

Electric Utilities and Rural Broadband Deployment

A Case Study

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An **AEP** Company

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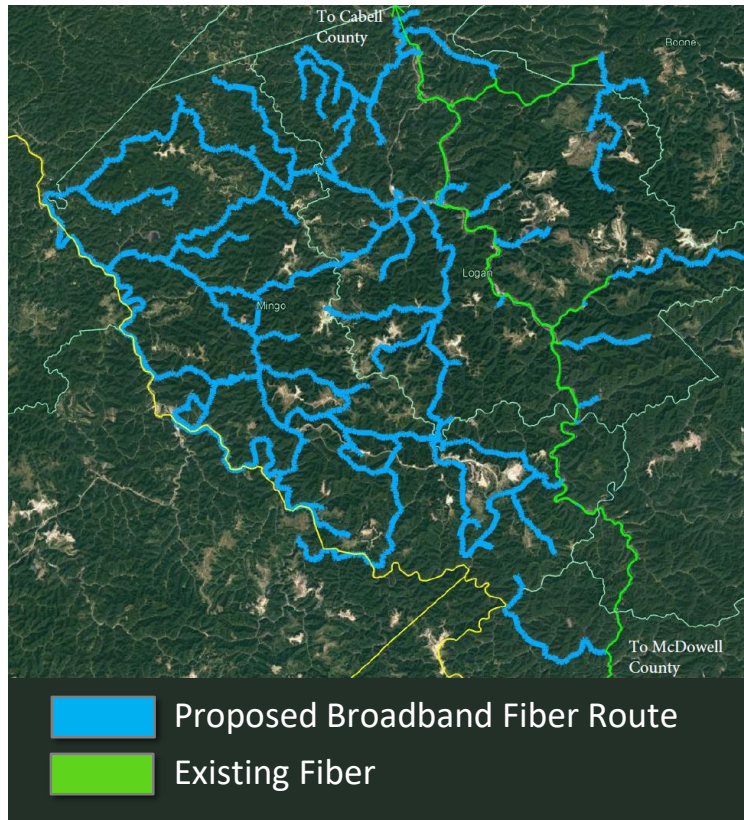
Appalachian Power

a wholly-owned subsidiary of American Electric Power



Customers	1 million
Generation	8,700 MW
Employees	3,000
Revenue	\$3 billion
Net Income	\$311 million

Rural Broadband Work in West Virginia



Logan-Mingo County Pilot Project

- **March 2019: Senate Bill 3** passed allowing electric utilities to submit broadband feasibility studies
- **Oct. 2019:** feasibility study filed with W.Va. Broadband Enhancement Council; approved Dec. 2019
- **June 2020: House Bill 4619** enables electric utilities to develop broadband infrastructure as regulated by the W.Va. PSC
- Approximately 20,000 electric meters in Logan, 15,000 in Mingo, both with significant areas below 25/3
- **Project includes up to 400+ fiber miles, potential \$50+ million capital investment; utilizes up to 200 miles of existing fiber**
- **ISP selected in September 2020, GigaBeam Networks**
- **Scheduled to file case with PSC by end of 2020**

Solving the puzzle is complex and different in each state



- **West Virginia got approval and feasibility study in two pieces of legislation**
 - VA needed 3 bills over 2 legislative sessions before work on VA pilot could begin
- **in WV, the ISP needed to be selected through an RFP as part of the project**
 - Grayson County VA performed its own RFP for a last-mile ISP prior to the pilot start
- **Competing interests can hobble legislation** – cable/telecom interests sought to restrict focus of legislation to unserved residents and businesses
 - **Unserved customer speed definition**
 - **Highlights need to define our purpose and intentions** to build middle-mile, not be a service provider
- **Dual purpose (Grid Modernization and Broadband)** makes project more attractive
- **Work with supportive local, state and federal officials**
 - West Virginia project advisory committee includes W.Va. Broadband Enhancement Council, as well as county, regional and W.Va. PSC representatives

Electric utilities are uniquely positioned to deploy middle mile fiber



- **Fiber can provide benefits specific to electric service reliability**
 - Advanced Metering Infrastructure (AMI)
 - Smart circuits
- **Electric infrastructure penetration in rural areas is unparalleled**
 - Existing right of ways and electric distribution infrastructure
 - 1930's rural electrification program precedent
- **Fiber infrastructure is a core competency of electric utilities**
 - AEP owns and operates more than 21,000 miles of its own fiber optic infrastructure
 - Fiber miles expanding each year to support grid modernization efforts
- **Electric utilities can deploy fiber in the supply space; eliminate duplicate infrastructure**
 - A straightforward installation with no interferences from other pole attachments
 - Dual use of fiber with electric utility customers means fiber needs to be available for use

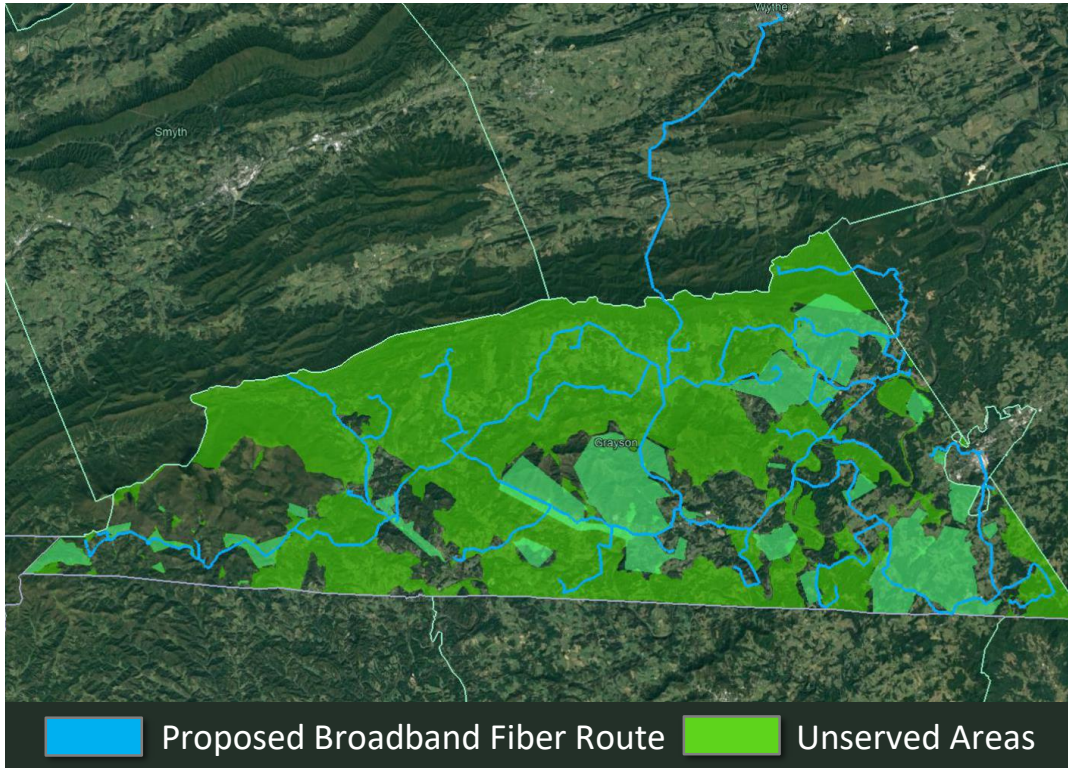
To meet the moment, we need to be able to move faster



The global pandemic highlights the critical nature of solving the rural broadband access issue. In Virginia we began work on enabling legislation in 2018. Solutions for moving faster include:

- **Federal legislation** that:
 - Recognizes electric utilities can help speed broadband expansion in underserved areas
 - Guards against the buildout of redundant systems that will drive up costs to consumers
 - Provides grant opportunities specific to the middle mile
 - Includes federal assistance to utility expansion of broadband commensurate to the telecommunications companies
- **Straightforward regulatory processes** for broadband projects
 - Program based rather than project based
 - Define broadband costs
 - Identifying unserved customers involves significant time and effort
- **Improved accuracy of FCC maps** to truly identify those who are unserved

Rural Broadband Work in Virginia



Grayson County Pilot Project

- **Potential \$17+ million capital investment**
- **More than 200 miles of middle mile fiber**
Last mile to use both fiber-to-home, fixed wireless
- Grayson County has around 11,000 electric meters
- Approximately 5,000 are considered unserved
- **Up to 60% of schools, public safety, commercial and retail businesses are considered unserved by broadband**
- **Scheduled to begin construction December 2020, and complete project 12-18 months later**

Rural Broadband Work in Virginia



March 2018	Virginia Grid Transformation and Security Act of 2018 directs Investor-Owned Utilities (IOUs) to conduct feasibility study on ability to participate in a rural broadband solution
Dec. 2018	Feasibility study submitted to Virginia Legislature
May 2019	Gov. Northam signed House Bill 2691 allowing company to seek Virginia State Corporation Commission (SCC) approval for a pilot project
Sept. 2019	Filed with Virginia SCC for approval of Grayson County pilot project
March 2020	Virginia SCC approved Grayson pilot project providing a way for the company to move forward
July 2020	Virginia House Bill 1280 allows investor-owned utilities to lease dark fiber

Questions and Discussion

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