmental codes, ordinances, laws, rules, Regulations, and restrictions.
- 7.7 Lessor will not, either directly or indirectly, (a) access or use, for itself or on behalf of any other Person, any content or traffic transmitted over the Lessee Fiber by Lessee or by End Users of the Lessee Services, or (b) allow any Person, other than governmental authorities pursuant to a validly issued subpoena, warrant or similar order, to access, directly or indirectly, any content or traffic transmitted over Lessee Fiber or by End Users of the Lessee Services. Lessee will not, either directly or indirectly access or use, for itself or on behalf of any other Person, any content or traffic transmitted over the Lessor System (other than over the Lessee Fiber) by Lessor or any third party.

## 8. DELIVERY AND ACCEPTANCE

- 8.1 **Delivery.** Lessor will make commercially reasonable efforts to provide written notice to Lessee no later than sixty (60) days prior to the date on which Lessor anticipates delivering for Acceptance Testing (the "**Estimated Delivery Date**"), Lessee Fiber in a Route, or with the agreement of the Parties, in a subsection of the Route (a "**Route Segment**").
- 8.2 **Acceptance Testing.** On or after the Delivery Date of the Lessee Fiber for a particular Route or Route Segment, as applicable, Lessor will conduct testing in accordance with the Fiber Testing procedures specified in Exhibit C to verify that the Lessee Fiber for such Lease was installed in accordance with the Specifications ("**Acceptance Testing**"). Lessor will provide Lessee at least two (2) days' prior notice of the date and time of Acceptance Testing and Lessee will have the right to have representatives present to observe the Acceptance Testing. At the time when Lessor notifies Lessee that the Lessee Fiber with respect to such Lease has been installed and is performing in all respects in accordance with the Specifications, Lessor will deliver the Fiber Test Results to Lessee.
- 8.3 **Lessee's Determination.** If, with respect to any Lessee Fiber delivered for Acceptance Testing under Section 8.2, Lessee fails to notify Lessor during the Evaluation Period that the Lessee Fiber is not installed in accordance with the

Specifications, then the Lessee Fiber will be deemed accepted. If Lessee determines that any such Lessee Fiber delivered by Lessor is not installed and operational in accordance with the Specifications, then during the Evaluation Period, Lessee will provide Lessor written notice that such results are unacceptable and specify the defect or failure in the Fiber Test Results that is the basis for Lessee's determination that the results are unacceptable. In the event of a good faith rejection, Lessor will, at no additional cost to Lessee, promptly take such action as is reasonably necessary to bring the installation and operating standards of such Lessee Fiber within the Specifications. After taking corrective action, Lessor will notify Lessee thereof and provide Lessee with prior notice of a new round of Acceptance Testing. Lessee will have the right to have representatives present to observe such new round of Acceptance Testing. The cycle described above of testing, taking corrective action, and re-testing will take place as reasonably necessary to ensure that the delivered Lessee Fiber operates according to the Specifications. Notwithstanding the foregoing, if Lessee uses the Lessee Fibers to carry traffic prior to Acceptance by Lessee, such use shall constitute Acceptance or deemed Acceptance of the Lessee Fibers.

**8.4 Acceptance Date.** The “**Acceptance Date**” with respect to Lessee Fiber delivered under Section 8.1 is the earlier of: (1) the date Lessee confirms its acceptance of the Fiber Test Results (“Acceptance”), (2) the date Lessee begins to carry traffic on the Lessee Fiber, or (3) the last day of the Evaluation Period, provided that the Evaluation Period will be suspended for the duration of any corrective action or retesting pursuant to Section 8.3. However, no Acceptance or deemed Acceptance will constitute a waiver by Lessee of Lessor's obligations of maintenance and repair of the Lessee Fibers in accordance with the Specifications.

**8.5 Fiber Infrastructure Extensions.**

8.5.1 At any time during a Lease Term, Lessee may request that Lessor extend the Lessor System through installation and construction of additional Dark Fiber, conduit, aerial poles and other facilities as appropriate or necessary (but not including any equipment necessary to light the Dark Fiber), beyond the designated Route(s) set out in Exhibit A. Lessor will evaluate extension requests to the Lessor System and make the sole determination that such requests will benefit the efficient operation of its electric distribution system.

8.5.1.1. If Lessor is agreeable to extending the Lessor System in response to such Lessee request, it will provide written notification to Lessee, and will provide to Lessee as soon as reasonably practicable the network design, maps and other documents and information describing the planned extended portion of the Lessor System (the “**Extended Lessor System**”), the number of strands of Dark Fiber that will be available to lease, as well as the annual fee that will be charged by Lessor on a per-fiber-mile basis for the provision of Dark Fiber to Lessee in the Extended Lessor System.

- 8.5.1.2. Lessee will notify Lessor in writing within twenty (20) days of receipt of the documents and information described in the preceding paragraph of its intent to lease the Dark Fiber in the Extended Lessor System as described in the documents and information provided by Lessor and the number strands of Dark Fiber it intends to lease at the annual fee specified by Lessor.
- 8.5.2 If Lessee notifies Lessor of its intent to lease the agreed upon Dark Fiber in the Extended Lessor System, Lessor will provide to Lessee, as soon as reasonably practicable, the construction schedule of the Extended Lessor System, including the expected completion and Delivery Date of the Dark Fiber in the Extended Lessor System to be leased by Lessee.
- 8.5.2.1. Lessee will, within twenty (20) days of receiving the foregoing construction schedule, and expected completion and Delivery Date of the Dark Fiber in the Extended Lessor System, submit an authorization to proceed and a written request to lease a specified number of strands of Dark Fiber pursuant to the terms of this Agreement at the annual fee provided by Lessor to Lessee.
- 8.5.2.2. Lessor will thereafter notify Lessee of its concurrence to Lessee's authorization to proceed and the number of strands of Dark Fiber to be leased to Lessee. Upon such notification by Lessor, the delivery to and acceptance of the Dark Fibers by Lessee shall be governed by Sections 8.2 through 8.4, governing delivery and acceptance. Notwithstanding the foregoing, Lessor may update and revise from time-to-time the expected completion and Delivery Date of the Dark Fiber in the Extended Lessor System, and will promptly provide to Lessee written notice and details of any such updates or revisions.
- 8.5.2.3. Following delivery by Lessor to Lessee of the agreed upon Dark Fiber in the Extended Lessor System, and upon the successful completion of the Acceptance Testing and Acceptance procedures set forth in this Section 8, the agreed upon Dark Fiber in the Extended Lessor System will be deemed to be Lessee Fibers subject to the terms of this Agreement (including without limitation the duration of the Lease Term). Access to the fiber and colocation of any Equipment shall be governed by Sections 5.3 and 7.1.
- 8.5.2.4. If Lessor extends the Lessor System other than at Lessee's request, the Parties may mutually agree, at their discretion, to Lessee's lease of additional Dark Fiber in such extended portion of the Lessor System in a manner consistent with this Section 8.5, including, without limitation, the provisions governing specifications on the number of strands of Dark Fiber to be leased, delivery and acceptance testing, and the determination of annual fee for such additional dark fiber.

**9. INDEMNIFICATION & LIMITATION OF LIABILITY**

**9.1** Lessee hereby agrees to indemnify, defend, protect and hold harmless Lessor and its employees, officers and directors, from and against, and assumes liability for:

9.1.1 Any injury, loss or damage arising out of or in any way connected with any use, directly or indirectly, of the Lessee Fibers by Lessee and/or its End Users; and

9.1.2 Any injury, loss or damage to any Person (including Lessor), tangible property or facilities of any Person or entity (including reasonable attorneys' fees and costs) to the extent arising out of or resulting from the acts or omissions, negligent or otherwise, of Lessee, its officers, employees, servants, affiliates, agents, contractors, or licensees arising out of or in connection with a default (other than a default caused by a failure of Lessor to perform or comply with its obligations hereunder) by Lessee in the performance of its obligations or breach of its representations under this Agreement; and

9.1.3 Any claims, liabilities or damages, including reasonable attorneys' fees and costs, arising out of any violation by Lessee of any regulation, rule, statute or court order of any local, state or federal governmental agency, court or body in connection with the performance of its obligations under this Agreement.

9.1.4 Any claims, liabilities or damages, including reasonable attorneys' fees and costs, arising out of Lessee's subletting or otherwise assigning fibers under this Agreement to third parties.

**9.2** Lessor hereby agrees to indemnify, defend, protect and hold harmless Lessee, and its employees, officers and directors, from and against, and assumes liability for:

9.2.1 Any injury, loss or damage to any Person (including Lessee), tangible property or facilities of any Person or entity (including reasonable attorneys' fees and costs) to the extent arising out of or resulting from the acts or omissions, negligent or otherwise, of Lessor, its officers, employees, servants, affiliates, agents, contractors, licensees, invitees or vendors arising out of or in connection with a default (other than a default caused by a failure of Lessee to perform or comply with its obligations hereunder) by Lessor in the performance of its obligations or breach of its representations under this Agreement; and

9.2.2 Any claims, liabilities or damages, including reasonable attorneys' fees and costs, arising out of any violation by Lessor of any regulation, rule, statute or court order of any local, state or federal governmental agency, court or body in connection with the performance of its obligations under this Agreement.

**9.3** The Parties hereby expressly recognize and agree that each Party's said obligation to indemnify, defend, protect and save the other harmless is not a material obligation to the continuing performance of the Parties' other obligations, if any, hereunder.



- 9.4 Nothing contained herein shall operate as a limitation on the right of either Party hereto to bring an action for damages against any third party, including indirect, special or consequential damages, based on any acts or omissions of such third party as such acts or omissions may affect the construction, operation or use of the Lessee Fibers or the Lessor System.
- 9.5 It is further agreed between the Parties hereto, that to the extent any of the provisions of this Section should be determined to be contrary to law or held to be invalid by any court of competent jurisdiction, this Section 9 shall be construed and applied as if such invalid provisions were not contained herein, attempting at all times to conform, to the extent possible, to the intent of the Parties as herein stated, and provide the maximum indemnity allowed by law.
- 9.6 The Parties shall be liable for reasonable attorneys' fees and all costs of litigation associated with enforcement of the obligations set forth in this obligation of indemnification by the other prevailing Party and the Parties shall be free to select counsel of its choice. The terms of this indemnity and any other indemnities set forth in this Agreement shall survive the termination of this Agreement.
- 9.7 EXCEPT AS PROVIDED IN SECTIONS 9.1 AND 9.2, NEITHER LESSOR NOR LESSEE, NOR EITHER OF THEIR RESPECTIVE AFFILIATED COMPANIES, OFFICERS, DIRECTORS, AGENTS, REPRESENTATIVES, AGENTS OR EMPLOYEES, SHALL BE LIABLE TO THE OTHER PARTY IN CONTRACT OR IN TORT FOR INDIRECT, SPECIAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR RELIANCE DAMAGES, INCLUDING LOSS OF PROFITS OR REVENUES, COST OF ADDITIONAL OR REPLACEMENT FACILITIES OR CLAIMS OF CUSTOMERS FOR SUCH DAMAGES OR ANY OTHER INDIRECT, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGE, ARISING UNDER OR IN CONNECTION WITH THIS AGREEMENT, OR THE PERFORMANCE THEREUNDER, FROM ANY BREACH OR PARTIAL BREACH OF THE PROVISIONS OF THIS AGREEMENT OR ARISING OUT OF ANY ACT OR OMISSION BY EITHER LESSOR OR LESSEE OR EITHER OF THEIR RESPECTIVE EMPLOYEES, SERVANTS OR AGENTS, WHETHER BASED ON BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE, OR ANY THEORY OF LIABILITY. NOTWITHSTANDING THE ABOVE, IN NO EVENT SHALL LESSOR'S TOTAL LIABILITY TO LESSEE FOR DAMAGES EXCEED AN ANNUAL LICENSE FEE, LESS ANY MONIES AND OUTSTANDING AMOUNTS DUE TO LESSOR UNDER THIS AGREEMENT.
- 9.8 Lessor's liability arising out of delays in restoration of the Lessee Fibers to be provided under this Agreement or out of mistakes, accidents, omissions, interruptions, delays or errors or defects in any transmission hereunder shall in no event exceed the cost to repair such Lessee Fibers. Without limiting the foregoing, Lessor shall have no obligation to provide alternative routing with respect to the Lessee Fibers provided pursuant to this Agreement.

10. INSURANCE

10.1 During the term of this Agreement, Lessee shall obtain and maintain and shall require any of its permitted contractors to obtain and maintain not less than the following insurance:

Type of Coverage	Amount of Coverage
Worker’s Compensation Insurance	Statutory Amount
Employer’s Liability Occupational Disease and Bodily Injury Insurance	\$1 million each accident \$1 million disease each employee \$1 million disease-policy limit
Commercial General Liability Insurance, including premises-operations, products/completed operations, independent contractors, contractual (blanket), broad form property damage, with umbrella excess liability (collectively, “Comprehensive Coverage”)	Combined single limit personal injury and property damage on an occurrence policy form with policy amounts of (i) not less than \$5 million per occurrence (without a limitation on aggregate amount); or (ii) not less than \$5 million per occurrence with an aggregate annual amount of not less than \$5 million
Automobile Liability Insurance for owned, leased, hired and non-owned autos (“Automobile Liability Coverage”)	\$5 million combined single limit bodily injury/property damage

The limits set forth above are minimum limits and will not be construed to limit Lessee’s liability.

10.2 This insurance shall cover the amounts and types of liability listed above with respect to Lessee’s obligations under this Agreement.

10.3 Each policy evidencing the insurance described in this Section 10 must contain a provision that the insurance policy, and the coverage it provides, shall be primary and noncontributing with respect to any policies carried by the Lessee and its affiliates, and that any policies carried by the Party and its affiliates shall be excess insurance.

10.4 At the time this Agreement is signed, Lessee must furnish to Lessor certificates of insurance stating that the insurer will use best efforts to notify the other Party at least thirty (30) days prior to cancellation of, or any adverse material change in, the coverage provided.

**11. REQUIRED RIGHTS AND REGULATORY APPROVALS**

11.1 Lessor covenants that it shall have obtained by the time the Lessee Fiber is made available to Lessee (and will use commercially reasonable efforts to cause to remain in effect during the Lease Term) easements, leases, licenses, fee interests, rights-of-way, permits, authorizations, and other rights necessary and requisite for the Lessor System and the installation and maintenance of the Lessee Fibers, and Lessor’s provision of the rights granted Lessee hereunder (“**Required Rights**”).

- 11.2** If Lessor fails to obtain and/or cause to remain effective throughout the Lease Term all Required Rights, Lessor will use commercially reasonable efforts to relocate the portion of the Route so affected. If, despite commercially reasonable efforts, the Lessor fails to relocate such affected portion of the Route (i) Lessor may terminate such affected portion of the Route upon written notice and (ii) Lessee, as its sole remedy, may also terminate either such affected section of the Route, or the entire Route upon not less than sixty (60) days prior written notice. In either event of termination, any periodic Annual Routine Maintenance Fee with respect to the terminated portion of or entire Route, as the case may be, shall abate from the date of termination and any previously paid Annual Routine Maintenance Fee attributable to the terminated portion or entire Route, as the case may be, for any period beyond such termination date shall be returned to Lessee. Lessor's failure to cause to remain effective Required Rights does not constitute a breach of any warranty, representation or covenant of Lessor.
- 11.3** Lessee is responsible for obtaining any and all Required Rights and regulatory approvals necessary for: (i) the installation, maintenance and use of Lessee System, accessories, facilities and Equipment; (ii) Lessee's use of the Lessee Fibers; (iii) the transmission of Lessee's own signals across the Lessee Fibers; and (iv) Lessee's access to and activities at the Interconnection/Demarcation Locations (other than as provided by Lessor hereunder in connection with the Required Rights).
- 11.4** In the event Lessor is unable to obtain or retain regulatory approvals necessary for it to provide the rights in the Lessee Fiber granted herein, Lessor may in its discretion terminate this Agreement without any liability or penalty. Such termination shall not be deemed a default under this Agreement.

**12. COMPLIANCE WITH LAWS**

Notwithstanding anything to the contrary in this Agreement, each Party shall ensure that any and all activities it performs pursuant to this Agreement shall comply with all applicable laws. Without limiting the generality of the foregoing, each Party shall comply with all applicable provisions of i) workmen's compensation laws, ii) unemployment compensation laws, iii) the Federal Social Security Law, iv) the Fair Labor Standards Act, and v) environmental, health and safety Laws

**13. DISCLAIMER OF WARRANTIES**

EXCEPT AS SPECIFICALLY SET FORTH IN THIS AGREEMENT, LESSOR MAKES NO WARRANTIES REGARDING THE LESSOR SYSTEM, SERVICES OR DELIVERABLES PROVIDED UNDER THIS AGREEMENT AND MAKES NO WARRANTIES EXPRESS, IMPLIED, OR STATUTORY, AS TO THE INSTALLATION, DESCRIPTION, QUALITY, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ALL SUCH WARRANTIES BEING SPECIFICALLY DISCLAIMED. LESSOR DOES NOT WARRANT THAT THE LESSEE FIBERS WILL BE UNINTERRUPTED OR ERROR-FREE.

**14. LESSOR SALES OR DISPOSITIONS**

Nothing in this Agreement shall prevent or be construed to prevent Lessor from abandoning, selling or otherwise disposing of any portion of the Lessor System or other property of Lessor used for Lessee Fibers, provided, however, that in the event of a sale or other disposition, Lessor shall condition such sale or other disposition subject to the rights of Lessee under this Agreement. Lessor shall promptly notify Lessee of the proposed sale or other intended disposition of the Lessor System.

**15. DEFAULT PROVISIONS AND REMEDIES**

**15.1** Each of the following shall be deemed an “**Event of Default**” by Lessee under this Agreement:

15.1.1 Failure of Lessee to pay the Annual Lease Fee, Annual Routine Maintenance Fee, Non-Routine Maintenance Fee or any other sum required to be paid under the terms of this Agreement and such default continues for a period of fourteen (14) days after written notice thereof to Lessee;

15.1.2 Failure by Lessee to perform or observe any other terms, covenant, agreement or condition of this Agreement on the part of Lessee to be performed and such default continues for a period of forty-five (45) days after written notice thereof from Lessor (provided that if such default cannot be cured within such forty-five (45) day period, this period will be extended if Lessee commences to cure such default within such forty-five (45) day period and proceeds diligently thereafter to effect such cure);

15.1.3 The filing of a tax, mechanic’s lien, or any other lien or encumbrance against the Lessor System or other property of Lessor which is not bonded or discharged within thirty (30) days of the date Lessee receives notice that such lien is filed;

15.1.4 An event of Lessee’s bankruptcy;

15.1.5 If Lessee knowingly uses Lessee Fiber in violation of any law or in aid of any unlawful act or undertaking; or

15.1.6 If any authorization which lawfully may be required of Lessee by any governmental or private authority for the operation of Lessee Fiber within the Lessor System is denied or revoked.

**15.2** Upon the occurrence of an Event of Default by Lessee, without further notice to Lessee in any instance (except where expressly provided for below or by applicable law), Lessor may do any one or more of the following:

15.2.1 Perform, on behalf and at the expense of Lessee, any obligation of Lessee under this Agreement which Lessee has failed to perform and of which Lessor shall have given Lessee notice, the cost of which performance by Lessor shall be payable by Lessee to Lessor upon demand;

15.2.2 Exercise any other legal or equitable right or remedy which it may have.

15.2.3 Any costs and expenses incurred by Lessor (including, without limitation, reasonable attorneys' fees) in enforcing any of its rights or remedies under this Agreement shall be repaid to Lessor by Lessee upon demand.

15.2.4 All rights and remedies of Lessor set forth in this Agreement shall be cumulative, and none shall exclude any other right or remedy, now or hereafter allowed by or available under any statute, ordinance, rule of court, or the common law, either at law or in equity, or both.

15.2.5 Lessee shall give prompt written notice to Lessor of the occurrence of any default under this Agreement. If such default continues for forty-five (45) days after receipt of such notice (provided that if such default cannot be cured within such forty-five (45) day period, this period will be extended if Lessor continues to cure such default within such forty-five (45) day period and proceeds diligently thereafter to effect such cure), Lessee may at its option, terminate the Lease or pursue any remedies it may have at law or equity.

**15.3** The following events or occurrences shall constitute a default by Lessor under this Agreement:

15.3.1 Any material noncompliance by Lessor with the terms of this Agreement;

15.3.2 Any material breach by Lessor of a representation or warranty under this Agreement.

## **16. DISPUTE RESOLUTION**

**16.1** It is the intent of Lessor and Lessee that any disputes which may arise between them, or between the employees of each of them, be resolved as quickly as possible. Quick resolution may, in certain circumstances, involve immediate decisions made by the Parties' authorized representatives. When such resolution is not possible, and depending upon the nature of the dispute, the Parties hereto agree to resolve such disputes in accordance with the provisions of this Article. The obligation herein to arbitrate shall not be binding upon any Party with respect to request for preliminary injunctions, temporary restraining orders, specific performance or other procedures in a court of competent jurisdiction to obtain interim relief when deemed necessary by such court to preserve the status quo or prevent irreparable injury pending resolution by arbitration of the actual dispute.

**16.2** Lessee and Lessor shall each designate, by separate letter, representatives as points of contact and decision making with respect to the obligations and rights of the Parties, said letters to be furnished by each Party to the other within thirty (30) days from the date of this Agreement. Any disputed issues arising during the term of this Agreement shall in all instances be initially referred to the Parties' designated representatives. The Parties' designated representatives shall render a mutually agreeable resolution of the disputed issue, in writing, within seventy-two (72) hours of such referral. Either Party may modify the designated representative upon written notice to the other Party.

- 16.3** Any claims or disputes arising under the terms and provisions of this Agreement, or any claims or disputes which the Parties’ representatives are unable to resolve within the seventy-two (72) hour time period, shall continue to be resolved between the Parties’ representatives if mutually agreeable, or may be presented by the claimant in writing to the other Party within thirty (30) days after the circumstances which gave rise to the claim or dispute took place or become known to the claimant, or within thirty (30) days after the Parties’ representatives fail to achieve resolution, whichever is later. The written notice shall contain a concise statement of the claim or issue in dispute, together with relevant facts and data to support the claim.
- 16.4** Any controversies or disputes arising out of or relating to this Agreement that are not resolved in accordance with the preceding procedure may be referred to nonbinding arbitration under the then current Commercial Arbitration Rules of the American Arbitration Association. The Parties shall endeavor to select a mutually acceptable arbitrator knowledgeable about issues relating to the subject matter of this Agreement. In the event the Parties are unable to agree to such a selection, each Party will select an arbitrator and the arbitrators in turn shall select a third arbitrator. The arbitrator(s) shall not have the authority, power or right to alter, change, amend, modify, add or subtract from any provision of this Agreement or to award punitive damages.
- 16.5** During the continuance of any arbitration proceeding, each Party shall continue to perform their respective obligations under this Agreement.

**17. FORCE MAJEURE**

Neither Lessor nor Lessee shall be in default under this Agreement with respect to any delay in its performance caused by any of the following conditions (each a “**Force Majeure Event**”): (1) act of God; (2) fire; (3) flood; (4) material shortage or unavailability not resulting from the responsible Party’s failure to timely place orders or take other necessary actions therefor; (5) government codes, ordinances, laws, rules, regulations or restrictions (collectively, “**Regulations**”) (but not to the extent the delay caused by such Regulations could be avoided by rerouting the Dark Fiber if such a reroute was commercially reasonable); (6) war or civil disorder; (7) failure of a third party to grant or recognize Lessor’s Required Rights (provided that Lessor has made timely and reasonable commercial efforts to obtain the same and such failure is not the result of Lessor’s default or its negligence act or failure to act with respect thereto) or (8) any other cause beyond the reasonable control of such Party; provided, however, that this Section 17 shall not apply to the payment of money. The Party claiming relief under this Section 17 shall promptly notify the other in writing of the existence of the Force Majeure Event relied on, the expected duration of the Force Majeure Event, and the cessation or termination of the Force Majeure Event. The Party claiming relief under this Section 17 shall exercise commercially reasonable efforts to minimize the time for any such delay.

**18. TAXES AND USE OF PUBLIC RIGHTS-OF-WAY, LICENSE AND PERMIT FEES**

- 18.1** Lessee shall be responsible for any and all Federal or applicable state sales, use, gross receipts, excise, transfer, ad valorem, real property, personal property or other Federal or applicable state taxes, and any and all franchise fees or similar fees (collectively “**Assessments**”) assessed against it due to its Lease, its use of the Lessee Fibers, including the providing of services over Lessee Fibers, or its ownership or use of facilities connected to Lessee Fibers. Notwithstanding the above, Assessments shall not include any taxes based on the income, capital, net worth or similar measure of Lessor. For clarification purposes, Lessor will not be responsible for any income taxes imposed upon Lessee or vice a versa.
- 18.2** If Lessor is assessed annual fees for use of public rights-or-way, Lessee shall pay its Proportionate Share of such fees. In the event that Lessor is assessed for any Assessments related to a Lease or Lessee’s use of Lessee Fiber which may not feasibly be separately assessed and for which Lessee’s tax-exempt status is not recognized by a taxing authority, Lessor within thirty (30) days of receipt of an invoice therefor, shall provide information and documentation to Lessee sufficient to demonstrate the basis for the Assessments and the amount and due date for payment of the Assessments. In addition, Lessor shall provide Lessee with all information reasonably requested by Lessee with respect to any such Assessments. Within this thirty (30) day period, Lessee will notify Lessor of its intent to challenge the Assessment. After such thirty (30) day period, Lessor, in its sole discretion, may pay such Assessment and invoice Lessee for reimbursement. Lessee shall reimburse Lessor for such payment within ten (10) days of receipt of Lessor’s invoice. In the event that Lessee is subsequently able to assert and establish its tax exempt status, Lessor will reimburse Lessee for Assessments that Lessee has paid once Lessor has received a refund from the applicable taxing authority. Notwithstanding such payment by Lessor, Lessee, at its option, shall have the right at its sole cost to contest any such Assessments and Lessor will reasonably cooperate with Lessee in pursuing any such contest; provided that Lessee shall have reimbursed Lessor for such Assessments. In the event Lessor, in its sole discretion, elects to not pay such tax or fee, it shall so notify Lessee. Lessee, at its option, may pay the Assessments, or contest the payment; provided that Lessee shall indemnify and hold harmless Lessor for the payment of such Assessments and all interest and penalties related thereto; and provided further, that such contest shall be resolved or such Assessments shall be paid so as to prevent any forfeiture of rights or property or the imposition of any lien on Lessor’s facilities.

**19. SUCCESSION, ASSIGNABILITY**

- 19.1** This Agreement shall be binding upon and inure to the benefit of the Parties hereto and their respective permitted successors or assigns. Lessor can freely assign or transfer this Agreement.
- 19.2** Except as provided in this Section 19, Lessee shall not assign, encumber or otherwise transfer this Agreement or all or any portion of its rights or obligations hereunder to any Party without the prior written consent of Lessor. In no event will any assignment by Lessee be permitted without the delivery to Lessor of a binding

agreement in writing from the proposed assignee that (i) states that the proposed assignee will assume all current, future and outstanding past obligations under this Agreement as if such assignee had originally executed this Agreement and (ii) evidence proof satisfactory to Lessor that he proposed assignee has insurance coverage described in Section 10 and/or other assurances that the proposed assignee can adequately perform the obligations it will assume under this Agreement, and (iii) a maintenance agreement for annual maintenance charges is entered into between Lessor and the proposed assignee for such Lessee Fibers.

## 20. NOTICES

Any demand, notice or other communication to be given to a Party in connection with this Agreement shall be given in writing and shall be given by personal delivery, by registered or certified mail, return receipt requested, by facsimile or commercial overnight delivery service addressed to the recipient as set forth as follows or to such other address, individual or facsimile number as may be designated by notice given by the Party to the other:

### **Lessor Legal Contact:**

\_\_\_\_\_

Street Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

### **Lessor Operations Contact:**

\_\_\_\_\_

Street Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

### **Lessee Legal Contact:**

\_\_\_\_\_

Street Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone \_\_\_\_\_



Email \_\_\_\_\_

**LESSEE Operations Contact:**

\_\_\_\_\_

Street Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

Phone \_\_\_\_\_

Email \_\_\_\_\_

Any demand, notice or other communication given by personal delivery shall be conclusively deemed to have been given on the day of actual delivery thereof and, if given by registered or certified mail, return receipt requested on the date of receipt thereof and, if given by facsimile, on the day of transmittal thereof if given during the normal business hours of the recipient and on the next business day if not given during normal business hours.

**21. NON-WAIVER**

No course of dealing, course of performance or failure of either Party strictly to enforce any term, right or condition of this Agreement shall be construed as a waiver of any term, right or condition.

**22. CHOICE OF LAW**

The construction, interpretation and performance of this Agreement shall be governed by the law of the State of [State] without regard to its conflicts of law provisions. Any action or claim based in whole or in part on this Agreement must be brought in a [State] state or federal court of competent jurisdiction.

**23. HEADINGS**

All headings contained in this Agreement are inserted for convenience only and are not intended to affect the meaning or interpretation of this Agreement or any clause.

**24. CONFIDENTIALITY AND PROPRIETARY INFORMATION**

**24.1** In connection with this Agreement, either Party may furnish to the other Confidential Information. For purposes of this Section 24, the Party that discloses Confidential Information is referred to as the “**Disclosing Party**”, and the Party that receives Confidential Information is referred to as the “**Receiving Party**”.

**24.2** When Confidential Information is furnished in tangible form, the Disclosing Party shall mark it as proprietary or confidential. When Confidential Information is provided orally, the Disclosing Party shall, at the time of disclosure or promptly thereafter, identify the Confidential Information as being proprietary or confidential.

- 24.3** With respect to Confidential Information disclosed under this Agreement, the Receiving Party and its employees shall, to the extent permitted by [State] law:
- 24.3.1 hold the Confidential Information in confidence, exercising a degree of care not less than the care used by the Receiving Party to protect its own proprietary or confidential information that it does not wish to disclose.
  - 24.3.2 use reasonable efforts to restrict disclosure of the Confidential Information to those of its employees who have a need to know in connection with the performance of this Agreement, and not disclose the Confidential Information to any other Person or entity without the prior written consent of the Disclosing Party;
  - 24.3.3 advise those employees of their obligations with respect to the Confidential Information; and
  - 24.3.4 use the Confidential Information only in connection with the performance of this Agreement, except as the Disclosing Party may otherwise agree in writing.
- 24.4** Confidential Information shall be deemed the property of the Disclosing Party. Upon written request of the Disclosing Party, the Receiving Party shall return all Confidential Information received in tangible form, except that each Party's legal counsel may retain one copy in its files solely to provide a record of such Confidential Information for archival purposes. If the Receiving Party loses or makes an unauthorized disclosure of Confidential Information, it shall notify the Disclosing Party and use reasonable efforts to retrieve the Confidential Information.
- 24.5** The Receiving Party shall have no obligation to preserve the proprietary nature of Confidential Information which:
- 24.5.1 was previously known to the Receiving Party free of any obligation to keep it confidential; or
  - 24.5.2 is or becomes publicly available by means other than unauthorized disclosure; or
  - 24.5.3 is developed by or on behalf of the Receiving Party independently of any Confidential Information furnished under this Agreement; or
  - 24.5.4 is received from a third party whose disclosure does not violate any confidentiality obligation.
- 24.6** The existence of this Agreement, and all information that may be disclosed to Receiving Party pertaining to the identities, locations, and requirements of the Disclosing Party's Lessee, is Confidential Information of Disclosing Party.
- 24.7** Neither Party shall disclose the other Party's Confidential Information to any third party (even if under contract to that party) or to any personnel of the party responsible for publicity or for end user sales or marketing.

- 24.8** If the Receiving Party is required to disclose the Disclosing Party's Confidential Information by an order or a lawful process of a court or governmental body, the Receiving Party shall promptly notify the Disclosing Party so that the Disclosing Party may seek appropriate protective relief.
- 24.9** Each Party agrees that a breach of this Section 24 by the Receiving Party or its representatives will result in irreparable harm for which there is no adequate remedy at law, and in the event of any such breach the Disclosing Party may, notwithstanding the dispute resolution provisions in Section 16 and the default provisions in Section 15, seek a preliminary or permanent injunction and/or specific performance which shall be granted upon a finding of a breach (or substantial likelihood of a breach in the case of a preliminary injunction). Such remedies shall not be deemed to be the exclusive remedies for a breach of this Section 24 but shall be in addition to all other remedies available at law or in equity.

**25. PUBLICITY AND ADVERTISING**

- 25.1** Neither Party shall publish or use any advertising, sales promotions, or other publicity materials that use the other Party's logo, trademarks, or service marks without the prior written approval of the other Party.
- 25.2** Each Party shall have the right to review and approve any publicity material, press releases, or other public statements by the other that refer to such Party or that describe any aspect of this Agreement. Each Party agrees not to issue any such publicity materials, press releases, or public statements without the prior written approval of the other Party.
- 25.3** Nothing in this Agreement establishes a license for either Party to use any of the other Party's brands, marks, or logos without prior written approval of the other Party.

**26. REPRESENTATIONS AND WARRANTIES**

- 26.1** Each Party represents and warrants that:
- 26.1.1 it has full right and authority to enter into, execute, deliver and perform its obligations under this Agreement;
- 26.1.2 this Agreement constitutes a legal, valid and binding obligation enforceable against such Party in accordance with its terms, subject to bankruptcy, insolvency, creditors' rights and general equitable principles; and
- 26.1.3 its execution of and performance under this Agreement shall not violate any applicable existing Regulations, rules, statutes or court orders of any local, state or federal government agency, court, or body.

**27. ENTIRE AGREEMENT: AMENDMENT**

This Agreement constitutes the entire and final agreement and understanding between

the Parties with respect to the subject matter hereof and supersedes all prior oral and written communications, understandings and agreements relating to the subject matter hereof, which are of no further force or effect. The Exhibits referred to herein are integral parts hereof and are hereby made a part of this Agreement. This Agreement may only be modified or supplemented by an instrument in writing executed by a duly authorized representative of each Party.

**28. NO THIRD PARTY BENEFICIARIES**

Except as set forth in Section 29, this Agreement does not provide and is not intended to provide third parties with any remedy, claim, liability, reimbursement, cause of action, or other privilege.

**29. NO PERSONAL LIABILITY**

Each action or claim against any Party arising under or relating to this Agreement shall be made only against such Party as a corporation, and any liability relating thereto shall be enforceable only against the corporate assets of such Party. No Party shall seek to pierce the corporate veil or otherwise seek to impose any liability relating to, or arising from, this Agreement against any shareholder, employee, officer or director of the other Party. Each of such persons is an intended beneficiary of the mutual promises set forth in this Section 29 and shall be entitled to enforce the obligations of this Section 29.

**30. RELATIONSHIP OF THE PARTIES**

The relationship between the Parties shall not be that of partners, agents or joint venturers for one another, and nothing contained in this Agreement shall be deemed to constitute a partnership or agency agreement between them for any purposes, including, but not limited to federal income tax purposes. The Parties, in performing any of their obligations hereunder, shall be independent contractors or independent Parties and shall discharge their contractual obligations at their own risk.

**31. SUCCESSORS AND ASSIGNS**

This Agreement and each of the Parties' respective rights and obligations under this Agreement shall be binding upon and shall inure to the benefit of the Parties and each of their respective permitted successors and assigns.

**32. UNENFORCEABLE PROVISIONS**

No provision of this Agreement shall be interpreted to require any unlawful action by either Party. If any section or clause of this Agreement is held to be invalid or unenforceable, then the meaning of that section or clause shall be construed so as to render it enforceable to the extent feasible. If no feasible interpretation would save the section or clause, it shall be severed from this Agreement with respect to the matter in question, and the remainder of the Agreement shall remain in full force and effect. However, in the event such a section or clause is an essential element of the Agreement, the Parties shall promptly negotiate a replacement that will achieve the intent of such unenforceable section or clause to the extent permitted by law.

**33. COUNTERPARTS**

This Agreement may be executed in one or more counterparts, all of which taken together shall constitute one and the same instrument.

In confirmation of their consent to the terms and conditions contained in this Agreement and intending to be legally bound hereby, the Parties have executed this Agreement as of the date first above written.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be signed by their duly authorized representatives.

**Lessor COMPANY**

\_\_\_\_\_

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_

**LESSEE COMPANY**

\_\_\_\_\_

By: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Date: \_\_\_\_\_

EXHIBIT A  
Route/Route Segment Description and Diagrams

**The Routes/Route Segments:** The Routes/Route Segments are specifically described in the Route/Route Segment maps, but can be generally described as follows:

ROUTE	ROUTE/ROUTE SEGMENT MILES	#FIBERS SUBJECT TO LEASE	TOTAL FIBER MILES	MISCELLANEOUS
Route A				
Route Segment A-1				
Route Segment A-2				
Route Segment A-3				
Route B				
Route Segment B-1				
Route Segment B-2				
Route Segment B-3				

\* Final as-built Route/Route Segment mileage for new construction to be provided by Lessor to Lessee upon Delivery Date.

Location of Interconnection/Demarcation Locations:

Exhibit B  
Fiber Specifications  
As-Built Drawing Specifications

Fiber Specifications:

The type of Dark Fiber varies and is dependent upon Route/Route Segment, as generally shown in Exhibit A, but all fiber was manufactured by either Alcoa, Corning or other comparable manufacturer.

Maximum splice losses (measured on an individual basis, not averaged)

The maximum splice loss for any individual splice measured “bi-directional” shall not exceed 0.15 db.

The maximum splice loss for any individual transition splice (standard single mode fiber spliced to a non zero dispersion shifted fiber) measured “bi-directional” shall not exceed 0.25 db.

The maximum loss for “through” office loss including connectors and jumpers shall not exceed 1db.

Average splice loss

The average splice loss shall not exceed 0.10 db. (used for total span loss calculation only)

Cable Requirements:

0.3 db/Km attenuation at 1550nm.

0.4 db/Km attenuation at 1310nm.

Drawings:

As-Built drawings will be supplied for each Route/Route Segment within 20 business days after the Acceptance Date of the Route/Route Segment. As-Built drawings provided to Lessee by the Lessor will contain the following information presented in the format described below.

- 1. Route/Route Segment Description:** The As-Built drawings will contain a geographical depiction of the Route/Route Segment containing the Lessee Fibers, provided in the form of a hardcopy map.
- 2. Fiber Level Details:** The As-Built drawings will provide details on fiber assignment numbers within the cable, fiber distribution bay, if applicable, and individual fiber assignments.
- 3. Mileage:** Mileage will be the fiber distances via OTDR traces.

Exhibit C  
Fiber Testing and Results

**End-to-End Testing**

Lessor will provide to Lessee the results of the following tests previously completed on Lessee Fibers:

bi-directional OTDR end-to-end tests to record splice loss measurements, continuity to confirm that no fibers have been “frogged” or crossed at any splice points.

At Dark Fiber termination points, the pigtail splice loss shall be less than .80 dB, and the reflection level at such termination points shall be less than -50dB.

When a Dark Fiber has been spliced, the splice loss shall not be greater than .15 dB in any one direction with a .30 dB bi-directional averaged loss.

**Post-Construction Testing**

When performing permanent splicing (in conjunction with repair of a cable cut, replacement of a segment of cable, or other work after initial installation and splicing of the cable), Lessor shall perform splicing to meet the Specifications. Lessor may adopt any alternative methods of testing that are generally accepted in the industry and that provide sufficient data to fulfill the objectives of the tests set forth in this Exhibit.

**Out-of-Spec Splices**

Out-of-Spec splices shall be noted. In the event Lessee is later able to reasonably establish that the OOS splice affects service, Lessor shall take reasonable commercial efforts to bring the splice into compliance with the applicable Specifications.

**OTDR Equipment and Settings**

Lessor shall use OTDR equipment and settings that are, in its reasonable opinion, suitable for performing accurate measurements of the fiber installed. Such equipment and settings shall include, without limitation, the Laser Precision CMA4000 models and compatible models for OTDR testing, and the following settings:

**Index of refraction settings:**



	1310 nm	1550 nm
Lucent Truwave (Classic and RS)	1.4707	1.4701
Corning SMF-28	1.4675	1.4681
Corning SMF-LS	1.471	1.470
Corning LEAF	<i>NIA</i>	1.469

**Tests of a pigtail connector and its associated splice:**

CMA4000
4 km Range 50ns Pulse 1. m Resolution

**Acceptance Test Deliverables**

Lessor shall provide via secure electronic media or hard copies containing the results with the following information of prior testing for the relevant fibers and cable Routes:

- A. Verification that the loss at each splice point is either (i) in accordance with Exhibits B and C of this Agreement.
- B. The final bi-directional OTDR test data, with distances.

Exhibit D  
Maintenance Specifications and Procedures

Lessor shall perform routine maintenance and repair of the Lessee Fibers (“Routine Maintenance”). Routine Maintenance shall consist of only the following activities:

-Patrol of the Route on an annual basis: maintenance of a “Call-Before-You-Dig” program and all required and related cable locates: and

-Maintenance of sign posts along the rights-of way along the Routes with the number of the local “Call-Before-You-Dig organization and the “800” number for Lessor’s “Call-Before-You-Dig program.

Exhibit E  
Lease Payments

Annual Lease Fee per Route/Route Segment

Route/Route Segment	Annual Rate Per Fiber Mile	Mileage	Annual Lease Fee
Route A			
Route Segment A-1			
Route Segment A-2			
Route Segment A-3			
Route B			
Route Segment B-1			
Route Segment B-2			
Route Segment B-3			

Note: For new construction, the Annual Lease Fee above is an estimate based on the estimated Route or Route Segment mileage as of the Effective Date. The Annual Lease Fee for a Route or Route Segment will be updated based on the as built mileage provided by Lessor on the Delivery Date (*see* Exhibit A). The Annual Lease Fee as so updated for a Route or Route Segment, shall be set forth in the initial invoice provided to Lessee under Section 3.2.1, and shall thereafter be deemed the Annual Lease Fee for that Route or Route Segment for all purposes hereunder.

Annual Routine Maintenance Fee: \$[XXX.XX] per mile [X] total Route/Route Segment miles [XX.XX] = Annual Routine Maintenance Fee, subject to CPI adjustment annually.

Non-Routine Maintenance Fee (per mile/foot): pro rata share, as incurred.

POP Cross-Connect Fee: \$200 per month per cross-connect

If a fiber termination point currently terminates inside a building where Lessor leases or licenses space and/or conduit facilities, in the event that Lessor’s underlying lease were to terminate, the Interconnection/Demarcation Location for the Lessee Fiber will be moved by Lessor to a pole or manhole/handhole outside of the particular building.

Exhibit F  
Contact/Escalation List

**Lessor:**

**Network Operations Center**

1-888-8AEPNMC

[HTTP://www.aepnmc.com](http://www.aepnmc.com)

Lessor uses a Network Operations Center (“NOC”) staffed twenty-four (24) hours a day, seven (7) days a week by trained and qualified personnel.

**Manager - Operations Support**

Office 614-716-3129

**Director - Operations**

Office 614-716-3598

**Lessee:**

## Signed MOU between APB and Pulaski County

### MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (“Memorandum”) is made effective as of the date last set forth below, by and between the County of Pulaski, Virginia (“County”) and All Points Broadband Partners, LLC (“APB”).

WHEREAS, The County and APB are collaborating on the development of a fiber-to-the-home (“FTTH”) broadband access network to extend service to all remaining unserved locations in the County (the “Project”),

WHEREAS, the Project is being carried out in partnership with Appalachian Power Company (“APCo”), in the manner provided by §56-585.1:9 of the Code of Virginia (“Broadband Statute”); and

WHEREAS, The County and APB desire to establish the framework for their partnership to complete the Project and to extend FTTH broadband access to all of the County’s residents and businesses.


NOW, THEREFORE, the County and APB agree as follows:

1. APB will serve as the Internet service provider for Project and pursuant to the Broadband Statute.
2. APB will be responsible for providing all technical reports, studies, analyses and last-mile design work as may be necessary or appropriate to facilitate APCo’s receipt of regulatory approval for its participation in the Project.
3. The County and APB will collaborate to develop and submit an application to the 2022 Virginia Telecommunications Initiative (“VATI”) program to secure state funding to support the Project’s completion. APB will have primary responsibility for preparing the VATI application; provided, that the County will approve the final application prior to its submission.
4. The County will provide APB with such in-kind support as is appropriate to prepare and submit the VATI application and APB will make such public presentations and reports as are requested by the County.

[Signature Page Follows]

WITNESSETH the following signatures:

COUNTY OF PULASKI, VIRGINIA

By:   
Jonathan D. Sweet, County Administrator

Date: 7/27/2021

ALL POINTS BROADBAND PARTNERS, LLC

By:   
James G. Carr, Chief Executive Officer

Date: 7/27/2021

## Signed Agreement between GigaBeam and Bland County

### MANAGEMENT SERVICES AGREEMENT

This Management Services Agreement (this "Agreement"), is dated as of September 26, 2019, by and between Gigabeam Networks, LLC, a Virginia limited liability company ("GigaBeam"), and the Bland County Wireless Authority (the "Authority"), a wireless service authority created by the Board of Supervisors of Bland County, Virginia (the "County"), pursuant to the Virginia Wireless Service Authorities Act, Chapter 54.1 of Title 15.2 of the Code of Virginia, 1950, as amended.

**WHEREAS**, the Authority applied for a grant (the "Application") from the Appalachian Regional Commission's POWER Initiative, which provides federal resources to help communities and regions that have been impacted by the changing economics of energy production;

**WHEREAS**, the Authority received a \$459,764 grant (the "Grant") from the Appalachian Regional Commission (the "ARC") to fund an approximately 30-mile run of fiber along the Route 52 corridor from Rocky Gap, Virginia, through Bland, Virginia, to the split of Route 52 from Route 42 (collectively, the "Initial Project");

**WHEREAS**, the Grant is governed by the terms of that certain Grant Agreement between ARC and the County, dated as of April 2, 2019 for Bland County Broadband Deployment, DHCD Grant # 18-001 / ARC Grant # VA-PW-897 (the "Grant Agreement");

**WHEREAS**, pursuant to that certain Solicitation for PPEA Broadband Proposals dated April 26, 2019 (the "Solicitation"), the Authority utilized the Virginia Public-Private Education Facilities and Infrastructure Act of 2002 ("PPEA") procurement process to solicit responses for a private partner for the construction, design, operation and maintenance of a hybrid (fiber/fixed wireless) broadband network;

**WHEREAS**, based on the responses to the Solicitation, the Authority chose to partner with GigaBeam for the development, construction, operation and maintenance of the Initial Project and for future projects that expand broadband services in Bland County;

**WHEREAS**, GigaBeam has expertise in operating and maintaining broadband services in Virginia; and

**WHEREAS**, the Authority desires to retain GigaBeam to provide certain services upon the terms and conditions hereinafter set forth, and GigaBeam is willing to undertake such obligations.

**NOW, THEREFORE**, in consideration of the foregoing and the mutual and dependent covenants hereinafter set forth, the parties agree as follows:

1. Appointment. the Authority hereby engages GigaBeam, and GigaBeam hereby agrees, upon the terms and subject to the conditions set forth herein, to provide certain services to the Authority, as described in **Section 5** hereof.

2. Term. The term of this Agreement (the "Term") shall be for a term

commencing on the date hereof and expiring on September 26, 2034, unless sooner terminated as hereinafter provide in this Agreement.

3. Termination. This Agreement may only be terminated prior to the expiration of the Term as follows:

(a) By the mutual consent of the Authority and GigaBeam at any time;

(b) In the event a petition in bankruptcy is filed by or against GigaBeam, or in the event GigaBeam makes an assignment for the benefit of creditors or takes advantage of any insolvency act, the Authority may terminate this Agreement without notice; or

(c) Either the Authority or GigaBeam may terminate this Agreement by written notice to the other party in the event that the other party shall breach its obligations, duties or covenants under the terms of this Agreement. Such notice shall specify the nature and scope of the claimed breach of this Agreement and shall provide the breaching party with the right to cure the claimed breach within thirty (30) days of the receipt thereof. If the claimed breach is not cured to the satisfaction of the non-breaching party within the thirty-day cure period, this Agreement shall terminate. The non-breaching party shall also have the right to seek damages and exercise such other remedies as may be provided by law or in equity against the breaching party.

4. Effect of Termination. The parties hereby agree as follows regarding termination of this Agreement:

(a) If this Agreement is terminated under Section 3(a), (b) or (c), all equipment and machinery purchased with the proceeds of the Grant shall be the property of the Authority and GigaBeam shall pay all operating expenses incurred prior to such termination.

(b) After the expiration of the Term, all equipment and machinery shall be purchased by GigaBeam in accordance with the terms of the Lease-Purchase Agreement (as hereinafter defined).

5. Installation and Operation of Broadband Services. GigaBeam and the Authority hereby agree to the following in connection with the delivery of broadband services:

(a) the Authority and GigaBeam shall jointly determine the preferred option for the Initial Project;

(b) GigaBeam shall design, construct, operate and maintain the Initial Project and any additional broadband projects agreed to by the Authority and GigaBeam;

(c) GigaBeam shall design the broadband services to deliver at least 25 megabits per second download speed and 3 megabits per second upload speed;

(d) GigaBeam shall install the equipment required to deliver the broadband service in the service area and meet GigaBeam's existing network standards;



(e) GigaBeam shall commence construction of the Initial Project within 3 months of the date of this Agreement and shall complete construction of the Initial Project, meeting the goals of the Grant, within 18 months of the date of this Agreement;

(f) GigaBeam shall work with the Authority to prepare any work plans, budgets, progress reports and other reports required by the Grant Agreement;

(g) GigaBeam shall make connections available to Bland County High School, Bland County Elementary School, Bland County School Board Office, Bland County Courthouse, Bland County Library, Bland County Governmental Buildings, and Wolf Creek Indian Village and Museum;

(h) GigaBeam and the Authority agree to jointly explore expanding broadband services within Bland County, as well as partner to secure additional grant funding for expansion of the fiber network and/or broadband services; and

(i) GigaBeam shall support and assist the Authority in identifying areas for future deployment of broadband services.

Items (a) – (i) are herein referred to collectively as the “Services.”

6. Grant Funds, Revenues and Operating Expenses.

(a) **Grant Funds.** The Authority agrees to use any funds received from the Grant to fund costs of constructing the fiber network to provide the broadband services.

(b) **Revenues and Operating Expenses.** As consideration for the Services provided by GigaBeam, the Authority agrees that all revenues received from new customers in the Proposed Funded Service Area shall be receipts and funds of GigaBeam. All operating expenses associated with providing the broadband services at the Broadband Grant Speed in the Proposed Funded Service Area, including without limitation, utilities, insurance, maintenance and repairs (collectively, the “Operating Expenses”) shall be an expense of GigaBeam.

7. Compliance with Laws. GigaBeam and its employees and subcontractors shall perform all of the services under this Agreement in compliance with all applicable rules, regulations, orders, determinations, ordinances or laws of any federal, state or local authority.

8. Representations and Warranties of the Authority. the Authority represents and warrants to and covenants with GigaBeam as of the date hereof as follows:

(a) **Due Organization.** The Authority is a wireless service authority created by the County of Bland, Virginia, pursuant to the Virginia Wireless Service Authorities Act (Chapter 54.1, Title 15.2, Code of Virginia of 1950, as amended), and has full power, authority, and legal right to execute, perform, and timely observe all of the provisions of this Agreement. The Authority has the power and authority to execute and deliver this Agreement.

(b) **Valid and Binding Obligations.** This Agreement constitutes a valid and binding obligation of the Authority and does not and will not constitute a breach of or default of the terms, conditions or provisions of any law, order, rule, regulation, judgment, decree, agreement or instrument to which the Authority is a party or by which it or any of its assets is bound or affected.

(c) **No Third Party Approval Required.** No approval of any third party is required for the Authority's execution and performance of this Agreement that has not been obtained prior to the execution of this Agreement.

(d) **No Litigation.** There is no litigation or proceeding pending or threatened against the Authority that could adversely affect the validity of this Agreement or the ability of the Authority to comply with its obligations under this Agreement.

9. Representations and Warranties of GigaBeam. GigaBeam represents and warrants to the Authority as of the date hereof as follows:

(a) **Due Organization.** GigaBeam is duly organized, validly existing and in good standing in the Commonwealth of Virginia (the "Commonwealth") and has full power, authority and legal right to execute, perform and timely observe all of the provisions of this Agreement. GigaBeam's execution, delivery and performance of this Agreement have been duly authorized.

(b) **Valid and Binding Obligation.** This Agreement constitutes a valid and binding obligation of GigaBeam and does not constitute a breach of or default under the corporate documents or bylaws of GigaBeam or the terms, conditions, or provisions of any law, order, rule, regulation, judgment, decree, agreement or instrument to which GigaBeam is a party or by which it or any of its assets is bound or affected.

(c) **No Third Party Approval Required.** No approval of any third party is required for GigaBeam's execution and performance of this Agreement that has not been obtained prior to the execution of this Agreement.

(d) **Continuing Legal Existence.** GigaBeam, at its expense, shall keep its legal existence in full force and effect so long as this Agreement remains in effect.

(e) **No Adverse Litigation.** There is no litigation or proceeding pending or threatened against GigaBeam that could adversely affect the validity of this Agreement or the ability of GigaBeam to comply with its obligations under this Agreement.

10. Independent Contractor. Nothing herein shall be construed to create a joint venture or partnership between the parties hereto or an employee/employer relationship. GigaBeam shall be an independent contractor pursuant to this Agreement. Neither party hereto shall have any express or implied right or authority to assume or create any obligations on behalf of or in the name of the other party or to bind the other party to any contract, agreement or undertaking with any third party.

11. Permissible Activities. Nothing herein shall in any way preclude GigaBeam

or its Related Parties from engaging in any business activities or from performing services for its or their own account or for the account of others.

12. Notices. All notices, requests, consents, claims, demands, waivers and other communications hereunder shall be in writing and shall be deemed to have been given (a) when delivered by hand (with written confirmation of receipt); (b) when received by the addressee if sent by a nationally recognized overnight courier (receipt requested); (c) on the date sent by facsimile or e-mail of a PDF document (with confirmation of transmission) if sent during normal business hours of the recipient, and on the next Business Day if sent after normal business hours of the recipient; or (d) on the third day after the date mailed, by certified or registered mail, return receipt requested, postage prepaid. Such communications must be sent to the respective parties at the addresses indicated below (or at such other address for a party as shall be specified in a notice given in accordance with this Section).

If to the Authority:    Bland County Wireless Authority  
   P.O. Box 510  
   Bland, VA 24315  
   Attention: County Administrator

If to GigaBeam:    GigaBeam Networks, LLC  
   405 Old Virginia Avenue  
   Rich Creek, VA 24147  
   Attention: President

13. Entire Agreement. This Agreement constitutes the sole and entire agreement of the parties to this Agreement with respect to the subject matter contained herein, and supersedes all prior and contemporaneous understandings and agreements, both written and oral, with respect to such subject matter.

14. Successor and Assigns. This Agreement shall be binding upon and shall inure to the benefit of the parties hereto and their respective successors and permitted assigns. However, neither this Agreement nor any of the rights of the parties hereunder may otherwise be transferred or assigned by any party hereto. Any attempted transfer or assignment in violation of this Section shall be void.

15. No Third-Party Beneficiaries. This Agreement is for the sole benefit of the parties hereto and their respective successors and permitted assigns and nothing herein, express or implied, is intended to or shall confer upon any other person any legal or equitable right, benefit or remedy of any nature whatsoever, under or by reason of this Agreement.

16. Headings. The headings in this Agreement are for reference only and shall not affect the interpretation of this Agreement.

17. Amendment and Modification; Waiver. This Agreement may only be amended, modified or supplemented by an agreement in writing signed by each party hereto.

No waiver by any party of any of the provisions hereof shall be effective unless explicitly set forth in writing and signed by the party so waiving. Except as otherwise set forth in this Agreement, no failure to exercise, or delay in exercising, any rights, remedy, power or privilege arising from this Agreement shall operate or be construed as a waiver thereof; nor shall any single or partial exercise of any right, remedy, power or privilege hereunder preclude any other or further exercise thereof or the exercise of any other right, remedy, power or privilege.

18. Severability. If any term or provision of this Agreement is invalid, illegal or unenforceable in any jurisdiction, such invalidity, illegality or unenforceability shall not affect any other term or provision of this Agreement or invalidate or render unenforceable such term or provision in any other jurisdiction. Upon such determination that any term or other provision is invalid, illegal or unenforceable, the parties hereto shall negotiate in good faith to modify this Agreement so as to effect the original intent of the parties as closely as possible in a mutually acceptable manner in order that the transactions contemplated hereby be consummated as originally contemplated to the greatest extent possible.

19. Governing Law; Submission to Jurisdiction. This Agreement shall be governed by and construed in accordance with the internal laws of the Commonwealth without giving effect to any choice or conflict of law provision or rule (whether of the Commonwealth or any other jurisdiction) that would cause the application of Laws of any jurisdiction other than those of the Commonwealth. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby may be instituted in the courts of the Commonwealth in Bland County; and each party irrevocably submits to the exclusive jurisdiction of such courts in any such suit, action or proceeding. Service of process, summons, notice or other document by mail to such party's address set forth herein shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or any proceeding in such courts and irrevocably waive and agree not to plead or claim in any such court that any such suit, action or proceeding brought in any such court has been brought in an inconvenient forum.

20. Waiver of Jury Trial. Each party irrevocably and unconditionally waives any right it may have to a trial by jury in respect of any legal action arising out of or relating to this Agreement or the transactions contemplated hereby. Each party to this Agreement certifies and acknowledges that (a) no representative of any other party has represented, expressly or otherwise, that such other party would not seek to enforce the foregoing waiver in the event of a legal action; (b) such party has considered the implications of this waiver; (c) such party makes this waiver voluntarily; and (d) such party has been induced to enter into this Agreement by, among other things, the mutual waivers and certifications in this Section.

21. Counterparts. This Agreement may be executed in counterparts, each of which shall be deemed an original, but all of which shall together shall be deemed to be one and the same agreement. A signed copy of this Agreement delivered by facsimile, e-mail or other means of electronic transmission shall be deemed to have the same legal effect as delivery of an original signed copy of this Agreement.



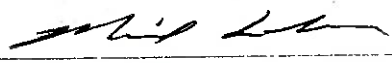
22. No Strict Construction. The parties to this Agreement have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises, this Agreement will be construed as if drafted jointly by the parties, and no presumption or burden of proof will arise favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Agreement.

**IN WITNESS WHEREOF**, the Bland County Wireless Authority approved this Management Services Agreement on September 26, 2019 and parties hereto have executed this Management Services Agreement on the date first written above.

BLAND COUNTY WIRELESS  
AUTHORITY

By:   
Name: K. Adam Kidd  
Title: Vice-Chair

GIGABEAM NETWORKS, LLC

By:   
Name: Michael Clemons  
Title: President

**DRAFT MEMORANDUM OF AGREEMENT  
BETWEEN COUNTY OF MONTGOMERY,  
VIRGINIA AND  
GIGABEAM NETWORKS, LLC  
FOR THE  
EXPANSION OF BROADBAND IN THE COUNTY**

THIS MEMORANDUM OF AGREEMENT (“Agreement”) entered into this \_\_\_\_ day of \_\_\_\_\_, 2021, by and between the County of Montgomery, Virginia, located at 755 Roanoke Street, Christiansburg, Virginia 24073 (the “County”) and Gigabeam Networks, LLC, a Virginia Limited Liability Company, located at 387 Old Virginia Avenue, Rich Creek, Virginia 24147 (“Gigabeam”). These are the “Parties” to this Agreement which pertains to the application for 2022 Virginia Telecommunication Initiative (“VATI”) funds granted by the Virginia Department of Housing and Community Development (“DHCD”) pursuant to an Agreement between DHCD and the County for the expansion of broadband into the unserved areas of Montgomery County (“Project”)(see Project Area Map attached as Attachment 1).

**Section 1 – Funding and Scope of Work**

**Project Funding**

For this portion of the wider multi-jurisdictional 2022 VATI application, Montgomery County is requesting funding in the amount of \$43,000,000 from VATI funds (“DHCD Grant”) for the purpose of expanding broadband service to 11,611 serviceable units, including 239 businesses and community anchors in unserved areas throughout Montgomery County as depicted on the Project Area Map. The County is contracting with Gigabeam Networks, LLC (“Gigabeam”) as the developer of the Project. Gigabeam, in close coordination with the County and DHCD shall perform all professional service and construction necessary to complete the development of the Project in full compliance with the terms of this Agreement.

Montgomery County shall provide Six Million Dollars (\$6,000,000) in matching funds toward the Project (“County Grant”), or eleven (11) percent of the total project cost. Gigabeam shall also provide ten (11) percent, or \$6,000,000, in matching funds toward the Project. In addition, Gigabeam shall provide an additional \_\_\_\_\_ as in-kind matching funds which includes labor, equipment use, design, and fiber connections/routers (“Gigabeam Grant”).

## Budget

Gigabeam and the County shall prepare a detailed Budget that outlines how the grant funds shall be utilized, including itemization of equipment, construction costs and a justification of proposed expenses. Each service area shall have delineated budget information. Gigabeam shall utilize the DHCD Grant, County Grant and Gigabeam Grant on eligible costs as outlined in the approved Budget which is hereby incorporated into this Agreement and attached as Attachment 2.

## Project Scope of Work

This Project includes making broadband services available through the utilization of fiber to the premise technology to 11,611 underserved units, including 239 community anchors located in Montgomery County as depicted on the Project Area Map. The Project will utilize XGS-PON equipment capable of delivering 10Gbps symmetrical speeds to end users throughout the bulk of the coverage area. Based on PON (passive optical network), the design of the network will be in a 32:1 split ratio for customer access and speeds from 100Mbps to 1Gbps symmetrical will be initially offered.

The Project will utilize existing AEP fiber that is located near the project areas, as well as new Gigabeam fiber, to provide the primary internet connections. This fiber point of presence shall provide connectivity to the network with initial capacities up to 10Gbps. 6 OLT cabinets will be installed throughout the service territory that will distribute to the service locations as well as interconnect to the middle mile fiber.

End users will be connected using XGS-PON ONT's capable of up to 10Gbps symmetrical speeds. Also provided to the customer will be Wi-Fi 6 capable wireless routers with enhanced services including parental controls and network security.

All the proposed Fiber to the home and wireless infrastructure for this Project shall be owned or leased by Gigabeam. The County shall have no ownership other than in any water tank location that may be used which are owned by the Montgomery County Public Service Authority.

Gigabeam shall initiate the Field Engineering on **March 2022** \_\_\_\_\_, construction of the Project beginning no later than **December 31, 2022** \_\_\_\_\_. **The Project is estimated to take two and half (2.5) years, and Gigabeam shall complete** the Project on or before **December 31, 2022** \_\_\_\_\_. If the Project is not completed by that date and no written extension has been granted by the County and DHCD, all DHCD Grant funds and County Grant funds and this Agreement shall be terminated and Gigabeam shall return to the County all DHCD Grant funds required by DHCD and all County Grant funds required by the County. The parties agree that a written extension of the time to perform shall not unreasonably be withheld.

Gigabeam shall carry out the following specific activities in the implementation of the Project:

- a) Oversee the performance of all vendors, general contractor and subcontractors that are involved in the development of the Project to assure compliance with this Agreement and all applicable federal, state and local laws and regulations

including the following which shall be incorporated and made a part of this Agreement:

- (1) CDBG General Management Manual;
  - (2) Project Management Plans/Project Plans
  - (3) Terms and Conditions in the Agreement between DHCD and the County
- b) Process payments to vendors, contractors and subcontractors in accordance with the approved Budget in a commercially reasonable and timely manner; and
- c) Assure that funds provided under this Agreement are only used for eligible purposes as outlined in the approved Budget and must take proactive steps to prevent misuse and/or mismanagement of funds.

The County shall be responsible for hiring the NRV Regional Commission to administer the DHCD and County Grants. The County and Gigabeam shall meet with the representative from the Regional Commission serving as the Project Grant Administrator at least monthly to properly monitor the Project's progress. The Project Management Plan shall be reviewed by Gigabeam, the County and Grant Administrator to determine if the Project is being implemented according to the Project Plan. The Project Plan shall be updated promptly in recognition of any deviation from the approved Plan and DHCD shall be notified.

## **Section 2 – Reimbursement of Expenses**

It is expressly agreed and understood that the total amount to be paid to Gigabeam by the County under this Agreement shall not exceed the DHCD Grant and the County Grant. The County shall provide the DHCD Grant and County Grant funds to Gigabeam based on a pay for performance basis. Gigabeam shall perform the work first and then seek reimbursement from the County's Grant Administrator through the DHCD Grant funds and the County Grant funds.

The County's Grant Administrator shall process Gigabeam's claims for payment in a timely and reasonable manner upon its determination that Gigabeam submitted all required and properly completed supporting documentation as required by DHCD and the County. All claims for reimbursement for work performed shall be in conformance with the latest approved Budget and be supported by properly executed payrolls, time records, invoices, contracts, or vouchers evidencing in proper detail the nature and propriety of the claim for reimbursement.

A five percent (5%) retainage shall be withheld from each payment by the County. The retainage shall be disbursed within thirty (30) days once the County receives notice from DHCD that the project is complete and deemed in conformity with DHCD Grant requirements. If the Project is not constructed in conformity with the DHCD Grant requirements the County may use the retainage funds to complete any items identified by the County or DHCD should Gigabeam fail to do so.



### **Section 3 – Initial Broadband Services Offerings and Marketing**

Gigabeam agrees that the initial residential/business offerings for Broadband Services within the Project area once the Project is completed shall be as follows:

Initial small business/residential offerings per month shall include:

100Mbps x 100Mbps - \$59

250Mbps x 250Mbps - \$79

500Mbps x 500Mbps - \$99

1Gbps x 1Gbps - \$129

Custom Mid/Large Business plans will also be offered to fit the needs of specific businesses.

#### **Marketing**

Gigabeam agrees to market the residential and business broadband service once available in the Project Map area using the following:

- Door Hangers
- Radio Ads
- Social Media
- TV Ads
- Newspaper Ads
- Community Events
- Partnering with public libraries to distribute informational pamphlets and other promotional material of the availability of broadband service in the Project area

### **Section 4 – Insurance Requirements**

a) Gigabeam shall maintain for the duration of construction, at Gigabeam's expense, insurance that includes "Occurrence" basis wording and is issued by a company or companies qualified to do business in the State of Virginia that are acceptable to County. Gigabeam shall name the County as an additional insured on all liability policies, and acknowledges that any insurance maintained by the County shall apply in excess of, and not contribute to insurance provided under Gigabeam's policy, to the extent County's insurance would apply. Gigabeam agrees to maintain insurance policies commensurate with all County contract requirements within the scope of this Agreement as follows:

- 1) Commercial Liability Insurance, including premises liability, bodily injury, and product/completed operations coverage with a combined single limit of \$1,000,000.00 per occurrence, with a \$3,000,000.00 aggregate, and

- 2) Non-owned/hired automobile liability in the amount of \$1,000,000.00 in aggregate.
- 3) Worker's Compensation Covering statutory requirements of the State of Virginia and Employer's Liability of not less than \$100,000.00.
- 4) Equivalent insurance coverage for real property and equipment acquired with DHCD Grant Funds or County Grant Funds.

Acceptance or approval of insurance shall in no way modify or change the indemnity or hold harmless clauses in this Agreement, which shall continue in full force and effect.

- b) Gigabeam agrees to provide County with Certificates of Insurance evidencing the above required insurance prior to commencement of activity as part of this Agreement, and thereafter with certificates evidencing renewals or replacements of said policies of insurance at least fifteen (15) days prior to the expiration or cancellation of any such policies. The contractual liability arising out of the Agreement shall be acknowledged on the Certificate of Insurance by the insurance company. County shall be provided with thirty (30) days prior notice, in writing, of Notice of Cancellation or material change to the insurance and said notification shall be stated on the Certificate of Insurance. Gigabeam's subcontractors, if any, shall comply with the same insurance requirements.

Gigabeam shall be responsible for verification of insurance by those entities it hires and if proper insurance is not carried by said entities, then Gigabeam shall have insurance protection from claims which may arise out of or as a result of the work, whether it be performed by the Gigabeam, subcontractor, independent contractors, consultants, agents, supplier, and the like, whether directly or indirectly employed by any of them or by anyone for whose acts any of them may be liable.

Insurance Notices and Certificates of Insurance shall be provided to:

F. Craig Meadows, County Administrator  
County of Montgomery, Virginia  
755 Roanoke St., Suite 2E  
Christiansburg, VA 24073

### **Section 5 - Indemnification and Hold Harmless**

Gigabeam agrees to indemnify and hold the County, their officials, board members, constitutional officers, and officers, agents, attorneys and employees (each represented as "the County") harmless against and from all claims by or on behalf of any person, firm or corporation including but not limited to the Grant provided by DHCD for the Project, arising from the conduct or management of, or from any work or things done or omitted to be done on the Project while this Agreement obligations remain outstanding, including but not limited to (i) any condition of the Project, (ii) any breach or default on the part of Gigabeam in the performance of any of its obligations under this Agreement, (iii) any act of negligence of Gigabeam, or of any of its agents,

contractors, servants, employees or licensers, (iv) any act of negligence of any assignee or lessee of Gigabeam, or of any agents, contractors, servants, employees or licensees of any assignee or lessee of Gigabeam, (v) any performance by the County as required under this Agreement or as requested by Gigabeam, this paragraph shall also apply to any subcontractors of Gigabeam and (vi) for any repayment obligation the County may have to DHCD due to the County **contracting with DHCD to be the Grantee for the \$ DHCD Grant Funds** being provided to Gigabeam pursuant to this Agreement for the Project.

Gigabeam agree to indemnify and save the County harmless from and against all costs and expenses incurred in or in connection with any such claim arising as aforesaid or in connection with any action or proceeding brought thereon. In case any such claim shall be made or action brought based upon any such claim in respect of which indemnity may be sought against Gigabeam, upon receipt of notice in writing from the County setting forth the particulars of such claim or action, Gigabeam shall assume the defense thereof including the employment of counsel and the payment of all costs and expenses. In any such action the County shall have the right to employ separate counsel mutually acceptable to the County and Gigabeam and to participate in the defense thereof; provided that if the County and Gigabeam cannot agree on mutually acceptable counsel, the County shall have the exclusive right to select such counsel. The fees and expenses of such counsel reasonable incurred shall be at the expense of Gigabeam without regard to any authorization of such employment by Gigabeam.

#### **Section 6- Compliance with Federal, State & Local Laws**

Gigabeam covenants and warrants that it shall comply with all applicable laws, ordinances, codes, rules and regulations of the state local and federal governments including but not limited to those laws and regulations specifically listed in the Assurance/Certification Section of the Agreement between DHCD and the County.

Gigabeam agrees to comply with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency regulations (40 CFR part 15).

#### **Section 7- Suspension and Termination**

- a) County may suspend or terminate this Agreement, in whole or in part, if Gigabeam materially fails to comply with any terms of this Agreement, or with any of the rules, regulations or provisions as they relate to DHCD Grant funding or this Agreement referred to herein. In the event there is probable cause to believe Gigabeam is in material noncompliance with any applicable rules or regulations, County may withhold further payment of DHCD and/or County Grant funds until such time as Gigabeam is found to be in compliance by County, or is otherwise adjudicated to be in compliance. County will notify Gigabeam in writing of any action to suspend or terminate prior to taking such action.

- b) This Agreement shall be terminated and cancelled without penalty in the event that the Gigabeam Grant, the DHCD Grant and/or County Grant funding, upon which the parties are dependent, to pay for this service, fails to be appropriated or otherwise made available in whole or in part.
- c) If County suspends or terminates this Agreement in whole or in part due to any reason set forth above the County will not be liable for any loss or damage to Gigabeam that results directly or indirectly from said suspension or termination.
- d) County shall not be responsible for or liable in any manner for language included or excluded in any of Gigabeam's subcontracts, purchase orders and the like.
- e) Upon a good faith suspension or termination by County of this Agreement, Gigabeam shall remit to the County within thirty (30) days of receipt of written notice the entire amount of DHCD Grant funds that DHCD is requiring the County to return to DHCD pursuant to the Agreement between DHCD and County and any County Grant Funds the County is requiring the return of pursuant to this Agreement.

### **Section 8 - Remedies**

In the event of any violation or breach of this Agreement, including but not limited to, Gigabeam's misuse or misapplication of funds derived from this Agreement, by Gigabeam's violation of any of the statutes, rules and regulations of DHCD, either directly or indirectly, by Gigabeam and/or any of its agents or representatives, then Gigabeam, to the extent permitted by law, agrees to indemnify, and hold County harmless from any requirement by the County to repay to DHCD the DHCD Grant funds the County paid Gigabeam for this Project or penalties and expenses, including attorneys' fees and costs of litigation, resulting from such action or omission by Gigabeam. In the event DHCD makes any claim to the County requiring the County to repay any portion of the DHCD Grant which would give rise to invoking the remedy provisions, as set forth in this Section, then the County shall immediately notify Gigabeam in writing, providing the full details of the alleged violation. Gigabeam shall provide to the County within thirty (30) days of receiving written notice the portion of the DHCD Grant the County is required to repay DHCD pursuant to the Agreement between DHCD and the County. Should Gigabeam fail to provide the funds to the County, the County may proceed to enforce repayment of the DHCD Grant by retaining any of the retainage still in possession of the County, and/or exercise any and all other rights, powers or remedies the County may have under law. The parties agree that any dispute, action, claim, cause of action, breach of contract, or other remedy or relief sought pursuant to the provisions of this Agreement or any related Project shall be controlled and decided by the laws of the State of Virginia. The parties further agree that the appropriate venue for any disputes shall be the Montgomery Circuit Court or the U.S. District Court, Western Division of Virginia, if applicable.

## **Section 9 - Default-Loss of Grant Funds**

If Gigabeam fails in any manner to fully perform and carry out any of the terms, covenants, and conditions of the Agreement, Gigabeam shall be in default and notice in writing shall be given to Gigabeam of such default by the County or an agent of the County. If Gigabeam fails to cure such default within thirty (30) days after written notice thereof from the County (unless such default is not capable of cure within such thirty (30) day period, in which case Gigabeam shall promptly commence and diligently prosecute to completion the cure of such default after written notice thereof from the County), the County may at its option terminate and cancel the Agreement.

In the event of such termination, all DHCD Grant funds and County Grant funds awarded to Gigabeam pursuant to this Agreement shall be immediately revoked and any approvals related to the Project shall immediately be deemed revoked and canceled. In such event, Gigabeam will no longer be entitled to receive any compensation for work undertaken after the date of the termination of this Agreement, as the DHCD Grant funds and County Grant funds will no longer be available for this Project.

Such termination shall not affect or terminate any of the rights of the County as against Gigabeam then existing, or which may thereafter accrue because of such default, and the foregoing provision shall be in addition to all other rights and remedies available to the County under the law.

The waiver of a breach of any term, covenant or condition hereof shall not operate as a waiver of any subsequent breach of the same or any other term, covenant, or condition hereof.

## **Section 10 - Reporting Responsibilities**

- a) **Project Files**. Gigabeam shall keep a file on the Project containing information as required by DHCD.
- b) **Record Retention**. All records must be retained for five years after completion of the Project.
- c) **Requests of the County**. At the reasonable request of the County or DHCD, Gigabeam shall furnish such reports, budgets, certifications and other documents required pursuant to Federal, State, or County rules, regulations and policies that are applicable to the Project and shall give specific answers to questions from the County or DHCD, from time to time, relative to Gigabeam's contracts and operations in connection with the Project.

## **Section 11 - Inspection, Monitoring & Access to Records**

The County reserves the right to inspect, monitor, and observe work and services performed by Gigabeam at any and all reasonable times.

The County reserves the right, at the County's expense, to audit the records of Gigabeam for five years after completion of Project. The County reserves the right to audit the records of Gigabeam any time during the performance of this Agreement and for a period of five years after final payment is made under this Agreement.

If required, Gigabeam shall provide the County with a certified audit of Gigabeam's records representing the Fiscal Year during which the Project becomes complete pursuant to the requirements of DHCD and OMB Circular A-133.

Access shall be granted upon reasonable notice to the County, DHCD, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents, papers, and records of Gigabeam, or its contractors which are directly pertinent to that specific contract for the purpose of making audit, examination, excerpts, and transcriptions.

## **Section 12 - General Conditions**

- a) All notices or other communication which shall or may be given pursuant to this Agreement shall be in writing and shall be delivered by personal service, overnight delivery service or by registered mail addressed to the other party at the address indicated herein or as the same may be changed from time to time. Such notice shall be deemed given on the day on which personally served; or, if by overnight delivery service, on the date of receipt of such notice; or, if by mail, on the fifth day after being posted or the date of actual receipt, whichever is earlier.

**County:**

County of Montgomery  
ATTN: F. Craig Meadows, County Administrator  
755 Roanoke Street, Suite 2E  
Christiansburg, VA 24073

**Gigabeam:**

Gigabeam Networks, LLC  
ATTN: Michael Clemons  
387 Old Virginia Avenue  
Rich Creek, VA 24147

- b) Title and paragraph headings are for convenient reference and are not a part of this Agreement.

- c) In the event of conflict between the terms of this Agreement and any terms or conditions contained in any attached documents, the terms in this Agreement shall rule.
- d) No waiver or breach of any provision of this Agreement shall constitute a waiver of a subsequent breach of the same or any other provision hereof, and no waiver shall be effective unless made in writing.
- e) The parties hereto agree that this Agreement shall be construed and enforced according to the laws of the Commonwealth of Virginia.
- f) Should any provisions, paragraphs, sentences, words or phrases contained in this Agreement be determined by a court of competent jurisdiction to be invalid, illegal or otherwise unenforceable under the laws of the State of Virginia, such provisions, paragraphs, sentences, words or phrases shall be deemed modified to the extent necessary in order to conform with such laws, or if not modifiable to conform with such laws, then same shall be deemed severable, and in either event, the remaining terms and provisions of this Agreement shall remain unmodified and in full force and effect.
- g) Gigabeam shall comply with the provisions of the Copeland Anti-Kick-Back Act (18 U.S.C. 874).
- h) Gigabeam shall comply with the provisions of sections 103 and 107 of the Contract Work Hours and Safety Standard Act (40 U.S.C. 327-330).
- i) Gigabeam further warrants and agrees to include or cause to be included the criteria and requirements of paragraphs (G) through (H) of this section in every nonexempt subcontract. Gigabeam also agrees to take such action as the federal, state or local government may direct to enforce aforesaid provisions.
- j) The obligations undertaken by Gigabeam pursuant to this Agreement shall not be delegated or assigned to any other person or County unless County shall first consent to the performance or assignment of such service or any part thereof by another person or County, which consent shall not be unreasonably withheld.
- k) The Agreement shall be binding upon the parties hereto, their heirs, executors, legal representative, successors and assigns.
- l) Gigabeam and its employees and agents shall be deemed to be independent contractors, and not agents or employees of the County, and shall not attain any rights or benefits under the civil service or pension ordinances of the County, or any rights generally afforded classified or unclassified employee; further they shall not be deemed entitled to state compensation benefits as an employee of the County.

## **Section 13 - Miscellaneous Provisions**

### a) Severability

Should any provision contained within this Agreement be found, for any reason, to be invalid, illegal or unenforceable, it shall not affect any other provision hereof, and this Agreement shall be constructed as if such invalid, illegal, or unenforceable provision had never been contained herein.

### b) Non-waiver of rights

The County's failure to insist upon the strict performance of any provision of this contract, or failure to exercise any right based upon breach, will not constitute a waiver of any rights under this Agreement.

### c) Amendments

Any amendment to this Agreement must be in writing and signed by a duly authorized representative of each organization. Such amendment(s) shall not invalidate this Agreement, nor relieve or release County or Gigabeam from its obligations under this Agreement. However, County may amend this Agreement without Gigabeam to conform with Federal, state or local governmental guidelines, policies and available funding amounts, or for other reasons. If such amendment(s) results in a change in the funding, the scope of services, or schedule of the activities to be undertaken as part of this Agreement, such modifications will be incorporated only by written amendment signed by County and Gigabeam.

This Agreement represents the entire Agreement between the parties and supersedes all prior representations, negotiations or agreements whether written or oral.

### d) Counterparts

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which taken together shall constitute one and the same instrument.



WITNESS the following signatures and seals:

**THE COUNTY OF MONTGOMERY, VIRGINIA**

By: \_\_\_\_\_  
F. Craig Meadows County Administrator

Date: \_\_\_\_\_

**GIGABEAM NETWORKS, LLC**

By: \_\_\_\_\_  
Michael Clemons, Gigabeam

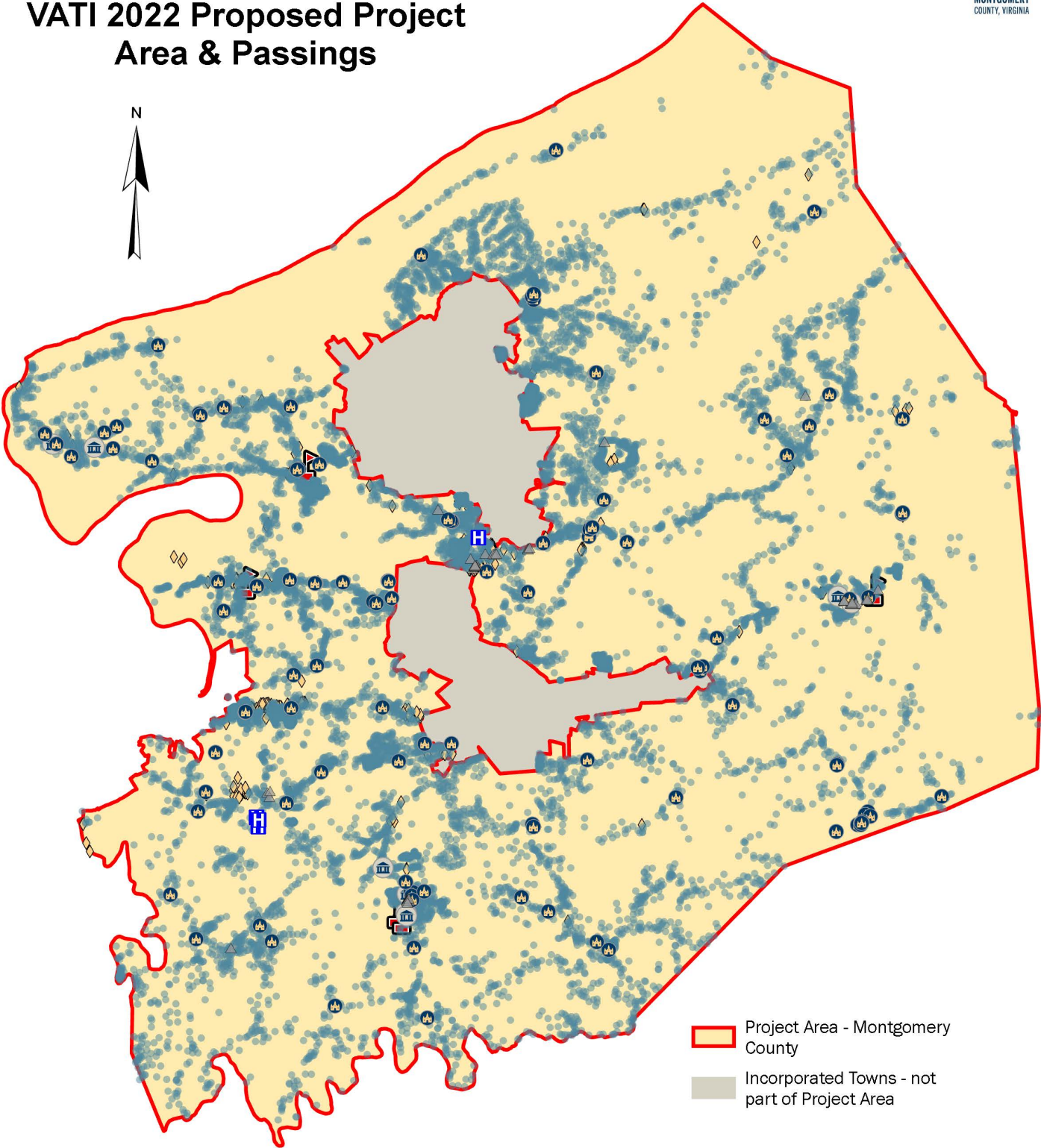
Date: \_\_\_\_\_

# Exhibit A

Prepared by Montgomery County  
Planning & GIS Services 9/10/2021

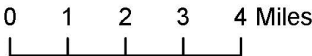


## Montgomery County, VA VATI 2022 Proposed Project Area & Passings



- Project Area - Montgomery County
- Incorporated Towns - not part of Project Area

- Address Type
- School (6)
  - Residential (14,111)
  - Library (0)
  - Government Building (8)
  - Place of Worship (111)
  - Hospital/Medical (4)
  - Business (50)
  - Other Commercial (255)





**Attachment 9  
VATI FUNDING SOURCES TABLE**

<b>Source</b>	<b>Amount</b>	<b>%</b>	<b>Status</b>
Requested VATI	\$69,745,774	50%	Pending
All Points Broadband/APCo	\$27,673,801	19.83%	\$13,496,931 secured/\$14,176,8700 Pending SCC Approval
GigaBeam / APCo	\$33,477,555	23.99%	Pending SCC Approval
Bland County	\$459,764	0.33%	Secured
Montgomery County	\$6,000,000	4%	Secured
Pulaski County	\$2,200,000	1.58%	Secured
<b>Total</b>	\$139,556,894	100%	



Appalachian  
Regional  
Commission

**Appalachian Regional Commission**  
**1666 Connecticut Avenue NW, Suite 700**  
**Washington, DC 20009**

**Amendment to Contract:** (Minor changes to time or budget of project.)

Amendment No: 1

Date: 5/7/2021

**ARC Project**  
**Number/Title** PW-19461-IM

Bland County Broadband Deployment

**Grantee:**  
Bland County  
PO Box 510  
Bland, VA

**ARC Project Coordinator:**  
Mark Defalco  
**Phone:** 202-884-7719  
**Fax:** 202-884-7691  
**Email:** mdefalco@arc.gov

**Contact:** Kristi Blevins  
**Phone:** 276-688-4622  
**Email:** kblevins@bland.org

---

**Time Modification:**

End Date: 2/28/2024.

**Additional Amendment Comment:**

In order to prevent duplication of infrastructure development proposed by APCO Bland County will shift focus to deploying broadband resources to businesses and residents in concert with the APCO project.

---

Mark Defalco-6/21/2021 10:05:50 AM

(Primary Basic Agency Contact)



September 14, 2021

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

RE: 2022 VATI Application

Dear Dr. Holmes:

This letter will confirm All Points Broadband's ("APB") support for this application to the 2022 Virginia Telecommunication Initiative program ("VATI"). APB confirms that it is committing all required financing to satisfy All Points' match commitment set forth in the application.

We are excited to be part of this important project and appreciate your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Carr", is positioned above the printed name and title.

James G. Carr  
Chief Executive Officer



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

RE: All Points Broadband – 2022 Accelerated Fiber Deployment Initiative

Dr. Holmes:

On behalf of Searchlight Capital Partners, L.P. (“Searchlight”), I am pleased to submit this letter in support of the applications that All Points Broadband (“All Points”) is making to the 2022 Virginia Telecommunication Initiative (“VATI”).

Searchlight is All Points Broadband’s lead equity sponsor. Our investment in All Points is made for the specific purpose of accelerating All Points’ successful track record of deploying last-mile, fiber-to-the-home (“FTTH”) broadband through public-private partnerships and in partnership with electric utilities. Through its VATI and Utility Leverage programs, Virginia and the Department of Housing and Community Development (“DHCD”) have created a framework that is now recognized as a national model for attracting private capital to making last-mile FTTH available to currently unserved locations. Searchlight strongly supports All Points’ efforts to leverage that forward-thinking framework to deliver connectivity to unserved locations across the Commonwealth.

For the current VATI cycle, All Points has designed networks that will extend FTTH broadband to more than seventy five thousand currently unserved locations in Virginia. Collectively, we refer to these projects as the 2022 Accelerated Fiber Deployment Initiative (the “Initiative”). Each project in the Initiative has been designed to achieve universal FTTH access in the relevant county and/or region. Detailed bills of material and cost estimates based on current pricing have been prepared for each project and All Points and its vendors have secured materials required to execute the Initiative. In light of the pressures on the global supply chain for FTTH construction, the best way to secure required materials and labor at the lowest unit pricing is to aggregate multiple large projects into significant volume commitments. This is the approach that All Points and Searchlight have taken for the 2022 Accelerated Fiber Deployment Initiative.

***This letter will confirm that Searchlight has committed all of the equity financing required to complete all of the projects included in All Points’ 2022 Accelerated Fiber Deployment Initiative and related VATI applications.***

## About Searchlight Capital Partners

Searchlight is a private investment firm with over \$9 billion of assets under management with extensive expertise investing in the global telecommunications and media sectors. Over the last two years, Searchlight has invested in excess of \$1.25 billion in FTTH in the United States, making Searchlight the number one investor in domestic FTTH infrastructure in that period. And as of today, through our investments in All Points, Consolidated Communications and Zply Fiber, Searchlight is the fourth largest builder of FTTH passings in America. All Points benefits from the tremendous volume purchasing arrangements for Searchlight's portfolio companies, which ensure availability of required supply and the best available pricing.

Searchlight has deep familiarity with broadband markets and the associated competitive dynamics in the broader United States. Searchlight's leadership, both through their time at Searchlight and at previous investment firms, have also acquired multiple decades of experience investing specifically in fiber-based broadband businesses in the U.S. and globally, which has made it a core competency and strategic focus for the firm.

In addition to myself, Ajit Pai is another Partner at Searchlight who focuses on the firm's broadband and digital infrastructure efforts and is a key member of the All Points team. Ajit is a Virginia resident and served as a member (2012-2017) and then Chairman (2017-2021) of the Federal Communications Commission.

## Searchlight is Committed to All Points' 2022 Accelerated Fiber Deployment Initiative

The projects comprising the All Points 2022 Accelerated Fiber Deployment Initiative will extend FTTH broadband to more than seventy five thousand currently unserved locations in the Commonwealth and finally bridge the digital divide for more than 32% of the remaining unserved locations estimated by Virginia's broadband team. Searchlight has committed all equity financing required to complete all of the projects set forth in the VATI applications submitted by All Points. We look forward to providing the significant private capital that will make Virginia the first state in the nation to achieve universal broadband access.

Sincerely,



Darren Glatt  
Partner & Co-Head of Infrastructure Investing  
Searchlight Capital Partners, L.P.



AT A REGULAR MEETING OF THE BOARD OF SUPERVISORS OF THE COUNTY OF MONTGOMERY, VIRGINIA HELD ON THE 13<sup>th</sup> DAY OF SEPTEMBER, 2021 AT 6:15 P.M. IN THE BOARD CHAMBERS, MONTGOMERY COUNTY GOVERNMENT CENTER, 755 ROANOKE STREET, CHRISTIANSBURG, VIRGINIA:

**R-FY-22-22**  
**RESOLUTION OF SUPPORT FOR THE**  
**2022 VIRGINIA TELECOMMUNICATIONS INITIATIVE (VATI)**  
**BROADBAND PROJECT**

On a motion by Mary W. Biggs, seconded by Sara R. Bohn and carried unanimously,

WHEREAS, Montgomery County is pursuing funding for a 2022 Virginia Telecommunications Initiative Broadband Project to deploy broadband service in areas of Montgomery County, Virginia not served; and

WHEREAS, The Board of Supervisors desire to express their support for this Broadband project to expand internet access in Montgomery County into communities that are without broadband speed internet service.

NOW, THEREFORE, BE IT RESOLVED, By the Board of Supervisors of the County of Montgomery, Virginia that the Board hereby supports the grant application to the Virginia Telecommunications Initiative for the broadband project proposed in Montgomery County.

BE IT FURTHER RESOLVED, That the Board of Supervisors hereby authorizes the Chair, Steve Fijalkowski, to sign a letter expressing the Board of Supervisors support for the Virginia Telecommunications Initiative Broadband project, on behalf of Montgomery County.

The vote on the foregoing resolution was as follows:

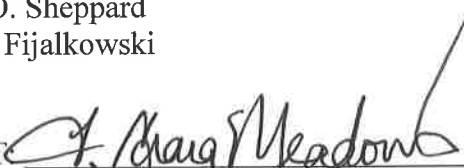
AYE

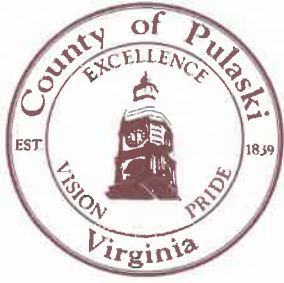
Mary W. Biggs  
Sherri M. Blevins  
Sara R. Bohn  
April N. DeMotts  
M. Todd King  
Darrell O. Sheppard  
Steve R. Fijalkowski

NAY

None

ATTEST

  
F. Craig Meadows  
County Administrator



**Pulaski County Administrator  
Jonathan D. Sweet, ICMA-CM**

Phone (540) 980-7705  
Fax (540) 980-7717  
jsweet@pulaskicounty.org

143 Third Street, NW, Suite 1  
Pulaski, Virginia 24301

September 14, 2021

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

**RE: SUPPORT FOR 2022 VATI APPLICATION AND CONFIRMATION OF LOCAL MATCH**

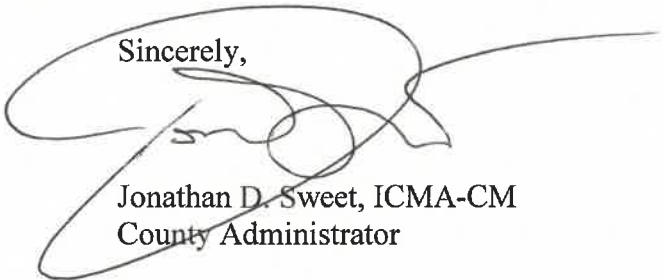
Dr. Holmes:

This letter will confirm the strong support of Pulaski County for the regional application to be submitted by the New River Valley Regional Commission and All Points Broadband, as applicant and co-applicant, respectively, to the 2022 Virginia Telecommunication Initiative (the "VATI Application").

At our meeting on August 23, 2021, the Pulaski County Board of Supervisors voted unanimously to approve submission of the VATI Application, and authorized a local match commitment of \$2,200,000.00 to be included as part of said application.

We appreciate your consideration of this important project for the future of the County.

Sincerely,



Jonathan D. Sweet, ICMA-CM  
County Administrator

September 4, 2021

Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300

RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [PULASKI COUNTY, VA]

Dear Dr. Holmes,

Please accept this letter as my personal support for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County. This critically important 21st Century infrastructure is necessary to support the growing telework, teleMed and teleEd needs of the community. This important investment will directly and indirectly benefit me and my family.

We frequently spend time at our home on Clarks Ferry Road, and the ability to work remotely from our home would greatly enhance our time here. With our current internet service (Hughesnet) we are unable to work remotely via VPN, nor are we able to view recorded seminars via youtube. In addition, we are not currently attending church due to the coronavirus, and we would like to be able to view our streamed worship services. We are occasionally able to participate in zoom meetings, but the service is spotty and inconsistent.

Pulaski County is an emerging employment center and next-level community, but without strategic investments in broadband deployment both the County and Commonwealth will not reach their full potential. We offer our support for this grant because we believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding to once and for all provide a permanent solution to universal broadband deployment to these unserved areas of Virginia...

Thank you for your effort toward this project.

Sincerely,

A handwritten signature in cursive script, appearing to read "Suzanne Sanford".

Suzanne Sanford  
4018 Clarks Ferry Road  
Draper, VA 24324



COMMONWEALTH OF VIRGINIA  
HOUSE OF DELEGATES  
RICHMOND

JOSEPH P. McNAMARA  
POST OFFICE BOX 21094  
ROANOKE, VIRGINIA 24018

EIGHTH DISTRICT

COMMITTEE ASSIGNMENT  
FINANCE  
COUNTIES, CITIES

September 8, 2021  
Dr. Tamarah Holmes  
Director, Office of Broadband

Dear Dr. Holmes:

I am writing to you to express my support for Bland, Pulaski and Montgomery Counties grant application through the Virginia Telecommunications Initiative for fiber to the home broadband connectivity.

This will provide necessary resources to address broadband needs in rural Virginia, especially in Eastern Montgomery County, which is in my district. I have received many constituent calls regarding the lack of broadband in this area, particularly from constituents who live in the towns of Shawsville and Elliston.

Furthermore, the partnership between the three localities is a great showcase of regional collaboration -- representing a tobacco region, two GO Virginia regions, and two planning districts.

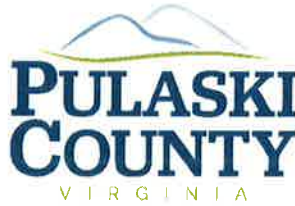
I strongly encourage you to consider their request, and I appreciate your attention on this matter.

Respectfully,

A handwritten signature in blue ink that reads "Joseph P. McNamara".

Joseph P. McNamara  
Virginia House of Delegates  
Member, 8th District





September 7, 2021

Dear Dr. Holmes,

Please accept this letter as Pulaski County Tourism Departments support for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County. This critically important 21st Century infrastructure is necessary to support the growing telework, teleMed and teleEd needs of the community. This important investment will directly and indirectly benefit the tourism department and our visitors, businesses, and attractions.

Pulaski County is an emerging employment center and next-level community, but without strategic investments in broadband deployment both the County and Commonwealth will not reach their full potential. We offer our support for this grant because we believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding to once and for all provide a permanent solution to universal broadband deployment to these unserved areas of Virginia.

We ask for your serious consideration on this grant application, that will essentially affect all sectors of our growing community. It is vital not only for communication purposes, but it will enable us to become a successful 21<sup>st</sup> century community contributing to the economic base of Virginia.

Sincerely,

A handwritten signature in blue ink, appearing to read "Peggy White", with a long horizontal flourish extending to the right.

Peggy White  
Pulaski County  
Tourism Director



P.O. Box 1499  
Christiansburg, VA 24068  
1-877-743-5671  
(540) 382-2981  
[www.shelor.com](http://www.shelor.com)

September 09, 2021

Tamarah Holmes, Ph.D.  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300  
Richmond, VA 23320

RE: LETTER OF SUPPORT – VATI GRANT APPLICATION FOR PULASKI COUNTY, VA

Dear Dr. Holmes,

Please accept this letter of support for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County. In today's world, households cannot survive or thrive without access to quality internet services. It is critical to the physical and mental health, financial viability, and educational needs of both adults and children. This important investment in Pulaski County will directly benefit our employees and customers by allowing them greater opportunities to learn and grow, but also indirectly will help by providing them a more progressive and prosperous community in which to work, live and raise their families.

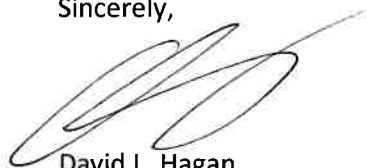
As the owner of several local businesses, I have chosen to invest extensively in Pulaski County because I see its huge potential for growth and prosperity. Our construction company, Shah Development LLC, is currently developing two residential subdivisions in Pulaski County, and will not be able to attract new residents to the area without the availability of state-of-the-art internet service. I am also an automotive retailer with significant online presence and therefore have a strongly vested interest in customers being able to live in their location of choice within the County, however remote, and still have immediate and robust access to our business around the clock. As a hotel and restaurant owner, we recognize how crucial it is that the community is recognized as a vital, vibrant destination for both permanent residents and potential travelers to the area. And in owning the local minor league baseball team/stadium and motorsports complex, the importance of being in constant touch with our fans and customers cannot be overstated. Being involved in many different industries within the Pulaski economy gives us a unique and deep appreciation of how broad the impact of this broadband effort will be just on our own businesses. On a much larger scale, the County's overall ability to bring new employers, citizens and visitors to the locality will be greatly enhanced by this technology initiative.



The County has strong leadership with the vision to become a next-level community. We support their efforts, and specifically support this grant proposal, because we believe that the plan is efficient, effective and timely. We also appreciate how the project plan uses grant funding hand-in-hand with substantial private sector funding to achieve the goal of affordable universal services to all homes in the County regardless of location.

We appreciate your consideration of Pulaski County's VATI Grant Application and encourage you to make a favorable determination to assist in this crucial effort.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Hagan', with a large, sweeping flourish extending to the right.

David L. Hagan

Owner

Shelor Motor Mile Inc.

Shah Development LLC

Jackson Park Inn

Al's on First

Calfee Park Baseball Inc.

Motor Mile Speedway



DEPARTMENT OF SOCIAL SERVICES  
PULASKI COUNTY  
53 Commerce Street  
Pulaski, VA 24301-01

---

Phone: (540) 980-7995 ext 125  
Fax: (540) 980-7904

September 7, 2021

*Tamarah Holmes, Ph.D*  
*Director, Office of Broadband*  
*Program Manager, Virginia Appalachian Regional Commission Program (ARC)*  
*Virginia Department of Housing and Community Development (DHCD)*  
*600 East Main Street, Suite 300*

***RE: LETTER OF SUPPORT – VATI GRANT APPLICATION (PULASKI COUNTY, VA***

Dear Dr. Holmes,

Please accept this letter as Pulaski County Department of Social Service's support for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County. This critically important 21<sup>st</sup> Century infrastructure is necessary to support the growing telework, teleMed and teleEd needs of the community. This important investment will directly and indirectly benefit the Pulaski County Department of Social Services and our constituents that we serve with numerous programs.

Pulaski County is an emerging employment center and next-level community, but without strategic investments in broadband deployment both the County and Commonwealth will not reach their full potential. We offer our support for this grant because we believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding to once and for all provide a permanent solution to universal broadband deployment to these unserved areas of Virginia.

Sincerely,

Guy Smith  
Director  
Pulaski County Department of Social Services



**RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [PULASKI COUNTY, VA]**

Dear Dr. Holmes,

As an executive at Fortress Building Products, a company that has gone virtual during this CoVid economy, and a company with employees in Draper, VA, please accept this letter as Fortress Building Products, and my personal support, for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County.

This critically important 21<sup>st</sup> Century infrastructure is necessary to support the growing telework, teleMed and teleEd needs of the community. This important investment will directly and indirectly benefit Fortress Building Products and our employees who live within Pulaski County. Specifically, access to high speed broadband, would allow our employees to conduct the majority of their work from home in Draper rather than travel to the office.

Pulaski County is an emerging employment center and next-level community, but without strategic investments in broadband deployment both the County and Commonwealth, it will not reach their full potential.

We offer our support for this grant because we believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding to once and for all provide a permanent solution to universal broadband deployment to these unserved areas of Virginia.

Best regards



William H Ross Jr  
4012 Clark Ferry Road  
Draper VA 24324



September 7, 2021

Dear Dr. Holmes,

Please accept this letter as Volvo Trucks support for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County.

This critically important 21st Century infrastructure is necessary to support the growing telework, teleMed and teleEd needs of the community. This important investment will directly and indirectly benefit our operations, several vendors and our employees.

Pulaski County is an emerging employment center and next-level community, but without strategic investments in broadband deployment both the County and Commonwealth will not reach their full potential.

We offer our support for this grant because we believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable.

Lastly, please consider how this grant award will leverage substantial private sector funding to once and for all provide a permanent solution to universal broadband deployment to these unserved areas of Virginia...

With best regards,

A handwritten signature in black ink, appearing to read "Franky Marchand".

Franky Marchand  
Vice President and General Manager  
New River Valley Plant



Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300

September 3, 2021

**Board of Directors**

**President**  
Laura Jacobsen

**Vice President**  
Justin Mosby

**Treasurer**  
Michael Reis

**Secretary**  
Julie Williams

Brooke Love  
Lora Gordon  
Sally Warburton  
Serena Moore  
Timothy Goff  
Victoria Collins

**Director Emeritus**  
Nelda K. Pearson

**Executive Director**  
Lee Spiegel

**RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [PULASKI COUNTY, VA]**

Dear Dr. Holmes,

I am writing on behalf Beans and Rice, Inc. in support of Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County. As a non-profit organization that works to improve opportunities for low to moderate income individuals and families in our community, it is critically important for everyone to have access to 21<sup>st</sup> Century infrastructure necessary to support the growing telework, teleMed and teleEd needs of the community. This important investment will directly and indirectly benefit both our organization's ability to work with clients and allow those that we work with to have the tools they need to succeed.

Beans and Rice is excited about the plans for Pulaski County moving forward, but without strategic investments in broadband deployment both the County and Commonwealth will not reach their full potential. We whole heartly support this grant because we believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver much needed service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable.

It has been our experience that Pulaski County has been successful in many of its projects because of the ability to work across the government and private sector "isle" to utilize available funds most effectively. I have no doubt that this broadband project will be successful and benefit our rural and lower income neighbors which will make all the difference in moving our community forward together.

Please feel free to contact me with any questions.

Lee Spiegel





# NRVHBA

NEW RIVER VALLEY  
HOME BUILDERS ASSOCIATION

*As the voice of the building community, the NRVHBA is advocating, educating and giving back to better homeownership for all.*

September 7, 2021

Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300

RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [PULASKI COUNTY, VA]

Dear Dr. Holmes:

Please accept this letter as the New River Valley Home Builders Association's (NRVHBA) support for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County. This critically important 21<sup>st</sup> Century infrastructure is necessary to support the growing telework, teleMed and teleEd needs of the community. This important investment will directly and indirectly benefit the NRVHBA and our members.

Pulaski County is an emerging employment center and next-level community, but without strategic investments in broadband deployment both the County and Commonwealth will not reach their full potential. We offer our support for this grant because we believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding to once and for all provide a permanent solution to universal broadband deployment to these unserved areas of Virginia.

Sincerely,



Kelsey Grow  
Executive Officer  
New River Valley  
Home Builders Association



Jeff Nosenzo  
President  
New River Valley  
Home Builders Association





Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300

**RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [BLAND COUNTY, VA]**

Dear Dr. Holmes,

Please accept this letter as AMR-Pemco's support for Bland County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home/business solution for the remaining unserved households/businesses throughout Bland County. This critically important 21<sup>st</sup> Century infrastructure is necessary to support the growing telework, teleMed, and teleEd needs of the community. This important investment will directly and indirectly benefit AMR-Pemco as well as our employees, suppliers, and customers.

We offer our support for this grant because there is dire need for broadband internet across rural communities, such as Bland County. This approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding with the goal of a permanent solution to universal broadband deployment to these unserved areas of Bland County and the Commonwealth of Virginia.

We are part of family of companies, and have seen tremendous growth of late at both our Princeton, WV and Bluefield, VA locations. We attribute part of this growth to the infrastructure available at those facilities, and are asking for a level playing field at our Bland County facility so that we can have similar growth opportunities there. In addition, with Covid challenges we would also like our employees that reside in Bland County be given the same opportunities to work from home where possible as our neighboring county employees have.

Thank you for helping our community with this project

Sincerely,

David Graf  
President  
AMR-Pemco Inc.  
Custom Manufacturing Services, Inc.



COMMONWEALTH OF VIRGINIA

**HOUSE OF DELEGATES**  
RICHMOND

**CHRIS L. HURST**

POST OFFICE BOX 11389  
BLACKSBURG, VIRGINIA 24062

TWELFTH DISTRICT

COMMITTEE ASSIGNMENTS:  
APPROPRIATIONS  
GENERAL LAWS  
TRANSPORTATION

Virginia Department of Housing and Community Development  
600 E. Main St. #300  
Richmond, VA 23219  
RE: VATI Grant Application Letter of Support

To Whom It May Concern:

I am writing this letter to express my utmost support for VDHCD to provide VATI grant funding to the New River Valley Planning District to build broadband infrastructure and provide fiber-to-home broadband connectivity to underserved homes and communities in our region. Using the utility leverage program introduced by Delegate O'Quinn in 2019, these municipalities will efficiently and cost-effectively deliver a much-needed service to the New River Valley and the surrounding region.

The pandemic exposed and brought the need for reliable broadband connectivity for all residents and every home. Further, many of the precautions and social and professional measures we took during the height of the pandemic has forever changed how we will interact going into the future. Whether it be increased remote working or learning, virtual meetings, health appointments, or just connecting to loved ones, we experienced a shift in our society that needs to be met equally with the necessary investment for broadband infrastructure.

The partnership between a tobacco revitalization region, two GO Virginia regions, two planning districts, AEP, and Montgomery, Pulaski, and Bland Counties ensures a reliable mechanism to efficiently and effectively build the infrastructure needed to address the needs of the most vulnerable residents of Virginia. Our area's often rugged terrain and rural sparsity have dissuaded internet providers from building the broadband connectivity lines themselves. That is why it is now essential to uphold and adequately fund these regional partnerships that will put the interests of the people they serve first, rather than using profit as their motivation to provide equal access to all residents.

Many of our constituents continue to struggle with "slow-to-no" connectivity when they need it most. Children in rural and mountainous regions are left with few options to address their remote learning needs when they can't attend school in person. Many older adults have trouble filling prescriptions when afraid to visit pharmacies in person. This partnership will provide the best means to achieve universal broadband and finally overcome the obstacles our rural and mountainous region residents have with broadband connectivity.

My office and I am committed to helping this partnership in any way we can to help bring universal broadband to the New River Valley. That is why I wholeheartedly recommend that VDHCD approve this request for grant funding.

If you have any questions, do not hesitate to reach out to my office.

Yours in service,

A handwritten signature in blue ink, appearing to read "Chris L. Hurst", with a stylized flourish at the end.

Delegate Chris L. Hurst  
Virginia's 12th House District





**CALFEE  
COMMUNITY &  
CULTURAL CENTER**

Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300

Dear Dr. Holmes,

On behalf of the Calfee Community & Cultural Center's Board of Directors, I am writing to express support for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for all of the remaining unserved households throughout Pulaski County. The COVID19 pandemic has highlighted how critical this infrastructure is to support basic health, education, and economic development needs of any community, especially our largely rural County with substantial rates of families living in poverty. This important investment will directly benefit the individuals and families that are part of our African American-led organization and the community members we will be serving once our facility is up and running.

As you know, two of the needs that the Calfee Community and Cultural Center (CCCC) hopes to address in our future facility is access to high speed internet and improved digital literacy, especially for our most vulnerable populations. But while the future CCCC will be able to address these needs in our center, families also desperately need that connection from their homes in order to access the resources they need for health care, education, financial planning, and workforce development. Similarly, it is great that our public school system has now provided every student with a Chromebook, but without internet access at home, that resource is extremely limited, further expanding the achievement gaps that are already so prominent and damaging to our community's economic health.

We at the Calfee Community & Cultural Center greatly appreciate the support that the Virginia Department of Housing and Community Development and the Appalachian Regional Commission have provided to addressing our community's needs and elevating its strengths. Likewise, we fully support this VATI grant application, especially as it relates to ensuring universal access and affordability of internet resources for all Pulaski County residents. Please let me know if I can be of assistance as you evaluate this proposal and thank you for all of your support for community and economic development in Pulaski County and beyond.

Sincerely,

Jill Williams

Consultant and Acting Executive Director





4440 Cleburne Blvd, Dublin, VA 24084  
540-674-1991  
[www.pulaskivachamber.org](http://www.pulaskivachamber.org)

---

**RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [PULASKI COUNTY, VA]**

September 2, 2021

Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300

Dear Dr. Holmes,

Broadband is a critically important piece of the Pulaski County infrastructure necessary to support the growing telework, teleMed and teleEd needs of Pulaski County. It is for this reason Pulaski County Chamber of Commerce is in support of Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County.

The growth of our community and economy depends on a strong, strategic investment in broadband deployment and without it, neither the County nor Commonwealth will reach their full potential. Access to broadband directly affects our public education, health, and economy. A Broadband Benefits Report by Common Sense Kids Action cites that having strong broadband at home increases household income and can reduce healthcare costs through telemedicine. Broadband will help our citizens become more competitive in the job market as internet is vital in job searches, training and communication with potential employers.

We offer our support for this grant because we believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding providing a permanent solution to universal broadband deployment to these unserved areas of Virginia.

Sincerely,

A handwritten signature in black ink that reads "Shannon Ainsley". The signature is written in a cursive style with a large, looped initial "S".

Shannon Ainsley  
Executive Director  
Pulaski County Chamber of Commerce



# Pulaski County Public Schools

202 N. Washington Avenue ❖ Pulaski, VA 24301 ❖ (540) 994-2519 ❖ (540) 994-2514 (fax)  
Dr. Kevin W. Siers, Division Superintendent ❖ [ksiers@pcva.us](mailto:ksiers@pcva.us)

September 7, 2021

Ms. Tamarah Holmes, Ph.D.  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development  
600 East Main Street, Suite 300  
Pulaski, VA 24301

Dear Dr. Holmes,

Please accept this letter as Pulaski County Public Schools support for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County. This critically important 21<sup>st</sup> Century infrastructure is necessary to support the growing telework, teleMed and teleEd needs of the community. This important investment will directly and indirectly benefit Pulaski County Public Schools and our students, faculty and staff.

Pulaski County is an emerging employment center and next-level community, but without strategic investments in broadband deployment both the County and Commonwealth will not reach their full potential. We offer our support for this grant because we believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding to once and for all provide a permanent solution to universal broadband deployment to these unserved areas of Virginia.

If you need additional information, please contact my office.

Sincerely,

Dr. Kevin W. Siers  
Superintendent



Montgomery County Board of Supervisors  
755 Roanoke Street, Suite 2E  
Christiansburg, Va 24073  
540-382-6954 Fax 540-382-6943  
[www.MONTGOMERYCOUNTYVA.gov](http://www.MONTGOMERYCOUNTYVA.gov)

September 13, 2021

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

**RE: Letter of Support for Virginia Telecommunications Initiative (VATI) Broadband project proposal for Montgomery County**

Dear Dr. Holmes:

We are excited to pledge our support to this project to deploy broadband services to our citizens and strongly support the Virginia Department of Housing and Community Development’s (DHCD) goal of achieving universal broadband coverage. As broadband becomes more widely understood as a service as necessary as electricity and running water, those without access to it will face considerable challenges in maintaining and building economic resiliency. Without widely available internet access, our community will not simply stagnate, it will fall behind in pursuing economic opportunity.

The proposed broadband deployment project to expand internet access in Montgomery County addresses these issues by reaching into communities without broadband speed internet service and builds on the incredible amount of work done in the Montgomery County Broadband Assessment. This assessment, with funding from DHCD, helped Montgomery County determine prioritized areas of need for broadband services. With this knowledge and determination, our citizens will be able to ready themselves to participate in the workforce, create their own business endeavors, access community services, and even conduct basic banking, shopping and communication activities online.

We look forward to working with DHCD and the other project partners, including local private wireless internet providers, to facilitate the deployment of broadband in our locality, offering assistance in the acquisition of sites and access to locality-owned properties where feasible. Please contact me if you need any further information about our support for this effort.

Sincerely,

Steve R. Fijalkowski  
Chair, Montgomery County Board of Supervisors

District A  
Sara Bohn

District C  
Steve R. Fijalkowski, Chair

District E  
Darrell O. Sheppard

District G  
April N. Demotts

District B  
Sherri M. Blevins

District D  
M. Todd King

District F  
Mary W. Biggs, Vice Chair

County Administrator  
F. Craig Meadows



F. CRAIG MEADOWS  
COUNTY ADMINISTRATOR  
755 Roanoke Street, Suite 2E  
Christiansburg, VA 24073

September 14, 2021

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

**RE: Letter of Support for Virginia Telecommunications Initiative (VATI) Broadband project  
universal service proposal for Montgomery County**

Dear Dr. Holmes:

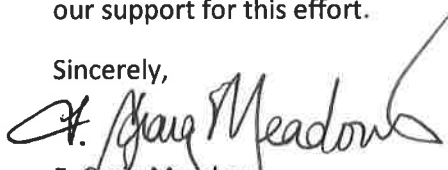
Montgomery County is pleased to pledge our support to this project to deploy universal broadband coverage to our citizens, and we strongly support the Virginia Department of Housing and Community Development's (DHCD) goal of achieving universal broadband coverage. As our citizens continue to share with us, broadband as a service is as necessary as electricity and running water, and those without access to it will face considerable challenges in maintaining and building economic resiliency. Without the ability to offer universal access to broadband service, our county will fall behind in pursuing economic opportunities, and our citizens will be disadvantaged.

At their meeting on Monday, September 13, 2021, the Montgomery County Board of Supervisors offered their unanimous support for this grant proposal, and committed to provide an amount not to exceed \$7 million in funding for the County's share of the grant. The Board and County staff stand ready to quickly appropriate our local share of funding for this project once we receive confirmation that the grant has been awarded.

The proposed universal service broadband deployment project to expand internet access throughout Montgomery County addresses these issues by reaching into communities without broadband speed internet service and builds on the incredible amount of work done in the Montgomery County Broadband Assessment. This assessment, with funding from DHCD, helped Montgomery County determine prioritized areas of need for broadband services. With this knowledge and determination, our citizens will be able to ready themselves to participate in the workforce, create their own business endeavors, access community services, and even conduct banking, shopping and communication activities online.

We greatly appreciate your support and encouragement as we have developed this grant proposal, and we look forward to working with DHCD and the other project partners to facilitate the deployment of universal broadband in Montgomery County. Please contact me if you need any further information about our support for this effort.

Sincerely,



F. Craig Meadows  
County Administrator

*Industrious | Diverse | Steadfast | Helpful | Integrity*



H. MORGAN GRIFFITH  
9TH DISTRICT, VIRGINIA

COMMITTEE ON  
ENERGY AND COMMERCE  
SUBCOMMITTEES:

ENERGY

HEALTH

OVERSIGHT AND INVESTIGATIONS

[www.morgangriffith.house.gov](http://www.morgangriffith.house.gov)



**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515-4609**

2202 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, DC 20515  
(202) 225-3861 PHONE  
(202) 225-0076 FAX

323 WEST MAIN STREET  
ABINGDON, VA 24210  
(276) 525-1405 PHONE  
(276) 525-1444 FAX

17 WEST MAIN STREET  
CHRISTIANSBURG, VA 24073  
(540) 381-5671 PHONE  
(540) 381-5675 FAX

September 9, 2021

Dr. Tamarah Holmes  
Director, DHCD Office of Broadband  
Virginia Department of Housing and Community Development  
600 East Main Street, Suite 300  
Richmond, VA 23219-2430

Dear Dr. Holmes,

I am writing to express my interest in the grant application for the Virginia Telecommunication Initiative (VATI) submitted by Montgomery County in Christiansburg, VA.

In preparing this grant application, Montgomery County cited many factors contributing to the need for this funding in my congressional district. I ask that you give this application your most thoughtful and serious consideration. If there is any additional information that my office can provide, please contact Cody Mumpower at my Abingdon office at (276) 525-1405.

I would very much appreciate it if you would acknowledge receipt of this letter and keep me apprised of your action regarding this application when review is complete. You should respond to Montgomery County in care of my Abingdon office at (276) 525-1405 by phone or by mail to 323 W. Main Street, Abingdon, Virginia 24210.

Thank you for your time and attention to this matter. I look forward to hearing from you. I remain

Sincerely yours,

H. MORGAN GRIFFITH  
Member of Congress

H. MORGAN GRIFFITH  
9TH DISTRICT, VIRGINIA

COMMITTEE ON  
ENERGY AND COMMERCE  
SUBCOMMITTEES:

OVERSIGHT AND INVESTIGATIONS  
REPUBLICAN LEADER

ENERGY

HEALTH

[www.morgangriffith.house.gov](http://www.morgangriffith.house.gov)



Congress of the United States  
House of Representatives  
Washington, DC 20515-4609

2202 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, DC 20515  
(202) 225-3861 PHONE  
(202) 225-0076 FAX

323 WEST MAIN STREET  
ABINGDON, VA 24210  
(276) 525-1405 PHONE  
(276) 525-1444 FAX

17 WEST MAIN STREET  
CHRISTIANSBURG, VA 24073  
(540) 381-5671 PHONE  
(540) 381-5675 FAX

September 3, 2021

Dr. Tamarah Holmes  
Director, DHCD Office of Broadband  
Virginia Department of Housing and Community Development  
600 East Main Street, Suite 300  
Richmond, VA 23219-2430

Dear Dr. Holmes,

I am writing to express my interest in the grant application for the Virginia Telecommunication Initiative submitted by Pulaski County in Pulaski VA.

In preparing this grant application, Pulaski County cited many factors contributing to the need for this funding in my congressional district. I ask that you give this application your most thoughtful and serious consideration. If there is any additional information that my office can provide, please contact Cody Mumpower at my Abingdon office at (276) 525-1405.

I would very much appreciate it if you would acknowledge receipt of this letter and keep me apprised of your action regarding this application when review is complete. You should respond to Pulaski County in care of my Abingdon office at (276) 525-1405 by phone or by mail to 323 W. Main Street, Abingdon, Virginia 24210.

Thank you for your time and attention to this matter. I look forward to hearing from you. I remain

Sincerely yours,

H. MORGAN GRIFFITH  
Member of Congress



**Dr. Dwayne Pinkney**  
Senior Vice President and  
Chief Business Officer

800 Drillfield Drive  
210 Burruss Hall (0153)  
Blacksburg, Virginia 24061  
P: (540) 231-7912  
svpcbo@vt.edu

September 13, 2021

F. Craig Meadows  
County Administrator  
Montgomery County  
755 Roanoke St. Suite 2E  
Christiansburg, VA 24073

RE: Montgomery County VATI 2022 Grant Application

Dear Mr. Meadows:

I am pleased to provide this letter in support of Montgomery County's application to the 2022 round of the Virginia Telecommunications Initiative (VATI) grant funding for extending broadband service into currently unserved areas of Montgomery County.

The past year and half of grappling with the pandemic has clearly demonstrated that access to reliable, high-speed broadband service is no longer simply a luxury, but rather a necessary utility for all citizens. While broadband access was certainly a topic of much discussion prior to COVID-19, the pandemic has quickly brought its importance to the forefront. Internet service has been vital for employees shifting to a work-from-home model, for students participating in virtual schooling, and for the exponential increase in telehealth visits while doctor's offices have been inaccessible for many.

Broadband access has also proven to be a crucial factor in economic growth that can cause a ripple effect through entire communities. Without access to reliable high-speed Internet options for both business and personal use, companies will eventually choose not to locate in our hometowns, resulting in fewer jobs and a weakened tax base.

Therefore, I am happy to support Montgomery County's VATI 2022 application in pursuit of universal broadband coverage for the entire county, keeping our citizens well connected and our community economically competitive in the years to come.

Thank you for your consideration of this letter, and for continuing to further Montgomery County's vision for universal broadband coverage.

Sincerely,

Dwayne L. Pinkney  
Senior Vice President and Chief Business Officer

c: Scott Midkiff, Vice President for Information Technology  
Charlene Casamento, AVP for Enterprise Administrative Operations



# United States Senate

WASHINGTON, DC 20510-4606

September 10, 2021

Ms. Tamarah Holmes  
Director  
Office of Broadband  
Virginia Department of Housing and Community Development  
600 East Main Street, Suite 300  
Richmond, VA 23219-2430

Dear Ms. Holmes,

I write today in support of Montgomery County's grant proposal to the Virginia Department of Housing and Community Development's (DHCD) Virginia Telecommunications Initiative (VATI) program. Montgomery County plans to extend broadband service into currently unserved areas of the County.

While broadband access was discussed prior to COVID-19, the pandemic has quickly brought its importance to the forefront. Internet service has been vital for employees shifting to a work-from-home model, for students participating in virtual schooling, and for the exponential increase in telehealth visits while doctor's offices have been inaccessible for many. Broadband access has also proven to be a crucial factor in economic growth that can cause a ripple effect through entire communities. Without access to reliable high-speed Internet options for both business and personal use, the County believes companies will eventually choose not to locate in Montgomery County, resulting in fewer jobs and a weakened tax base. If approved for funding, the County plans to pursue universal broadband coverage for the entire county, keeping their citizens well connected and the community economically competitive in the years to come.

I ask that you give this proposal every appropriate consideration. Should you or your staff have any questions, please contact Bianca Casper at 804-775-2314 or [bianca\\_casper@warner.senate.gov](mailto:bianca_casper@warner.senate.gov).

Thank you for your service on behalf of my constituents.

Sincerely,



MARK R. WARNER  
United States Senator

MRW/bc

180 WEST MAIN STREET  
ABINGDON, VA 24210  
PHONE: (276) 628-8158

101 WEST MAIN STREET  
SUITE 7771  
NORFOLK, VA 23510  
PHONE: (757) 441-3079

919 EAST MAIN STREET  
SUITE 630  
RICHMOND, VA 23219  
PHONE: (804) 775-2314

110 KIRK AVENUE, SW  
ROANOKE, VA 24011  
PHONE: (540) 857-2676

8000 TOWERS CRESCENT DRIVE  
SUITE 200  
VIENNA, VA 22182  
PHONE: (703) 442-0670

<http://warner.senate.gov>

PRINTED ON RECYCLED PAPER





# Pulaski Area Transit

6226 University Park Drive, Suite 3100  
Fairlawn, Virginia 24141  
Phone (540) 980-5040 Fax (540) 980-7871  
[www.pulaskitransit.org](http://www.pulaskitransit.org)

---

Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300

September 2, 2021

**RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [PULASKI COUNTY, VA]**

Dear Dr. Holmes,

Please accept this letter as Pulaski Area Transit's support for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County. This critically important 21st Century infrastructure is necessary to support the growing telework, teleMed and teleEd needs of the community. This important investment will directly and indirectly benefit Pulaski Area Transit and our employees/staff/customers/etc.

Pulaski County is an emerging employment center and next-level community, but without strategic investments in broadband deployment both the County and Commonwealth will not reach their full potential. We offer our support for this grant because we believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding to once and for all provide a permanent solution to universal broadband deployment to these unserved areas of Virginia.

Sincerely,

Monica Musick  
Transit Manager



Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300

RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [PULASKI COUNTY, VA]

Dear Dr. Holmes,

I am writing on behalf of the Pulaski Community Youth Center (PCYC) and as a citizen of Pulaski County in support for Pulaski County's regional VATI Grant Application. This grant will provide universal broadband deployment via a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County. This 21<sup>st</sup> Century infrastructure is necessary to support the growing and critical telework, teleMed and teleEd needs of our community.

This important investment will greatly benefit the Pulaski Community Youth Center and the individuals and families we serve. Many of our families have limited to no internet access at their homes making it difficult, if not impossible, to access health, education, employment, and successful living opportunities that some in more populated areas of the state can not imagine living without. We enjoy rural living and choose to live in such a beautiful and wonderful place as Pulaski County. However, this broadband, capacity is desperately needed to support the economic growth and professional capacity of our youth and adults.

The vision of PCYC is that everyone will create a high quality of life with the skills and resilience to be a leader for their family, at school, at work, and in our community. Pulaski County is an emerging employment center and next-level community, but without strategic investments in broadband deployment both the citizens in the County and Commonwealth will not reach their full potential. We support and believe in the plan that was submitted as part of Pulaski County's grant application. The approach will deliver service to rural, sparsely populated and terrain challenged corners of the County, and efficiently and effectively allow broadband access to be reliable and affordable. In addition, please consider how this grant award will leverage substantial private sector funding to provide a permanent solution to universal broadband deployment to these unserved areas of Pulaski County and Virginia as a whole. It is my request that you fully fund Pulaski County's regional VATI Grant Application.

Sincerely,

Bonnie C. Graham, Chair  
Pulaski Community Youth Center  
Board of Directors  
6671 Riverlawn Court  
Fairlawn, VA 24141

## PULASKI COUNTY LIBRARY SYSTEM

Pulaski Library  
60 West Third Street  
Pulaski, Va. 24301

Free Memorial Library  
300 Giles Avenue  
Dublin, Va. 24084

Tamarah Holmes, Ph.D  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300

September 3, 2021

### **RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [PULASKI COUNTY, VA]**

Dear Dr. Holmes,

Please accept this letter as Pulaski County Library System's support for Pulaski County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home solution for 100% of the remaining unserved households throughout Pulaski County. This critically important 21<sup>st</sup> Century infrastructure is necessary to support the growing tele-work, tele-med and tele-ed needs of the community. This important investment will directly and indirectly benefit the Pulaski County community.

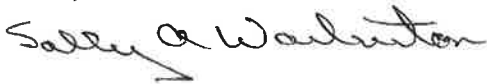
Pulaski County is an emerging employment center and next-level community, but without strategic investments in broadband deployment both the County and Commonwealth will not reach their full potential. I offer our support for this grant because I believe in the plan that was submitted as part of Pulaski County's grant application. The approach will not only deliver service to rural, sparsely populated, and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding to provide a permanent solution to universal broadband deployment to these unserved areas of Virginia.

The public library system, of course, provides Wi-Fi connectivity for users both inside when the libraries are open and outside in the parking lots and porches. We often find folks sitting on our porch benches or in their cars to access the Wi-Fi during hours of library closure. When open, customers use our library tables and lounge areas while using their own devices. We also provide public access computers which are heavily used by the community. There are things like job applications, taxes, classes, and items that require printing that are not appropriate to the use of Internet on patrons' phones. More and more organizations, businesses, and the government require the use of the Internet for online forms and applications. In just the last year we have seen the census move to an online format, federal and state departments of taxation prefer online submissions, and schools have had to go to online classes for K-12 learning as well as college and university classes. We have many library users who do not have stable cell service in areas of the county. This precludes the use of hot spots for their Internet. The Internet has become a basic utility that our citizens require in their daily lives yet many areas of the county do not have access for their homes or businesses.

I could share numerous examples of people needing Internet access at their homes, but a few are the nursing student who spends several days each week at the library to attend online classes, chat rooms, and complete research and assignments. The kindergarten student and her parent who come after school most days to work on enrichment activities. The older couple doing genealogy research. A man who buys and sells online to supplement his income. People wanting to read a newspaper, check the weather, return a purchase, view photos, or watch a video. While I welcome them to the library, all would be more comfortable in their residence.

Thank you very much for your consideration of this grant application. Seldom can we say that a grant will be life changing, but I believe, in this case, that is a true statement.

Yours,



Sally A. Warburton, Director  
Pulaski County Library System



COMMONWEALTH OF VIRGINIA

**HOUSE OF DELEGATES**  
RICHMOND

COMMITTEE ASSIGNMENTS:  
PRIVILEGES AND ELECTIONS  
APPROPRIATIONS  
PUBLIC SAFETY

**LARRY N. (NICK) RUSH**  
POST OFFICE BOX 1591  
CHRISTIANSBURG, VIRGINIA 24068

SEVENTH DISTRICT

September 9, 2021

Dr. Tamarah Holmes  
Department of Housing and Community Development  
RE: VATI 2022 Grant Application

Dear Dr. Holmes:

I am pleased to provide this letter in support of Bland, Montgomery, and Pulaski Counties' application to the 2022 round of the Virginia Telecommunications Initiative (VATI) grant funding for extending broadband service into currently unserved areas of these locals. With partnerships that include a tobacco region, two GO Virginia regions, and two planning districts, Southwest Virginia collaboration remains unmatched across the Commonwealth.

The pandemic has demonstrated that reliable, high-speed broadband service has become more than just an amenity; it is now a necessity. Internet service is a vital resource in areas such as employees transferring to work-from-home models, students participating in virtual school learning, and an increase in telehealth visits, as just several significant examples. Broadband access has also proven to be a crucial factor in economic sustainability and growth throughout numerous communities. Without access to reliable high-speed Internet options, there is concern that existing companies will leave our area and new businesses will ultimately choose not to locate to our region, resulting in fewer jobs and a weakened tax base.

It is with these and other reasons in mind that I stand strong behind Bland, Montgomery and Pulaski Counties' VATI 2022 application to provide regional universal broadband coverage. If selected, our citizens will be well-connected, and our community will continue to expand through healthy economic competitiveness.

With kind regards,

A handwritten signature in blue ink that reads "Nick Rush".

L. Nick Rush  
Delegate  
7<sup>th</sup> House District

cc: Evan Feinman  
Craig Meadows  
Jonathan Sweet

September 13, 2021

Tamarah Holmes, Ph.D

Director, Office of Broadband

Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)

600 East Main Street, Suite 300

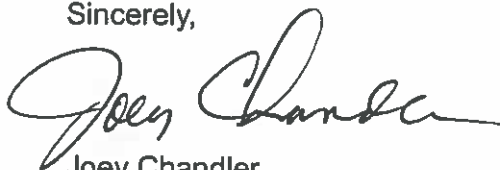
**RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [BLAND COUNTY, VA]**

Dear Dr. Holmes,

Please accept this letter as Hitachi ABB's support for Bland County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home/business solution for the remaining unserved households/businesses throughout Bland County. This critically important 21<sup>st</sup> Century infrastructure is necessary to support the growing telework, teleMed, and teleEd needs of the community. This important investment will directly and indirectly benefit Hitachi ABB and our employees, staff, and customers.

We offer our support for this grant because there is dire need for broadband internet across rural communities, such as Bland County. This approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding with the goal of a permanent solution to universal broadband deployment to these unserved areas of Bland County and the Commonwealth of Virginia.

Sincerely,



Joey Chandler

Regional Factory Manager

Hitach ABB Power Grids



## ***Pulaski County Sheriff's Office***

***Michael W. Worrell – Sheriff***

***802 East Main Street***

***Pulaski, VA 24301***

***Phone: 540-980-7800 Fax: 540-980-7834***

***<http://www.sheriffsoffice.org>***



Dear Dr. Holmes,

On behalf of the Pulaski County Sheriff's Office I would ask that you please accept this letter in support of the Pulaski County's Regional VATI Grant Application to provide universal broadband service with a fiber to home solution to all of the remaining households in Pulaski County. As you are aware, the recent COVID Situation has caused many of our county households to rely on services that are unavailable to many of our rural communities as we began to experience the changes that caused employees to work from home, children to attend school from home and many to conduct doctor visits from their homes by way of computers. While some were able to make this transition easily, many were unable to do so or experienced extreme difficulties because the service is unavailable in that area of Pulaski County or the type of service available did not meet the demand and continuously failed. The benefits of this investment will directly and indirectly benefit not only my office and my employees but would benefit the thousands of citizens we serve throughout the county.

The benefits of providing this broadband service to unserved households within Pulaski County would create a more inclusive citizen involvement by providing everyone with the same opportunities and creating a more equal foundation for all. Pulaski County realizes there are several basic services every household needs and due to the recent adjustments and changes required of us all, this broadband service has now become a necessity many should not have to do without simply because of their place of residency and/or income level.

We offer our support for this grant because we believe in the plan that was submitted as part of the Pulaski County's Grant Application. I can only hope your consideration in awarding this grant is as rewarding as knowing the number of citizens who will be positively impacted in Pulaski County by your decision. Thanks in advance for your time and as always, be safe.

Sincerely,

Michael W. Worrell  
Sheriff of Pulaski County



# NEW RIVER Community College

5251 College Drive, Dublin, Virginia 24084-3660

Tamarah Holmes, Ph.D.  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300  
Richmond, VA 23219

RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [PULASKI COUNTY, VA]

Dear Dr. Holmes,

I am pleased to indicate the support of New River Community College for the proposed project aimed at providing broadband access to presently unserved households in Pulaski County, Virginia. As you may know, significant portions of this county have posed challenges to broadband deployment due to the terrain and lack of population density in some areas. Through the proposed project, high-speed internet services would be provided in an efficient, effective and affordable means to all who currently lack such access.

Not only does this project offer the potential to support economic development by providing middle and last-mile fiber throughout the county, but it also brings the advantage of leveraging substantial private sector funding in providing universal broadband access.

Let me add that we at New River Community College are especially excited about the advantages county-wide broadband could provide to our students, many of whom lack such access in their homes or workplaces.

In short, we enthusiastically lend our support to this exciting venture and look forward to cooperating in assuring its success.

Sincerely,



Pat Huber, President  
New River Community College





Tamarah Holmes, Ph. D.  
Director, Office of Broadband  
Program Manager, Virginia Appalachian Regional Commission Program (ARC)  
Virginia Department of Housing and Community Development (DHCD)  
600 East Main Street, Suite 300  
Richmond, VA 23219

**RE: LETTER OF SUPPORT – VATI GRANT APPLICATION [BLAND COUNTY, VA]**

Dear Dr. Holmes,

Please accept this letter as Bland County Public Library's support for Bland County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home/business solution for the remaining unserved households/businesses throughout Bland County. This critically important 21<sup>st</sup> Century infrastructure is necessary to support the growing telework, teleMed, and teleEd needs of the community. This important investment will directly and indirectly benefit our library and our patrons.

As librarians, we see firsthand how crippling the lack of reliable internet is to our community. We watch families continue to struggle with virtual education solutions and telework. Though the library has made strides to ease this burden, it is temporary. Broadband to the home/business is the best solution to give our residents a platform for success.

We offer our support for this grant because there is dire need for broadband internet across rural communities, such as Bland County. This approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding with the goal of a permanent solution to universal broadband deployment to these unserved areas of Bland County and the Commonwealth of Virginia.

Sincerely,

A handwritten signature in black ink that reads "Cameron B. Burton".

Cameron B. Burton  
Director of Library and Community Services Bland, VA



**BLAND  
COUNTY**

SHERIFF'S  
OFFICE

COMMONWEALTH  
OF VIRGINIA

*Honorable  
Jason R. Ramsey  
Sheriff*

*John M. Mustard  
Chief Deputy Sheriff*

*Randy A. Dillow  
Sergeant*

*R. Chris Coleman  
Sergeant*

---

*Bethany P. Slaughter*  
Executive Director of  
Administration  
& Public Relations

**Physical Address**  
612 Main Street, Suite 203  
Bland, Virginia 24315

**Mailing Address**  
P.O. Box 449  
Bland, Virginia 24315

**Business  
Administrative Office**

276-688-6150

www.bland.org

Fax 276-688-3124

Communications Division

Dear Dr. Holmes,

Please accept this letter as Bland County Sheriff's Office support for Bland County's regional VATI Grant Application to provide universal broadband deployment by way of a fiber-to-home/business solution for the remaining unserved households/businesses throughout Bland County. This critically important 21<sup>st</sup> Century infrastructure is necessary to support the growing telework, teleMed, and teleEd needs of the community. This important investment will also directly and indirectly benefit the Sheriff's Office and its deputies, dispatchers, and administrative staff.

We offer our support for this grant because there is a dire need for broadband internet across rural communities, such as Bland County. This approach will not only deliver service to rural, sparsely populated and terrain challenged corners of the County, but will do so efficiently and effectively allowing for broadband access to be reliable and affordable. Lastly, please consider how this grant award will leverage substantial private sector funding with the goal of a permanent solution to universal broadband deployment to these unserved areas of Bland County and the Commonwealth of Virginia.

Sincerely,

Jason R Ramsey, Sheriff  
Bland County Sheriff's Office

# Pulaski County/All Points Broadband

## ATTACHMENT 12 - DERIVATION OF COSTS

Project / Product Cost Category	Total	VATI	Non-VATI	Source of Estimate	Date, Most Recent Revision
Final Design and Engineering	\$ 1,712,447	\$ 856,224	\$ 856,224	Tilson	7/2/2021
Project & Construction Mgmt.	\$ 2,476,475	\$ 1,238,237	\$ 1,238,237	Tilson	7/2/2021
Headend/Central Office	\$ 1,388,647	\$ 1,160,131	\$ 228,516	Tilson	7/2/2021
Field Network Equipment	\$ 1,609,566	\$ 1,344,696	\$ 264,871	Tilson	7/2/2021
Aerial Construction, including Make Ready and Utility Broadband Related Infrastructure	\$ 35,312,744	\$ 18,240,986	\$ 17,071,759	AFL / Tilson / AEP APCo / ABP	9/10/2021
Underground Construction	\$ 3,898,322	\$ 3,256,813	\$ 641,509	Tilson	7/2/2021
Fiber Drop Construction	\$ 10,330,677	\$ 2,582,669	\$ 7,748,008	AFL / Tilson	7/2/2021
Subscriber Equipment & Installation Labor	\$ 1,919,266	\$ 479,816	\$ 1,439,449	Tilson	7/2/2021
Other Capex	\$ 454,927	\$ 380,064	\$ 74,863	APB / Tilson	7/2/2021
Grant Administration	\$ -	\$ -	\$ -	Pulaski	9/10/2021
Construction Bond (1.5%)	\$ 620,730	\$ 310,365	\$ 310,365	APB	9/10/2021
<b>Total</b>	<b>\$ 59,723,801</b>	<b>\$ 29,850,000</b>	<b>\$ 29,873,801</b>		

\*\* please see Attachment 13 for unit and unit cost assumptions used to tabulate total cost

FTTx

Product	Bland Co	Mont. Co	Total	VATI	Non-VATI	Source of Estimate	Date
Final Design/Engineering/Permitting	\$660,409	\$2,139,313	\$2,799,722	\$2,799,722		GigaBeam	9/3/2021
Project & Construction Management	\$156,400	\$550,800	\$707,200	\$707,200		GigaBeam	9/3/2021
Make Ready	\$920,000	\$3,240,000	\$4,160,000	\$4,160,000		GigaBeam	9/3/2021
Aerial Construction Labor & Materials	\$21,686,930	\$33,759,761	\$55,446,691	\$20,207,965	\$35,238,726	GigaBeam / APCO	9/3/2021
Construction Contingency	\$507,640	\$1,862,233	\$2,369,873	\$2,369,873		GigaBeam	9/3/2021
OLT Cabinets/Headend Labor & Materi	\$523,918	\$1,564,416	\$2,088,334	\$2,088,333		GigaBeam	9/3/2021
Fiber Drop Labor & Materials	\$1,792,219	\$6,360,870	\$8,153,089	\$3,153,089	\$5,000,000	GigaBeam	9/3/2021
Subscriber Installation Labor & Materia	\$1,374,100	\$4,876,900	\$6,251,000	\$5,251,000	\$1,000,000	GigaBeam	9/3/2021
Grant Administration	\$30,000	\$30,000	\$60,000	\$60,000		GigaBeam	9/3/2021

**Total    \$27,651,616    \$54,384,293    \$82,035,909    \$40,797,182    \$41,238,726**



September 13, 2021

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

RE: Cost Estimates for 2022 VATI Application

Dear Dr. Holmes:

To develop the project budget included with this application, All Points Broadband (“APB”) prepared a high-level design for the project and developed an indicative bill of materials based on that design.

As part of APB’s design and cost estimation process, All Points engaged Tilson Technology Management, Inc. (“Tilson”) to supplement APB’s internal engineering and design resources and to assist in the development of the high-level design and related bill of materials and cost estimates. Tilson is one of America’s leading providers of consulting, design and construction management services to the telecommunications industry. As described in Tilson’s letter included in Attachment 13, the cost estimates that form the basis of the project budget are based on Tilson’s bill of materials and related cost estimates and reflect current pricing available to All Points.

All Points then obtained current pricing for each item on the bill of materials from its primary vendors, including AFL Telecommunications (“AFL”), APB’s primary supplier of fiber optic cables, connectors, terminals, and related hardware. As described in AFL’s letter included in Attachment 13, AFL provided the pricing used for all relevant cost categories included in the project budget and AFL has allocated committed manufacturing capacity to support APB’s materials requirements and specific schedule for this project.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Carr", is positioned below the word "Sincerely,".

James G. Carr  
Chief Executive Officer

September 7, 2021

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

**RE: Applications of All Points Broadband to the Virginia Telecommunications Initiative**

Dear Dr. Holmes:

Tilson Technology Management, Inc. ("Tilson") is a leading provider of consulting, design and construction management services to leading telecommunications firms throughout the United States. Tilson is pleased to have been engaged by All Points Broadband ("APB") to support its planning and high-level design activities for each of the projects included in APB's 2022 Accelerated Fiber Deployment Initiative (the "Initiative").

This letter will confirm that Tilson has assisted APB in the development of high-level designs, indicative bills of material, and related cost estimates for each of the projects included in the Initiative. We understand that APB has incorporated our work into the project budgets that APB is submitting as part of the Initiative.

We hope that the significant work we have performed with All Points will result in the expansion of fiber-to-the-home broadband access to tens of thousands of currently unserved Virginians.

Sincerely,

  
John Ford (Sep 7, 2021 15:02 EDT)

Jay Ford

Director



**Corporate Headquarters**

170 Ridgeview Center Drive, Duncan, SC 29334 USA

TEL: (800) 235-3423 TEL: (864) 433-0333

FAX: (864) 433-5560 WEB: [www.AFLglobal.com](http://www.AFLglobal.com)

September 8, 2021

Dr. Tamarah Holmes  
Director, Office of Broadband  
Virginia Department of Housing and Community Development  
600 East Main Street, Suite 300

**RE: Letter of Support for APB's 2022 Accelerated Fiber Deployment Initiative**

Dear Dr. Holmes,

AFL Telecommunications ("AFL") is a leading global manufacturer of fiber optic cables, connectors, terminals, and related hardware. Headquartered in Duncan, South Carolina, AFL manufactures its products at several locations in the United States and abroad, including manufacturing locations in North Carolina, South Carolina, and Bristol, Virginia.

AFL is excited to be partnering with All Points Broadband ("APB") and its electric utility partners, as part of APB's 2022 Accelerated Fiber Deployment Initiative that will deliver best-in-class fiber-to-the-home broadband access to thousands of currently unserved locations in Virginia.

AFL has a strong working relationship with All Points Broadband and will serve as APB's strategic supplier for all of the projects included in the 2022 Accelerated Fiber Deployment Initiative. APB evaluated multiple technology solutions, ultimately selecting AFL as the best fit for its rural fiber optic projects. AFL's ADSS-style self-supporting cable technology and dedicated manufacturing capacity enables faster, less complicated deployment that reduces overall time to market at a competitive total cost of ownership.

This letter will confirm that AFL is committed to supporting All Points Broadband's 2022 Accelerated Fiber Deployment Initiative. AFL and APB have reviewed the specific projects and related bills of materials associated with the projects APB is submitting and AFL has provided APB with pricing that is incorporated in APB's applications. AFL is also allocating committed manufacturing capacity to support APB's requirements and project schedules.

We appreciate the opportunity to support this important initiative to bridge the digital divide in the Commonwealth of Virginia.

Sincerely,

A handwritten signature in black ink, appearing to read 'Ryan O'Sullivan', written in a cursive style.

Ryan O'Sullivan  
Director, Rural Fiber to the Home (RFTTH) Program Management



**ATTACHMENT 13 - DOCUMENTATION OF SUPPORTING COST ESTIMATES**

PROJECT COST ROLLUP	Unit of Measure	Units	Unit Cost	Project Cost
<b>Construction</b>				
Final Design and Engineering	Construction & Install	\$ 36,738,136	\$ 0.0466	\$ 1,712,447
Project & Construction Mgmt.	Construction & Install	\$ 36,738,136	\$ 0.0674	\$ 2,476,475
Headend/Central Office	Project	1	\$ 1,388,647	\$ 1,388,647
Field Network Equipment	No. Unserved Passings	8,527	\$ 189	\$ 1,609,566
Utility Broadband Related Infrastructure				\$ 17,721,087
Aerial Make Ready & Construction	Miles	311.9	\$ 56,397	\$ 17,591,657
Underground Construction	Miles	34.7	\$ 112,478	\$ 3,898,322
<b>Construction Subtotal</b>				<b>\$ 46,398,201</b>
<b>Customer Installations</b>				
Fiber Drop Construction	No. Subscribers	6,395	\$ 1,615	\$ 10,330,677
Subscriber Equipment & Installation Labor	No. Subscribers	6,395	\$ 300	\$ 1,919,266
<b>Installation Subtotal</b>				<b>\$ 12,249,943</b>
<b>Other</b>				
Other Capex	Project	1	\$ 454,927	\$ 454,927
Grant Administration	Project	1	\$ -	\$ -
Construction Bond (1.5%)	Insured Activity	\$ 41,381,984	\$ 0.0150	\$ 620,730
<b>Other Subtotal</b>				<b>\$ 1,075,656</b>
<b>Total</b>				<b>\$ 59,723,801</b>

HEADEND / CENTRAL OFFICE	Category	Units	Unit Cost	Extended Cost
CO Site Acquisitions	Headends Total	12	\$ 30,000.00	\$ 360,000
Tax		0		\$ 15,480
ODC 100 Cabinet - Adtran, Nokia, Calix	Small Headends	10	\$ 24,000.00	\$ 240,000
1XTA5000 5 GEN SMART FIBER (mounting bracket)	Small Headends	10	\$ 1,346.22	\$ 13,462
30AMP Generator Connector	Small Headends	10	\$ 1,650.00	\$ 16,500
5TH GEN SMART POLE MOUNT KIT	Small Headends	10	\$ 1,410.59	\$ 14,106
Pole 30-5 (Labor and Materials)	Headends Total	12	\$ 1,500.00	\$ 18,000
ODC 1000 Cabinet	Medium Headends	2	\$ 32,000.00	\$ 64,000
<b>Headend / Central Office Subtotal</b>				<b>\$ 741,548</b>
Installation Labor, Freight, Tax, and Contingency				\$ 647,099
<b>Headend / Central Office Total</b>				<b>\$ 1,388,647</b>

FIELD NETWORK EQUIPMENT	Category	Units	Unit Cost	Extended Cost
Netbotz Environmental Monitor including all sensors	Headends, all	12	\$ 850.00	\$ 10,200
OLT Management Server (CMS)	Local Networks	1	\$ 8,000.00	\$ 8,000
000-00372 - E7-2 Field Install Package (CO & ODC/RT): Shelf with Blank Card, FTA, and Field installation Kit	Chassis and spares	24	\$ 616.90	\$ 14,806
100-05529 - E7-2 XG 801 XGS-PON	Modules, XGSPON	22	\$ 11,670.00	\$ 256,740
100-04651 QSFP, 40GE Single Mode transceiver 40km, 1310nm, Duplex LC, C-Temp	Headends, all	24	\$ 6,497.00	\$ 155,928
100-05642- OIM 10G PON Laser	Modules, XGSPON	176	\$ 695.00	\$ 122,320
Generator - Generac 25 KV - 24 hour backup system	Headends, all	12	\$ 17,000.00	\$ 204,000
BATTERY STRING, 190AH	Small + Medium Headends	12	\$ 2,992.94	\$ 35,915
ELTEK FLATPKS RECTIFIER 1000W	Small + Medium Headends	48	\$ 642.35	\$ 30,833
<b>Field Network Equipment, Subtotal</b>				<b>\$ 838,742</b>
Installation Labor, Freight, Tax, and Contingency				\$ 770,825
<b>Field Network Equipment, Total</b>				<b>\$ 1,609,566</b>

ATTACHMENT 13 - DOCUMENTATION OF SUPPORTING COST ESTIMATES (CONTINUED)

DISTRIBUTION FIBER DESIGN BASIS	TOTAL	AERIAL	UNDERGROUND	UNIT COST, AERIAL	UNIT COST, UG
Straight Poles	7,239	7,239	-		
Curved Poles	1,810	1,810	-		
Total Poles	9,049	9,049	-		
Average Drop Length (feet)	487	-	-		
Path (feet)	1,829,976	1,646,978	182,998		
Cable Size 12 (feet)	967,736	870,962	96,774		
Cable Size 24 (feet)	280,136	252,122	28,014		
Cable Size 48 (feet)	216,313	194,682	21,631		
Cable Size 72 (feet)	228,621	205,758	22,862		
Cable Size 96 (feet)	354,714	319,243	35,471		
Cable Size 144 (feet)	301,554	271,398	30,155		
Cable Size 288 (feet)	-	-	-		
Cable Size 432 (feet)	-	-	-		
Cable Total (feet)	2,349,073	2,114,166	234,907		
Serving Terminal Size 4	280	252	28		
Serving Terminal Size 8	1,331	1,198	133		
Serving Terminal Total	1,611	1,450	161		
Distribution Splices at Drop Hubs and Distribution Splice Points - TOTAL	39,405	35,465	3,941		
Distribution Splices at Distribution Hubs - TOTAL	12,504	11,254	1,250		
Drop Tail Splices - TOTAL	-	-	-		
Feeder Splices at Distribution Hubs and Feeder Splice Points - TOTAL	773	696	77		
Feeder Splices at Headend - TOTAL	1,512	1,361	151		
Splices Total	54,194	48,775	5,419		
Splice Cases	171	154	17		
Small Headends	10	-	26		
Medium Headends	2	-	67		
Large Headends	-	-	6		
Headends Total	12	-	99		
Large Preterm Shelves - Total	30	-	-		
Small Preterm Shelves - Total	5	-	-		
Preterm Shelves Total - Total	35	-	-		
FDH Size 96	1	-	-		
FDH Size 144	-	-	-		
FDH Size 288	3	-	-		
FDH Size 432	28	-	-		
FDH Total	32	-	-		
Splitter Module Size 2 - Distribution	-	-	-		
Splitter Module Size 4 - Distribution	-	-	-		
Splitter Module Size 8 - Distribution	-	-	-		
Splitter Module Size 16 - Distribution	-	-	-		
Splitter Module Size 32 - Distribution	279	-	-		
Splitter Module Size 64 - Distribution	-	-	-		
Splitter Module All Size - Distribution	279	-	-		
Splitter Module All Size - Total	279	-	-		
Handhold Size 4 HUB	26	-	-		
Handhold Size 8 HUB	67	-	-		
Handhold Size 0 Splice	6	-	-		
Handhold Total	99	-	-		

**Montgomery/Bland VATI FTTx Project Budget**

**Bland County**

	Quantity	Cost	Total
<b>Design/Engineering</b>			
Last Mile Network Design	3272	\$23.00	\$75,256 (cost per passing)
Access Fiber Extension Engineering	484372	\$0.95	\$460,153 (cost per ft)
		<b>Total</b>	<b>\$535,409</b>

<b>Project &amp; Construction Management</b>	92	\$1,700.00	\$156,400
		<b>Total</b>	<b>\$156,400</b>

**Access Fiber Construction & Labor**

Utility Broadband Related Infrastructure			\$17,106,119
Fiber Optic Cable - 48 Strand	484372	\$0.70	\$339,060 (cost per ft)
Attachment assemblies/supplies	1840	\$35.00	\$64,400
Apex Fiber Optic Closure	77	\$279.00	\$21,483
Apex Mounting Bracket	77	\$31.00	\$2,387
1x8 Splitter/tray	41	\$125.00	\$5,125
1x4 Splitter/tray	348	\$99.00	\$34,452
Titan Multiport RTD 4 port 1000' Flat	272	\$125.00	\$34,000
Titan Multiport RTD 4 port 2500' Flat	33	\$155.00	\$5,115
Multiport Terminal Mounting Bracket	305	\$31.00	\$9,455

<b>Labor</b>			
Installation of MPT Tails	38500	\$6.73	\$259,105 Cost per ft
Installation of Access Fiber	515471	\$4.50	\$2,319,620 Cost per ft
Multiport MPT splicing	305	\$934.00	\$284,870
Access Fiber Splicing	77	\$1,303.00	\$100,331

Make Ready	1840	\$500.00	\$920,000
------------	------	----------	-----------

Permitting	1	\$125,000.00	\$125,000
Contingency			\$507,640

**Total \$22,138,162**

**Headend/OLT's**

<b>Headend</b>			
Routing: Juniper JNP204/MX204	1	\$43,900.00	\$43,900
Switching: Juniper EX4600	1	\$9,800.00	\$9,800
PON: E7-2 10G AXOS XGS-PON	1	\$12,265.00	\$12,265
PON Optics	4	\$495.00	\$1,980
Software Licensing, Misc Cables & Materials	1	\$48,979.00	\$48,979
Labor	1	\$15,000.00	\$15,000
		<b>Total</b>	<b>\$131,924</b>

<b>OLT Cabinets</b>			
Cabinet Package - Cabinet, Wiring, UPS, Misc mounting	14	\$5,000.00	\$70,000
Pad Construction - Prep, Concrete, Electrical, Labor	14	\$1,500.00	\$21,000
SFP 10G Transport	28	\$958.00	\$26,824
E7-2 10G AXOS XGS-PON	14	\$12,265.00	\$171,710
PON Optics	108	\$495.00	\$53,460
Labor	14	\$3,500.00	\$49,000
		<b>Total</b>	<b>\$391,994</b>

**Total \$523,918**

**Customer Drops**

<b>Hardware</b>			
Trident ADSS Drop Cable	1963	\$180.00	\$353,340
Fast-SC-Connector	1963	\$15.00	\$29,445
Mounting Supplies	1963	\$100.00	\$196,300
OptiNID Duo enclosure	1963	\$15.00	\$29,445
SC Adapter	1963	\$3.00	\$5,889

<b>Labor</b>			
Drop cable installation to Optinid	1963	\$600.00	\$1,177,800

**Total \$1,792,219**

**Subscriber Equipment & Installation**

Materials			
GP1100x GigaPoint ONT	1963	\$125.00	\$245,375
GigaBlast V6.1 Wifi 6 Router	1963	\$145.00	\$284,635
Fiber Drop Cable - 50' (Connect Optinid to ONT)	1963	\$30.00	\$58,890
Installation of MDU Drop Cable & Setup of Electronics	1963	\$400.00	\$785,200
		<b>Total</b>	<b>\$1,374,100</b>

**Grant Administration \$30,000**

**Bland Total \$26,550,208**

**Montgomery County**

	Quantity	Cost	Total
<b>Design/Engineering</b>			
Last Mile Network Design	11611	\$23.00	\$267,053 (cost per passing)
Access Fiber Extension Engineering	1707642	\$0.95	\$1,622,260 (cost per ft)
		<b>Total</b>	<b>\$1,889,313</b>
<b>Project &amp; Construction Management</b>			
	324	\$1,700.00	\$550,800
		<b>Total</b>	<b>\$550,800</b>

**Access Fiber Construction & Labor**

Utility Broadband Related Infrastructure			\$19,470,028
Fiber Optic Cable - 48 Strand	1707642	\$0.70	\$1,195,349 (cost per ft)
Attachment assemblies/supplies	6480	\$35.00	\$226,800
Apex Fiber Optic Closure	430	\$279.00	\$119,970
Apex Mounting Bracket	430	\$31.00	\$13,330
1x8 Splitter/tray	229	\$125.00	\$28,625
1x4 Splitter/tray	1962	\$99.00	\$194,238
Titan Multiport RTD 4 port 1000' Flat	1550	\$125.00	\$193,750
Titan Multiport RTD 4 port 2500' Flat	167	\$155.00	\$25,885
Multiport Terminal Mounting Bracket	1717	\$31.00	\$53,227
<b>Labor</b>			
Installation of MPT Tails	191500	\$6.73	\$1,288,795 Cost per ft
Installation of Access Fiber	1707642	\$4.50	\$7,684,389 Cost per ft
Multiport MPT splicing	1717	\$934.00	\$1,603,678
Access Fiber Splicing	430	\$1,303.00	\$560,290
Make Ready	6480	\$500.00	\$3,240,000
Permitting	1	\$250,000.00	\$250,000
Contingency			\$1,862,233
		<b>Total</b>	<b>\$38,010,587</b>

**Headend/OLT's**

<b>Headend</b>			
Routing: Juniper JNP204/MX204	1	\$43,900.00	\$43,900
Switching: Juniper EX4600	3	\$9,800.00	\$29,400
PON: E7-2 10G AXOS XGS-PON	1	\$12,265.00	\$12,265
PON Optics	4	\$495.00	\$1,980
Software Licensing, Misc Cables & Materials	1	\$48,979.00	\$48,979
Labor	1	\$15,000.00	\$15,000
		<b>Total</b>	<b>\$151,524</b>
<b>OLT Cabinets</b>			
Cabinet Package - Cabinet, Wiring UPS, Misc Mounting	51	\$5,000.00	\$255,000
Pad Construction - Prep, Concrete, Electrical, Labor	51	\$1,500.00	\$76,500
SFP 10G Transport	102	\$958.00	\$97,716
E7-2 10G AXOS XGS-PON	51	\$12,265.00	\$625,490
PON Optics	363	\$495.00	\$179,685
Labor	51	\$3,500.00	\$178,500
		<b>Total</b>	<b>\$1,412,891</b>

		<b>Total</b>	<b>\$1,564,415</b>
<b>Customer Drops</b>			
Hardware			
Trident ADSS Drop Cable	6967	\$180.00	\$1,254,060
Fast-SC-Connector	6967	\$15.00	\$104,505
Mounting Supplies	6967	\$100.00	\$696,700
OptiNID Duo	6967	\$15.00	\$104,505
SC Adapter	6967	\$3.00	\$20,901
Labor			
Drop cable installation to Optinid	6967	\$600.00	\$4,180,200
		<b>Total</b>	<b>\$6,360,871</b>
<b>Subscriber Equipment &amp; Installation</b>			
Materials			
GP1100x GigaPoint ONT	6967	\$125.00	\$870,875
GigaBlast V6.1 Wifi 6 Router	6967	\$145.00	\$1,010,215
Fiber Drop Cable - 50' (Connect Optinid to ONT)	6967	\$30.00	\$209,010
Installation of MDU Drop Cable & Setup of Electronics	6967	\$400.00	\$2,786,800
		<b>Total</b>	<b>\$4,876,900</b>
<b>Grant Administration</b>			<b>\$30,000</b>
		<b>Montgomery Total</b>	<b>\$53,282,886</b>
<b>COMBINED COUNTY BUDGET TOTAL</b>			<b>\$79,833,093</b>

(RETAIN FOR YOUR RECORDS)  
Form 477 Filing Summary

FRN: 0023524705 | Data as of: Jun 30, 2020 | Operations: Non-ILEC | Submission Status: Original - Submitted | Last Updated: Sep 1, 2020 22:03:25

**Filer Identification**

Section	Question	Response
<b>Filer Information</b>	Company Name	All Points Broadband
	Holding Company Name	Virginia Everywhere, LLC
	SAC ID	
	499 ID	831251
<b>Data Contact Information</b>	Data Contact Name	[REDACTED]
	Data Contact Phone Number	(703) 554-6600
	Data Contact E-mail	[REDACTED]
<b>Emergency Operations Contact Information</b>	Emergency Operations Name	Don McElroy
	Emergency Operations Phone Number	(703) 554-6600
	Emergency Operations E-mail	[REDACTED]
<b>Certifying Official Contact Information</b>	Certifying Official Name	James Carr
	Certifying Official Phone Number	(703) 554-6600
	Certifying Official E-mail	[REDACTED]

**Data Submitted**

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	FCC477-Deployment-1H2020.csv	Sep 1, 2020 12:56:17	[REDACTED]
Fixed Broadband Subscription	fcc477_20200901.csv	Sep 1, 2020 18:25:33	[REDACTED]
Fixed Voice Subscription	fcc477_voip_20200701.csv	Sep 1, 2020 18:28:08	[REDACTED]

**Fixed Broadband Deployment**

**Census Block Counts by State, DBA Name and Technology**

State	DBA Name	Technology	Blocks
<b>Kentucky</b>	All Points Broadband	Optical Carrier/Fiber to the End User	[REDACTED]
		Terrestrial Fixed Wireless	
<b>Maryland</b>	All Points Broadband	Terrestrial Fixed Wireless	[REDACTED]
<b>Virginia</b>	All Points Broadband	Terrestrial Fixed Wireless	[REDACTED]
<b>West Virginia</b>	All Points Broadband	Terrestrial Fixed Wireless	[REDACTED]

State	DBA Name	Technology	Blocks
<b>Total</b>			

**Fixed Broadband Subscription**

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

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Kentucky	Optical Carrier/Fiber to the End User	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
	Terrestrial Fixed Wireless				
Maryland	Terrestrial Fixed Wireless				
Texas	Terrestrial Fixed Wireless				
Virginia	Terrestrial Fixed Wireless				
West Virginia	Terrestrial Fixed Wireless				
<b>Total</b>					

**Fixed Broadband Subscriptions by Bandwidths and End-user Type**

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
[REDACTED]				



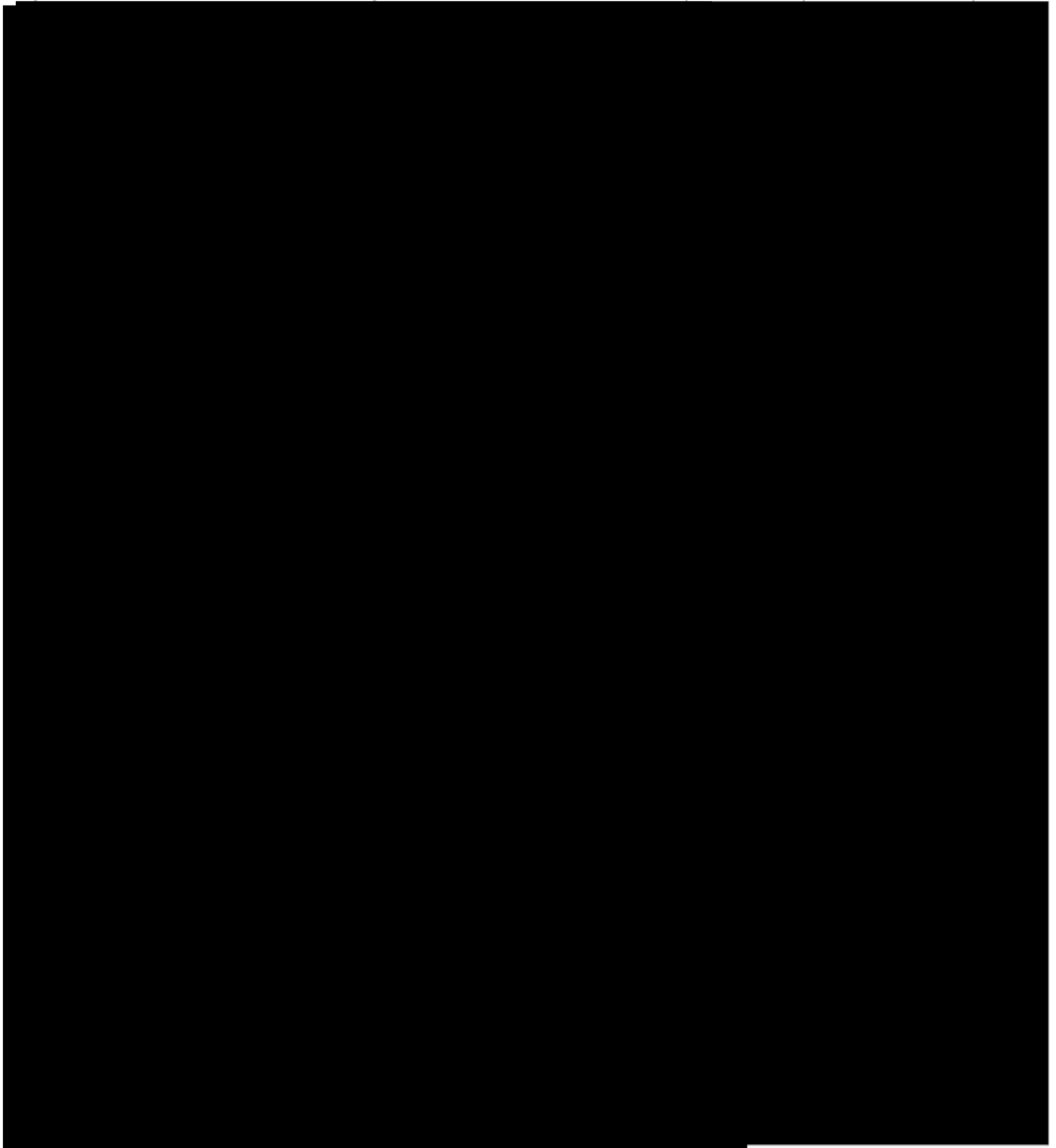
Downstream Bandwidth (in Mbps)

Upstream Bandwidth (in Mbps)

Consumer

Business / Govt

Total



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

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Optical Carrier/Fiber to the End User	[Redacted]				

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Terrestrial Fixed Wireless					

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
	[REDACTED]				
Total					

**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
Kentucky		[REDACTED]		
Virginia		[REDACTED]		
Total		[REDACTED]		

**Fixed Voice Subscription (iVoIP)**

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

State	Total	Consumer	Business / Govt
Kentucky		[REDACTED]	
Virginia		[REDACTED]	
Total		[REDACTED]	

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
Kentucky		[REDACTED]							
Virginia		[REDACTED]							
Total		[REDACTED]							

(RETAIN FOR YOUR RECORDS)  
Form 477 Filing Summary

FRN: 0023524705 | Data as of: Dec 31, 2020 | Operations: Non-ILEC | Submission Status: Original - Submitted | Last Updated: Mar 16, 2021 15:11:37

**Filer Identification**

Section	Question	Response
<b>Filer Information</b>	Company Name	All Points Broadband
	Holding Company Name	Virginia Everywhere, LLC
	SAC ID	
	499 ID	831251
<b>Data Contact Information</b>	Data Contact Name	[REDACTED]
	Data Contact Phone Number	(703) 554-6600
	Data Contact E-mail	[REDACTED]
<b>Emergency Operations Contact Information</b>	Emergency Operations Name	Don McElroy
	Emergency Operations Phone Number	(703) 554-6600
	Emergency Operations E-mail	[REDACTED]
<b>Certifying Official Contact Information</b>	Certifying Official Name	James Carr
	Certifying Official Phone Number	(703) 554-6600
	Certifying Official E-mail	[REDACTED]

**Data Submitted**

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	fcc477Deployment_20201231.csv	Mar 16, 2021 15:01:06	[REDACTED]
Fixed Broadband Subscription	fcc477_20201231.csv	Mar 16, 2021 15:01:27	[REDACTED]
Fixed Voice Subscription	voip_20201231.csv	Mar 16, 2021 15:01:46	[REDACTED]

**Fixed Broadband Deployment**

**Census Block Counts by State, DBA Name and Technology**

State	DBA Name	Technology	Blocks
<b>Kentucky</b>	All Points Broadband	Optical Carrier/Fiber to the End User	[REDACTED]
		Terrestrial Fixed Wireless	
<b>Maryland</b>	All Points Broadband	Terrestrial Fixed Wireless	
<b>Virginia</b>	All Points Broadband	Terrestrial Fixed Wireless	
<b>West Virginia</b>	All Points Broadband	Terrestrial Fixed Wireless	

State	DBA Name	Technology	Blocks
<b>Total</b>			

**Fixed Broadband Subscription**

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

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
<b>Kentucky</b>	Optical Carrier/Fiber to the End User				
	Terrestrial Fixed Wireless				
<b>Maryland</b>	Terrestrial Fixed Wireless				
<b>Texas</b>	Terrestrial Fixed Wireless				
<b>Virginia</b>	Terrestrial Fixed Wireless				
<b>West Virginia</b>	Terrestrial Fixed Wireless				
<b>Total</b>					

**Fixed Broadband Subscriptions by Bandwidths and End-user Type**

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total

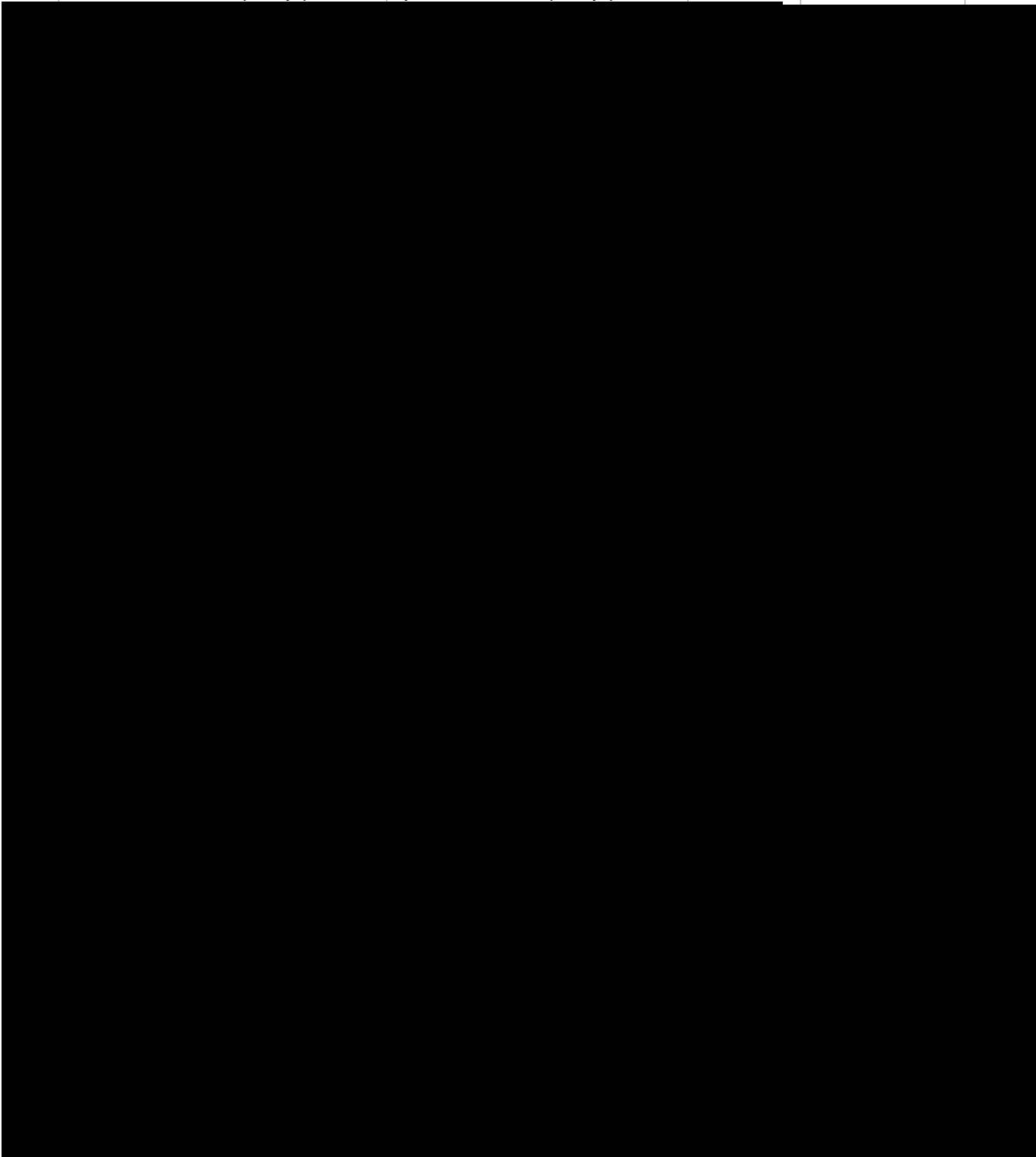
Downstream Bandwidth (in Mbps)

Upstream Bandwidth (in Mbps)

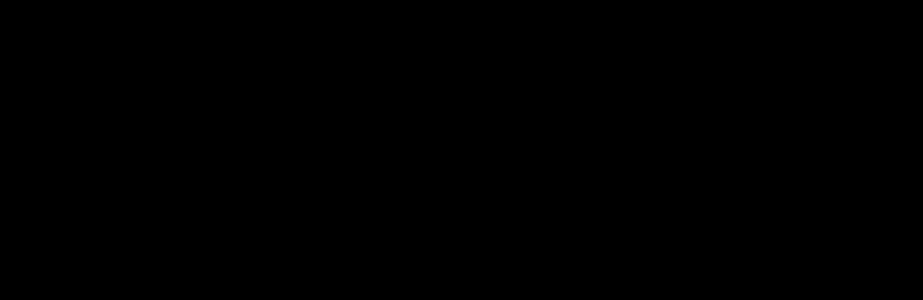
Consumer

Business / Govt

Total



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

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Optical Carrier/Fiber to the End User					

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Terrestrial Fixed Wireless	[REDACTED]				





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
Total									

(RETAIN FOR YOUR RECORDS)  
Form 477 Filing Summary

FRN: 0018473223 | Data as of: Dec 31, 2020 | Operations: Non-ILEC | Submission Status: Original - Submitted | Last Updated: Apr 1, 2021 16:18:36

**Filer Identification**

Section	Question	Response
<b>Filer Information</b>	Company Name	GigaBeam Networks, LLC
	Holding Company Name	WVVA.net Inc.
	SAC ID	
	499 ID	
<b>Data Contact Information</b>	Data Contact Name	Michael Clemons
	Data Contact Phone Number	(540) 726-2317
	Data Contact E-mail	mclemons@gigabeam.net
<b>Emergency Operations Contact Information</b>	Emergency Operations Name	Michael Clemons
	Emergency Operations Phone Number	(540) 726-2317
	Emergency Operations E-mail	mclemons@gigabeam.net
<b>Certifying Official Contact Information</b>	Certifying Official Name	Michael Clemons
	Certifying Official Phone Number	(540) 726-2317
	Certifying Official E-mail	mclemons@gigabeam.net

**Data Submitted**

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	CENSUS_BLOCKS_ALL_Dec_2020.csv	Apr 1, 2021 16:09:25	7624
Fixed Broadband Subscription	Form 477 customer data Dec 2020.csv	Apr 1, 2021 16:15:49	120

**Fixed Broadband Deployment**

**Census Block Counts by State, DBA Name and Technology**

State	DBA Name	Technology	Blocks
Kentucky	GigaBeam Networks LLC	Terrestrial Fixed Wireless	526
Virginia	GigaBeam Networks LLC	Terrestrial Fixed Wireless	4360
West Virginia	GigaBeam Networks LLC	Terrestrial Fixed Wireless	2738
<b>Total</b>			<b>7624</b>

**Fixed Broadband Subscription**

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

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Kentucky	Terrestrial Fixed Wireless	7	45	6	51
Virginia	Terrestrial Fixed Wireless	71	712	95	807
West Virginia	Terrestrial Fixed Wireless	42	645	55	700
<b>Total</b>		<b>120</b>	<b>1402</b>	<b>156</b>	<b>1558</b>

**Fixed Broadband Subscriptions by Bandwidths and End-user Type**

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
10.000	1.000	789	56	845
25.000	2.000	496	69	565
50.000	3.000	117	27	144
100.000	10.000	0	3	3

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
1000.000	100.000	0	1	1
<b>Total</b>		<b>1402</b>	<b>156</b>	<b>1558</b>

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

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Terrestrial Fixed Wireless	10.000	1.000	789	56	845
	25.000	2.000	496	69	565
	50.000	3.000	117	27	144
	100.000	10.000	0	3	3
	1000.000	100.000	0	1	1
<b>Total</b>			<b>1402</b>	<b>156</b>	<b>1558</b>

(RETAIN FOR YOUR RECORDS)  
 Form 477 Filing Summary

FRN: 0018473223 | Data as of: Jun 30, 2020 | Operations: Non-ILEC | Submission Status: Original - Submitted | Last Updated: Sep 28, 2020 10:45:45

**Filer Identification**

Section	Question	Response
<b>Filer Information</b>	Company Name	GigaBeam Networks, LLC
	Holding Company Name	WVVA.net Inc.
	SAC ID	
	499 ID	
<b>Data Contact Information</b>	Data Contact Name	Michael Clemons
	Data Contact Phone Number	(540) 726-2317 ext: 103
	Data Contact E-mail	mclemons@gigabeam.net
<b>Emergency Operations Contact Information</b>	Emergency Operations Name	Michael Clemons
	Emergency Operations Phone Number	(540) 726-2317 ext: 103
	Emergency Operations E-mail	mclemons@gigabeam.net
<b>Certifying Official Contact Information</b>	Certifying Official Name	Michael Clemons
	Certifying Official Phone Number	(540) 726-2317 ext: 103
	Certifying Official E-mail	mclemons@gigabeam.net

**Data Submitted**

Form Section	File Name	Date & Time	Number of Rows
Fixed Broadband Deployment	CENSUS_BLOCKS_ALL_JUL_2020.csv	Sep 28, 2020 10:35:12	7624
Fixed Broadband Subscription	Form 477 Customer Data July 2020.csv	Sep 28, 2020 10:41:48	121

**Fixed Broadband Deployment**

**Census Block Counts by State, DBA Name and Technology**

State	DBA Name	Technology	Blocks
Kentucky	GigaBeam Networks LLC	Terrestrial Fixed Wireless	526
Virginia	GigaBeam Networks LLC	Terrestrial Fixed Wireless	4360
West Virginia	GigaBeam Networks LLC	Terrestrial Fixed Wireless	2738
<b>Total</b>			<b>7624</b>

**Fixed Broadband Subscription**

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

State	Technology	Census Tracts	Subscriptions		
			Consumer	Business / Govt	Total
Kentucky	Terrestrial Fixed Wireless	8	50	9	59
Virginia	Terrestrial Fixed Wireless	69	664	98	762
West Virginia	Terrestrial Fixed Wireless	44	566	57	623
<b>Total</b>		<b>121</b>	<b>1280</b>	<b>164</b>	<b>1444</b>

**Fixed Broadband Subscriptions by Bandwidths and End-user Type**

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
10.000	1.000	792	58	850
25.000	2.000	397	81	478
25.000	5.000	0	1	1
50.000	3.000	91	20	111

Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
100.000	10.000	0	2	2
200.000	200.000	0	1	1
1000.000	100.000	0	1	1
<b>Total</b>		<b>1280</b>	<b>164</b>	<b>1444</b>

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

Technology	Downstream Bandwidth (in Mbps)	Upstream Bandwidth (in Mbps)	Consumer	Business / Govt	Total
Terrestrial Fixed Wireless	10.000	1.000	792	58	850
	25.000	2.000	397	81	478
	25.000	5.000	0	1	1
	50.000	3.000	91	20	111
	100.000	10.000	0	2	2
	200.000	200.000	0	1	1
	1000.000	100.000	0	1	1
<b>Total</b>			<b>1280</b>	<b>164</b>	<b>1444</b>



BOUNDLESS ENERGY™

American Electric Power  
1051 E Cary Street, Suite 1100  
Richmond, Virginia 23219  
AEP.com

Legal Department

July 29, 2021

By email to [broadband@dhcd.virgini.gov](mailto:broadband@dhcd.virgini.gov)

Erik Johnston  
Director, Virginia Department of Housing and Community Development  
600 East Main Street, Suite 300  
Richmond, VA 23219

Dear Mr. Johnston,

Attached please find Appalachian Power Company's (APCo) Petition requesting that a proposed project area within the Counties of Bland, Pulaski and Montgomery, Virginia, be designated by the Department of Housing and Community Development (DHCD) as "unserved by broadband" as that term is defined in Section 56-585.1:9 of the Virginia Code. APCo is pleased to be part of a solution that has the potential to bring economic development and other benefits of modern Internet service to portions of the three counties that are currently unserved by broadband.

APCo looks forward to working with the DHCD during its review process. Please let me know if you have any questions.

Sincerely,

Noelle J. Coates

cc: Brad Hall, Vice President of External Affairs, Appalachian Power Company  
Evan Feinman, Chief Broadband Advisor to the Governor of the  
Commonwealth of Virginia

Noelle J. Coates  
Senior Counsel - Regulatory  
Services  
(804) 698-5541 (P)  
(804) 698-5526 (F)  
[njcoates@aep.com](mailto:njcoates@aep.com)

**PETITION OF APPALACHIAN POWER COMPANY  
BEFORE THE VIRGINIA DEPARTMENT OF HOUSING  
AND COMMUNITY DEVELOPMENT FOR  
DESIGNATION OF PROPOSED PROJECT AREA AS UNSERVED BY BROADBAND**

Comes now Appalachian Power Company (APCo or Petitioner), and respectfully requests that the Virginia Department of Housing and Community Development (DHCD), pursuant to its May 28, 2021 Utility Leverage Program--Unserved Certification Guidelines (Guidelines), designate the proposed project area that is the subject of this Petition as “unserved by broadband.” In support of this request, the Petitioner states as follows:

1. The purpose of the proposed APCo-Bland/Pulaski/Montgomery Rural Broadband Project, which APCo will submit to the Virginia State Corporation Commission for approval before it can proceed, is to install middle-mile broadband infrastructure for the Virginia Counties of Bland, Pulaski and Montgomery. A portion of that middle-mile broadband infrastructure would be leased to and used by GigaBeam Networks LLC (GigaBeam) and Everywhere Virginia, LLC, and its affiliates (d/b/a/ All Points Broadband) (All Points) to bring last-mile broadband internet service to areas in those counties that are “unserved by broadband” as that term is defined in Section 56-585.1:9 of the Virginia Code.

2. The proposed project area, which is depicted in the polygon and point shapefiles submitted in electronic format attached to this Petition as Exhibits 1 and 2, consists of all areas within the respective county boundaries where less than 10% of the residential and commercial units are capable of receiving broadband service at speeds of at least 25 Megabits per second (Mbps) download and 3 Mbps upload (25/3 Mbps), in accordance with Virginia law. The boundaries of the proposed project area were determined based upon information contained in the following two reports, both prepared by Thompson & Litton and Blue Ridge Advisory



Services (County Consultants), at the request of Bland and Pulaski Counties, and Montgomery County, respectively: the June 29, 2021 Broadband Assessment, Bland and Pulaski Counties, Virginia; and the Updated June 29, 2021 Supplemental Broadband Study, Montgomery County, Virginia. Copies of these reports are attached as Exhibits 3 and 4, respectively. These reports, in conjunction with the attached polygon and point shapefiles, depict the geographic area of the proposed project area, its specific boundaries, and the addresses of each structure, as a singular mapped point, that will be capable of receiving service from either GigaBeam or All Points, as a result of APCo's proposed middle-mile broadband infrastructure project (*i.e.* each "passing," as defined in the Guidelines). A further written description of the proposed project area, by county, is attached as Exhibit 5.

3. APCo would note that the information in the County Consultants' reports was prepared for the Counties. Consequently, such things as the costs and the proposed network routes depicted in the reports do not represent the costs or routes of APCo's proposed middle-mile broadband infrastructure project.

4. Existing Internet Service Providers (ISPs) in Bland, Pulaski and Montgomery Counties are listed in the County Consultants' reports. Those reports describe the outreach efforts (*i.e.* surveys) that were used to identify existing ISPs and to avoid overlap.

5. The survey results set out in the County Consultants' reports were compiled by performing targeted interviews of knowledgeable officials in all three Counties and by conducting broadband customer surveys in all three counties. The results of these surveys were validated through discussions with county administrators and their staffs.

6. APCo represents that its middle-mile broadband infrastructure will be capable of supporting future terabit deployment speeds. GigaBeam has advised APCo that, in conjunction

with APCo's middle-mile broadband infrastructure project, its proposed 10 Gigabit Symmetrical— Passive Optical Network (XGS-PON) would be capable of up to 10 Gigabits per second (Gbps) symmetrical speeds. It expects its initial Internet service packages in the proposed project area to be from 100 Mbps to 10 Gbps symmetrical speeds. In conjunction with APCo's proposed middle-mile broadband infrastructure project, All Points has advised APCo that it expects to initially offer Internet customers symmetrical speeds of 100 Mbps from its proposed XGS-PON, which is expected to be upgradable to 10 Gbps symmetrical speeds.

WHEREFORE, for the reasons contained in this Petition, and as a first step to bring modern Internet service to the portions of Bland, Pulaski and Montgomery Counties that are currently unserved by broadband, APCo respectfully requests that the DHCD, after following the process contained in its Guidelines, designate the proposed project "unserved by broadband."

Respectfully submitted,

APPALACHIAN POWER COMPANY

By: \_\_\_\_\_

A handwritten signature in black ink, appearing to be "Noelle J. Coates", is written over a horizontal line. The signature is stylized and cursive.

Noelle J. Coates (VSB #73578)  
AMERICAN ELECTRIC POWER SERVICE CORPORATION  
1051 East Cary Street, Suite 1100  
Richmond, Virginia 23219  
804-698-5541  
njcoates@aep.com

*Counsel for Appalachian Power Company*



# Broadband Assessment Bland and Pulaski Counties, Virginia

## Final Report

June 29, 2021



# Project Objectives & Scope of Work

- Objectives
  - To accurately identify the unserved communities in Bland and Pulaski counties
    - Anything less than 25 X 3 MBPS
    - Include reliability measures, where possible
  - To produce unimpeachable results in the event our findings are challenged before the State Corporate Commission
- Scope of Work
  - Diagnostic Interviews with County Leaders and Key Stakeholders
  - Online Survey and Data Collection
  - List of unserved communities, areas
  - Infrastructure assessment
  - Broadband plan

# Project Recap

County	Diagnostic Interviews	Online Responses	Households	Response Rate	No. of Invalid or Duplicate Responses	Mappable Responses
Bland	6	667	3,356	20%	140	527
Pulaski	8	679	17,302	4%	63	616

# Bland County

# Key Findings – Bland County

- Every community in Bland County appears to have pocket areas that are considered unserved (less than 25 X 3)
  - Coverage is “decent” around the interstate but, outside of that, pockets of unserved. Mountainous terrain poses a challenge.
- Workarounds show high level of need
  - Hot spots are critical to most (if they can get it)
    - Gigabeam placed Wifi hotspots in the community centers and parks for students (Holly Brook Community Center, fairground, pavilion)
    - Libraries have increased tech training to accommodate increased computer and hot spot usage
    - Schools increased wifi hotspots in parking lots
- Employees and students cannot work/learn from home -- especially critical during the pandemic
  - The IT Director of the school system has no internet
  - Fiber to the schools is expensive (Point Broadband)
- Residents of the County are adapting to doing everything virtually (banking, learning, etc.) but want to do it in the comfort of their home, not in a public space (especially during a pandemic)



# Infrastructure Assessment – Bland County

© All Rights Reserved 2021

- Existing Broadband Infrastructure
  - I-77 Corridor (Rocky Gap, Bastian, Bland)
    - Segra, Windstream, LIT Network
  - Rt. 42 (from Smyth County to Bland)
    - LIT Networks (Backhaul only)
  - GigaBeam
    - Hollybrook area
    - Eastern side of county
  - DSL/Satellite Service
    - CenturyLink, Verizon, HughesNet

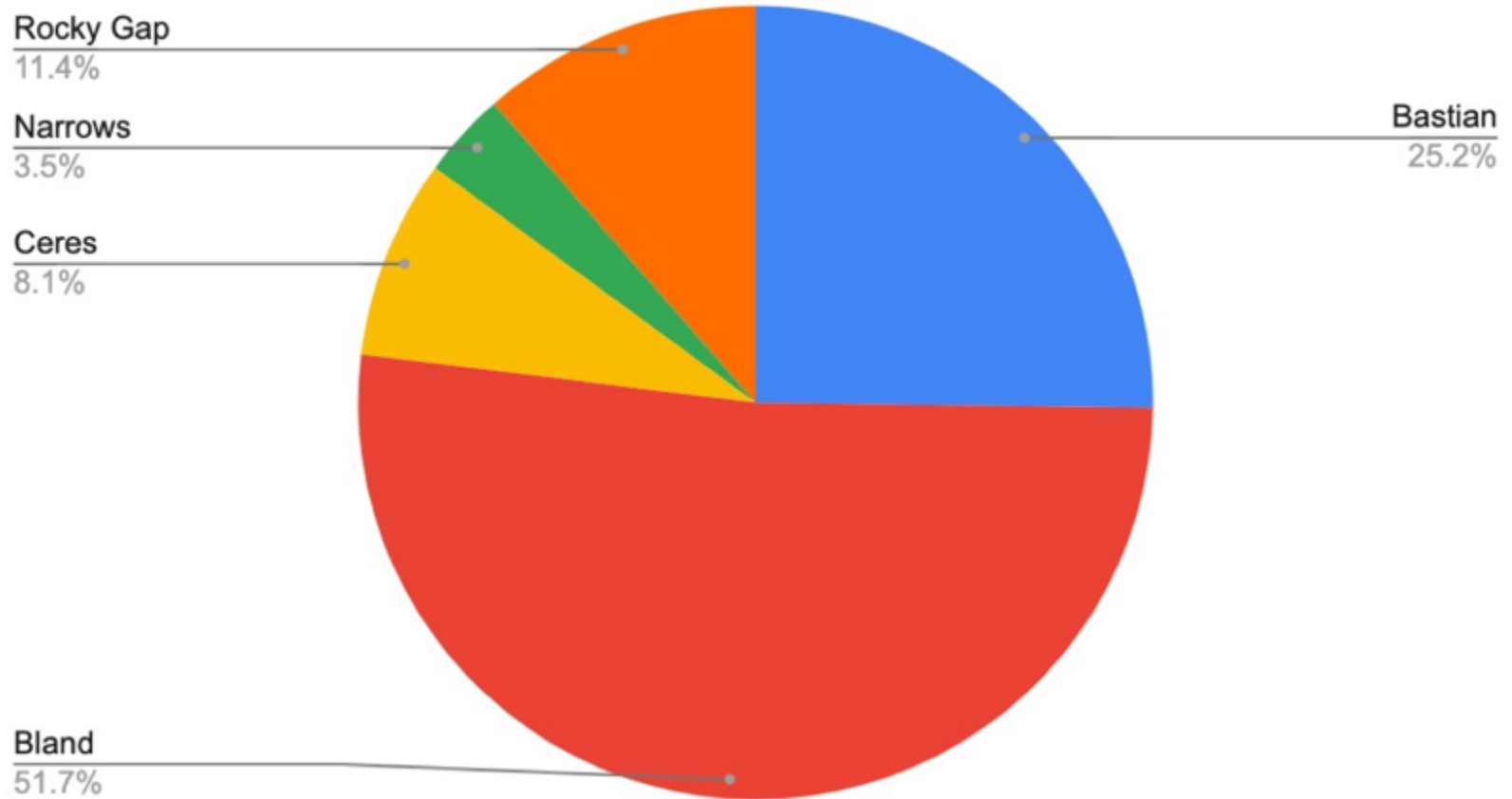
# Unserved\* – Bland County

Unserved Communities - Bland County
Bastian
Bland
Ceres
Clear Fork
Dry Fork
Grapefield
Hollybrook
Laurel
Little Creek
Rocky Gap

Unserved - Other - Bland County
Appalachian Trail (Trailheads)
Business Parks
Campgrounds (Camp Rowland)
Holly Brook Community Center
Wolf Creek Indian Village (Bastian)

***\*Source: Diagnostic Interviews***

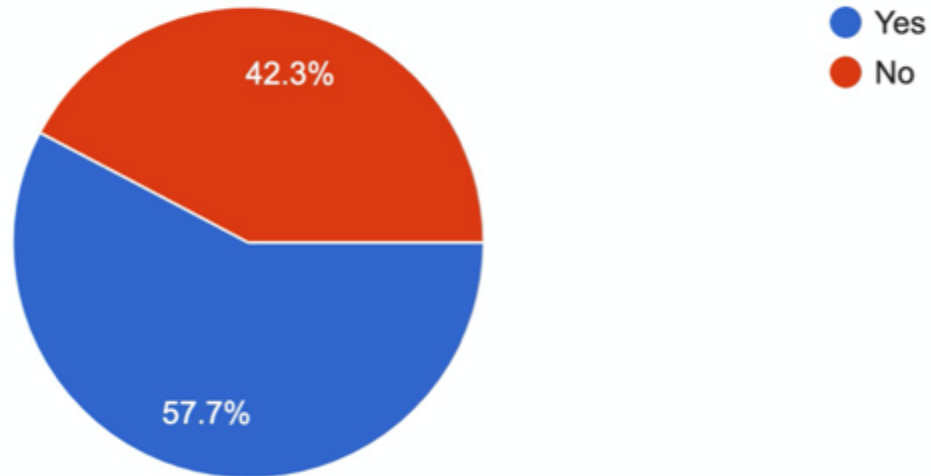
# Online Survey – Bland County



# Online Survey – Bland County

2. Is there a student currently living at this address?

667 responses

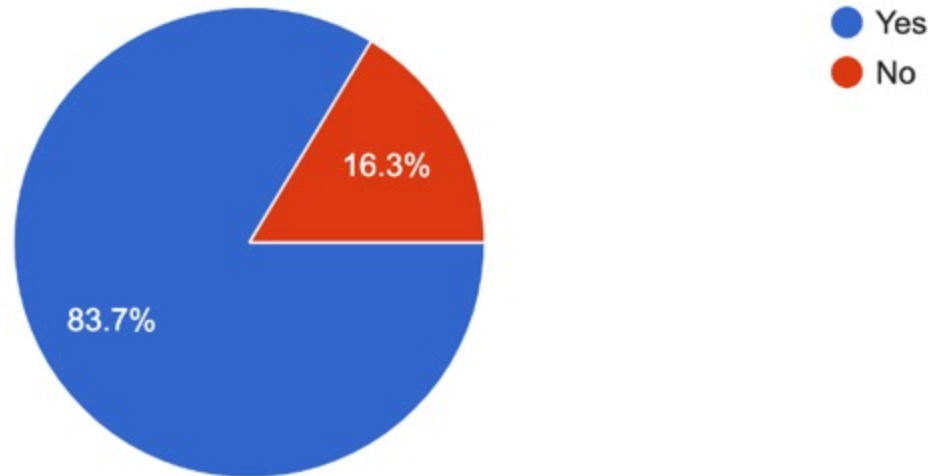


***58% have students living at home***

# Online Survey – Bland County

3. Do you currently have Internet service at this address?

667 responses



***16% have no Internet service***

# Online Survey – Bland County

4. If "No", what is the main reason why you do not have Internet service at this address?

141 responses

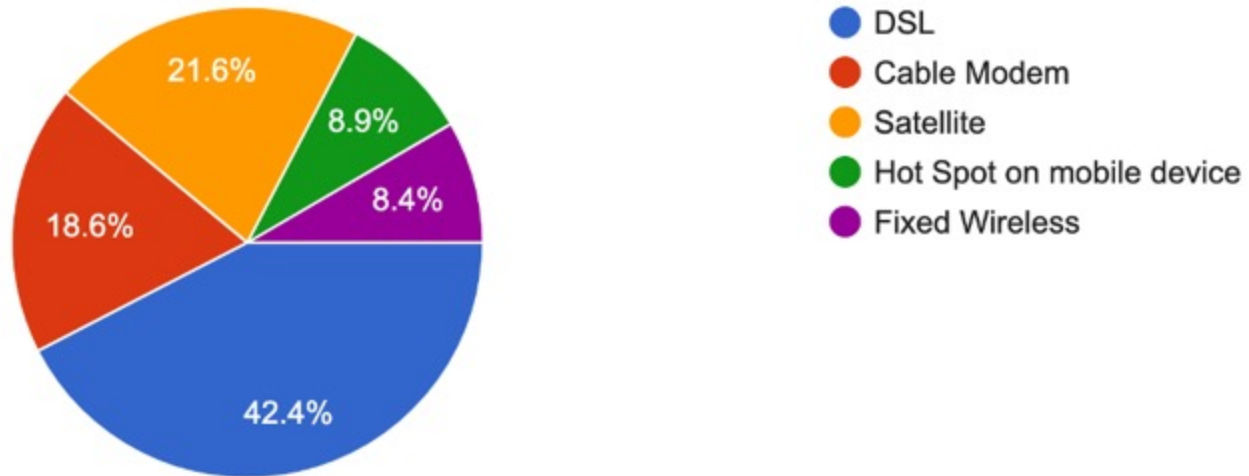


***Availability is the biggest factor***

# Online Survey – Bland County

5. If "Yes", what type of Internet service do you have?

559 responses

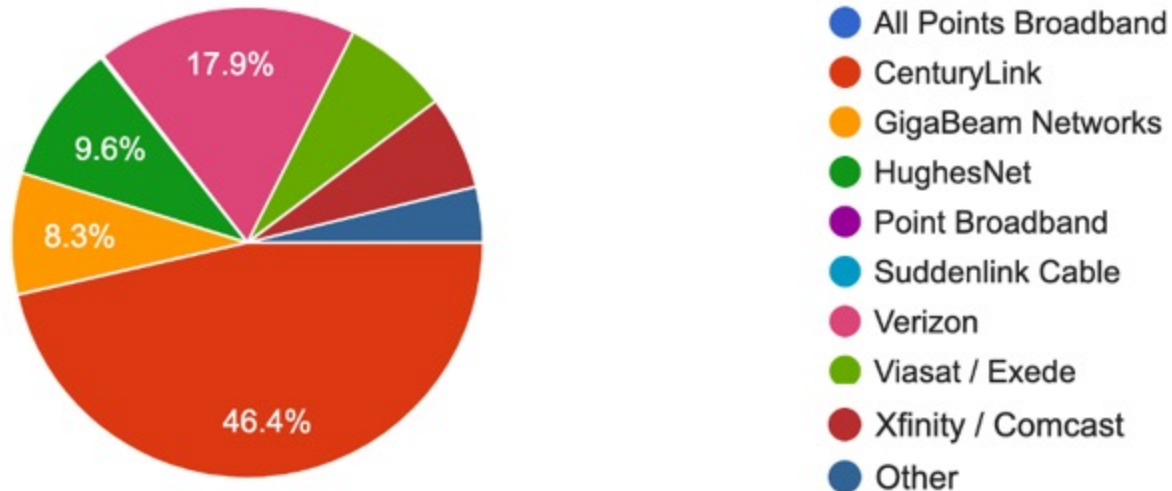


***64% have DSL and Satellite = Unserved***

# Online Survey – Bland County

## 6. Who is your Internet service provider?

575 responses



**64% have CenturyLink and Verizon**  
**17% have Satellite = 80%**



# Online Survey – Bland County

7. What is the approximate speed of your household's Internet service? If you are not sure, go to [www.speedtest.net](http://www.speedtest.net) from your home laptop or computer.

566 responses

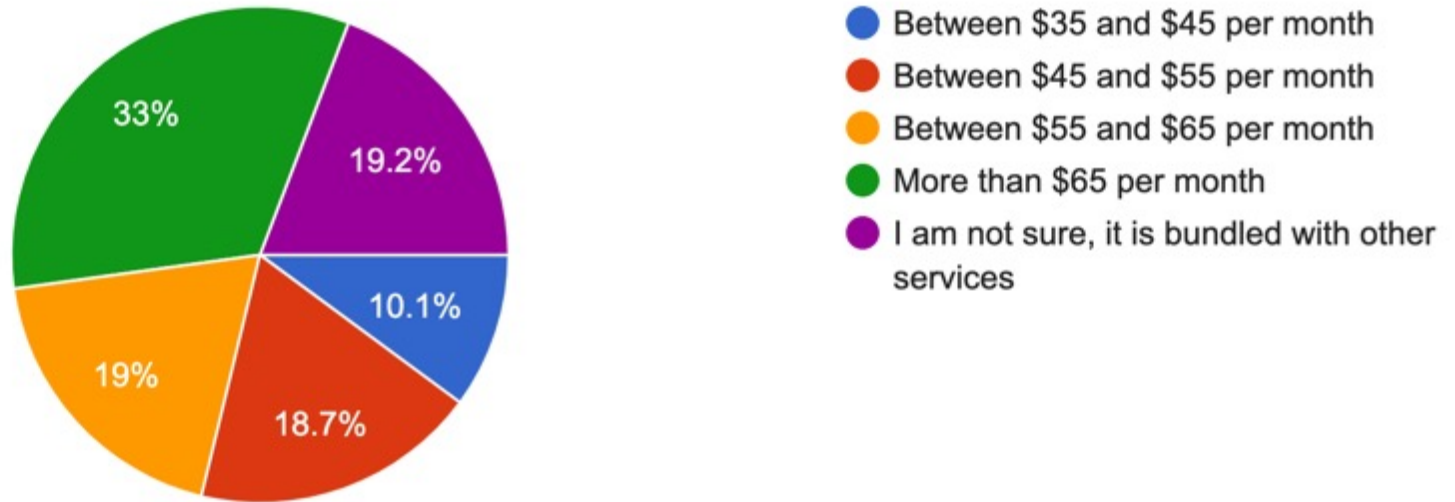


***61% have speeds considered unserved***

# Online Survey – Bland County

## 8. How much do you pay monthly for Internet service?

573 responses

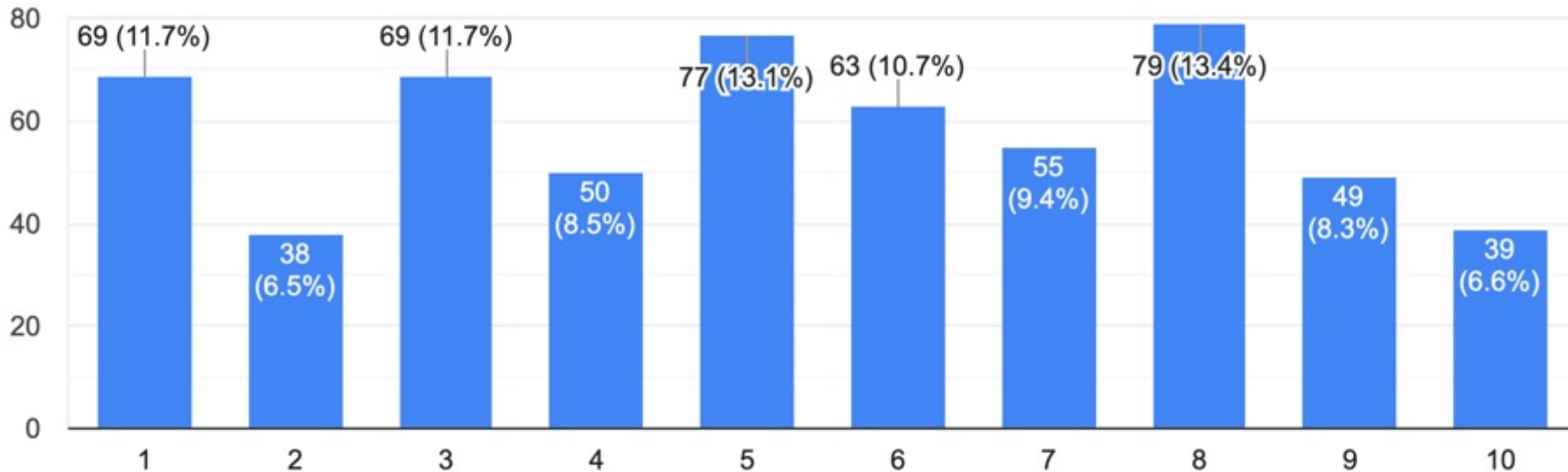


***33% pay on the higher end***

# Online Survey – Bland County

9. How reliable is your Internet service (1 being "Completely Unreliable and 10 being "Very Reliable")?

588 responses

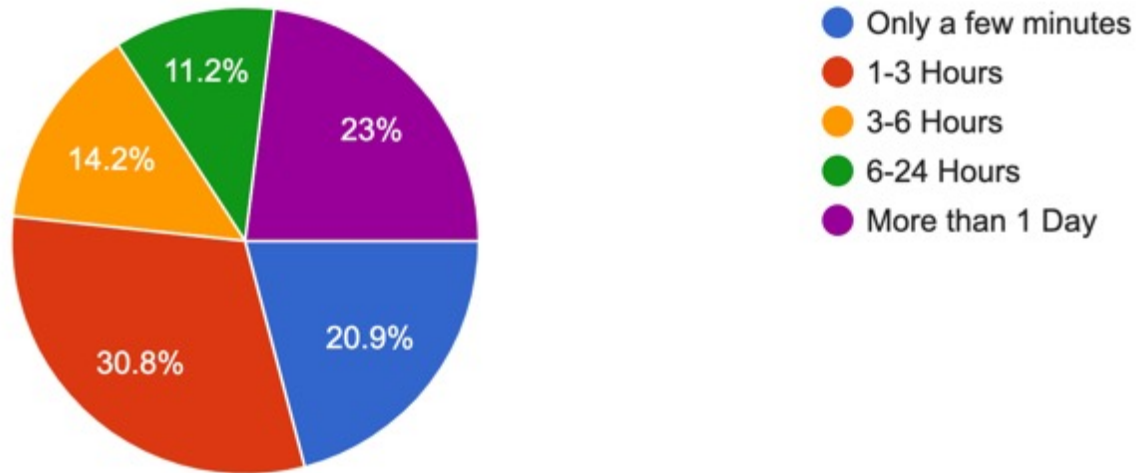


***51% fall at or below the mid range of reliability***

# Online Survey – Bland County

10. On average, how long does a typical Internet service outages last?

565 responses

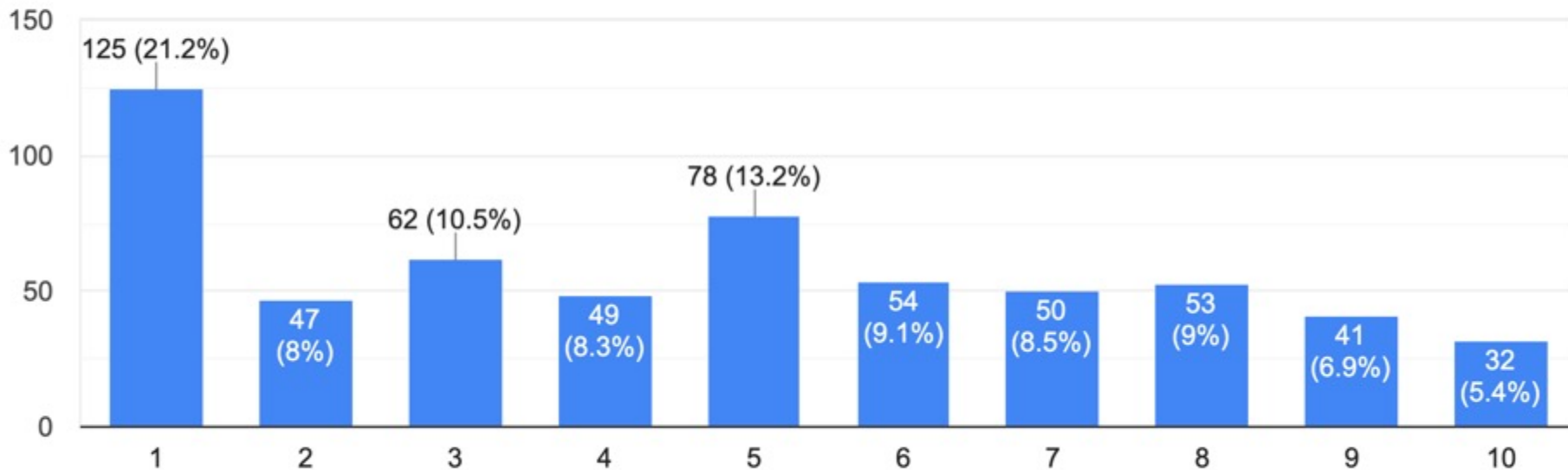


***23% of outages last more than 1 day***

# Online Survey – Bland County

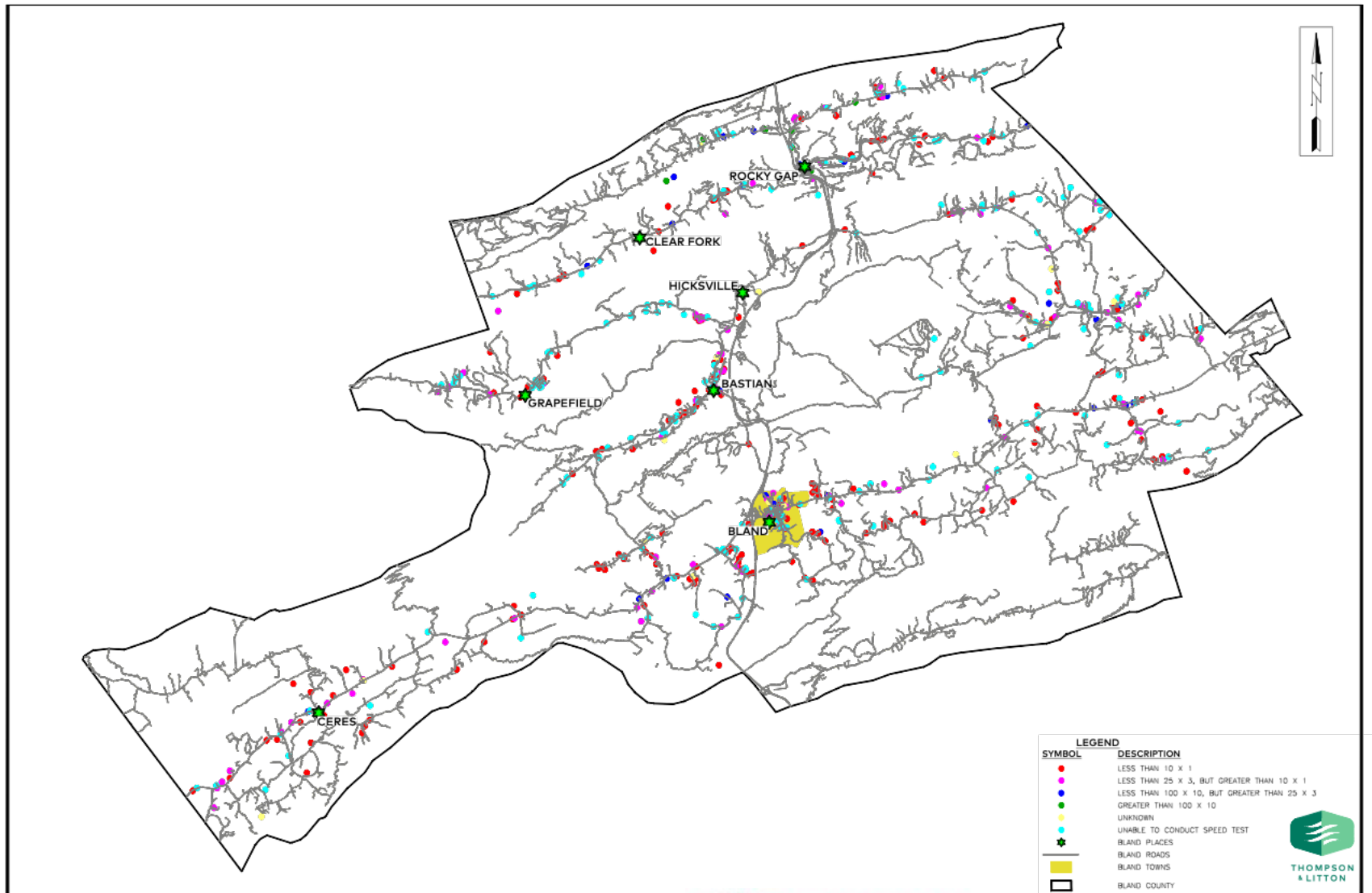
11. Generally, how satisfied are you with your Internet service (1 being "Completely Dissatisfied and 10 being "Very Satisfied")?

591 responses



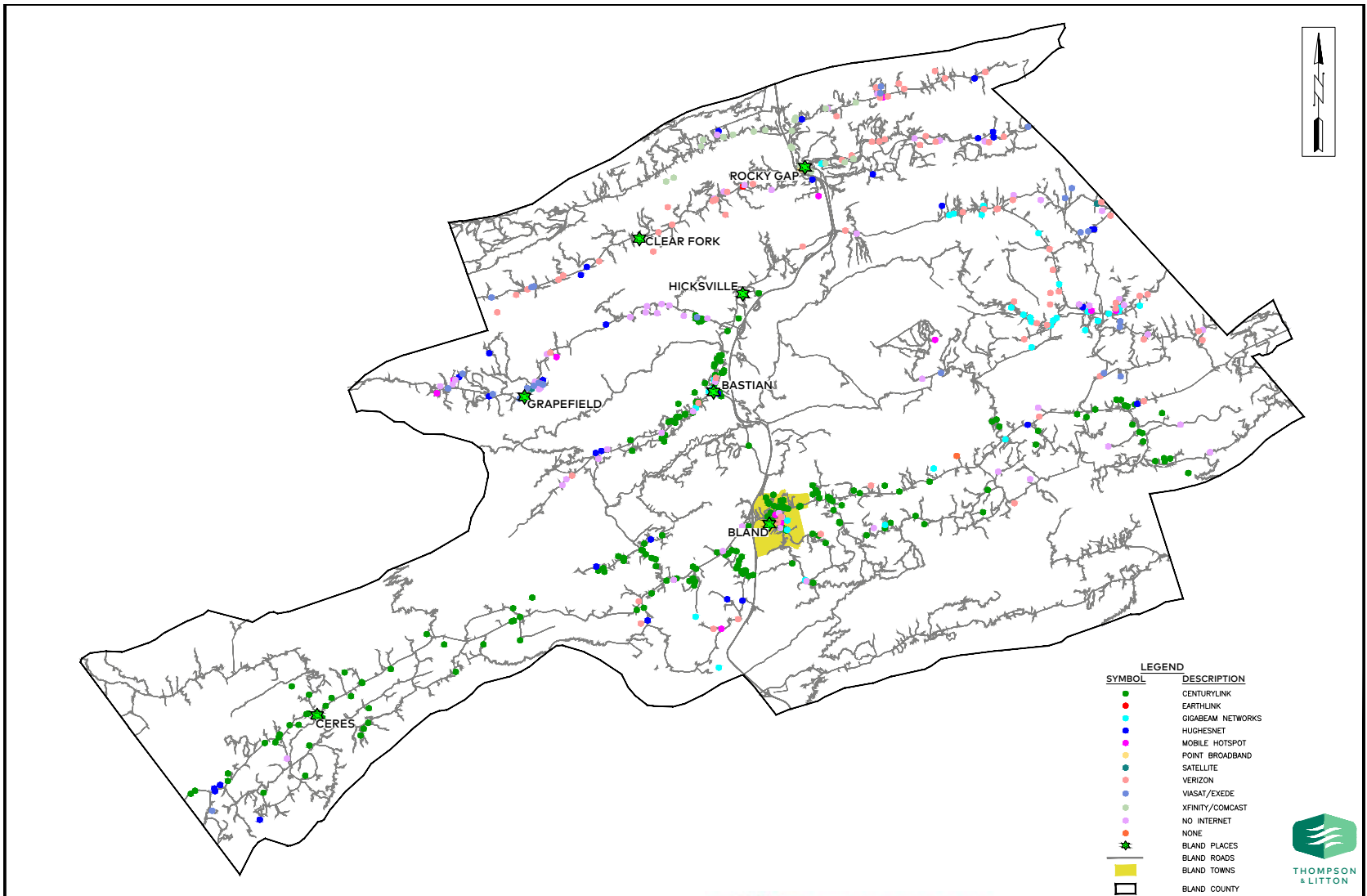
***61% fall at or below the mid range of general satisfaction***

# Bland County Survey – By Speed



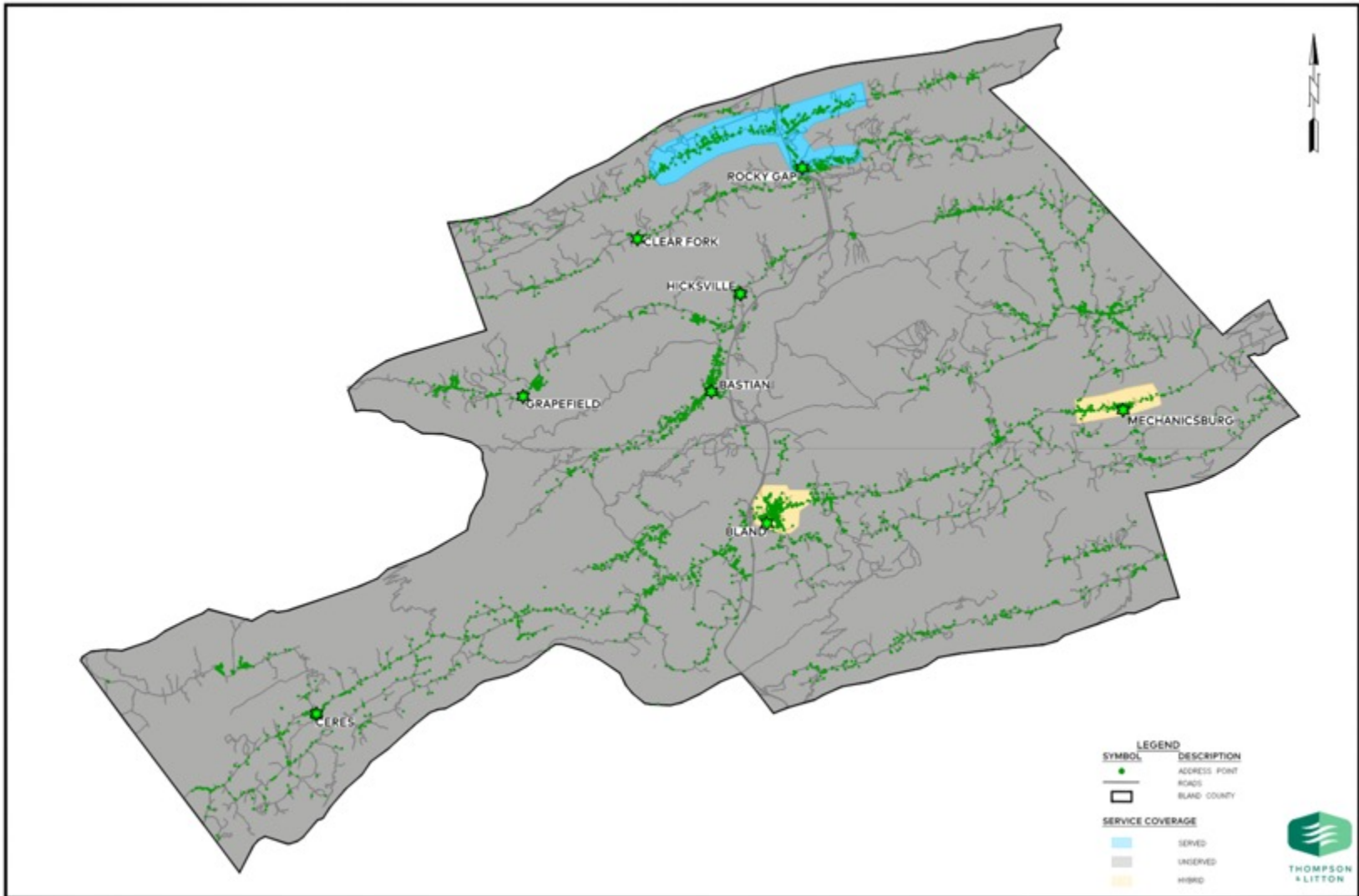
# Bland County Survey – By Provider

© All Rights Reserved 2021



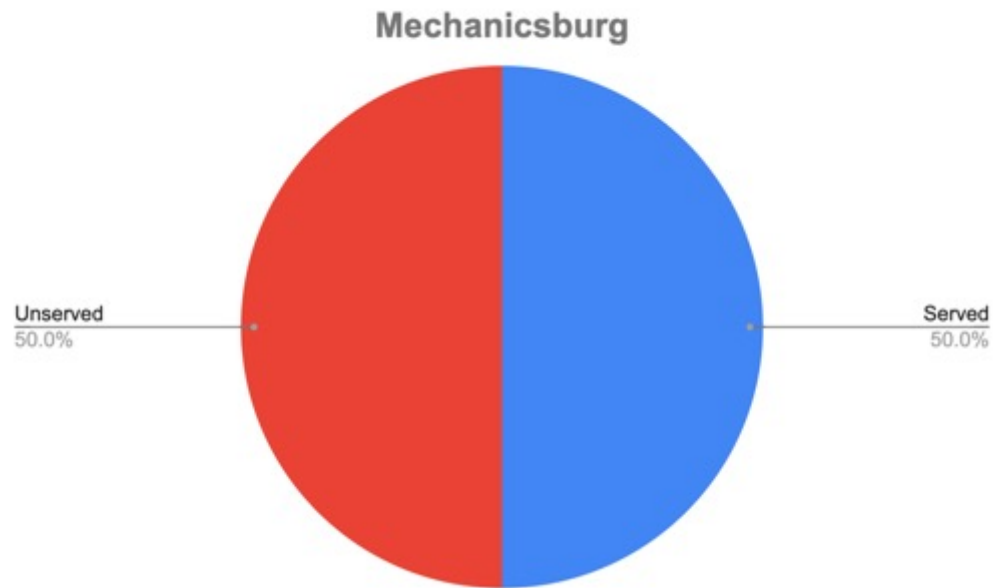
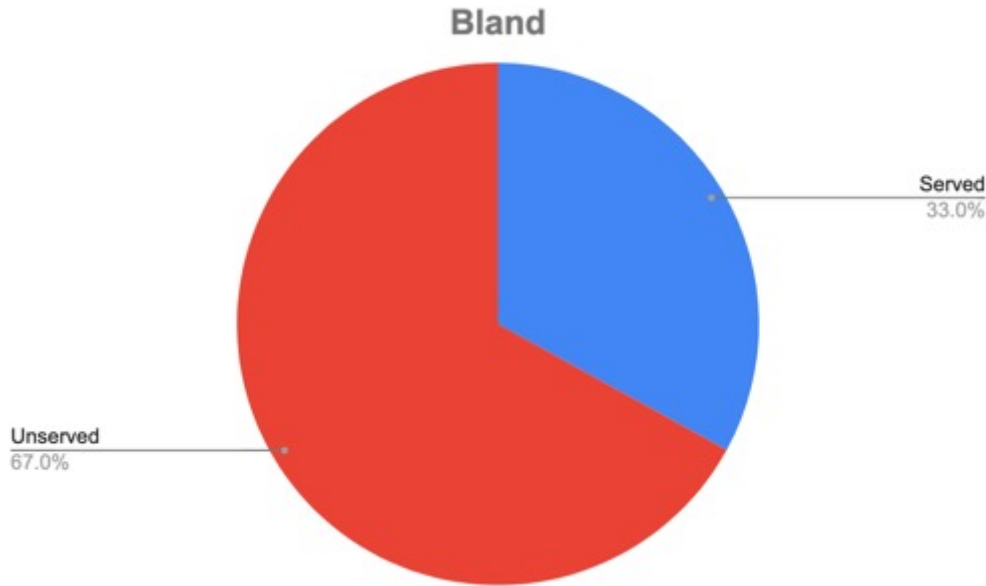


# Bland County Survey – By Service

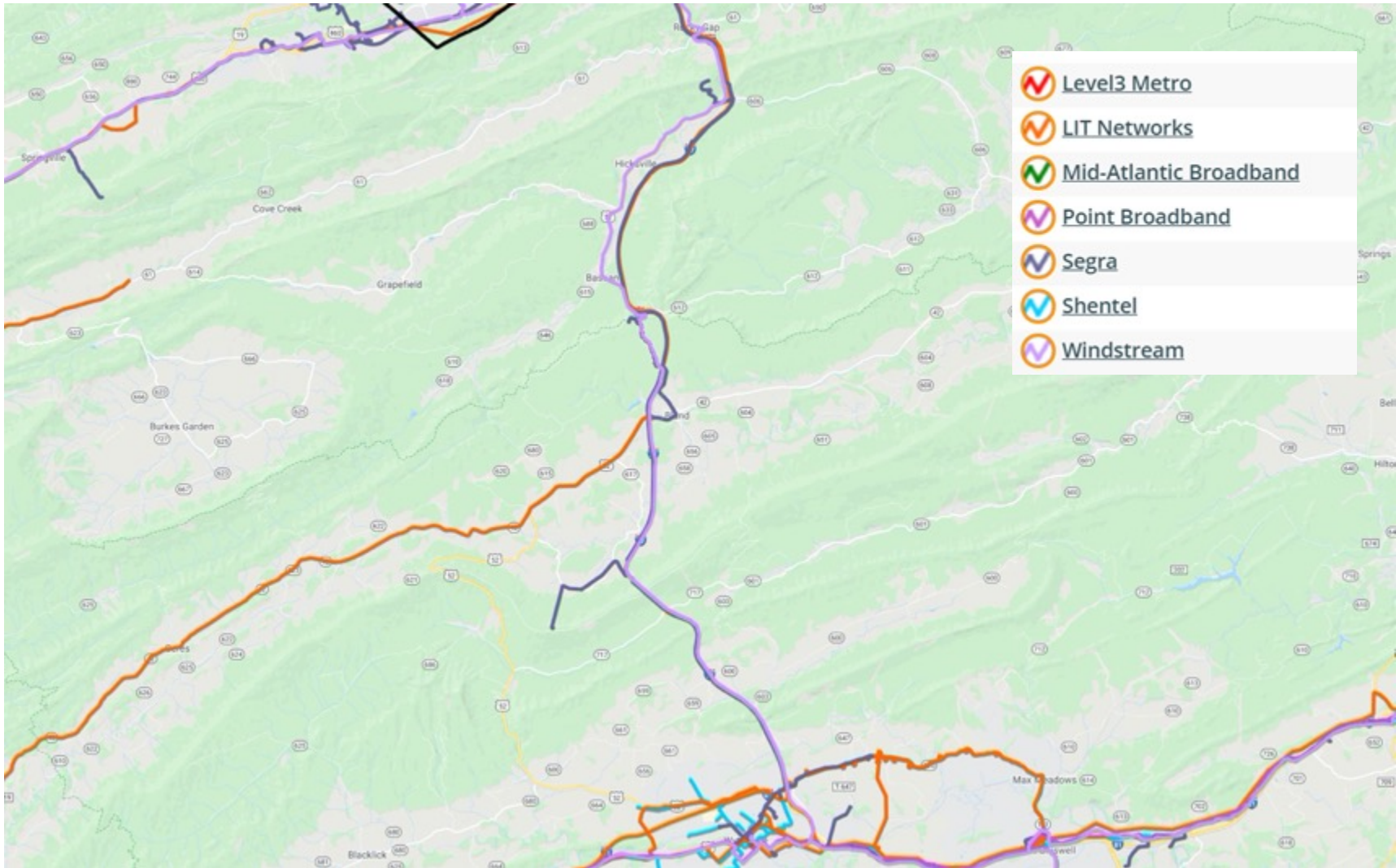




# Hybrid Areas – Bland County

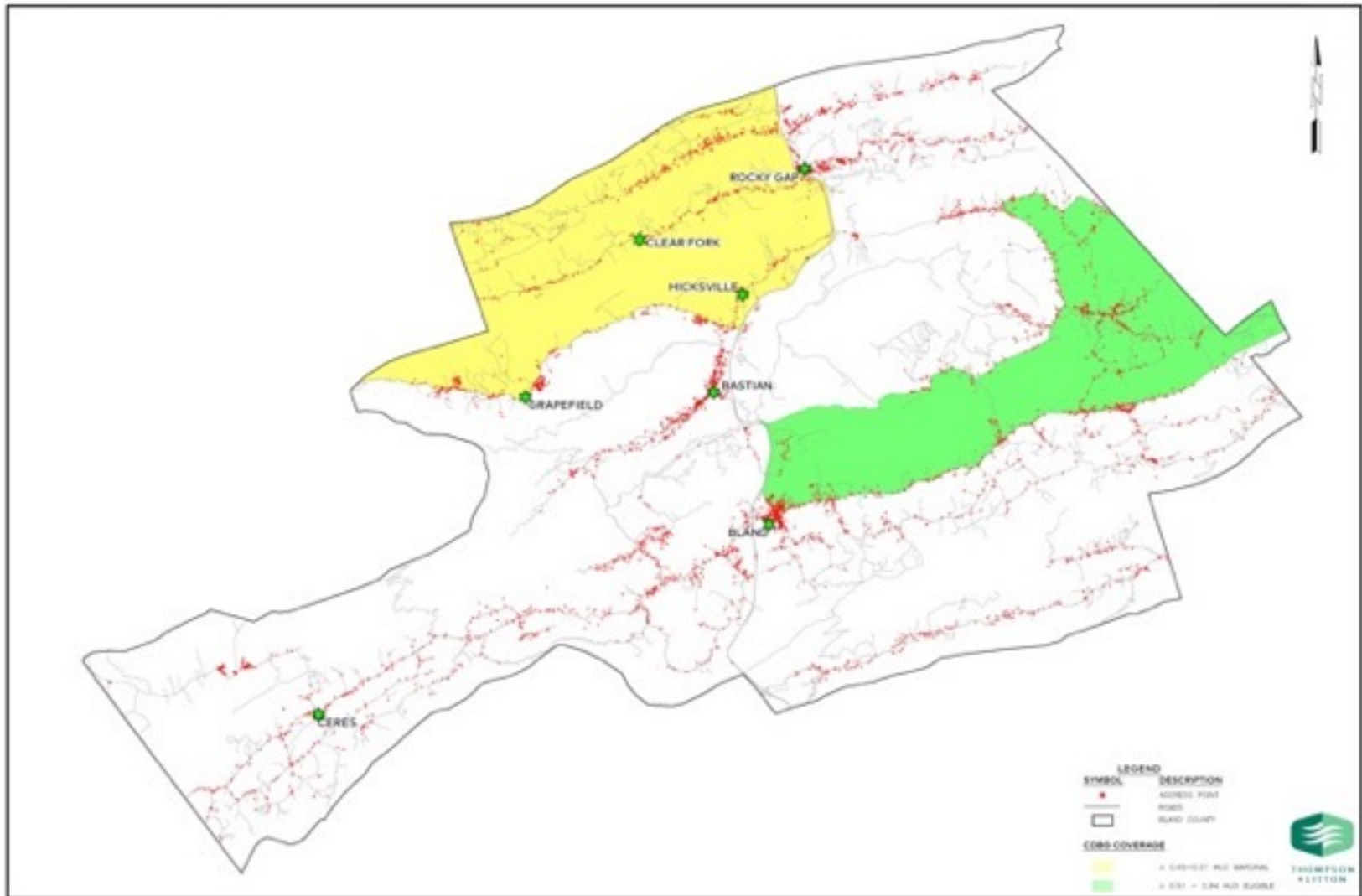


# Fiber - Bland County



# Bland County CDBG HUD Map

© All Rights Reserved 2021



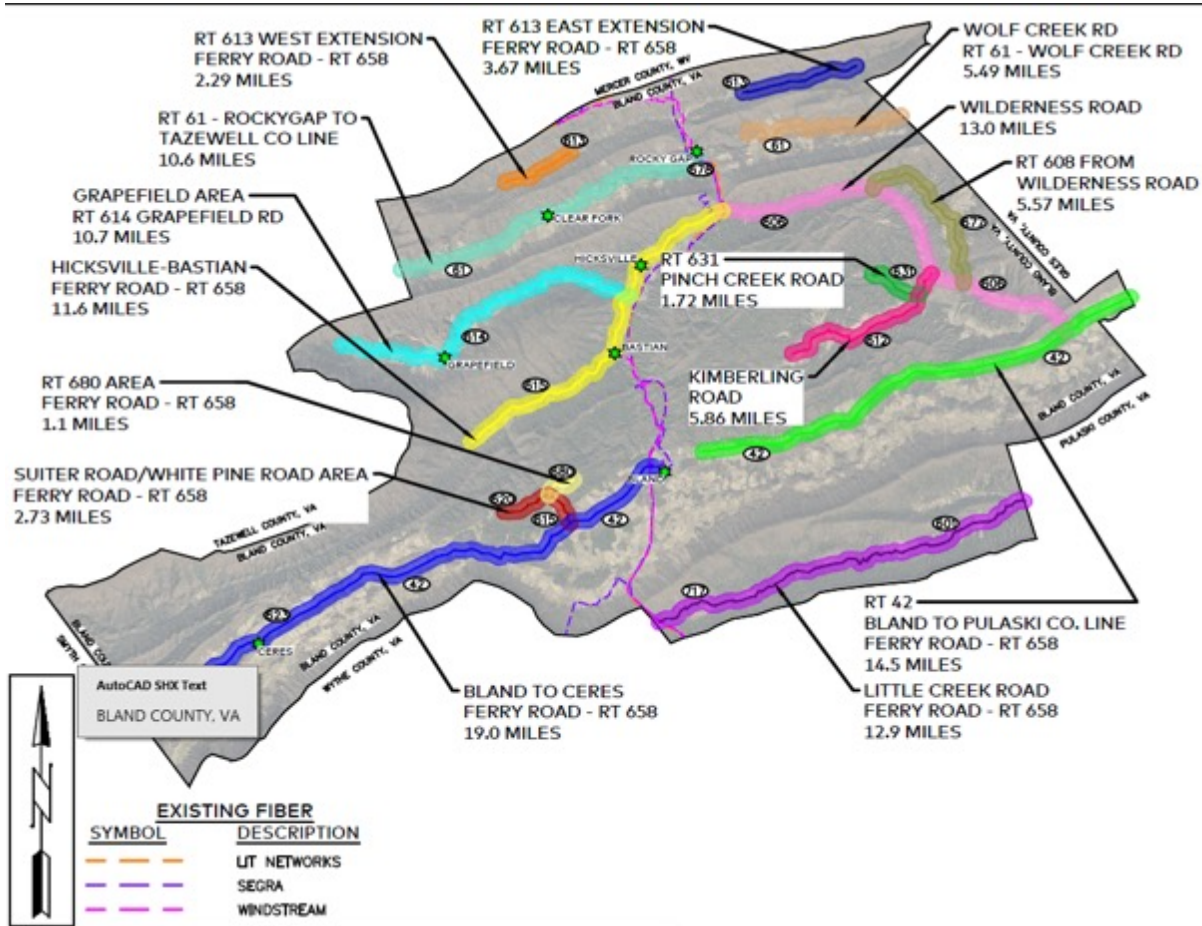


# Bland County CAFII/RDOF Map



# Bland County Proposed Project Map

© All Rights Reserved 2021



PROJECT AREA	HUD MARGINAL HOUSES	HUD ELIGIBLE	NON-CDBG HOUSES IN PROJECT AREA	TOTAL HOUSES
BAND TO CERES	---	---	329	329
GRAPEFIELD	85	---	138	223
HICKSVILLE-BASTIAN	49	---	347	396
KIMBERLING ROAD	---	16	43	59
LITTLE CREEK ROAD	---	---	136	136
RT42-BLAND TO PULASKI CO. LINE	---	111	141	252
WILDERNESS ROAD	1	116	101	218
WOLF CREEK ROAD	---	---	---	83
RT 608 FROM WILDERNESS ROAD	---	50	22	72
RT 61 - ROCKY GAP TO TAZEWELL CO. LINE	121	---	58	179
RT 613 EAST EXTENSION	---	---	73	73
RT 613 WEST EXTENSION	48	---	---	48
RT 631 PINCH CREEK ROAD	---	---	---	39
RT 680 AREA	---	---	---	57
SUITER ROAD/WHIE PINE ROAD AREA	---	---	---	74

LEGEND	
SYMBOL	DESCRIPTION
[Blue line]	BAND TO CERES
[Cyan line]	GRAPEFIELD
[Yellow line]	HICKSVILLE-BASTIAN
[Pink line]	KIMBERLING ROAD
[Purple line]	LITTLE CREEK ROAD
[Green line]	RT42-BLAND TO PULASKI CO. LINE
[Light blue line]	WILDERNESS ROAD
[Orange line]	WOLF CREEK ROAD
[Brown line]	RT 608 FROM WILDERNESS ROAD
[Light green line]	RT 61 - ROCKY GAP TO TAZEWELL CO. LINE
[Dark blue line]	RT 613 EAST EXTENSION
[Light orange line]	RT 613 WEST EXTENSION
[Light green line]	RT 631 PINCH CREEK ROAD
[Yellow line]	RT 680 AREA
[Red line]	SUITER ROAD/WHIE PINE ROAD AREA
[Black outline]	BLAND COUNTY

EXISTING FIBER	
SYMBOL	DESCRIPTION
[Orange dashed line]	LIT NETWORKS
[Purple dashed line]	SEGRA
[Light blue dashed line]	WINDSTREAM

# Bland County Proposed Project Costs

PROPOSED BROADBAND PROJECTS					
County	Community	Length (miles)	EST Number of Households/ Connections	Estimated Project Costs	
				Aerial	
				Preliminary Statement of Probable Project Cost - Aerial (See Project Cost Estimates)	Aerial Cost per Connection
Bland	RT 61 - Rocky Gap to Tazewell Co. Line	10.6	179	\$1,119,874	\$6,256
Bland	RT 61 - Wolf Creek Road	5.5	83	\$641,492	\$7,729
Bland	RT 608 (From Wilderness Road)	5.6	72	\$642,737	\$8,927
Bland	RT 613 - East Extension	3.7	73	\$513,466	\$7,034
Bland	RT 613 - West Extension	2.3	48	\$391,636	\$8,159
Bland	RT 631 - Pinch Creek Road	1.7	39	\$338,500	\$8,679
Bland	RT 615 - Suiter Road/White Pine Road Area	3.8	131	\$600,304	\$4,582
Bland	RT 42 - Bland to Ceres	19.0	329	\$1,835,845	\$5,580
Bland	RT 42 - Bland to Pulaski Co. Line	14.5	252	\$1,463,926	\$5,809
Bland	RT 614 - Grapefield	10.7	223	\$1,140,130	\$5,113
Bland	RT52/RT 615 - Hicksville/Bastian	11.6	396	\$1,439,751	\$3,636
Bland	RT 612 - Kimberling Road	5.9	59	\$634,879	\$10,761
Bland	RT 601 - Little Creek Road	12.9	136	\$1,219,908	\$8,970
Bland	RT 606 - Wilderness Road	13.0	218	\$1,315,561	\$6,035
		<b>120.8</b>	<b>2238</b>	<b>\$13,298,009</b>	

# Pulaski County

# Key Findings – Pulaski County

- Many in the county are disenfranchised because they lack broadband availability
  - Work from home mandates pose a challenge to some residents
  - Students relying on wifi hotspots at school parking lots, community centers, and parks
- Goal to grow the county's population - 40K by 2030
  - Housing and Broadband are major initiatives with parks and services helping to drive the demand; providing free hotspots to unserved areas such as community parks
  - Real estate is a valuable resource that is considered undervalued because of lack of broadband
    - Homes for sale go quickly where they have broadband
- Everything south of the lake along the river - including Hiwasee, Snowville and Allisonia - have no dependable broadband
  - Professors, retirees, and grandparents unable to connect



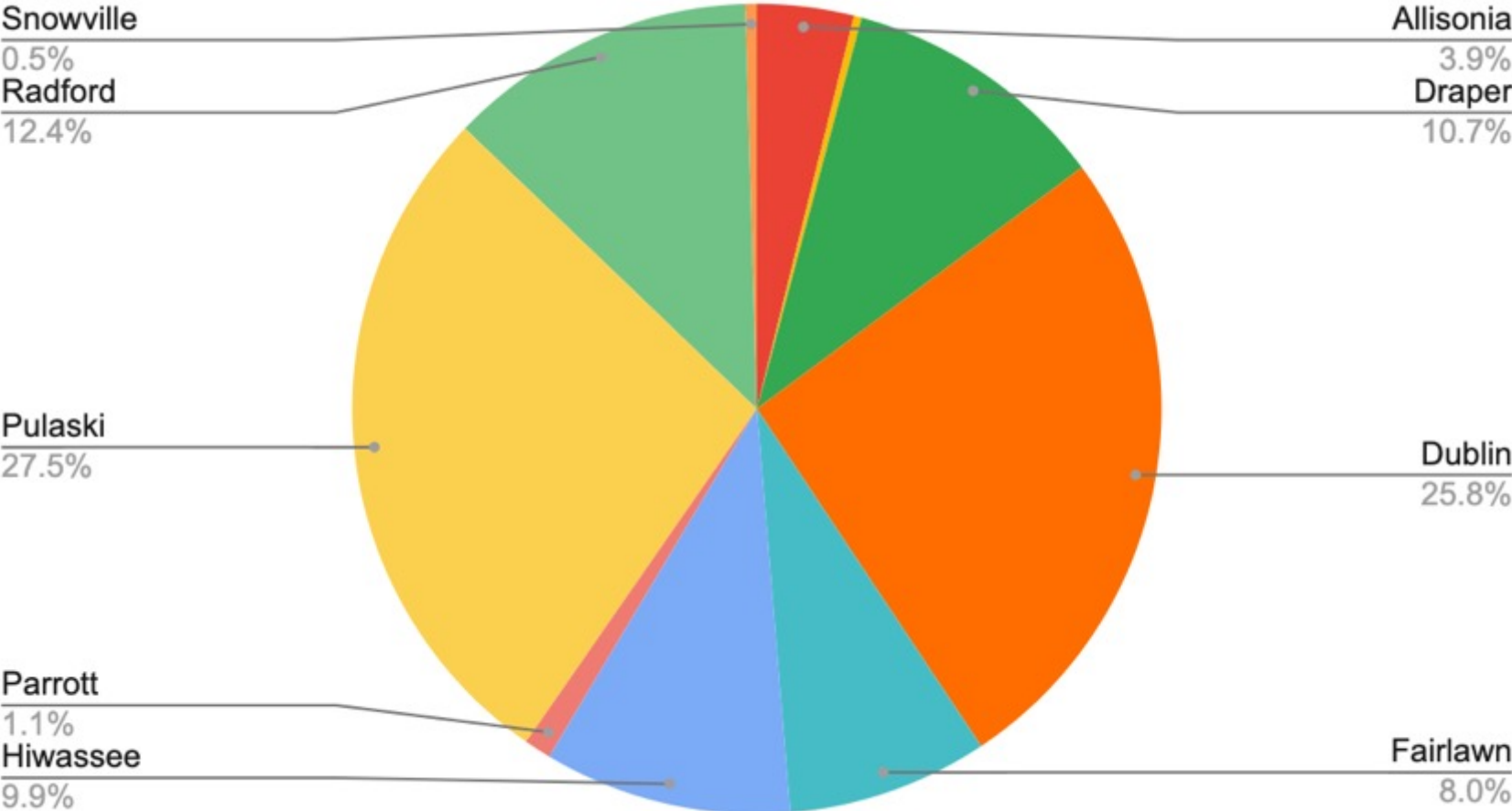
# Unserved\* – Pulaski County

Unserved Communities - Pulaski County
Allisonia
Belspring
Caseknife
Delton
Draper
Dublin
Fairlawn
Hiwassee
Little Creek
Mount Olivet
New River
Newbern
Parrott
Pulaski
Robinson Tract
Snowville

Unserved - Other Areas - Pulaski County
Business Parks
Camp Ottari
Camp Powhatan
Claytor Lake State Park
Commerce Park
Draper Valley Golf Course
Parks
Pulaski County Industrial Park
Trailheads

***\*Source: Diagnostic Interviews***

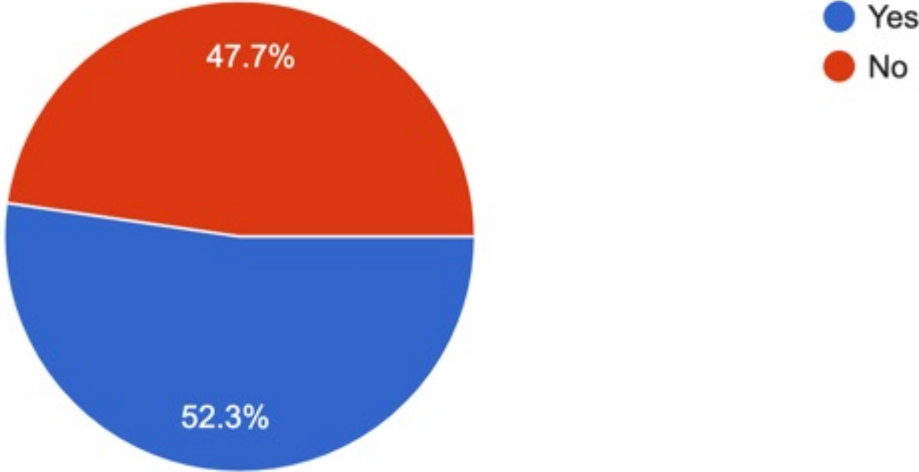
# Addresses – Pulaski County



# Online Survey – Pulaski County

2. Is there a student currently living at this address?

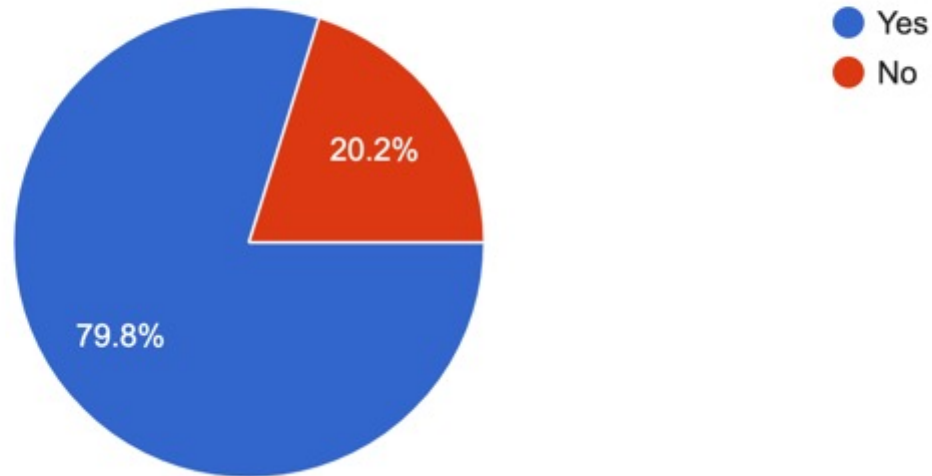
679 responses



***52% have students living at home***

# Online Survey – Pulaski County

3. Do you currently have Internet service at this address?  
679 responses



***20% have no Internet service***

# Online Survey – Pulaski County

4. If "No", what is the main reason why you do not have Internet service at this address?

165 responses

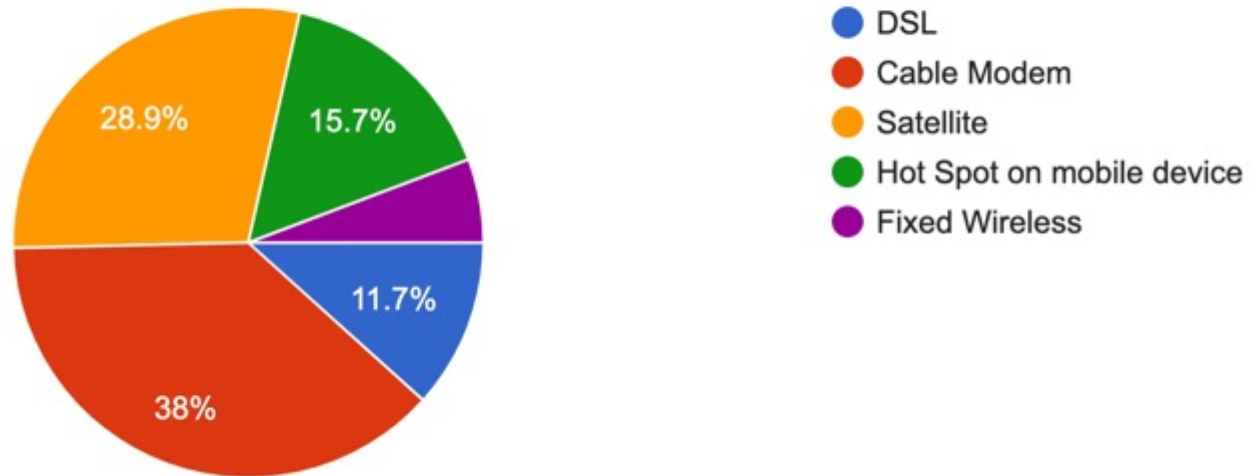


***Availability is the biggest factor***

# Online Survey – Pulaski County

5. If "Yes", what type of Internet service do you have?

540 responses

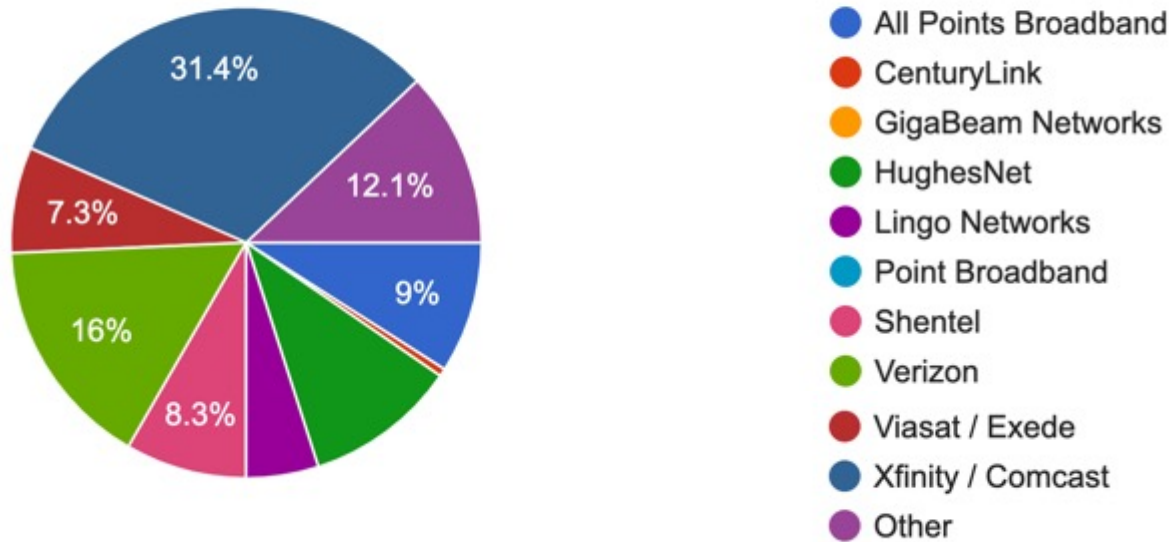


***55% use DSL and Satellite & Hot Spot = Unserved***

# Online Survey – Pulaski County

## 6. Who is your Internet service provider?

564 responses



# Online Survey – Pulaski County

7. What is the approximate speed of your household's Internet service? If you are not sure, go to [www.speedtest.net](http://www.speedtest.net) from your home laptop or computer.

566 responses



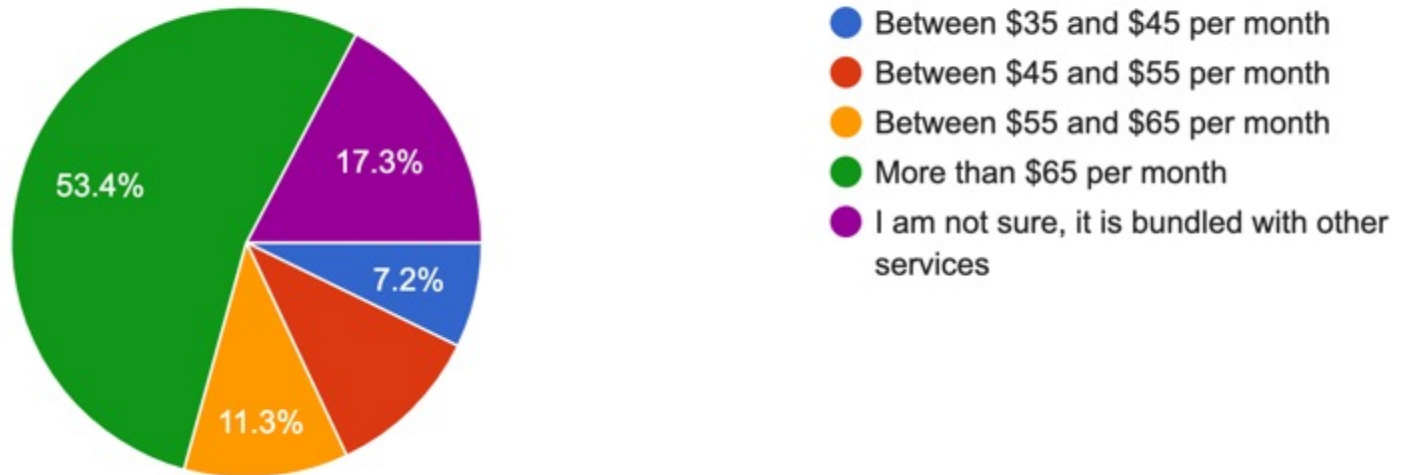
***45% have speeds considered unserved***



# Online Survey – Pulaski County

## 8. How much do you pay monthly for Internet service?

567 responses

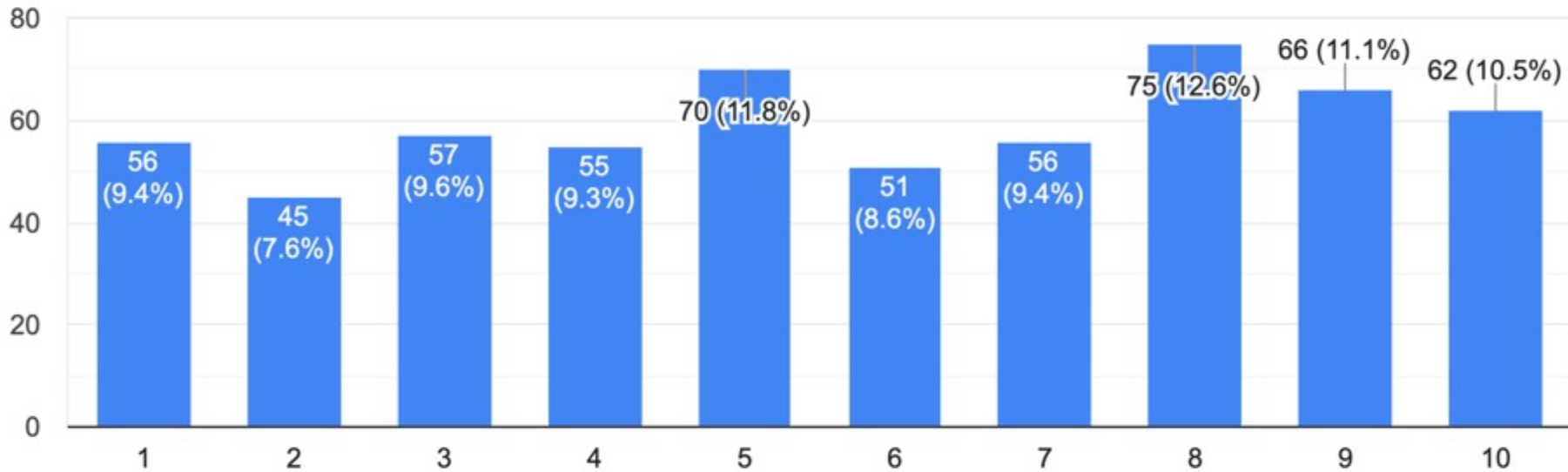


***53% pay on the higher end***

# Online Survey – Pulaski County

9. How reliable is your Internet service (1 being "Completely Unreliable and 10 being "Very Reliable")?

593 responses

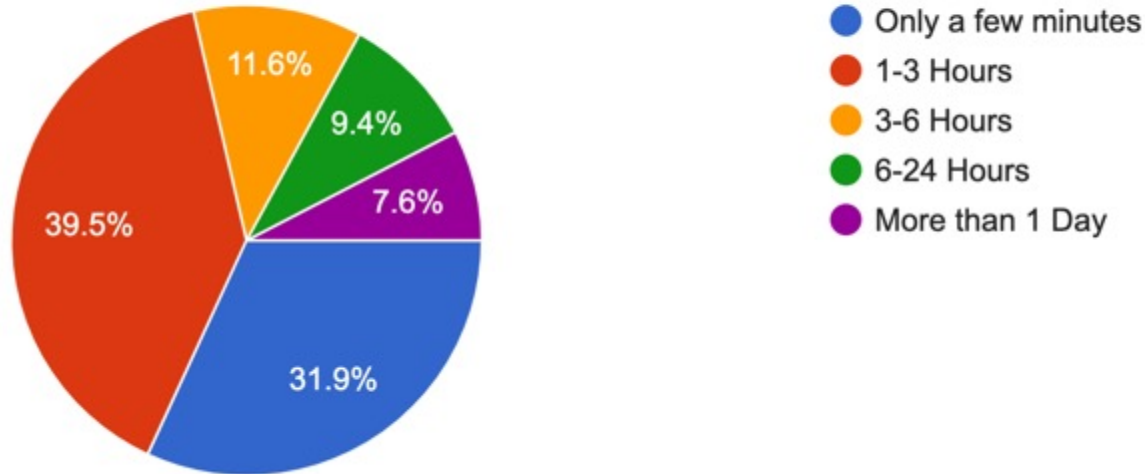


***60% fall at or below the mid range of reliability***

# Online Survey – Pulaski County

10. On average, how long does a typical Internet service outages last?

552 responses

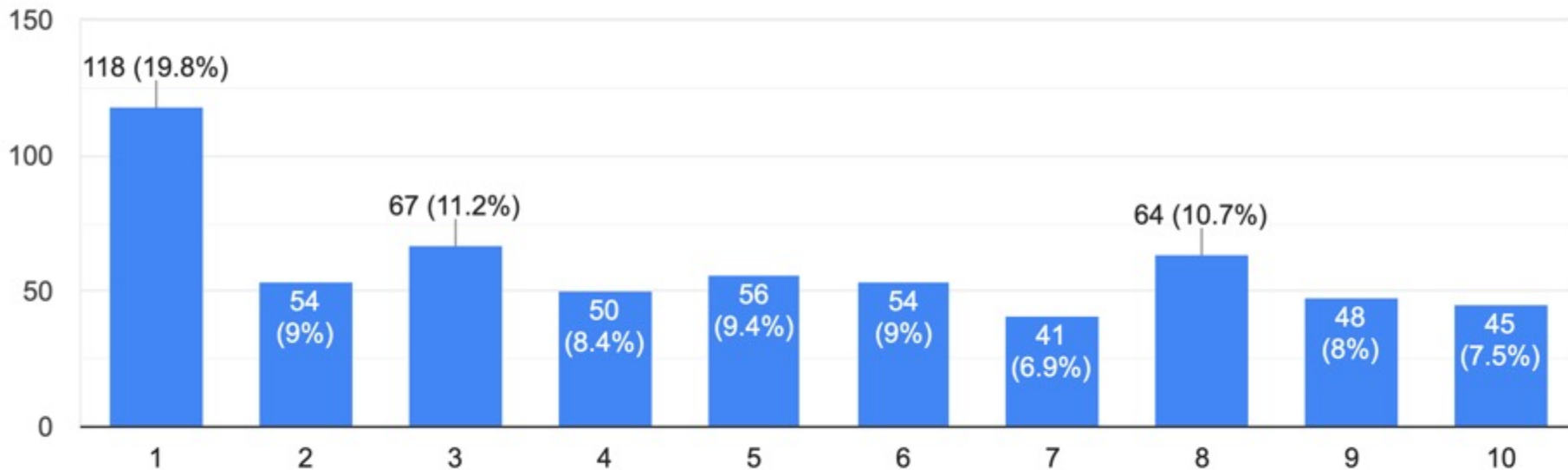


***Only 7% of outages last more than 1 day***

# Online Survey – Pulaski County

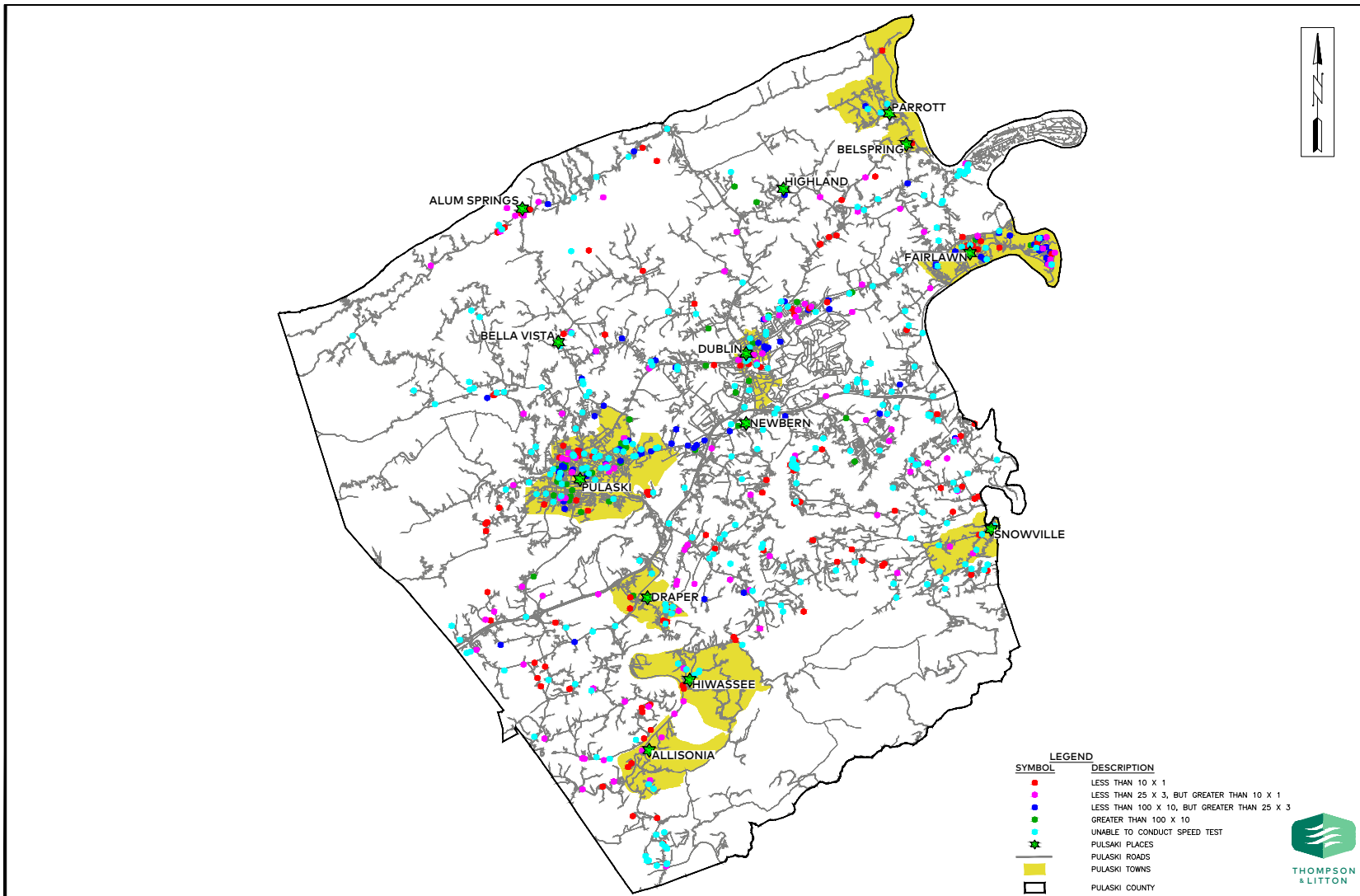
11. Generally, how satisfied are you with your Internet service (1 being "Completely Dissatisfied and 10 being "Very Satisfied")?

597 responses

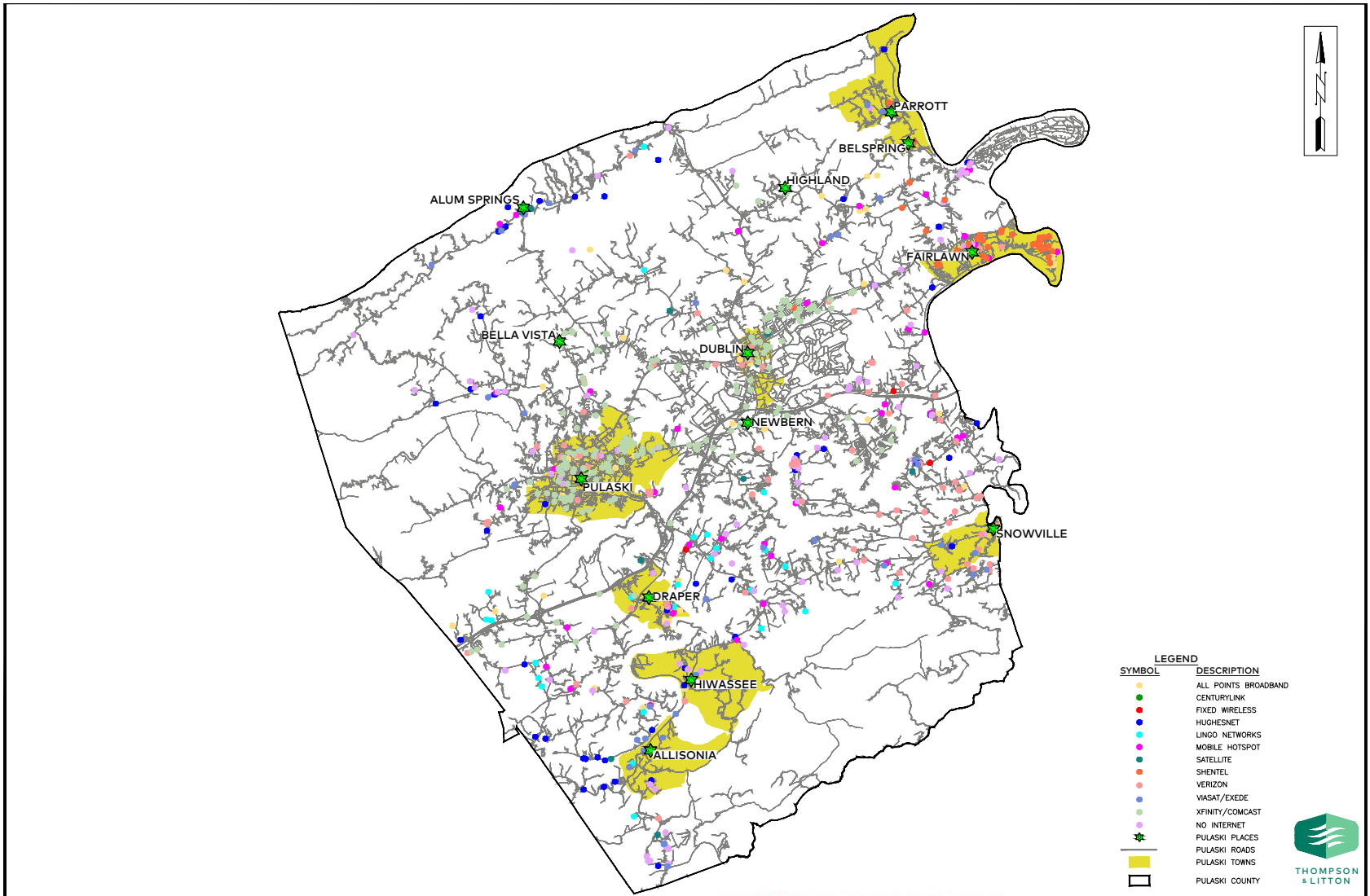


***58% fall at or below the mid range of general satisfaction***

# Pulaski County Survey – By Speed



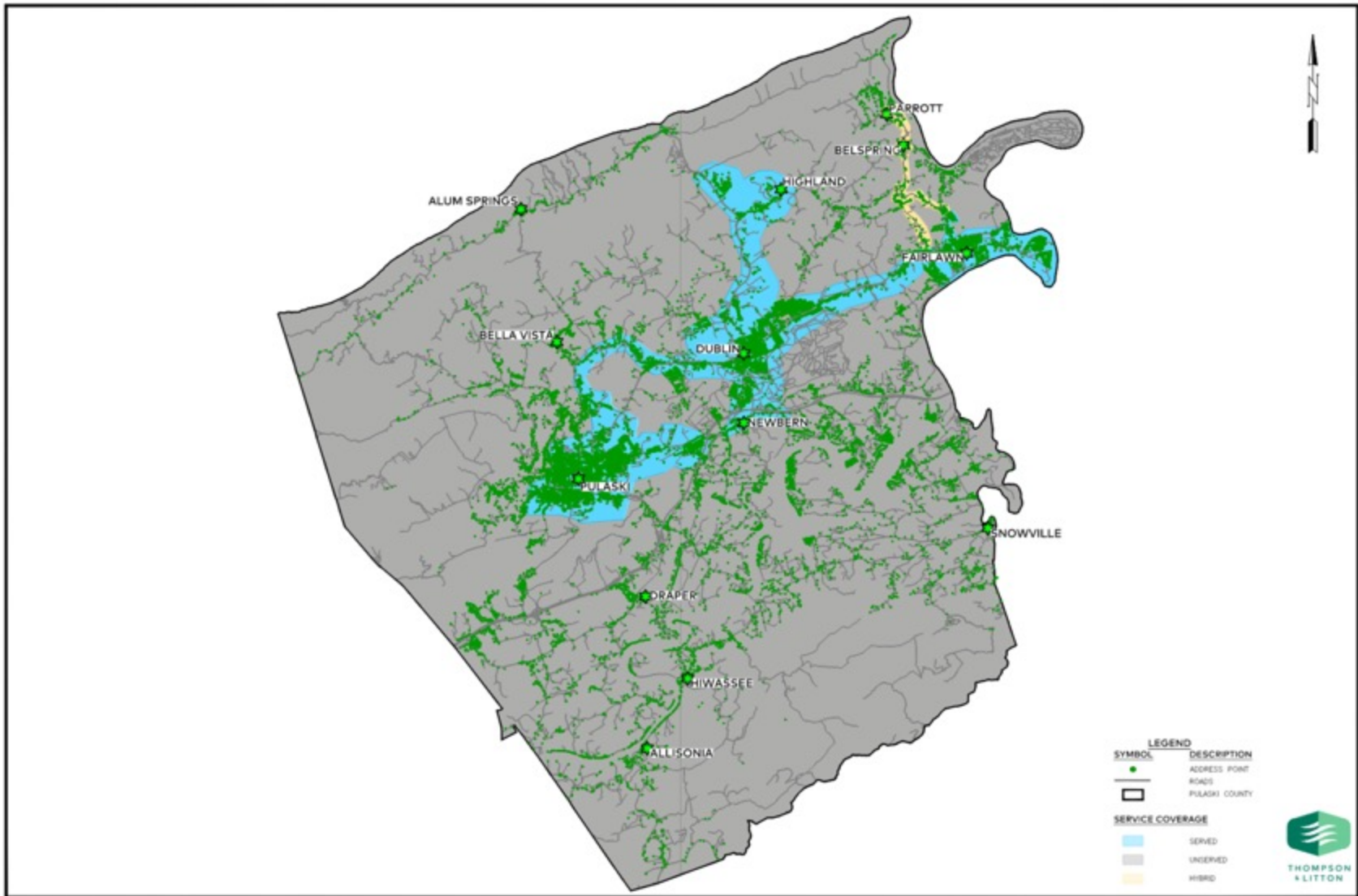
# Pulaski County Survey – By Provider





# Pulaski County Survey – By Service

© All Rights Reserved 2021



# Hybrid Areas – Pulaski County

### Belspring Road Area

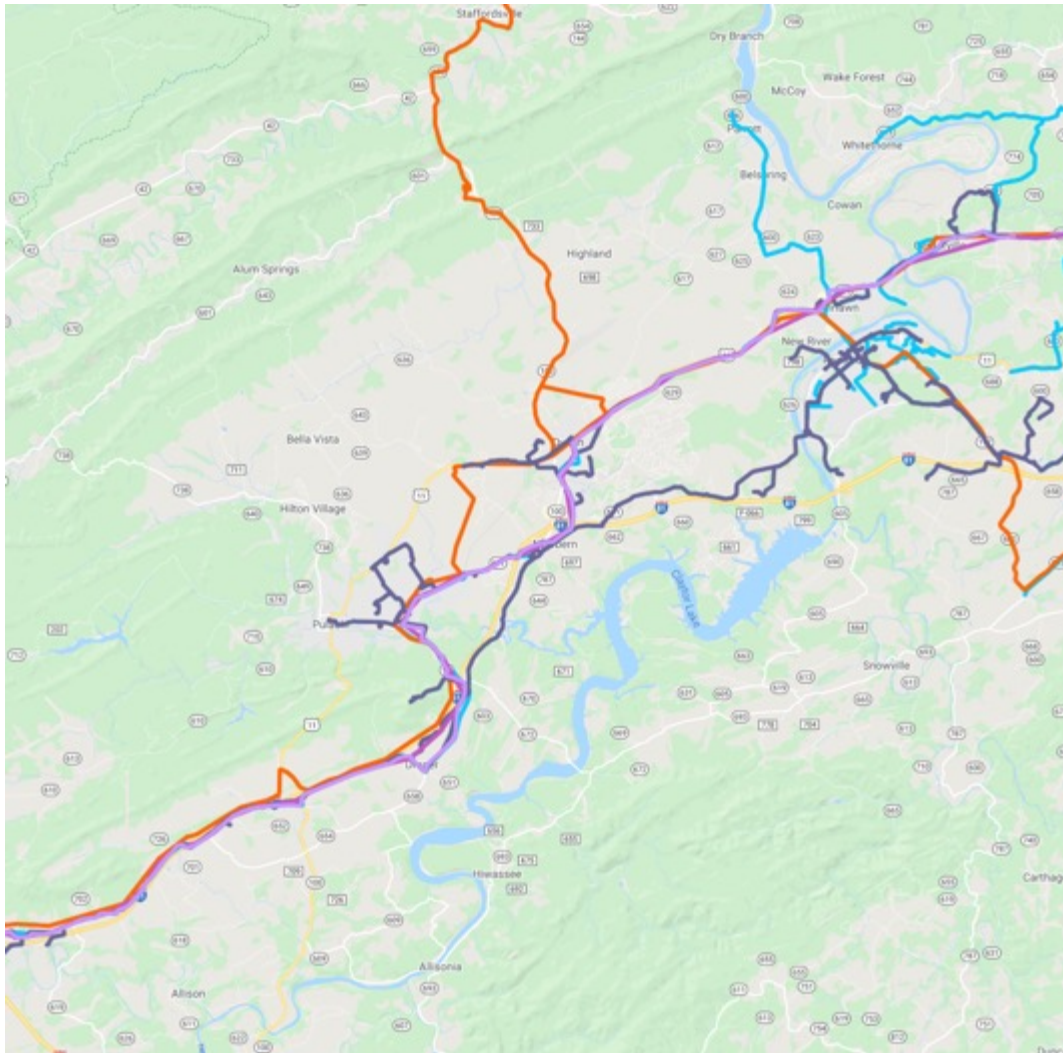









### Parrott





# Pulaski County Fiber



-  Level3 Metro
-  LIT Networks
-  Mid-Atlantic Broadband
-  Point Broadband
-  Segra
-  Shentel
-  Windstream

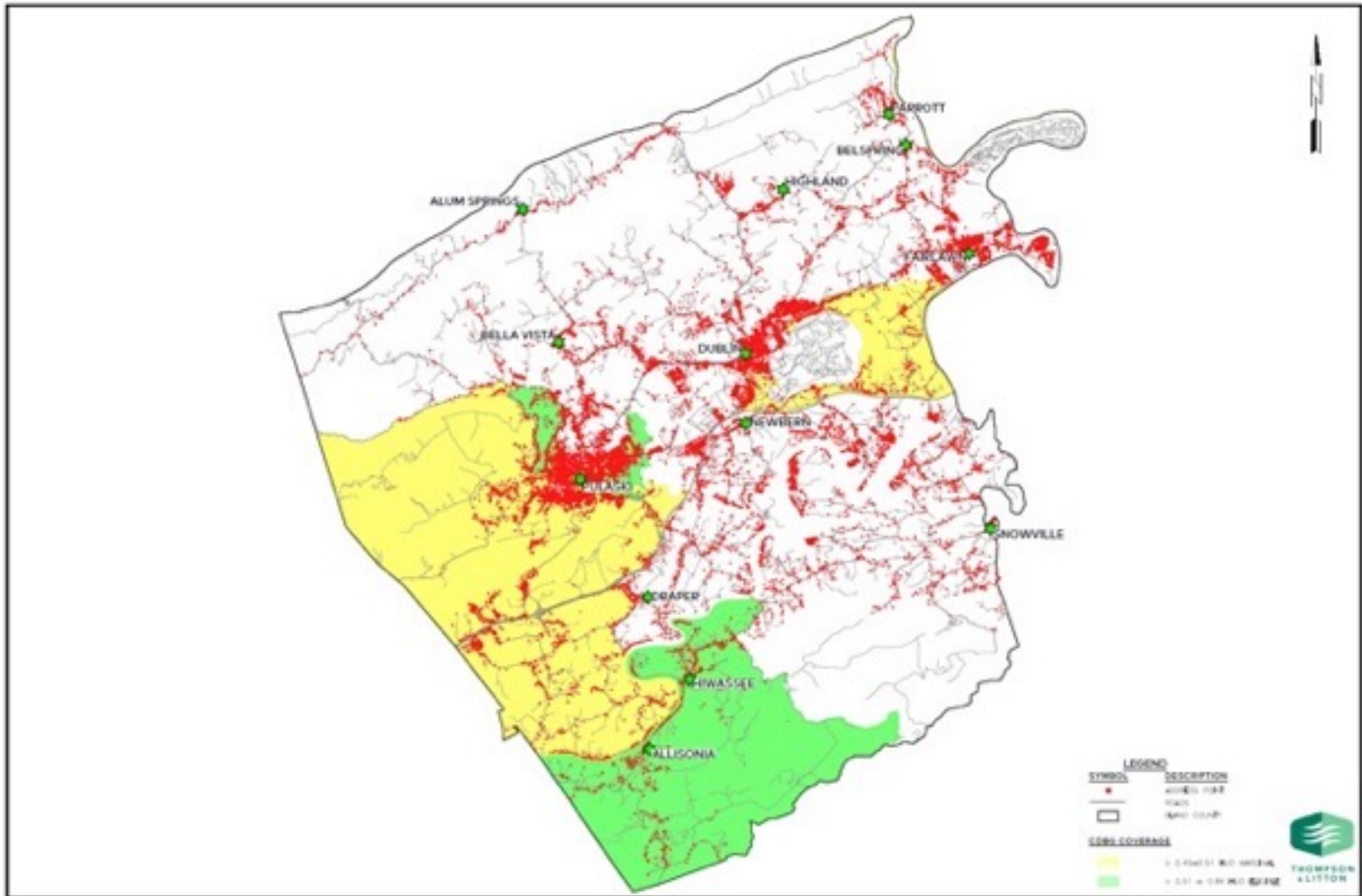
# Pulaski County Infrastructure Assessment

© All Rights Reserved 2021

- Existing Broadband Infrastructure
  - I-81/Rt 11 Corridor (Fairlawn, Dublin, Pulaski)
    - Segra, Shentel, Windstream, LIT Network, Point Broadband
  - Rt. 100 (from Giles County to Dublin)
    - LIT Networks
  - Shentel
    - Parrott/Belspring area
  - DSL/Satellite Service
    - CenturyLink, Verizon, HughesNet

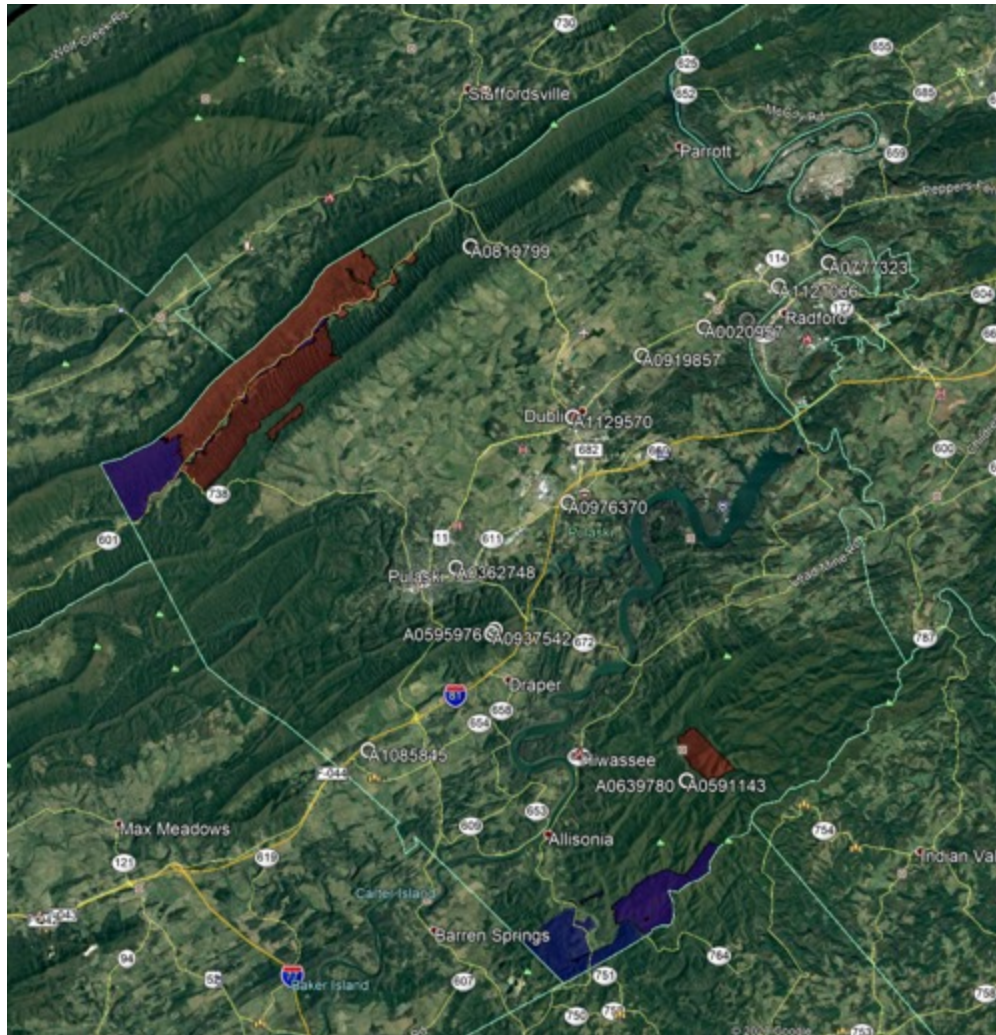
# Pulaski County CDBG HUD Map

© All Rights Reserved 2021

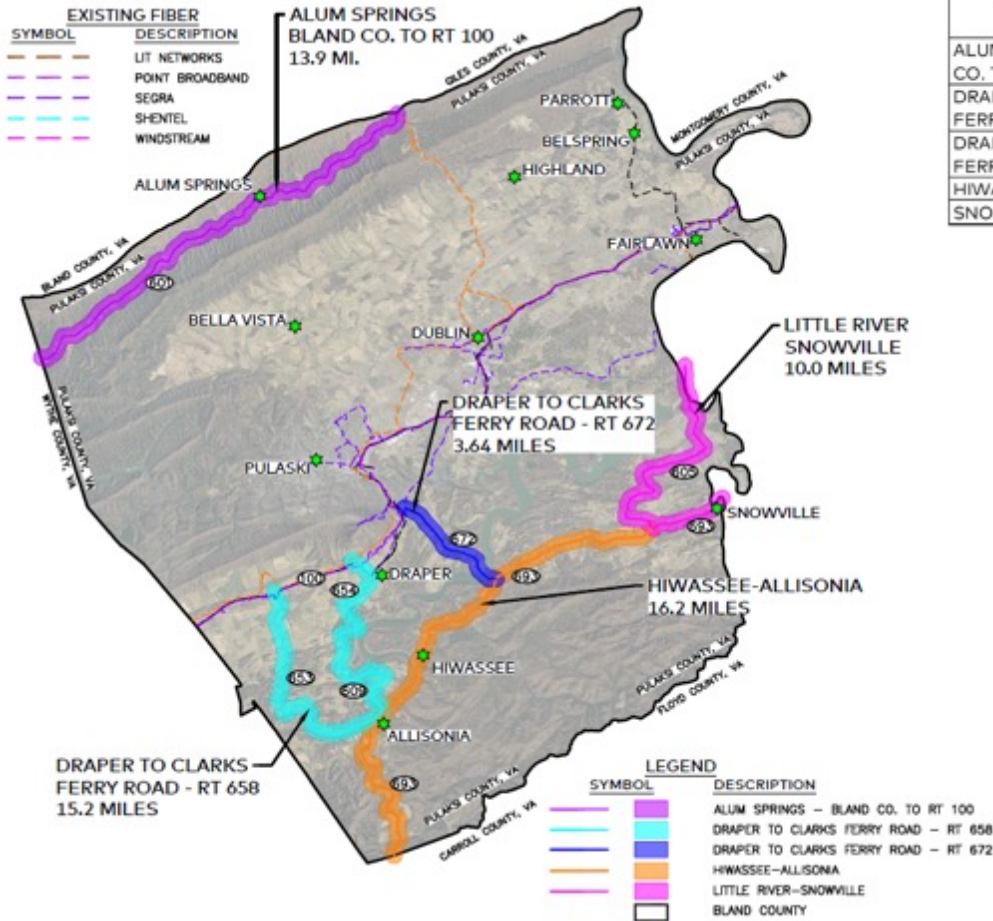




# Pulaski County CAFII/RDOF Map



# Pulaski County Proposed Project Map



PROJECT AREA	HUD MARGINAL HOUSES	HUD ELIGIBLE	NON-CDBG HOUSES IN PROJECT AREA	TOTAL HOUSES
ALUM SPRINGS - BLAND CO. TO RT 100	---	---	209	209
DRAPER TO CLARKS FERRY ROAD - RT 658	287	19	110	416
DRAPER TO CLARKS FERRY ROAD - RT 672	---	3	107	110
HIWASSEE-ALLISONIA	39	317	159	476
SNOWVILLE	---	---	191	191

# Pulaski County Proposed Project Costs

PROPOSED BROADBAND PROJECTS					
County	Community	Length (miles)	EST Number of Households/ Connections	Estimated Project Costs	
				Aerial	
				Preliminary Statement of Probable Project Cost - Aerial (See Project Cost Estimates)	Aerial Cost per Connection
Pulaski	RT 601 - Alum Springs	13.9	209	\$1,379,140	\$6,599
Pulaski	RT 100/654/658 - Draper to Clarks Ferry Road	15.2	416	\$1,678,418	\$4,035
Pulaski	RT 693 - Hiwassee/Allisonia	19.8	476	\$2,155,792	\$4,529
Pulaski	RT 693/605 - Snowville/Little River	10.0	191	\$1,088,769	\$5,700
		<b>58.9</b>	<b>1292</b>	<b>\$6,302,119</b>	

# Summary and Recommendations

# Summary of Service Levels by County

<b>Bland County</b>		
	<b>Count</b>	<b>Percent of Total</b>
Served	62	12%
Unserved	465	88%
<b>Total Survey Responses</b>	<b>527</b>	
<b>Pulaski County</b>		
	<b>Count</b>	<b>Percent of Total</b>
Served	194	31%
Unserved	422	69%
<b>Total Survey Responses</b>	<b>616</b>	



# Recommendations – Bland County

- Seek funding
- In partnership with AEP, build two primary fiber routes to ensure adequate infrastructure to connect with existing fiber networks and to build the framework for addressing nearby unserved and underserved communities
  - AEP Project Routes
    - Rt. 42 Corridor (Smyth Co. to Giles Co.)
    - Rt. 61 (Tazewell Co. Line to Rocky Gap) & Rt. 606 Wilderness Rd. (I-77 to Rt. 42)
  - County CDBG Project Routes
    - Rt. 61 (Tazewell Co. Line to Rocky Gap)
    - Rt. 614 – Grapefield (Tazewell Co. Line to Rt. 52)
- Explore partnership opportunities with ongoing broadband initiatives and service providers

# Recommendations – Pulaski County

- Seek funding
- In partnership with AEP, build two primary fiber routes (Rt. 693/605 Corridor and Rt. 601 Corridor) to ensure adequate infrastructure to connect with existing fiber networks and to build the framework for addressing nearby unserved and underserved communities
  - AEP Project Routes
    - Rt. 693 - Hiwassee/Allisonia & Rt. 693/605 - Snowville/Little River
    - Rt. 601 – Alum Springs (Bland Co. Line to Rt. 100)
  - County CDBG Project Routes
    - Rt. 100/654/658 - Draper to Clarks Ferry Road
    - Rt. 693 - Hiwassee/Allisonia
- Explore partnership opportunities with ongoing broadband initiatives and service providers.

# Supplemental Broadband Study Montgomery County, Virginia

## Final Report

April 12, 2021

Updated June 29, 2021





Review Project Objectives & Scope of Work



Online Survey Data Response Results



Maps & Proposed Network Route



## Objectives

To accurately identify the unserved, underserved, and served communities in Montgomery County



## Scope of Work

Generate an online survey to supplement the existing data from 2019 effort

Prepare new maps based on the updated data



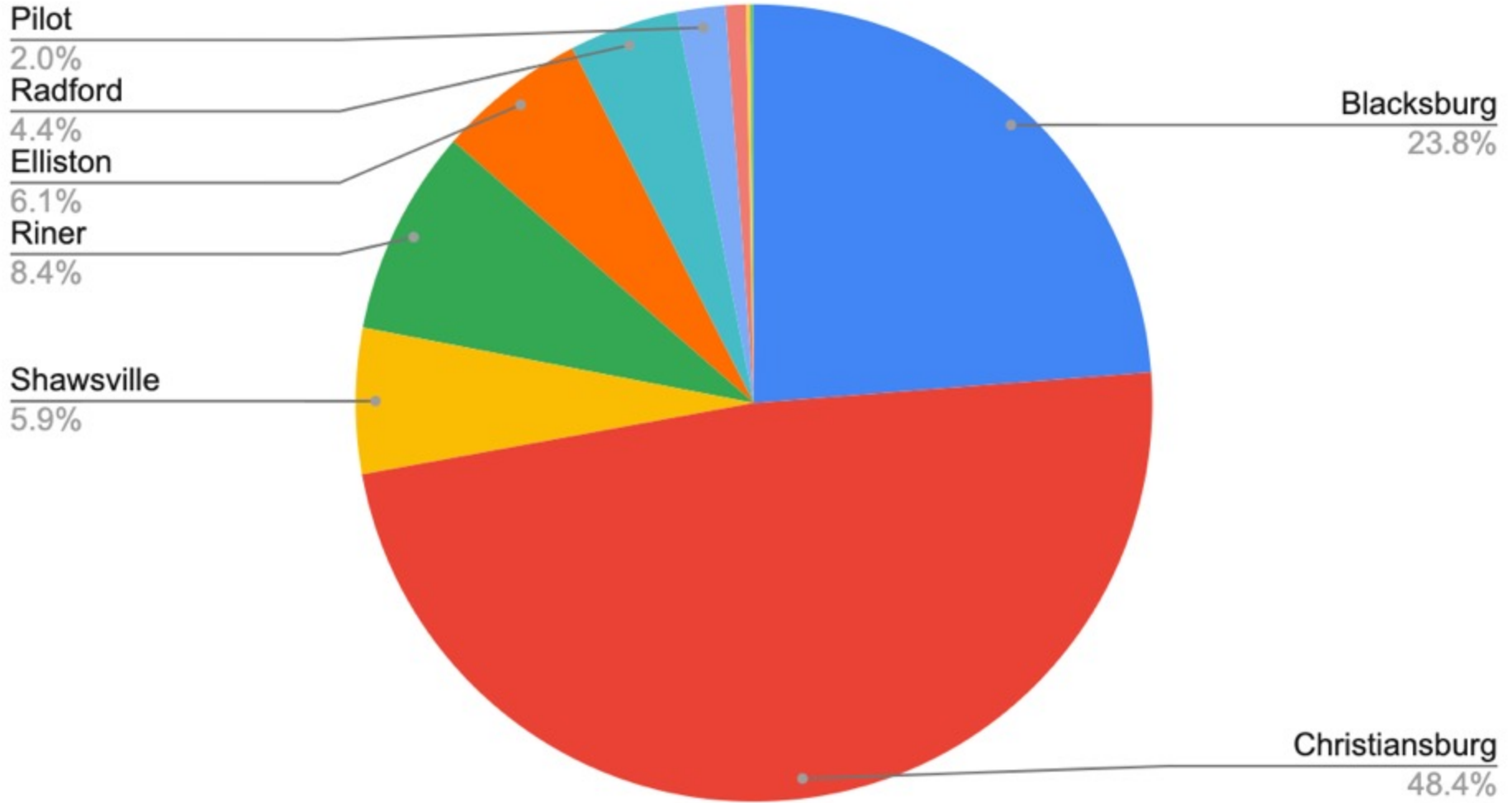
## Timeline

Schedule estimated at 60-90 days (depending on duration of online survey)

On schedule

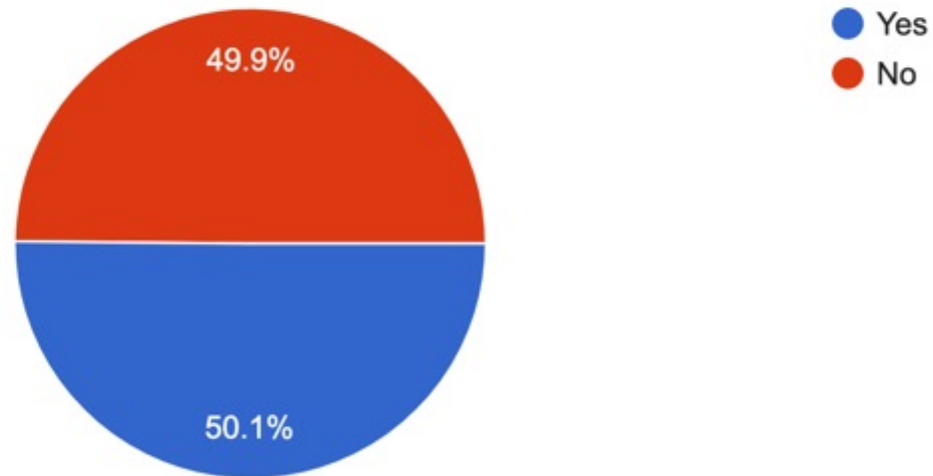
Households	Response Rate	Survey Responses	No. of Invalid or Duplicate Responses	Mappable Responses
36,244	2%	674	64	610

## Response Locations



2. Is there a student currently living at this address?

674 responses

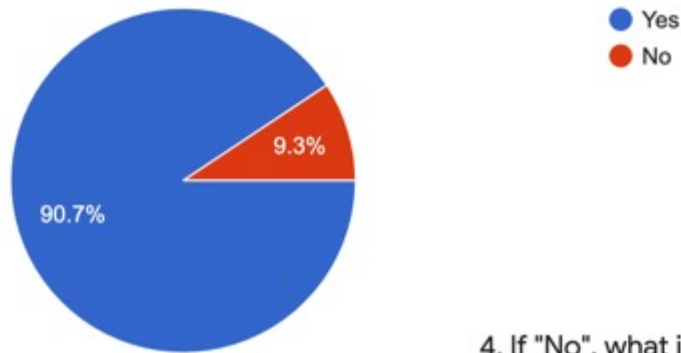


***Half of respondents have students living at home***

# Online Survey

3. Do you currently have Internet service at this address?

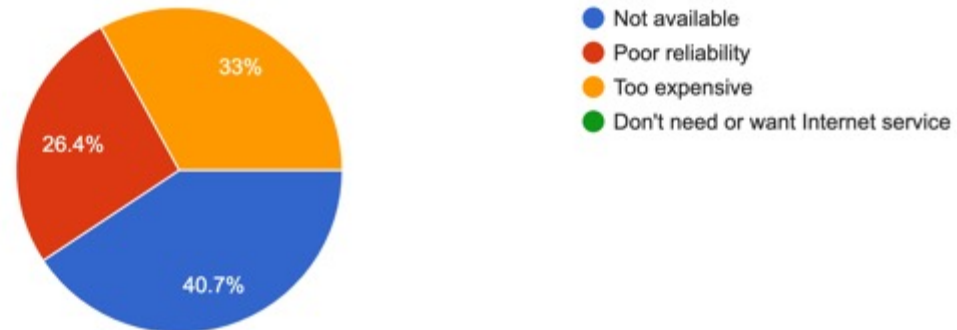
674 responses



**9% have no Internet service**

4. If "No", what is the main reason why you do not have Internet service at this address?

91 responses

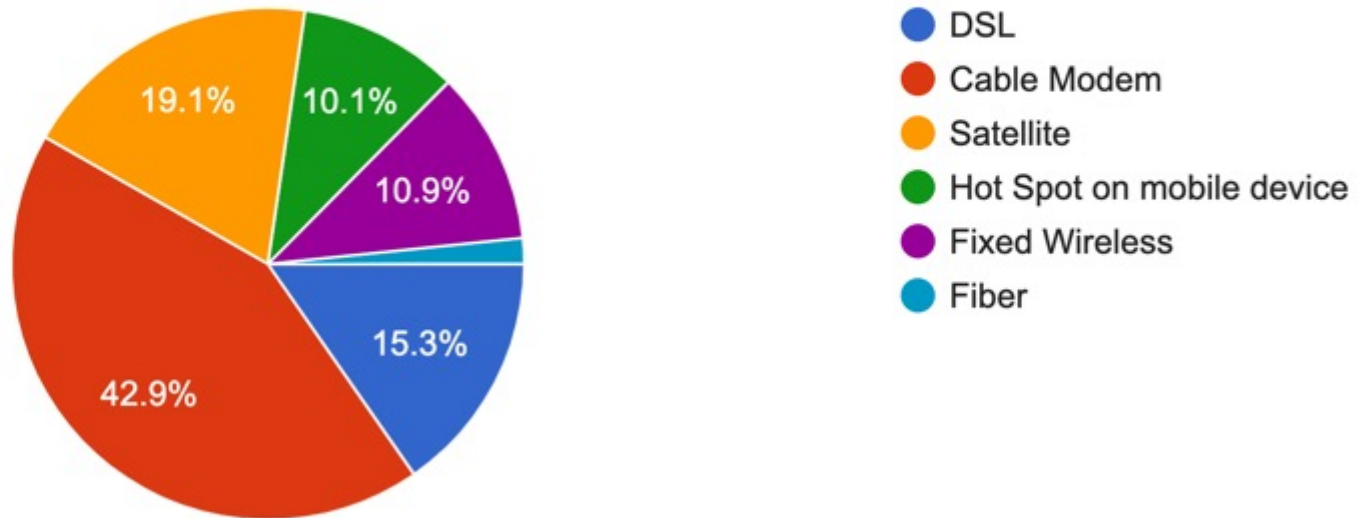


**Availability is the biggest factor, followed by affordability**



## 5. If "Yes", what type of Internet service do you have?

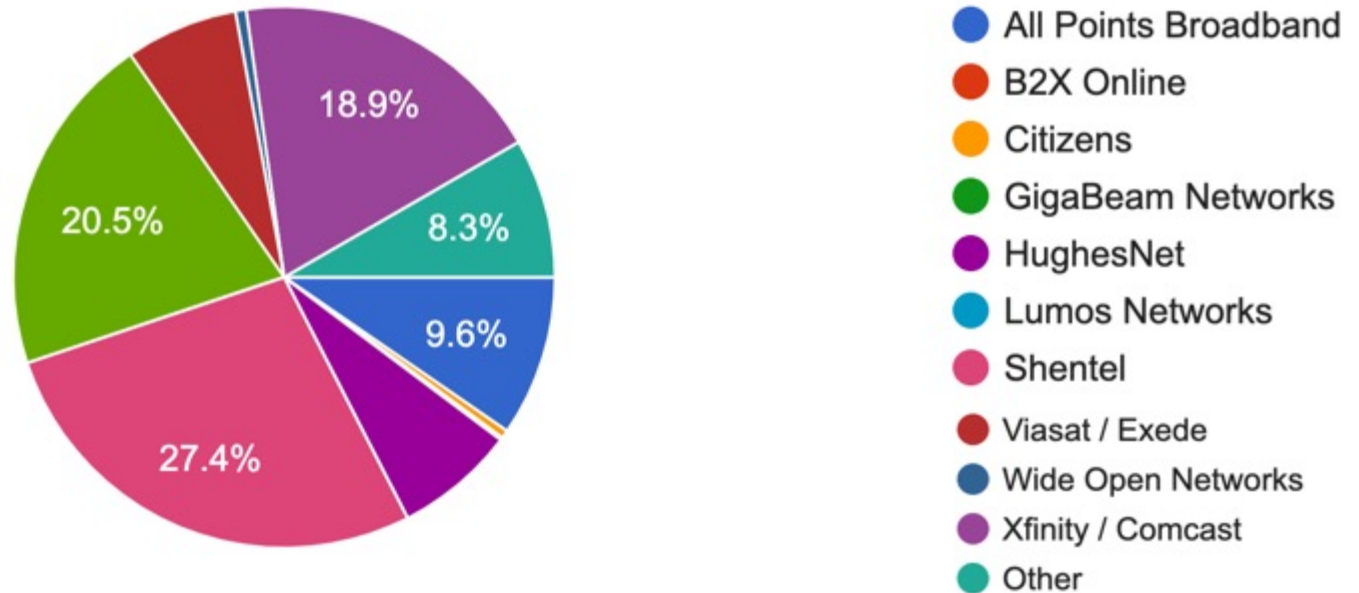
613 responses



***44% have DSL, Satellite, or Hot Spot -- considered unserved***

## 6. Who is your Internet service provider?

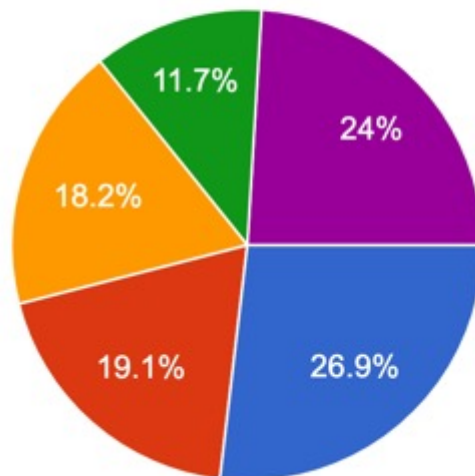
624 responses



***42% use DSL or Satellite or "Other" -- considered unserved***

7. What is the approximate speed of your household's Internet service? If you are not sure, go to [www.speedtest.net](http://www.speedtest.net) from your home laptop or computer.

674 responses

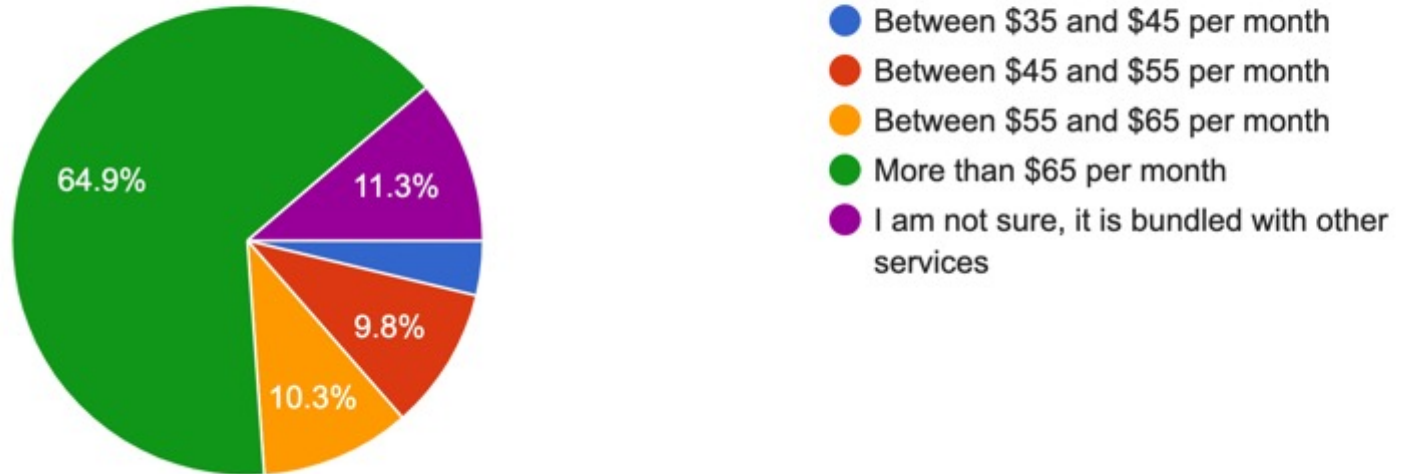


- Less than 10 X 1
- Less than 25 X 3, but greater than 10 X 1
- Less than 100 X 10, but greater than 25 X 3
- Greater than 100 X 10
- Unable to conduct speed test

***46% report speeds of less than 25 x 3 -- considered unserved***

## 8. How much do you pay monthly for Internet service?

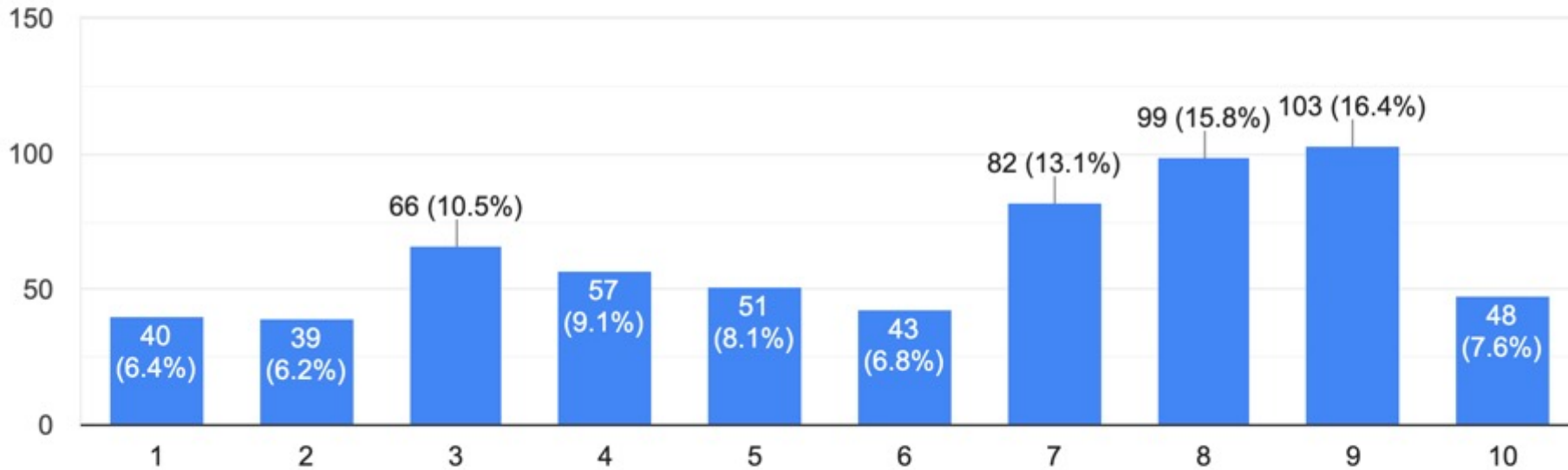
612 responses



***65% pay on the higher end***

9. How reliable is your Internet service (1 being "Completely Unreliable and 10 being "Very Reliable")?

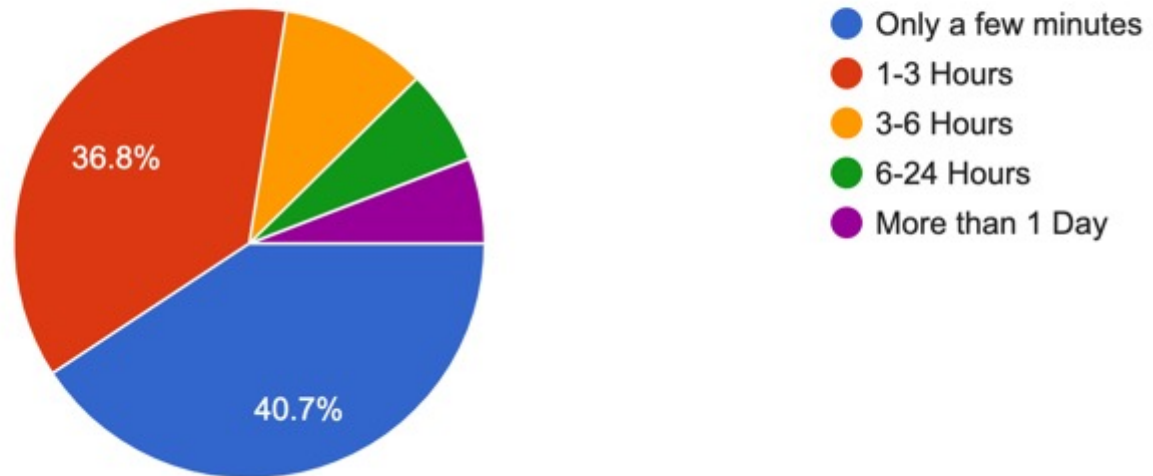
628 responses



***68% fall at or above the mid range of reliability***

10. On average, how long does a typical Internet service outage last?

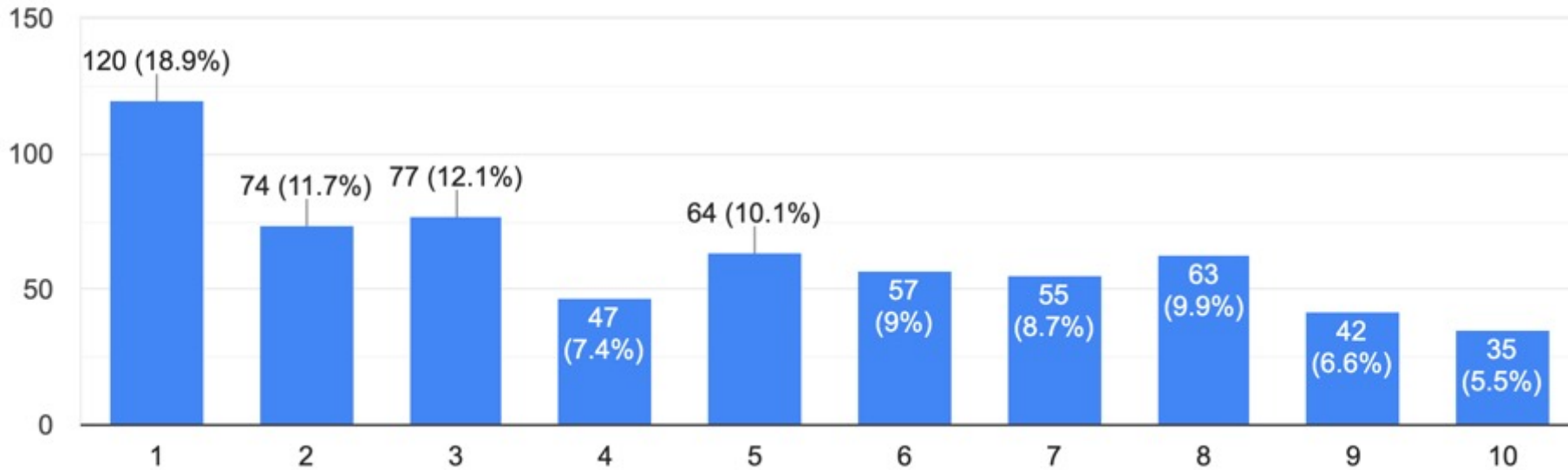
614 responses



***Only 6% reported outages lasting more than 1 day***

11. Generally, how satisfied are you with your Internet service (1 being "Completely Dissatisfied and 10 being "Very Satisfied")?

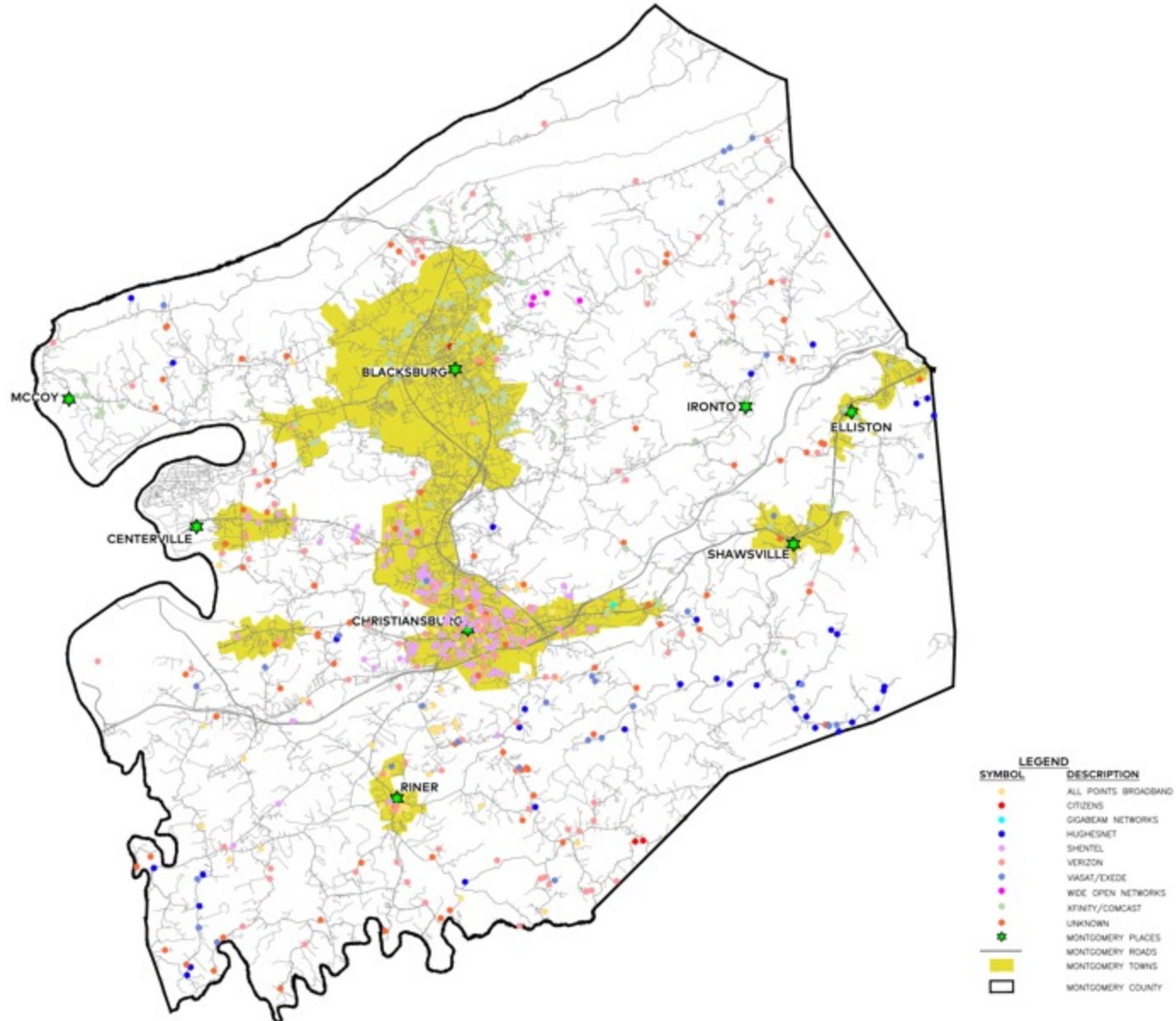
634 responses



***60% fall at or below the mid range of general satisfaction***



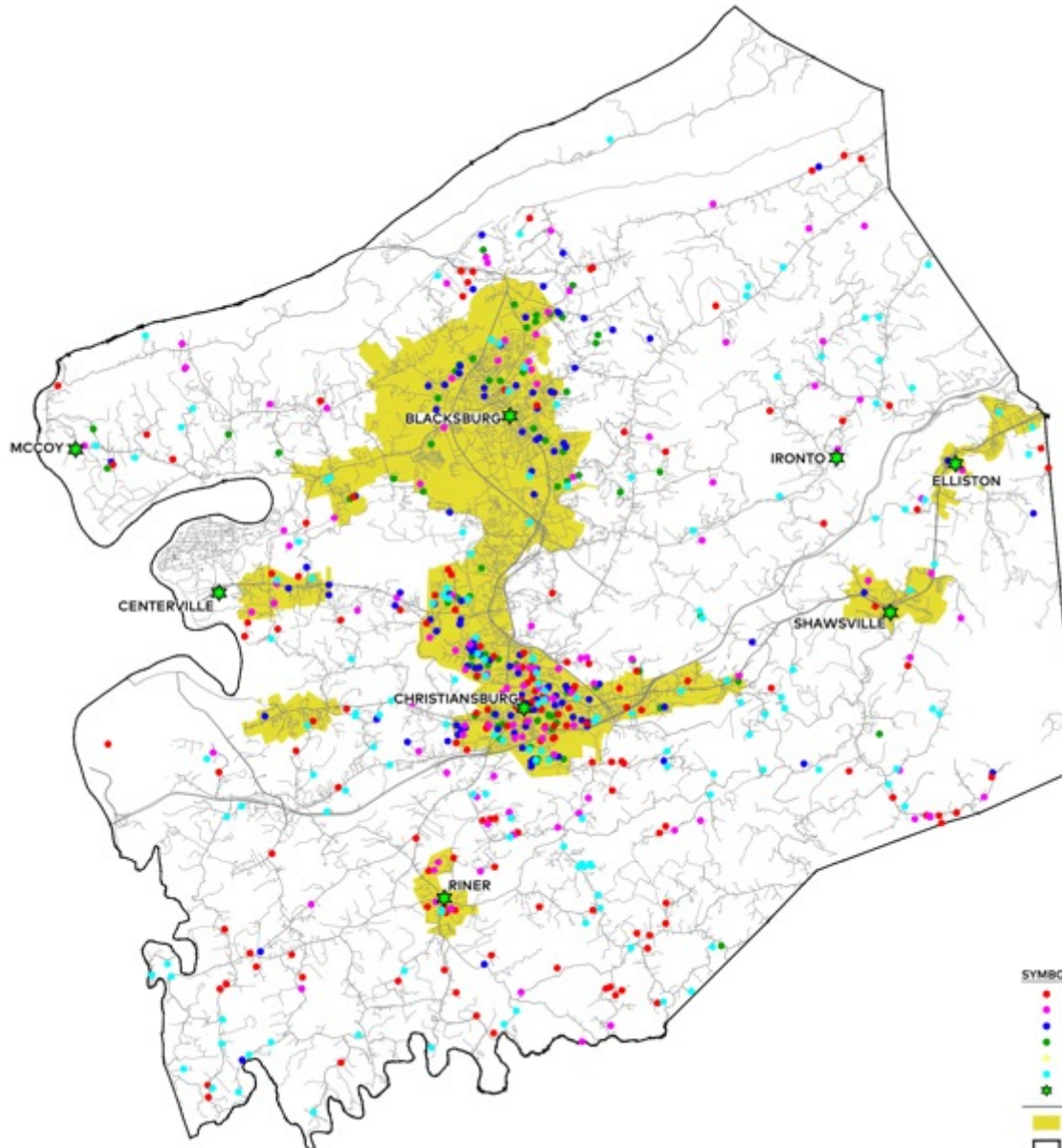
# Provider Map



LEGEND	
SYMBOL	DESCRIPTION
Red dot	ALL POINTS BROADBAND
Blue dot	CITIZENS
Cyan dot	GIGABEAM NETWORKS
Purple dot	HUGHESNET
Pink dot	SHENTEL
Orange dot	VERIZON
Light blue dot	VIASAT/EXEDE
Green dot	WIDE OPEN NETWORKS
Light green dot	XFINITY/COMCAST
Green star	UNKNOWN
Green star	MONTGOMERY PLACES
Grey line	MONTGOMERY ROADS
Yellow area	MONTGOMERY TOWNS
Black outline	MONTGOMERY COUNTY

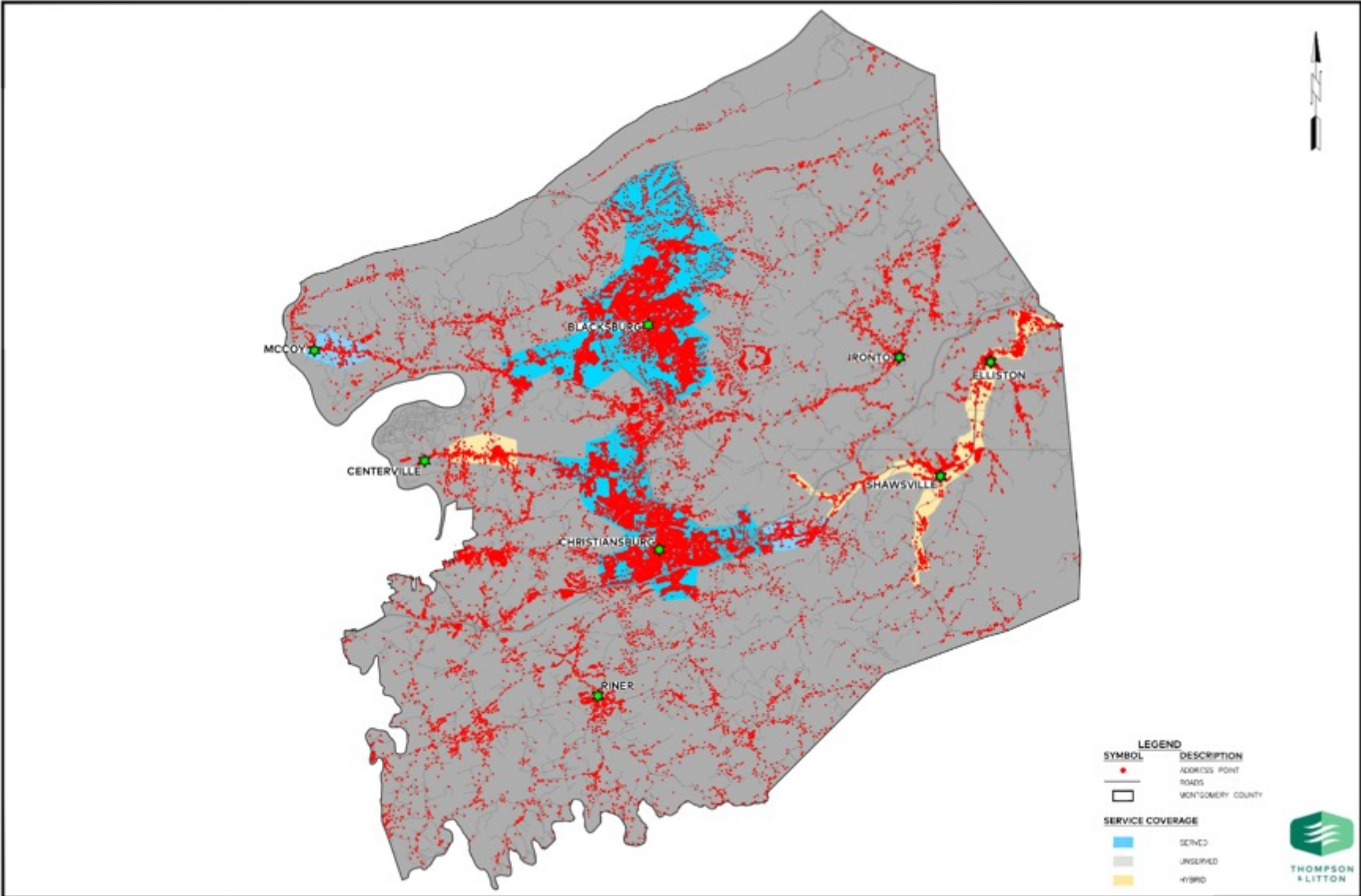


# Speed Map



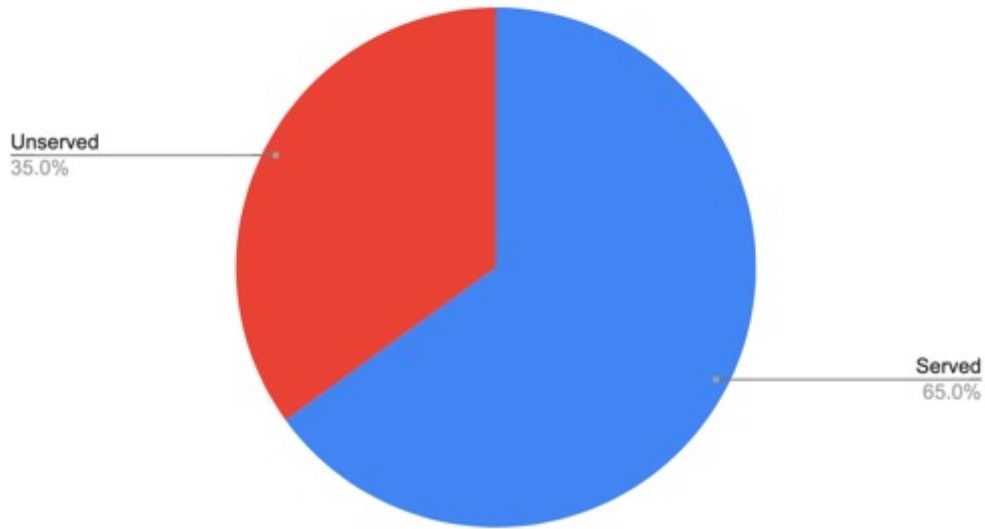
LEGEND	
SYMBOL	DESCRIPTION
● (Red)	LESS THAN 10 X 1
● (Purple)	LESS THAN 25 X 3, BUT GREATER THAN 10 X 1
● (Blue)	LESS THAN 100 X 10, BUT GREATER THAN 25 X 3
● (Green)	GREATER THAN 100 X 10
● (Yellow)	UNKNOWN
● (White)	UNABLE TO CONDUCT SPEED TEST
★ (Green)	MONTGOMERY PLACES
— (Grey)	MONTGOMERY ROADS
■ (Yellow)	MONTGOMERY TOWNS
□ (Black)	MONTGOMERY COUNTY

# Shaded Map



# Hybrid Areas

### Shawsville



### Centerville

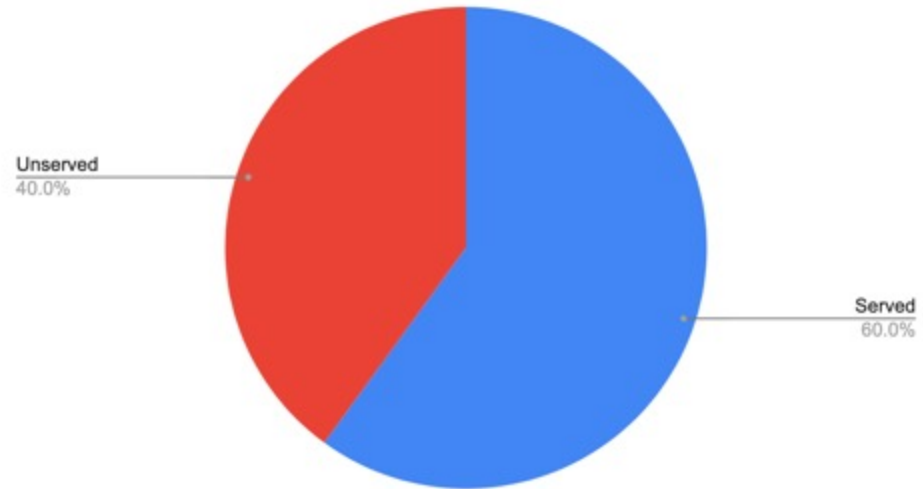


# Hybrid Areas

### Elliston / Lafayette Area

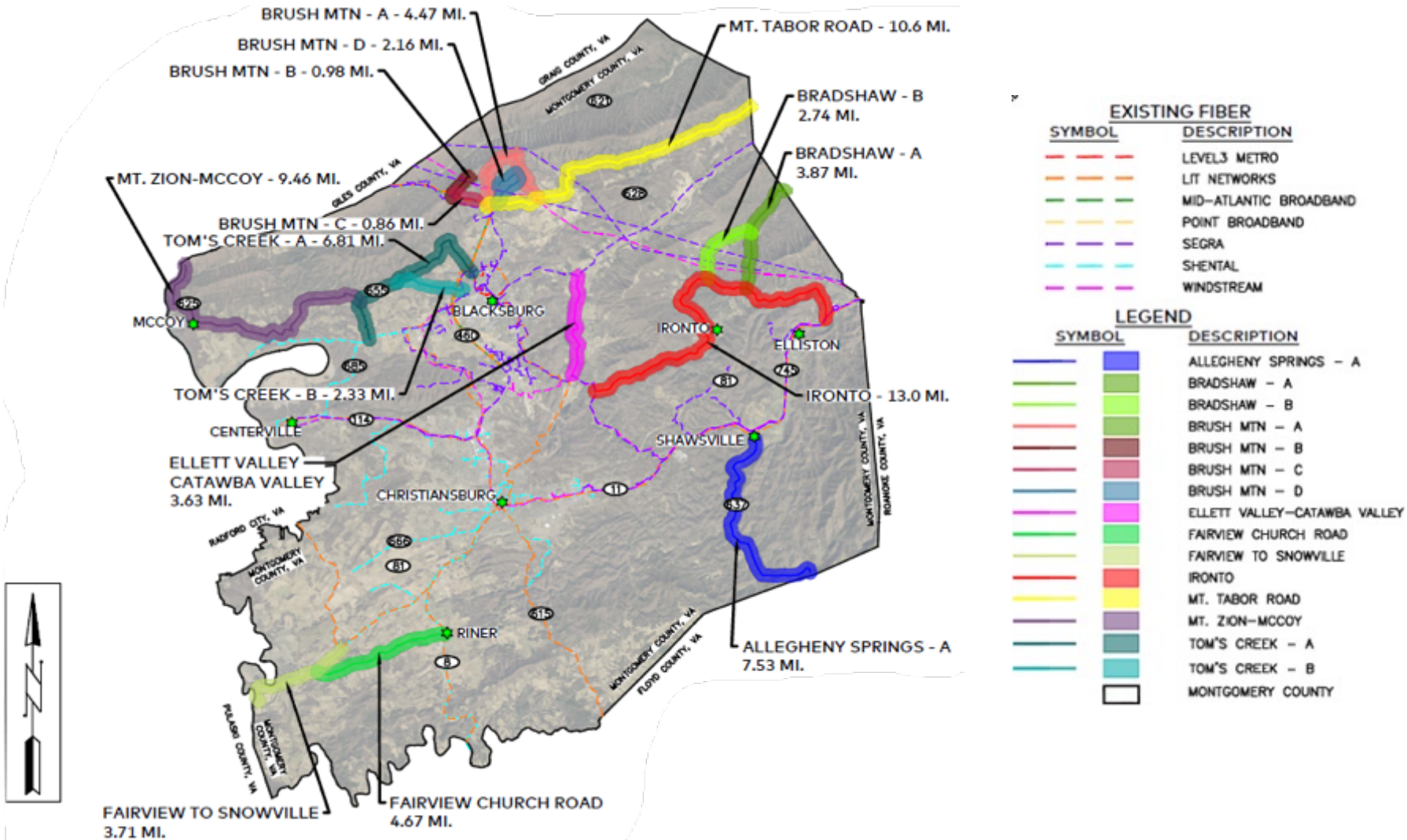


### Allegheny Springs / Den Hill Road Area



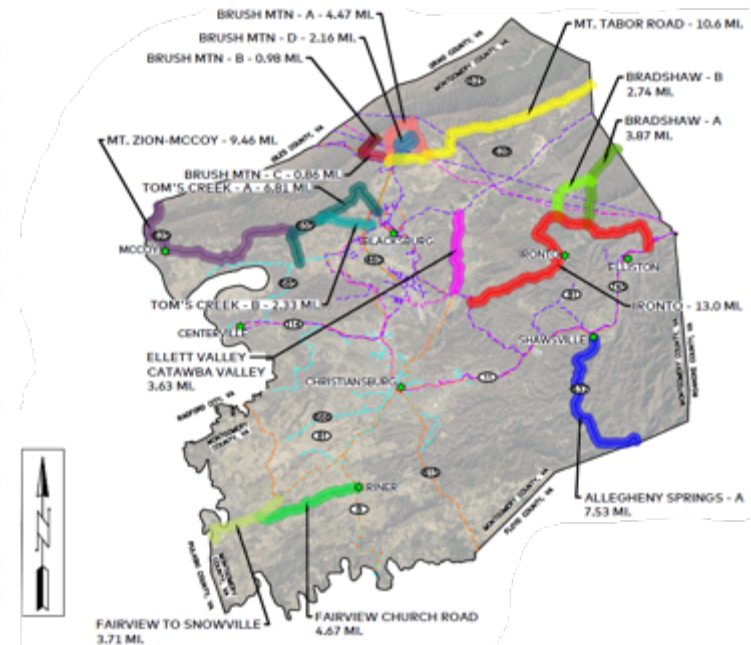


# Proposed Network Route

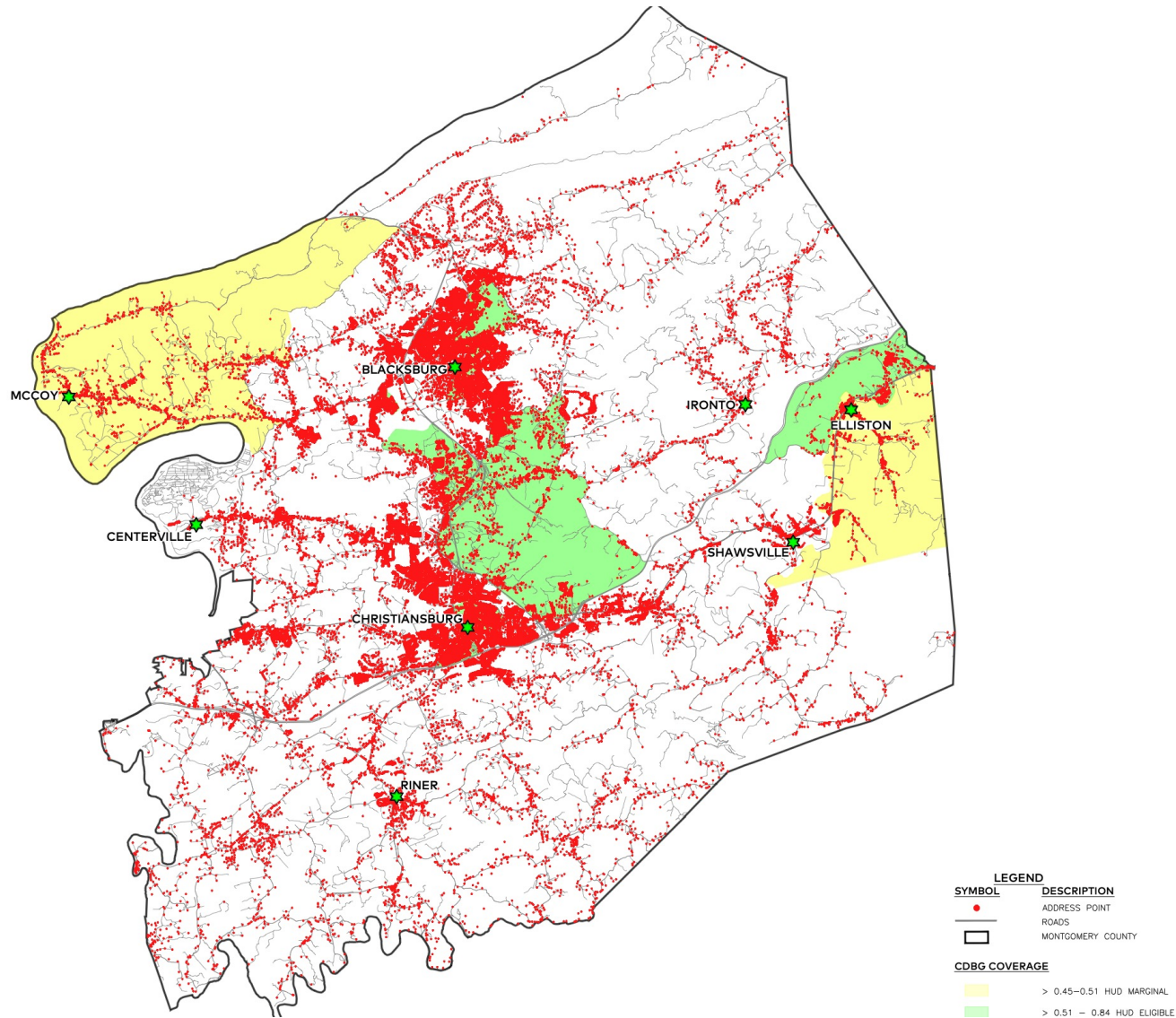


# Proposed Network Route

PROJECT AREA	HUD MARGINAL HOUSES	HUD ELIGIBLE	NON-CDBG HOUSES IN PROJECT AREA	TOTAL HOUSES
ALLEGHENY SPRINGS - A	1	---	307	307
BRADSHAW - A	---	---	133	133
BRADSHAW - B	---	---	113	113
BRUSH MTN - A	---	---	168	168
BRUSH MTN - B	1	---	50	51
BRUSH MTN - C	---	---	131	131
BRUSH MTN - D	---	---	77	77
ELLETT VALLEY-CATAWBA VALLEY	---	38	154	192
FAIRVIEW CHURCH ROAD	---	---	276	276
FAIRVIEW TO SNOWVILLE	---	---	138	138
IRONTO	---	228	338	566
MT. TABOR ROAD	---	---	277	277
MT. ZION-MCCOY	466	---	34	500
TOM'S CREEK - A	26	---	1527	1553
TOM'S CREEK - B	---	---	814	814



# CDBG Map



## Description of Proposed Project Area

### Bland County

All areas of Bland County are part of the proposed project area with the exception of a small area in the northern section of the county near Rocky Gap, including the I-77 corridor to the north and a 7-mile area along Rd 613 extending east and west of I-77. With the exception of this Rocky Gap area, the entire County of Bland was found to be unserved by broadband and therefore eligible to be part of the proposed project area.

### Pulaski County

The majority of Pulaski County, excluding the towns of Pulaski and Dublin, was found to be unserved by broadband. The Town of Pulaski, and areas to the east including Rte 11, E. Main St and Bob White Blvd. toward Dublin, have access to broadband speeds greater than 25/3 Mbps and are therefore excluded from the proposed project area. The Town of Dublin, including Cleburne Blvd to the north and south and Rte 11 east to the City of Radford, including a portion of the Fairlawn area near Peppers Ferry Blvd., have access to broadband speeds greater than 25/3 Mbps and are also excluded from the proposed project area. All other areas of the county were found to be unserved by broadband, including a pocket area between the towns of Pulaski and Dublin, and are therefore eligible to be included as part of the proposed project area.

### Montgomery County

The majority of Montgomery County, outside of Blacksburg, Christiansburg and the area of McCoy, was found to be unserved by broadband. Areas within the Blacksburg area and along Prices Fork Rd to the west of Blacksburg have access to broadband speeds greater than 25/3 Mbps and are excluded from the proposed project area. Areas around Christiansburg west of Hwy 460 and south to I-



81 including S. Franklin St have access to broadband speeds greater than 25/3 Mbps and are not included in the proposed project area. The McCoy community in the northwest part of the county along 2 miles of McCoy Rd has access to broadband speeds greater than 25/3 Mbps and is also not included in the proposed project area. All other areas of Montgomery County, with the exception of these areas in Blacksburg, Christiansburg and McCoy, were found to be unserved by broadband and therefore are eligible for inclusion in the proposed project area.

City of Radford

The City of Radford surrounded by Pulaski and Montgomery County is not part of the proposed project area.



# FTTH Rapid Assessment

Follow Up Results

TAKE RATE SURVEY

# Altman Solon has conducted a Rapid primary research study to assess ARPU and take rate viability in underserved areas

## Target Audience Process

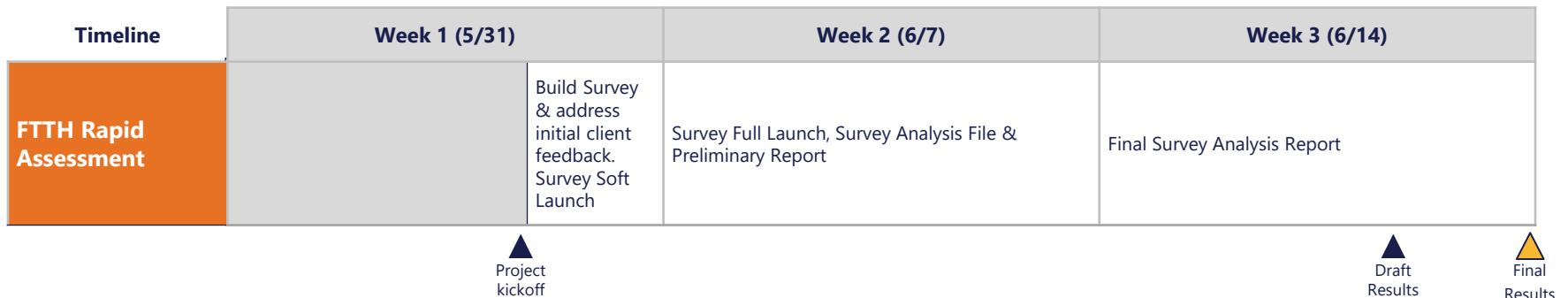
We targeted Zip Codes to address the following priorities:

- **Priority #1 (Underserved BB HHs):** Required 50% of HH within a zip code to have no cable or fiber availability

## Qualification Criteria

### Must

- Be above 18 years of age
- Purchase Wireless Phone or Home Internet
- Be either solely or partially involved in these purchasing decisions
- Not have access to Cable



Sources: Underserved BB Survey (N=1042), Altman Solon Research & Analysis

# In our conjoint, respondents are asked to select product packages they are most likely to purchase

## Sample Choice Based Conjoint (CBC) Question

If these were your only options, which would you choose?  
(1 of 12)

	Satellite Internet (e.g. HughesNet, ViaSat)	Fiber (e.g. Verizon FiOs, MetroNet)	Fixed Wireless / Wireless Broadband (e.g. Belwave, Wisper, Nextlink)	DSL (e.g. Centurylink, Frontier, AT&T, Windstream)
<b>Internet Technology</b>	Satellite Internet (e.g. HughesNet, ViaSat)	Fiber (e.g. Verizon FiOs, MetroNet)	Fixed Wireless / Wireless Broadband (e.g. Belwave, Wisper, Nextlink)	DSL (e.g. Centurylink, Frontier, AT&T, Windstream)
<b>Internet Speed</b>	10 Mbps	1 Gbps	100 Mbps	5 Mbps
<b>Landline Phone Offer</b>	Not included	Unlimited	Not included	Unlimited
<b>Monthly Offer Price</b>	\$60	\$225	\$80	\$30
	Select	Select	Select	Select

Given what you know about the market, would you really buy the Internet Package you chose above?

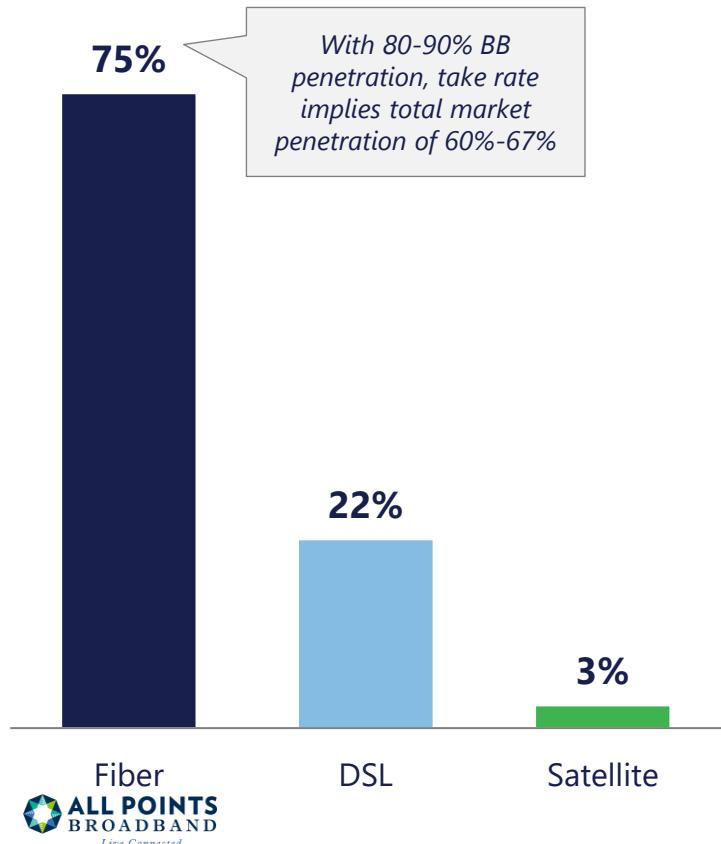
- Respondents see 10-12 screens, and on each must select their **favored option out of the given options**, and indicate whether they would purchase this option in the marketplace
- A conjoint has two pieces:
  - **Attributes** (e.g., Internet Technology and Monthly Price)
  - **Levels** (e.g., DSL, Fiber, or \$60, \$120) which define the different options an attribute can take on
- By showing multiple randomized packages, conjoint surveys can determine the **relative value of product features based on survey-taker tradeoffs**
- Altman Solon uses Hierarchical Bayes estimations to determine **relative importance of each attribute and level**

Note: This page would be preceded by a description page which defines each attribute and level, including the channels included in each channel package  
Sources: Underserved BB Survey (N=1042), Altman Solon Research & Analysis

# In Satellite + DSL markets with baseline prices, we observe 75% take rate and an ARPU well in line with APB targets

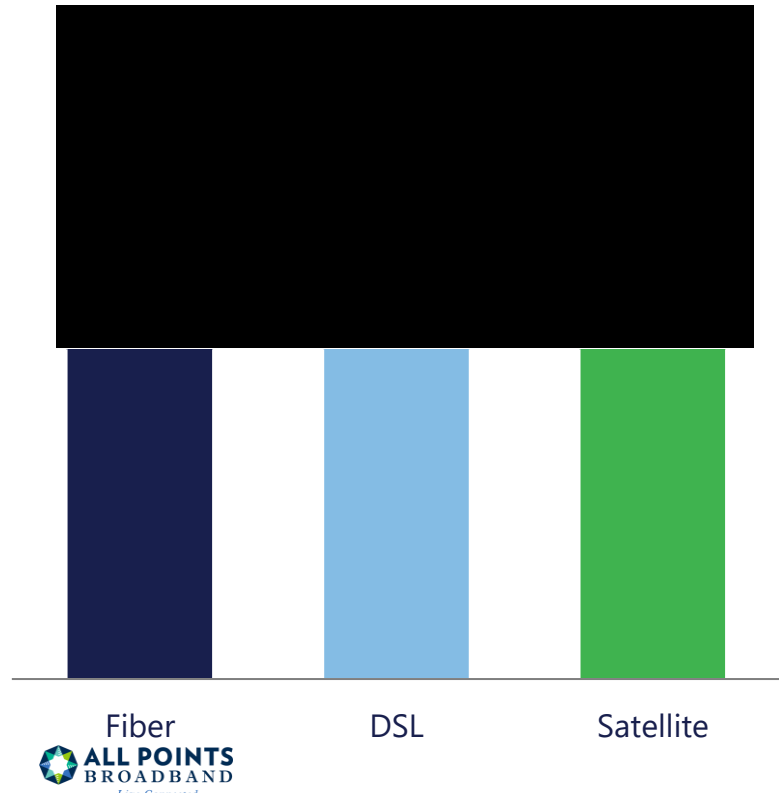
### Take Rate by Technology

N=1042, % of simulated respondents



### ARPU by Technology

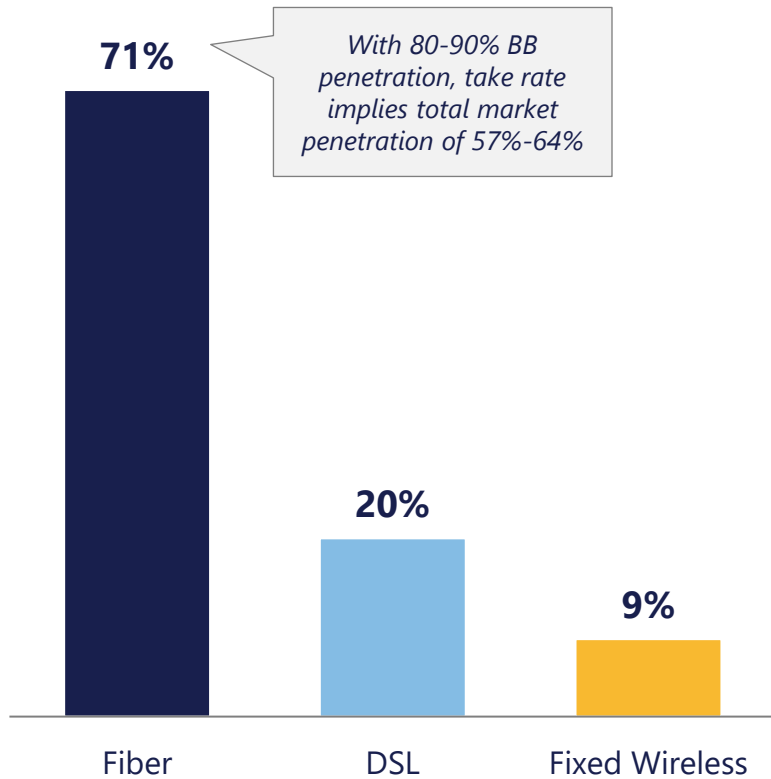
N=1042, Simulated ARPU<sup>1</sup>



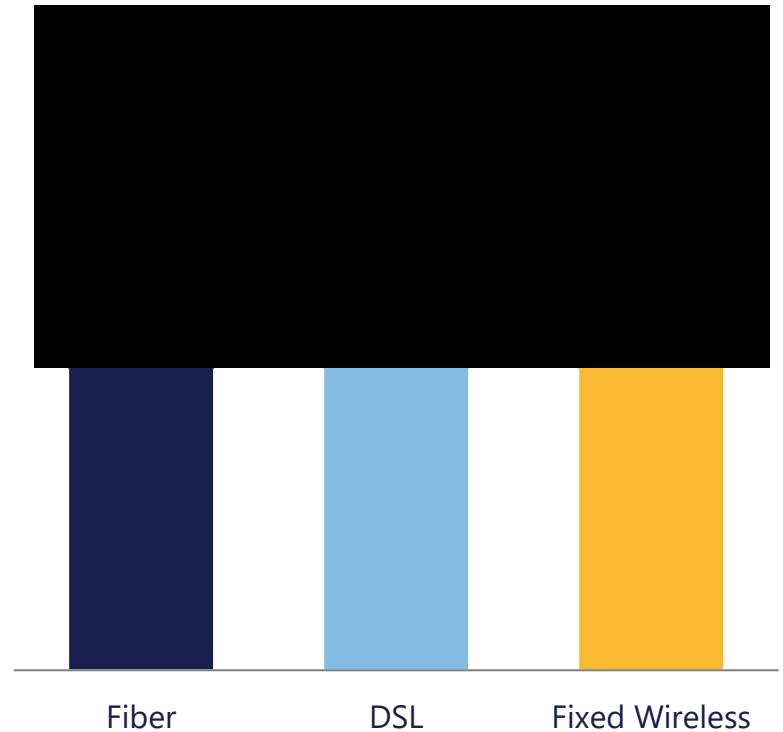
Notes: Calculated by multiplying take rate of each existing promo offer by cost of the promo offer  
Sources: Underserved BB Survey (N=1042), Altman Solon Research & Analysis

# In DSL + Fixed Wireless markets, we observe 71% take rate and an ARPU well in line with APB targets

Take Rate by Technology  
N=1042, % of simulated respondents



ARPU by Technology  
N=1042, Simulated ARPU



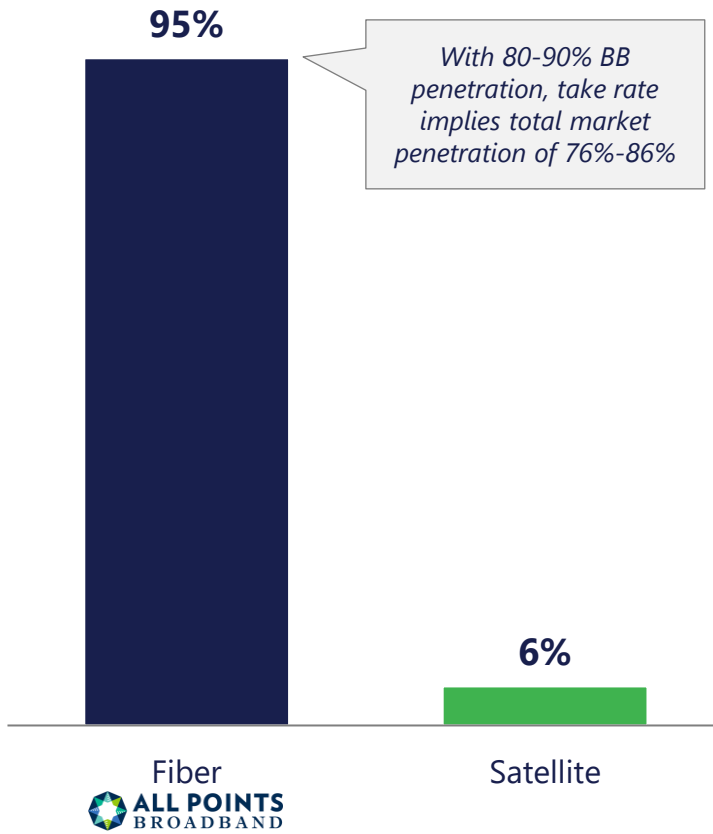
Notes: Calculated by multiplying take rate of each existing promo offer by cost of the promo offer  
Sources: Underserved BB Survey (N=1042), Altman Solon Research & Analysis



# In satellite only markets, we observe 95% take rate

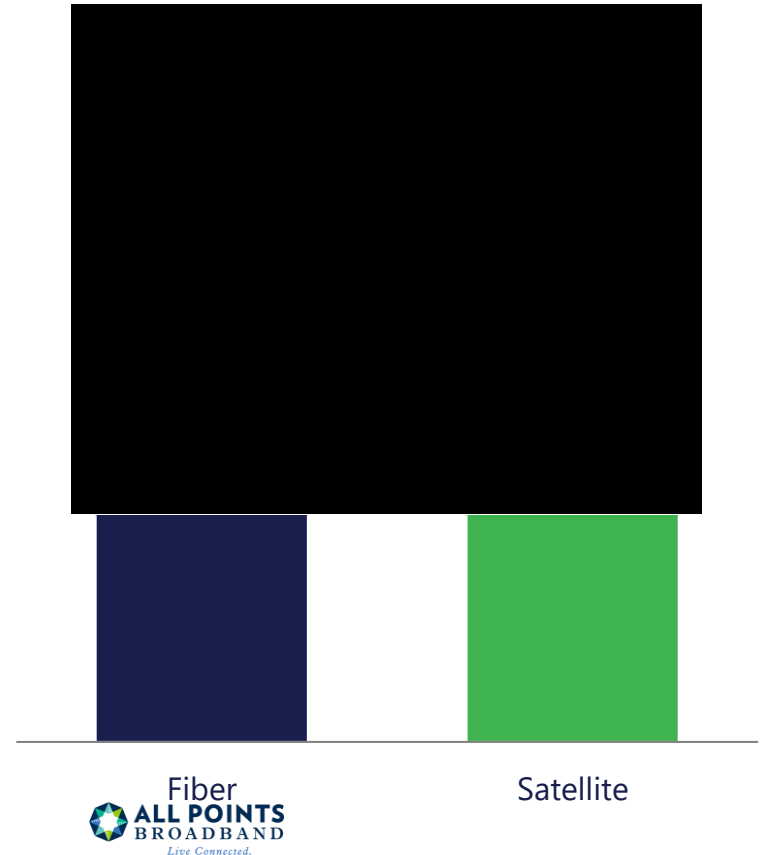
### Take Rate by Technology

N=1042, % of simulated respondents



### ARPU by Technology

N=1042, Simulated ARPU<sup>1</sup>



Notes: Calculated by multiplying take rate of each existing promo offer by cost of the promo offer  
Sources: Underserved BB Survey (N=1042), Altman Solon Research & Analysis

## Live Connected.

At All Points Broadband, we empower communities by bringing utility grade broadband to underserved markets, deploying fiber and state-of-the-art fixed-wireless technology to homes and businesses in communities throughout Virginia, West Virginia, Maryland and Kentucky.

## Register Here for Fiber to Your Home

Address

Unit

Zip

Go

## Gig Fiber Broadband in Your Home

All Points Broadband is engaged with its electric utility partners in several large scale fiber-to-the-home projects in Virginia. We are collecting information from customers in the zones below to ensure universal coverage and to finalize our construction sequence within each zone. All Point's standard FTTH architecture is capable of offering 10Gbps service to the home.

To get started please follow these directions:

**Step 1:** Enter an address and press Go.

**Step 2:** Confirm your Pin/location is correct. If not, just grab it and move it to the correct location on the map. Press next.

**Step 3:** Enter your contact information. Press next.

**Step 4:** Answer the quick questionnaire so we can provide the same great service for your friends and neighbors. Press next.

**Step 5:** Review your information and then tell everyone the great news and how to get registered. Submit

**NO COMMITMENTS. PAY NOTHING UPFRONT. JUST SHOW YOUR INTEREST!**

# CROWD FIBER LANDING PAGE



# Fiber Internet Plans

At All Points Broadband, we empower communities by bringing utility grade broadband to underserved markets, deploying fiber and state-of-the-art fixed-wireless technology to homes and businesses in communities throughout Virginia, West Virginia, Maryland and Kentucky.

50/50

**\$59.99**

per month

- ✓ Equipment Install & Provisioning fee of \$99 with 1 year commitment
- ✓ Download up to 50 Mbps
- ✓ Upload up to 50 Mbps

[GET STARTED](#)

100/100

**\$79.99**

per month

- ✓ Equipment Install & Provisioning fee of \$99 with 1 year commitment
- ✓ Download up to 100 Mbps
- ✓ Upload up to 100 Mbps

[GET STARTED](#)

500/500

**\$99.99**

per month

- ✓ Equipment Install & Provisioning fee of \$99 with 1 year commitment
- ✓ Download up to 500 Mbps
- ✓ Upload up to 500 Mbps

[GET STARTED](#)

GIGABIT

**\$109.99**

per month

- ✓ Equipment Install & Provisioning fee of \$99 with 1 year commitment
- ✓ Download up to 1,000 Mbps
- ✓ Upload up to 1,000 Mbps

[GET STARTED](#)



# GET BETTER BROADBAND NOW!

HIGH SPEED BROADBAND  
IN YOUR NECK OF THE WOODS!

## FASTER INTERNET IS NOW AVAILABLE!

UNHAPPY WITH YOUR INTERNET?  
INTERNET WHERE YOU LIVE



USE PROMO CODE

**ICANSTREAM**

FREE INSTALLATION WITH  
A 12 MONTH TERM

### FEATURES:

- ✓ *Unlimited Data Usage*
- ✓ *Reliable High Speed Internet*
- ✓ *Low Latency for Gamers*
- ✓ *24x7 Customer Support*
- ✓ *Stream your favorite programs*
- ✓ *Online Account Management*

ENJOY FAST DOWNLOADS, SMOOTH STREAMING, AND LOW LATENCY

CALL TODAY TO SCHEDULE YOUR INSTALLATION

**888-888-8888**

SAMPLE FLYERS & DOOR HANGERS

- FEATURES:**
- Unlimited Data Usage
  - Reliable High Speed Internet
  - Low Latency for Gamers
  - 24x7 Customer Support
  - Stream your favorite programs
  - Online Account Management



**ENJOY  
FAST DOWNLOADS,  
SMOOTH STREAMING,  
& LOW LATENCY**

CALL TODAY TO SCHEDULE YOUR INSTALLATION  
**888-888-8888**



**GET BETTER  
BROADBAND NOW!**

**HIGH SPEED BROADBAND  
IN YOUR NECK OF THE WOODS!  
FASTER INTERNET  
IS NOW AVAILABLE!**

**UNHAPPY WITH YOUR INTERNET?  
INTERNET WHERE YOU LIVE**

**PICK FROM ONE OF THE PROMOS BELOW**

<p>USE PROMO CODE</p> <p><b>NEED4SPEED</b></p> <p>\$50 INSTALLATION, \$10 DISCOUNT FOR THE FIRST 6 MONTHS (A \$199+ SAVINGS) WITH A 12 MONTH TERM</p>	<p>USE PROMO CODE</p> <p><b>ICANSTREAM</b></p> <p>FREE INSTALLATION WITH A 12 MONTH TERM (A \$99 SAVINGS)</p>	<p>USE PROMO CODE</p> <p><b>GOFASTER</b></p> <p>\$50 INSTALLATION, \$5 DISCOUNT OFF ANY PLAN FOR 12 MONTHS (A \$199+ SAVINGS) WITH A 12 MONTH TERM</p>
---	---	--

**CALL US NOW AT 888-888-8888**

**FRONT SIDE**

**ALL POINTS  
BROADBAND**  
*Live Connected.*

**GET BETTER  
BROADBAND NOW!**

**HIGH SPEED BROADBAND  
IN YOUR NECK OF THE WOODS!  
FASTER INTERNET  
IS NOW AVAILABLE!**

**UNHAPPY WITH YOUR INTERNET?  
INTERNET WHERE YOU LIVE**

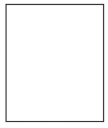
**PICK FROM ONE OF THE PROMOS BELOW**

<p>USE PROMO CODE</p> <p><b>NEED4SPEED</b></p> <p>\$50 INSTALLATION, \$10 DISCOUNT FOR THE FIRST 6 MONTHS (A \$199+ SAVINGS) WITH A 12 MONTH TERM</p>	<p>USE PROMO CODE</p> <p><b>ICANSTREAM</b></p> <p>FREE INSTALLATION WITH A 12 MONTH TERM (A \$99 SAVINGS)</p>	<p>USE PROMO CODE</p> <p><b>GOFASTER</b></p> <p>\$50 INSTALLATION, \$5 DISCOUNT OFF ANY PLAN FOR 12 MONTHS (A \$199+ SAVINGS) WITH A 12 MONTH TERM</p>
---	---	--

**CALL US NOW AT 888-888-8888**

**BACK SIDE**

- FEATURES:**
- Unlimited Data Usage
  - Reliable High Speed Internet
  - Low Latency for Gamers
  - 24x7 Customer Support
  - Stream your favorite programs
  - Online Account Management



**ENJOY  
FAST DOWNLOADS,  
SMOOTH STREAMING,  
& LOW LATENCY**

CALL TODAY TO SCHEDULE YOUR INSTALLATION  
**888-888-8888**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





**ALL POINTS BROADBAND**  
*Live Connected.*

**HIGH SPEED BROADBAND**  
**IN YOUR NECK OF THE WOODS!**

**FEATURES:**

- UNLIMITED DATA USAGE
- RELIABLE HIGH SPEED INTERNET
- LOW LATENCY FOR GAMERS
- 24X7 CUSTOMER SUPPORT
- STREAM YOUR FAVORITE PROGRAMS
- ONLINE ACCOUNT MANAGEMENT

ENJOY FAST DOWNLOADS, SMOOTH STREAMING, AND LOW LATENCY ➡

USE PROMO CODE:  
**ICANSTREAM**

FREE Installation with a 12 Month Term  
(a \$199 Savings)

Call Today to Schedule your Installation  
**888-888-888**

**ALL POINTS BROADBAND**  
*Live Connected.*

CALL TODAY TO SCHEDULE YOUR INSTALLATION  
Call us now at 888-888-888!



### HIGH SPEED BROADBAND IN YOUR NECK OF THE WOODS!

Enjoy fast downloads, smooth streaming, and low latency

USE PROMO CODE

**NEED4SPEED**

\$50 Installation, \$10 discount for the first 6 months  
(a \$199+ savings) with a 12 Month Term

**Unhappy with your Internet? Call us now at 888-888-8888**

### Get Better Broadband Now!

Enjoy fast downloads, smooth streaming,  
and low latency



#### Features:

- ✔ Unlimited Data Usage
- ✔ Reliable High Speed Internet
- ✔ Low Latency for Gamers
- ✔ 24x7 Customer Support
- ✔ Stream your favorite programs
- ✔ Online Account Management

USE PROMO CODE

**NEED4SPEED**

\$50 Installation, \$10 discount for the first 6 months  
(a \$199+ savings) with a 12 Month Term



Call Today to Schedule  
your Installation  
**888-888-8888**

---



---



---



---



---



**Unhappy with your Internet?  
Get Better Broadband Now!**  
Enjoy fast downloads, smooth streaming, and low latency



**Faster Internet is Now Available!** Call us now at **888-888-8888**



**HIGH SPEED BROADBAND  
IN YOUR NECK OF THE WOODS!**

**Features:**

- ✔ Unlimited Data Usage
- ✔ Reliable High Speed Internet
- ✔ Low Latency for Gamers
- ✔ 24x7 Customer Support
- ✔ Stream your favorite programs
- ✔ Online Account Management

USE PROMO CODE

**ICANSTREAM**

FREE Installation with a 12 Month Term  
(a \$199 Savings)

Call Today to Schedule your Installation **888-888-8888**

---



---



---



---



---



**FEATURES:**

- Ⓞ Unlimited Data Usage
- Ⓞ Reliable High Speed Internet
- Ⓞ Low Latency for Gamers
- Ⓞ 24x7 Customer Support
- Ⓞ Stream your favorite programs
- Ⓞ Online Account Management



**ENJOY**  
FAST DOWNLOADS,  
SMOOTH STREAMING,  
& LOW LATENCY

CALL TODAY TO SCHEDULE YOUR INSTALLATION  
**888-888-8888**

**ALL POINTS BROADBAND**  
*Live Connected.*

**HIGH SPEED BROADBAND**  
IN YOUR NECK OF THE WOODS!

USE PROMO CODE  
**GOFASTER**

\$50 INSTALLATION, \$5 DISCOUNT OFF ANY PLAN FOR 12 MONTHS (A \$199+ SAVINGS) WITH A 12 MONTH TERM

CALL US NOW AT **888-888-8888**

**FRONT SIDE**

**ALL POINTS BROADBAND**  
*Live Connected.*

**HIGH SPEED BROADBAND**  
IN YOUR NECK OF THE WOODS!

USE PROMO CODE  
**GOFASTER**

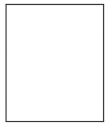
\$50 INSTALLATION, \$5 DISCOUNT OFF ANY PLAN FOR 12 MONTHS (A \$199+ SAVINGS) WITH A 12 MONTH TERM

CALL US NOW AT **888-888-8888**

**BACK SIDE**

**FEATURES:**

- Ⓞ Unlimited Data Usage
- Ⓞ Reliable High Speed Internet
- Ⓞ Low Latency for Gamers
- Ⓞ 24x7 Customer Support
- Ⓞ Stream your favorite programs
- Ⓞ Online Account Management



**ENJOY**  
FAST DOWNLOADS,  
SMOOTH STREAMING,  
& LOW LATENCY

CALL TODAY TO SCHEDULE YOUR INSTALLATION  
**888-888-8888**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Get Better Broadband Now!**  
*Enjoy fast downloads, smooth streaming,  
and low latency*



**Features:**

- ✓ Unlimited Data Usage
- ✓ Reliable High Speed Internet
- ✓ Low Latency for Gamers
- ✓ 24x7 Customer Support
- ✓ Stream your favorite programs
- ✓ Online Account Management



**Unhappy with  
your Internet?**  
Call us now at

**888-888-8888**

USE PROMO CODE

**GOFASTER**

\$50 Installation, \$5 discount off any plan  
for 12 months (a \$199+ savings) with a 12  
Month Term



**HIGH SPEED BROADBAND  
IN YOUR NECK OF THE WOODS!**

*Enjoy fast downloads, smooth  
streaming, and low latency*

**Faster Internet is Now Available!**

*Call Today to Schedule your Installation*

**888-888-8888**

Provided by:



---

---

---

---

---





**ALL POINTS  
BROADBAND**

*Live Connected.*

**GET BETTER  
BROADBAND NOW!**



USE PROMO CODE :

**NEED4SPEED**

**\$50 INSTALLATION, \$10 DISCOUNT  
FOR THE FIRST 6 MONTHS WITH A 12 MONTH TERM**

**\$199 SAVINGS**

CALL TODAY TO SCHEDULE YOUR INSTALLATION

**888-888-8888!**



FAST DOWNLOADS



SMOOTH STREAMING



LOW LATENCY



**ALL POINTS  
BROADBAND**

*Live Connected.*

At All Points Broadband, we empower communities by bringing utility grade broadband to underserved markets, deploying fiber and state-of-the-art fixed-wireless technology to homes and businesses in communities throughout Virginia, West Virginia, Maryland and Kentucky.

**FEATURES:**

- Unlimited Data Usage
- Reliable High Speed Internet
- Low Latency for Gamers
- 24x7 Customer Support
- Stream your favorite programs
- Online Account Management

CALL TODAY TO SCHEDULE YOUR INSTALLATION

**888-888-8888!**

[WWW.ALLPOINTSBBROADBAND.COM](http://WWW.ALLPOINTSBBROADBAND.COM)

ALL POINTS BROADBAND  
Leesburg, Virginia 20175





# FASTER INTERNET IS NOW AVAILABLE!

USE PROMO CODE : **ICANSTREAM**

FREE INSTALLATION WITH A 12 MONTH TERM

**\$199 SAVINGS**

CALL TODAY TO SCHEDULE YOUR INSTALLATION

**888-888-8888!**



FAST DOWNLOADS



SMOOTH STREAMING



LOW LATENCY



At All Points Broadband, we empower communities by bringing utility grade broadband to underserved markets, deploying fiber and state-of-the-art fixed-wireless technology to homes and businesses in communities throughout Virginia, West Virginia, Maryland and Kentucky.

## FEATURES:

- Unlimited Data Usage
- Reliable High Speed Internet
- Low Latency for Gamers
- 24x7 Customer Support
- Stream your favorite programs
- Online Account Management

CALL TODAY TO SCHEDULE YOUR INSTALLATION

**888-888-8888!**

[WWW.ALLPOINTSBBROADBAND.COM](http://WWW.ALLPOINTSBBROADBAND.COM)

ALL POINTS BROADBAND  
Leesburg, Virginia 20175







# FASTER INTERNET IS NOW AVAILABLE!

USE PROMO CODE : **ICANSTREAM**

FREE INSTALLATION WITH A 12 MONTH TERM

**\$199 SAVINGS**

CALL TODAY TO SCHEDULE YOUR INSTALLATION

**888-888-8888!**



FAST DOWNLOADS



SMOOTH STREAMING



LOW LATENCY



At All Points Broadband, we empower communities by bringing utility grade broadband to underserved markets, deploying fiber and state-of-the-art fixed-wireless technology to homes and businesses in communities throughout Virginia, West Virginia, Maryland and Kentucky.

## FEATURES:

- Unlimited Data Usage
- Reliable High Speed Internet
- Low Latency for Gamers
- 24x7 Customer Support
- Stream your favorite programs
- Online Account Management

CALL TODAY TO SCHEDULE YOUR INSTALLATION

**888-888-8888!**

[WWW.ALLPOINTSBBROADBAND.COM](http://WWW.ALLPOINTSBBROADBAND.COM)

ALL POINTS BROADBAND  
Leesburg, Virginia 20175





# FASTER INTERNET IS NOW AVAILABLE!

Use Promo Code :  
**ICANSTREAM**

**FREE  
INSTALLATION**  
WITH A 12 MONTH TERM  
(A \$199 SAVINGS)



Call us now at  
**888-888-8888!**

## Features:

- Unlimited Data Usage
- Reliable High Speed Internet
- Low Latency for Gamers
- 24x7 Customer Support
- Stream your favorite programs
- Online Account Management

## ENJOY

- SMOOTH STREAMING
- FAST DOWNLOADS
- LOW LATENCY

Call Today to *Schedule your installation*  
**888-888-8888!**




---



---



---



# HIGH SPEED BROADBAND

in your Neck of the Woods



**FAST DOWNLOADS**



**SMOOTH STREAMING**



**LOW LATENCY**

Enter the promo code:  
**NEED4SPEED**

**\$199+ savings**






\$50 Installation  
\$10 discount for the first 6 months  
with a 12 Month Term

**Get Better Broadband Now!**

Call us now:  
**888-888-8888**



**FEATURES:**

-  Unlimited Data Usage
-  Reliable High Speed Internet
-  Low Latency for Gamers
-  24x7 Customer Support
-  Stream your favorite programs
-  Online Account Management

Enjoy fast downloads, smooth streaming, and low latency

CALL TODAY TO SCHEDULE YOUR INSTALLATION  
**888-888-8888**



---

---

---

---



Use Promo Code:

**ICANSTREAM**

**FREE Installation**  
with a 12 Month Term  
(a \$199 Savings)



**ALL POINTS  
BROADBAND**

*Live Connected.*

Get Better

**BROAD  
BAND**

**Now!**



Call us now at  
**888-888-8888!**



**ALL POINTS BROADBAND**  
*Live Connected.*

CALL US NOW AT  
**888-888-8888**

**INTERNET WHERE YOU LIVE**

USE PROMO CODE: **ICANSTREAM**

FREE Installation with a 12 Month Term (a \$199 Savings)

**FEATURES**

- UNLIMITED DATA USAGE
- LOW LATENCY FOR GAMERS
- STREAM YOUR FAVORITE PROGRAMS
- RELIABLE HIGH SPEED INTERNET
- 24X7 CUSTOMER SUPPORT
- ONLINE ACCOUNT MANAGEMENT

FAST DOWNLOADS | LIVE | SMOOTH STREAMING | LOW LATENCY

CALL US NOW AT  
**888-888-8888**

**ALL POINTS BROADBAND**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_





# HIGH SPEED BROADBAND IN YOUR NECK OF THE WOODS!



USE PROMO CODE  
**NEED4SPEED**

\$50 Installation, \$10 discount  
for the first 6 months  
(a \$199+ savings) with a  
12 Month Term



CALL TODAY TO SCHEDULE YOUR INSTALLATION

☎ 888-888-8888

## FEATURES



- Unlimited Data Usage
- Reliable High Speed Internet
- Low Latency for Gamers
- 24x7 Customer Support
- Stream your favorite programs
- Online Account Management

*Enjoy fast downloads,  
Smooth streaming, Low latency*

CALL TODAY TO SCHEDULE YOUR INSTALLATION

☎ 888-888-8888



**ALL POINTS  
BROADBAND**

*Live Connected.*

**HIGH SPEED BROADBAND**

**IN YOUR NECK OF THE WOODS!**



USE PROMO CODE:

**ICANSTREAM**

FREE Installation  
with a 12 Month Term (a \$199 Savings)

**CALL US NOW AT 888-888-8888**







[allpointsbroadband.com](http://allpointsbroadband.com)



**ALL POINTS  
BROADBAND**

*Live Connected.*

**FEATURES:**

-  UNLIMITED DATA USAGE
-  RELIABLE HIGH SPEED INTERNET
-  LOW LATENCY FOR GAMERS
-  24X7 CUSTOMER SUPPORT
-  STREAM YOUR FAVORITE PROGRAMS
-  ONLINE ACCOUNT MANAGEMENT

*Call Today to Schedule your Installation!*

**888-888-8888**



*Enjoy fast downloads,  
smooth streaming, and low latency*

---



---



---



---



---

**UNHAPPY WITH YOUR INTERNET?**

**CALL US NOW!  
888.888.8888**

Use Promo Code : ICANSTREAM  
**FREE INSTALLATION** with a 12-month term (A \$199 SAVINGS)



**ALL POINTS BROADBAND**  
*Live Connected.*

**FEATURES INCLUDE:**

- Unlimited Data Usage
- Reliable High Speed Internet
- Low Latency for Gamers
- 24x7 Customer Support
- Stream your favorite programs
- Online Account Management

*Enjoy fast downloads, smooth streaming, and low latency.*

Call Today to Schedule your Installation!  
**888.888.8888**

**ALL POINTS BROADBAND**  
*Live Connected.*

# UNHAPPY WITH YOUR INTERNET?

## Get Better Broadband Now!



Enter the promo code:

**NEED4SPEED**

**\$199+ savings**

**\$50 Installation**

\$10 discount for the first 6 months with a 12 Month Term

Get Better Broadband Now!



FAST DOWNLOADS



SMOOTH STREAMING



LOW LATENCY

**HIGH SPEED BROADBAND**  
in your Neck of the Woods!

Call us: **888-888-8888**



### FEATURES:

- Unlimited Data Usage
- Reliable High Speed Internet
- Low Latency for Gamers
- 24x7 Customer Support
- Stream your favorite programs
- Online Account Management

CALL TODAY TO SCHEDULE YOUR INSTALLATION

**888-888-8888**



---

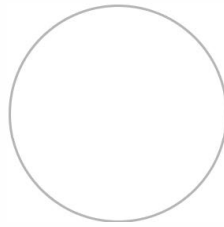
---

---

---

---





## GET FIBER BROADBAND

MONTHLY PLANS STARTING AT \$59.99

**GIGABIT BROADBAND  
INSTALLATION STARTING AT \$99**

*We Just Installed Fiber Broadband for  
One of your Neighbors and It's Avail-  
able at your Home Today!*

**Sign Up NOW at:**  
<https://fiber.allpointsbroadband.com>



**CALL TODAY**  
TO SCHEDULE YOUR INSTALLATION  
 **(888) 217-7827**



## FEATURES



**Unlimited  
Data Usage**



**Reliable High  
Speed Internet**



**Low Latency for  
Gamers**



**24x7 Customer  
Support**



**Stream Your  
Favorite Programs**



**Online Account  
Management**

✔ Enjoy fast downloads    ✔ Smooth streaming    ✔ Low latency



**CALL TODAY**  
**TO SCHEDULE YOUR INSTALLATION**  
**(888) 217-7827**



**GET BETTER  
BROADBAND NOW!**

**We just qualified**  
a new customer in your area  
and they can get up to

Upload	X	Download
<input type="text"/>		<input type="text"/>

Call us now at  
**888-888-8888!**

**FEATURES**



**Unlimited Data  
Usage**



**24x7 Customer  
Support**



**Reliable High Speed  
Internet**



**Stream your favorite  
programs**



**Low Latency for  
Gamers**



**Online Account  
Management**

**Use Promo Code YESMETOO**

**FREE Installation**  
with a 12 Month Term (a \$199 Savings)

**Enjoy fast downloads, smooth streaming,  
and low latency**

Call Today to Schedule your Installation  
**888-888-8888!**



## Attachment 19 – Detailed Network Design

### GigaBeam:

GigaBeam Networks operates a hybrid Fiber to the Premise and Fixed Wireless network throughout southern West Virginia and southwestern Virginia. The proposed network design for Bland and Montgomery County Project is a fiber to the premise network utilizing XGS-PON (10Gbps Symmetrical Passive Optical Network) technology. XGS-PON is an updated standard for Passive Optical Networks (PON) that can support higher speed 10 Gbps symmetrical data transfer and is part of the family of standards known as Gigabit-capable PON, or G-PON. G-PON stands for Gigabit PON or 1 Gigabit PON. The “X” in XGS represents the number 10, and the letter “S” stands for symmetrical, XGS-PON = 10 Gigabit Symmetrical PON. An earlier, non-symmetrical 10 Gigabit PON version (XG-PON) was limited to 2.5 Gbps in the upstream direction.

PON technology originated in the 1990’s and has continued to develop through multiple iterations with differing wavelengths, speeds and components emerging as the technology has improved. The common denominator of all fiber optic PON networks remains the unpowered or passive state of the fiber and its splitting or combining components, i.e., no active elements such as optical amplifiers, which would require power, are present in the network. With streaming, high definition, 5G and other emerging technologies continually pushing bandwidth demands, the development of XGS-PON and other standards has proven to be essential.

Simultaneous upstream and downstream transmission over the same fiber is made possible through wavelength division multiplexing (WDM). This technology allows one XGS-PON wavelength or color of light transmission for upstream and another for downstream.

Standardized PON deployment and operation has been accomplished since initial adoption through the International Telecommunication Union (ITU) standards for the G-PON family and through the Institute of Electrical and Electronics Engineers (IEEE) standards for Ethernet PON or “EPON”. The new XGS-PON standard was released in 2016 and designated as Recommendation ITU-T G.9807.1.

The scope of the new standard defines XGS-PON as 10-Gigabit-capable symmetric passive optical access network for residential, business, mobile backhaul and other applications. To create a comprehensive standard for this symmetrical 10-Gbps evolution of G-PON, elements of the earlier XG-PON physical layer standard were utilized, meaning the same optical transceiver components can be used for either XG or XGS-PON. Protocol layer standards have also been leveraged for the NG-PON2 standard, ITU-T G.989.3.

Although the physical fiber and data formatting conventions for XGS-PON technology remain unchanged from the original G-PON standard, the wavelengths have shifted. XGS-PON operates at a downstream wavelength of 1577 nm and the upstream wavelength of 1270 nm. The main reason for this is to allow multiple PON services to co-exist on the same PON and allow for seamless service upgrade/migration or to allow different service providers to use the same PON or to offer different levels of service (e.g. business verses residential). The wavelengths for XGS-PON differ from other standards such as G-PON and NG-PON2, although the overall PON transmission window of 1260 to 1650 nm is capable of accommodating G-PON, XGS-PON and NG-PON2 standards over the same fiber network simultaneously. As XGS-PON was an update to the XG-PON standard in order to deliver symmetrical capacity, XG and

XGS-PON operate at the same wavelengths upstream and downstream, this is the only case where there is reuse of the same wavelengths. Today the majority of operators looking at deploying 10G services opt for XGS-PON.

For all PON standards including XGS-PON, the starting point is the optical line terminal (OLT) installed in a service providers local office. The OLT is the active (powered) hardware used to convert and transmit data from the service provider and coordinate multiplexing of the optical network terminals (ONT) end of the network. The XGS-PON OLT broadcasts the same data to all ONT in the network due to operation of the passive downstream optical splitters. It is up to each ONT to determine which data is intended for them. Virtualized OLT can be programmed to deliver traffic over multiple PON technologies such as XGS-PON and NG-PON2 with the same hardware used for added flexibility. OLT split ratio flexibility allows a single XGS-PON OLT to operate multiple PON optical distribution networks (ODNs).

The Small Form-factor Pluggable (SFP) is a hot-swappable transceiver connected to the SFP port of a network switch which converts electrical signals to optical signals at the chosen wavelength, and vice versa. SFPs used to facilitate XGS-PON transmission must be designed to support 10 Gbps speeds and support simultaneous upstream Tx and downstream Rx through the use of internal WDM couplers. Despite the small form factor, XGS-PON SFPs utilize advanced electronics to stabilize output power during upstream transmission.

Through the use of single or cascaded optical splitters the OLT downstream wavelength can be split to provide service to as many as 128 end devices (ONT). The IEEE, which created the equivalent E-PON and 10G-EPON standards, refers to the ONT as the optical network unit (ONU).

Recent innovations in packaging, optics and chip design have dramatically reduced 10G ONT cost to levels approaching that of 1G ONT/ONUs. Economies of scale will continue to drive efficiencies as XGS-PON deployment accelerates. More flexibility has also been integrated into newer generation XGS-PON ONTs, so that FTTH, business and 5G applications can share more common hardware elements.

The symmetrical 10 Gbps speed and compatible architecture of XGS-PON has made it a viable option for high-speed data, voice and Internet requirements for years to come. Services like video conferencing, gaming and cloud storage are all gaining popularity, making the demands on upstream delivery speed equally relevant.

Other applications such as 5G front/mid-haul can also reap the performance and efficiency benefits of symmetrical XGS-PON. Since XGS-PON can co-exist on the same fiber plant as G-PON without changes to the passive architecture and is capable of higher split ratios, it provides a logical and cost-effective expansion option. NG-PON2 deployment can raise the speed and bandwidth bar even higher, provided the more stringent optical loss and tunable transceiver requirements can be met.

The value of PON has been proven out for over twenty years based on simplicity and backwards-compatibility. XGS-PON has continued this legacy while pushing the envelope into new and unprecedented territory.

The Bland/Montgomery Project is unique in that it is a collaborative effort between Appalachian Power (Apco), an investor-owned utility, and GigaBeam Networks to construct a fiber to the premise network for internet access. Apco will construct approximately 204 miles of fiber to support their “smart grid”

infrastructure for electrical service. This network will be overbuilt and the excess fiber will be leased by GigaBeam to provide internet connectivity to the unserved locations throughout both counties.

Apco will build this last/middle mile infrastructure including fiber, splicing and RTD's. GigaBeam will supply the drops and necessary electronics for the network. Apco is also constructing the head end (central office) building that will be included in the lease of fiber. The fiber will be constructed in the "power space" of the pole which allows for faster installation at a lower cost with make ready costs significantly lower than a standard telecom deployment.

Fiber also leased from Apco will connect the head end to our current network infrastructure providing connectivity to data centers in Asburn and Richmond, VA. Initially 10 Gigabit transport (upgradable to 100 Gigabit when the demand requires it) will be terminated to the service router at the head end. The service router will be connected to each OLT located throughout the network via 10 Gigabit connections (also upgradable to 100 Gigabit).

The OLT is the origination point for the definition of the XGS-PON network as described previously. OLT's much like network switches contain cards with ports, with each port representing a PON. 10 Gigabits of available broadband traffic is spread amongst cards containing from four to eight individual PON ports. GigaBeam has chosen to keep customer per PON ratio at 32:1 in a distributed split network design. This distributed split allows for minimum fiber count usage to optimize the usage of Apco fiber for the network. The 32:1 standard allows 32 customers per PON port and capability of sharing 10Gbps of traffic per 32 customers. Traffic flows from these PON ports connecting to a passive optical splitter(s) located close to the customer withing a fiber cabinet. Each of the 32 splitter ports connects directly to a customer premise device or optical network terminal (ONT). ONT's are attached directly to the customer's premise location. A single fiber connects to the ONT and from the ONT via ethernet to a wireless router or customer network. The ONT facilitates the transmission of data into customer's devices. Each customer can receive up to a maximum of 10Gbps service.

Apco fiber will provide service availability to the large portion of the unserved locations in both counties. However, approximately 415 miles of additional fiber will be constructed to extend the network and connect the final unserved customers not in range of their fiber build.

### **Network Layout/Design**

In agreement with Apco, Gigabeam is standardizing on a network design involving plug and play multiport terminals to connect drop cables to the Apco fiber infrastructure. This simplifies the installation of the drop cables, minimizes splicing necessary to do the drop and decreases the timeframe to complete the drops. The diagrams in Attachment 7 depict the basic layout of the network construction.

### **All Points Broadband:**

The All Points project is a new FTTH deployment that will make FTTH service available to currently unserved locations in Pulaski County. The network includes approximately 456 miles of distribution fiber. Of these, approximately 347 miles will be built by All Points and approximately 109 miles will be built by AEP.

At completion, All Points' network in Pulaski will include three upstream connection points to All Points' network core in the data center cluster in Ashburn, Virginia and an independent connection to All Points' redundant network core in the Cermak data center in Chicago, Illinois.

All existing and new fiber distribution infrastructure will use all-dielectric self-supporting ("ADSS") fiber cable, with AFL Telecommunications ("AFL") as the principal cable manufacturer. Because ADSS cable is fully self-supporting and requires no messenger wire, it can be installed in a single pass, resulting in lower construction costs and more rapid deployment timeframes. ADSS is optimized for deployments on electric utility poles and infrastructure and can be placed in closer proximity to conductors, which reduces pole make ready expense. The project will use cables of various strand counts, generally ranging from 24 to 288 strands, depending on the specific network segment. As indicated in the letter included in Attachment 13, AFL, APB's primary supplier of fiber optic cables, connectors, terminals, and related hardware, has allocated committed manufacturing capacity to support APB's materials requirements and specific schedule for this project.

Approximately 90% of the fiber distribution routes will be aerial and 10% of fiber distribution routes will be underground.

The network will include approximately 12 fiber feeder hubs and approximately 32 fiber distribution hubs. Service drops will be made to one of approximately 1,611 fiber distribution terminals. Fiber distribution terminals will be AFL Titan Ready-to-Deploy Multiport Terminals in multiple sizes depending on location and network requirements.

Service drops will be made using AFL Trident hardened drop cables.

All customer premises equipment, including optical network terminals and Wi-Fi internet access gateways will be from the Calix ecosystem of products.

All network optronics will use the XGS-PON (ITU G.9807.1) architecture, which is capable of delivering 10 gigabit, symmetric service, to all end users.

The network has been designed to be scalable and expandable to meet future needs as new locations are built within the project area and as end user demands require higher bandwidth connections.

For example, throughout all distribution routes, a minimum of 12 fiber strands will be reserved to accommodate future needs. This will ensure sufficient distribution capacity so that no additional fiber routes would need to be constructed to offer service to any new locations built in the proposed project area after project completion.

At all feeder and distribution hubs, sufficient capacity has been reserved to enable the network to be upgraded to offer 10 gigabit, symmetric service, to all end users on the network in the future as consumer demands require higher bandwidth connections. All distribution terminals have been sized to accommodate additional connections in the future to accommodate new and in-fill development without requiring additional splicing.