

Broadband
Accessibility and
Affordability
Office

BRIEFING DOCUMENT AHEAD OF JANUARY BOARD OF SUPERVISORS WORK SESSION ON BROADBAND AND TELEPHONY OUTAGES AND CONCERNS

December 9, 2021

This document is an overview of outage, service, and reliability issues with CenturyLink's copper and fiber broadband and telephony services, that have been reported to the Broadband Accessibility and Affordability Office (BAAO) and the challenges those issues present for the residents of Albemarle County.

Preparation of this document follows months of receiving emails and phone calls from residents and Supervisors regarding service issues that go unresolved after repeated attempts. The complaints cover a wide set of issues: delays in initiating service, property damage during installation and trenching, negligent line placement, service interruption, telephony and broadband outages, and deficiencies in customer service.¹

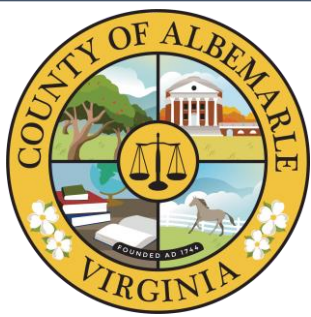
In summarizing these issues, the County seeks to inform decision makers of the current situation, the present risks, and the risks that may be posed by disinvestment in existing copper infrastructure in Albemarle County.

Background: The continuing public health crisis has emphasized the need for accessible and affordable universal broadband service in innumerable ways: on-line learning, work-from-home, virtual civic meetings, job skills, telemedicine, e-commerce, and e-government to name just a few. These and so many other activities have become the new normal and has given urgency to the work of building high-speed fiber-optic broadband networks that reach all of Virginia's residents.

Fiber-optic broadband penetration in Albemarle County's Development Area is high, with several providers serving residents with fiber-to-the-home solutions, and at least one provider using cable-to-the-home on a fiber-backed network. This allows us to focus our efforts in the Development Area on making service affordable for residents of all means.

In the Rural Area, the availability of fiber-optic broadband service is currently limited to a few areas. The Albemarle Broadband Authority (ABBA) was established to bridge this divide and is making significant progress through its success with the Virginia Telecommunication Initiative. Very soon, ABBA, in partnership with the Thomas Jefferson Planning District Commission and Firefly,

¹ ABBA Work Session October 12, 2021



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hopes to announce a Virginia Telecommunication Initiative award that will achieve universal access within the County three years after work commences.²

Until universal access is achieved, though, most rural residents may have just one broadband provider: CenturyLink.

After the break-up of the Bell companies in the mid-90s, the copper-plant telephony lines that were strung to every house across the nation were bought and sold by various telecommunications companies, including those that cover Albemarle County. These assets were referred to as incumbent local exchange carriers (ILECs), owing to the regulated monopoly nature of the Bell companies.

This period coincided with the increased commercial interest in broadband internet services that provided speeds much faster than dial-up modems. While cable providers became the default choice where such service was available, in other areas digital subscriber line (DSL) service was a viable option, providing speeds slower than cable, but still much faster than dial-up.

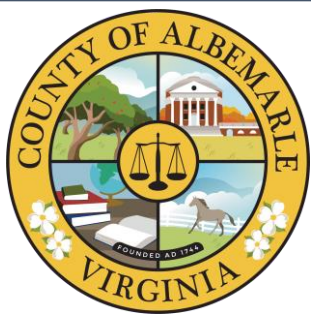
This technology relies on equipment placed near homes to distribute broadband service over a copper line to a modem in the residence. The integrity of the copper infrastructure plays an important role in the quality of DSL service. That infrastructure includes wiring, switches, splices, and central office multiplexer equipment.

This equipment must be properly shielded from the elements and well-maintained. Even when telephony remains possible, the higher frequencies used by DSL service can be impacted by degradation in the network, which is caused by exposure to the elements and age. Degradation or damage within the network can cause reliability issues or outages that can be costly to repair.

Service issues: Since May of this year, BAAO has received at least 186 complaints from at least 44 households reporting broadband and telephony outages by CenturyLink subscribers. Another 15 households reported reliability issues with their broadband and telephony service. In addition to these specific complaints, CenturyLink has been involved in numerous broader outages related to weather or human error.³

² TJPDC – Firefly VATI 2022 Application, <https://www.dhcd.virginia.gov/sites/default/files/Docx/vati/FY2022-vati-applications/1-tjpdcfirefly-rise-2021-vati.pdf>

³ Wrabel, Allison, “Some in Scottsville area still without internet, phone service nearly two months after storm,” The Daily Progress, September 18, 2021, https://dailyprogress.com/news/local/some-in-scottsville-area-still-without-internet-phone-service-nearly-two-months-after-storm/article_051e713c-18b5-11ec-8e97-c3bce567dc85.html



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During one prolonged storm-related outage in July of this year the affected area was so broad that Albemarle County Fire-Rescue personnel were stationed at fire stations within the affected area to handle walk-in emergency activations. The Emergency Communications Center is currently working to develop an after-action report and preparing contingency plans for future outages.⁴

This pattern of outages suggests that CenturyLink's copper infrastructure has degraded to the point that reliability quite possibly will be a persistent concern and requires significant investment to remedy.

When outages and service reliability issues impacting telephony coincide with poor to non-existent cellular phone coverage, they pose a public health risk for residents. The County's topography presents significant challenges to cellular coverage, especially in the rural area where towers are less dense and are obstructed by topography and woods. CenturyLink subscribers in this area who lack a reliable telephone line may lack access to 911 services, particularly during severe weather events.

The lack of 911 access for any resident is a pressing concern for this Office and for the County.

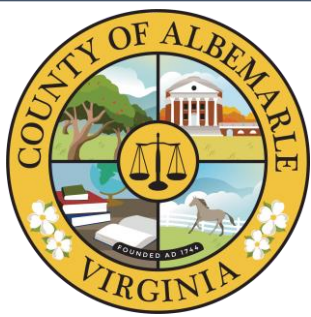
It should also be noted, CenturyLink's parent company, Lumen, has experienced outages in its governmental fiber services and telephony products, of which the County is a customer. In one recent week, those outages resulted in over 15 hours of service interruption in as many as 17 school facilities.

Local CenturyLink representatives have been forthright about challenges that delay resolution of an outage and typically respond to escalations with an earnest effort to resolve outages. However, statements included in an FCC application for the sale of ILEC assets to an investment holding company suggest that CenturyLink will not make such investments.⁵

"These investments would not occur—at least not to the same extent—without the transaction. Lumen's CEO recently acknowledged that '[i]f you look at the markets that we're transferring to 11 Apollo, these are markets that Lumen would not have invested as heavily in.'¹⁶ By contrast, 'Apollo will put the investment into these markets that we believe they can sustain.'" – Connect Holdings in FCC Application for Lumen Transfer of Assets, Page 10

⁴ Meeting with Sonny Saxton, Executive Director - Emergency Communications Center, October 12, 2021

⁵ FCC Application, ID 10901068868912, Proceeding WC 21-350, Page 10.



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CenturyLink's commitment to providing service in this area may also be impacting its fiber-optic service delivery. In addition to the outage complaints, 58 households have reported difficulties associated with new fiber-optic service installations. Subcontractors working on fiber-optic deployment indirectly caused a fiber outage when they left a fiber cable laying across a resident's lawn. Other reports claim fiber optic cable has been hidden in embankments or under bridges rather than properly trenched.

Transfer of Assets: On August 3rd, 2021, Lumen Technologies, CenturyLink's parent company, announced on its website⁶ that it would be selling its incumbent local exchange carrier (ILEC) assets in twenty states, including its assets in Virginia. In September and October of this year, Lumen submitted petitions to the Federal Communications Commission (FCC) and the Virginia State Corporation Commission (SCC) for approval for the transfer of these assets.

The expected purchaser of these assets is a newly created entity, Connect Holdings, owned by Apollo Global Management (AGM), a publicly traded investment corporation.

Per a conversation with Derek Kelly, Lumen's former Government Affairs Director, the sale will entail all of CenturyLink's residential fiber customers in addition to DSL customers.⁷

Regulatory approval for the transfer of assets involves the Federal Communications Commission (FCC) and the Virginia State Corporation Commission (SCC). The FCC approval requires the demonstration of public benefit for the sale. In order to meet that standard, the applicant must establish a baseline condition. To do so, the applicants state that "broadband investment is not a focus of [Lumen]."⁸ The application suggests that the sale of these assets to Connect Holdings is the only hope for further broadband investment for customers of the acquired assets.

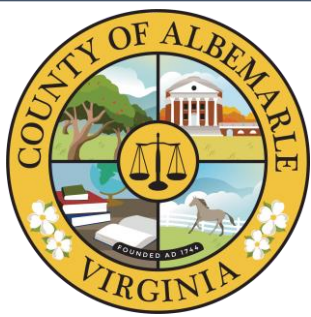
County goals: This office's primary goal is to ensure that adequate service is accessible and affordable to the County's residents. When the service that's accessible to a resident is unreliable then it should be considered inadequate.

Resolving individual resident service issues should be considered the minimum threshold for a service provider. After several months of monitoring extensive service issues, it is likely that a systemic improvement is necessary to ensure

⁶ <https://news.lumen.com/2021-08-03-Lumen-to-sell-local-incumbent-carrier-operations-in-20-states-to-Apollo-Funds-for-7-5-billion>

⁷ Weekly check-in with BAAO and Lumen, November 1, 2021

⁸ FCC Application, Page 9



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sufficient service delivery to residents, especially those reliant on ILEC assets for access to public safety.

Options: Our office is considering approaches to convince Lumen to prepare a plan for resolving all outstanding CenturyLink service issues and sufficiently investing in its infrastructure to mitigate against similar such lapses in reliability.

Among the options for the County's consideration are:

- Continue to monitor, track, and escalate service issues as they arrive and cooperate with Lumen to improve service delivery and reliability
- File an informal complaint with the FCC or SCC
- Pursue mediation services to reach a suitable outcome for residents.

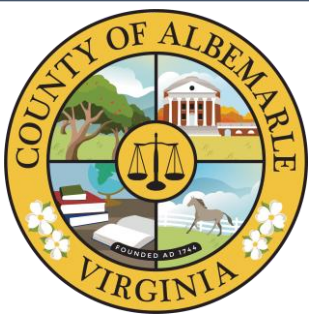
Given the public safety issues involved in these outages and reliability concerns, seeking SCC involvement should be considered.

One action already undertaken was to prepare a public facing website for this office to inform the public of the activity of the office, and to provide resources for residents experiencing service issues, including links to the FCC and SCC complaint pages.

Conclusions: Access to emergency services is an absolute necessity for each of our residents, no matter where they live. Where that access is dependent on copper telephone lines, this office finds it is essential for that service to be reliable. Given the opportunity to discuss reliability services with representatives for CenturyLink, the Board of Supervisors should consider the following questions:

- What are Lumen's standards for service delivery, outage resolution, and time to respond? How often has Lumen failed to reach those standards in this area?
- What measures will Lumen undertake to improve service delivery to ILEC customers?
- Given the pending transfer of assets, what promises can be expected from Connect Holdings regarding improvement of service delivery?
- What investments does Lumen expect to perform prior to the sale of these assets?

Additionally, the office would ask the Supervisors to consider how often they field complaints from residents about telecommunications issues, both in the Development and Rural areas. Sharing that information would give this office insight into the extent of problems impacting residents outside of the avenues for receiving complaints we have already developed.



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Lastly, we acknowledge that our data is limited to the complaints this office has received. Among our goals is the willingness to be a point of contact for all residents whenever telecommunications service delivery is inadequate. If residents do not contact our office, we have little to no insight regarding their experience with telecommunications service delivery. This office will continue to pursue avenues for assessing and monitoring service issues throughout the County, and build on its positive working relationships with all service providers to ensure that all service providers are aware of the County's expectations for adequacy and able to address them.