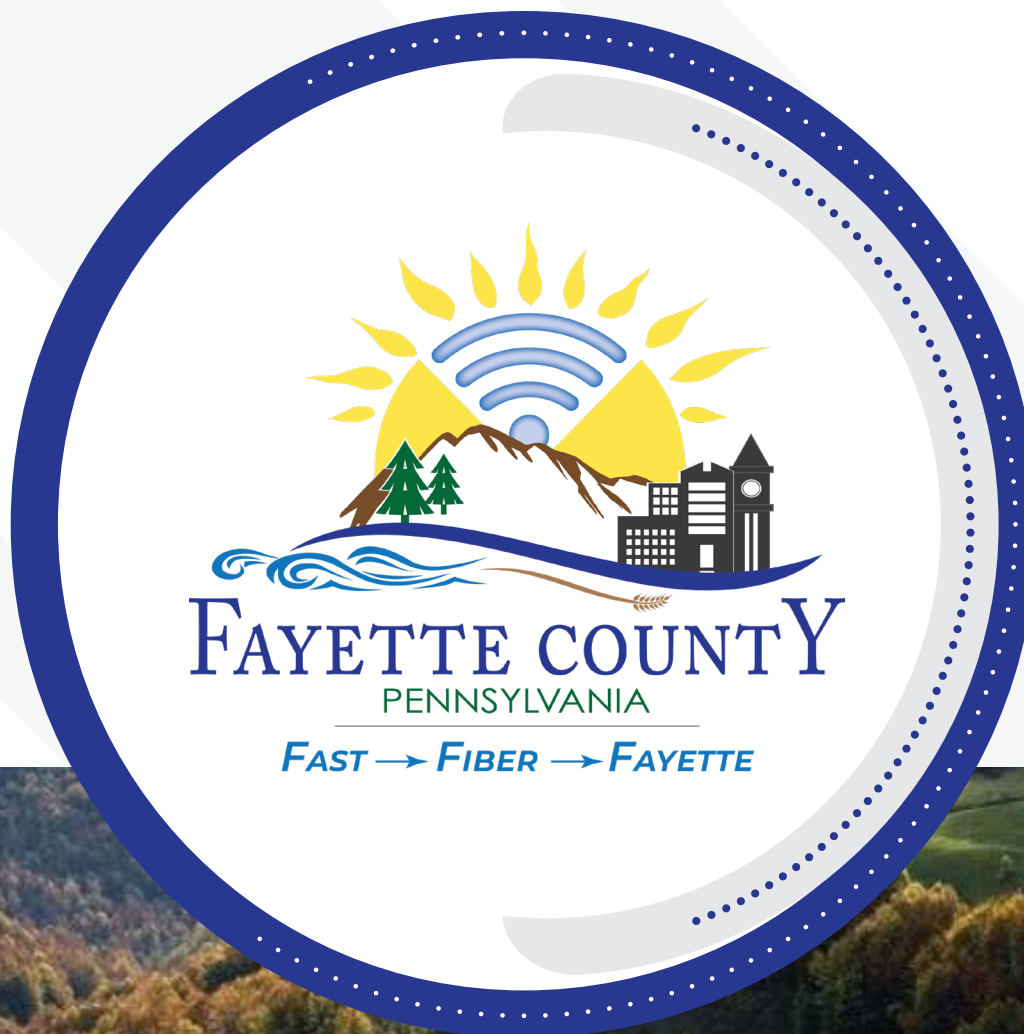


PREPARED BY:

**Michael Baker**  
INTERNATIONAL



Final: April 21, 2023

Connect Fayette

# ANALYZING BROADBAND INFRASTRUCTURE

Fast → Fiber → Fayette



# A Message from the COMMISSIONERS

Broadband is essential to allow Fayette County to compete economically while connecting people, industries, customers, and families and plays a vital role in the County's productivity. The COVID-19 pandemic revealed many digital disparities and highlighted that broadband is not a luxury but a necessity for communities to thrive and flourish. This particularly applies to Fayette residents who need help obtaining affordable and reliable internet access. The Connect Fayette: Analyzing Broadband Infrastructure Study is critical to developing a roadmap for future broadband infrastructure improvements, partnerships, and funding opportunities. Expanding broadband will make our communities more resilient and sustainable.

## Acknowledgments

Thank you to the Members of the Department of Community and Economic Development and Fayette County Redevelopment Authority, who lent their time and expertise to guide this process on behalf of Fayette County.

We are dedicated to ensuring access to reliable broadband is available to the citizens living and working in Fayette County. We are advancing our community to live better through employment, education, telehealth, tourism, agriculture, and more. Improving connectivity will put us at a great advantage as we work to recruit businesses and new residents. Broadband is the infrastructure that will connect Fayette County to the rest of the world now and in the future.

"My goal is to move forward with all due haste to secure the funding necessary to bring Fayette County fully into the 21st century with widespread, reliable broadband." – **Commissioner Dave Lohr, Chair**.

"I hope this report will lead us with a blueprint to connect every citizen who wants broadband and has no broadband service or is underserved broadband." – **Commissioner Vincent A. Vicites, Vice-Chair**.

"I hope the feasibility study provides a game plan to move forward with planning, installing, and funding the future of Fayette County." – **Commissioner Scott Dunn, Second Vice-Chair**.

This feasibility study advances strategies and actions of the Fayette County Comprehensive Strategy Plan by establishing our community as a leader in broadband infrastructure and access for all. Your participation in the study and survey identified 2,374 addresses with poor or no broadband connectivity. Knowing that this is just a sample of the entire County, we realize this number will be higher in comparison to the 1,201 addresses identified from the FCC Data. This effort will help continue strategically planning how to bring affordable and reliable high-speed broadband access to residents and business owners, especially those unserved or underserved.

We appreciate your continued support in pursuing broadband resources necessary to close the digital gaps in Fayette County.

## Fayette County Commissioners

**Dave Lohr, Chair**

**Vincent A. Vicites, Vice-Chair**

**Scott Dunn, Second Vice-Chair**

## Key Terms

### Broadband

Broadband is defined by minimum speeds of 25 Mbps for download speed and 3 Mbps for upload speed. High-speed internet access is faster than traditional dial-up access.



### Fixed vs. Wireless Broadband

Fixed broadband transmits data through physical wires and cables. Some fixed broadband technologies include fiber optics, cable modems, and satellites. Wireless broadband connects devices to the internet via a short-range wireless connection, like mobile 5G.



### Mbps

Megabits per second are units of measurement that generally refer to upload and download speeds to measure the file size of data transferred per second over a channel and are used to show the speed of network or internet connection.



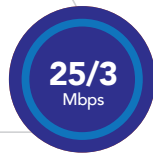
### FCC (Federal Communications Commission)

An independent U.S. government agency overseen by Congress; the commission is the United States' primary authority for communications law, regulation and technological innovation and regulates interstate and international communications by radio, television, wire, satellite, and cable in all 50 states, the District of Columbia, and U.S. territories.



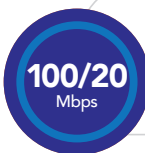
### Unserved

Does not have access to internet service with at least 25/3 (25 Mbps download/3 Mbps upload) speed.



### Underserved

Internet access is available but does not meet a minimum 100/20\* (100 Mbps download/20 Mbps upload) speed threshold.



### Digital Equity

A condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy (as defined by the National Digital Inclusion Alliance).



### Connectivity Opportunity Areas

Locations that are top priorities for new service due to little or no access to mobile and fixed broadband service that meets the 25/3 speed threshold.



\* This standard is subject to change



# Contents

## 5 Executive Summary

Fayette County Overview  
SPC Regional Connectivity Roadmap: A Focus on Fayette  
Public Engagement Report and Key Findings  
Connectivity Opportunity Areas Identified Across the County (New Service Areas)

## 11 The Current State of Broadband In Fayette County

Countywide Mapping: Identification of Unserved and Underserved Areas  
Internet Service Provider (ISP) and Municipal Interviews Overview  
Rural and Urban Broadband Barriers  
Countywide Survey: Overview  
    Survey Results  
    Map of Survey Speed Results

## 17 Understanding the Fayette County Demographics

Understanding The Fayette County Demographics  
    Households with Children  
    Households with Seniors  
    Households with Disabilities  
    Why Are People Unconnected?

## 19 New Access Opportunity Area in Fayette County

Connectivity Opportunity Area Data  
Challenge Process Explained

## 22 Implementation Steps for Fayette County

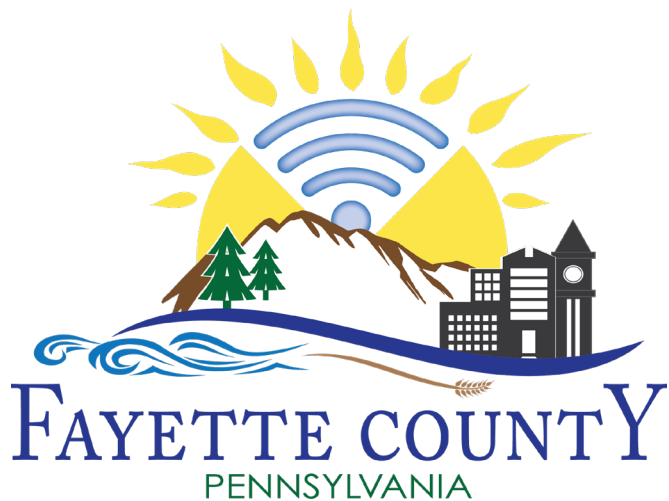
Funding Strategy  
Regulatory Review  
Early Action Areas – Jefferson Township and Franklin Township

## 27 Next Steps

Road Maps for the Pathway Forward

Fayette County Broadband Infrastructure Analysis

# EXECUTIVE SUMMARY



## Fayette County Overview

Fayette County understands that broadband access is now a requirement to participate in modern society. This fact was emphasized by the COVID-19 pandemic, which exposed the challenges of poor access for unserved and underserved residents of Fayette County. Since then, the federal government has made historic investments in broadband under the Infrastructure Investment and Jobs Act (IIJA) to enhance access primarily in areas that have been unconnected for some time. The IIJA represents a critical opportunity for areas like Fayette County — first to understand the state of broadband in their communities, and then to design actionable and fundable strategies to bridge local digital divides.

Fayette County presents its Connect Fayette: Analyzing Broadband Infrastructure Study findings, including new service locations and recommended next steps. Fayette County's Economic Development Department, Redevelopment Authority of The County of Fayette, and stakeholder input guide this report. This includes interviews with municipalities and service providers, identifying unserved and underserved areas via existing mapping, survey

results, and resident survey responses. It also includes guidance on funding mechanisms and applicable grant programs for which the County can apply. Furthermore, the Connect Fayette: Analyzing Broadband Infrastructure Study contains at least \$11,200 in implementation cost to provide service at 100/20 Mbps download/upload with cost-per-home based on the data findings and by comparing cost estimates from other counties' broadband programs.

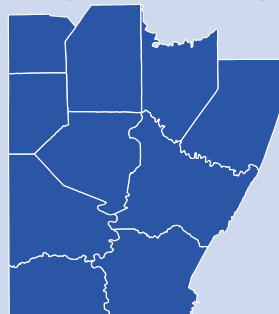
This Connect Fayette: Analyzing Broadband Infrastructure Study builds off several vital data collection and planning efforts to develop informed action steps for bridging the County's digital divide. Fayette County's Comprehensive Strategy Plan, completed in 2019, recognized the importance of expanding broadband and cellular infrastructure capacity. At the time of that study, an **"estimated 6,000 people in Fayette County (did) not have access to any wired internet and approximately 14,000 people (about 10% of the population) (did) not have broadband access."** While this study was foundational, the COVID-19 pandemic changed

the landscape significantly. In response to this health crisis, the federal government launched the American Rescue Plan Act (ARPA), which sent State and Local Fiscal Recovery Funds (SLFRF) to counties nationwide.

This countywide study builds upon the Southwestern Pennsylvania Commission's (SPC) regional planning efforts and aims to advance a strategic focus on developing connectivity solutions specifically applicable within Fayette County. The SPC conducted a regional connectivity study for the ten counties that comprise the southwestern Pennsylvania region, including Fayette County. This Connectivity Roadmap charted the most updated path toward bridging the digital divide because it includes the critical context of the COVID-19 pandemic and the newly created IIJA funding sources. Alignment with existing plans validates the idea that integrating broadband will enhance the County's ability to meet other crucial economic development objectives.



### SPC BY THE NUMBERS



### The **UNDERSERVED AND UNSERVED** areas identified in the Speed Map include:



**36,000**  
households  
(3%)



**15,000**  
businesses  
(4.7%)

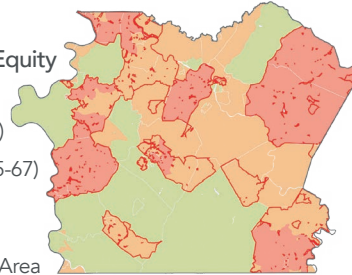
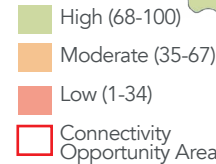


over **500**  
community  
anchor  
institutions  
(4.6%)

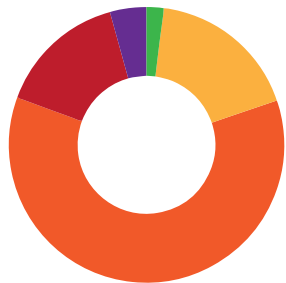
# SPC Regional Connectivity Roadmap: A Focus on Fayette

Population  
128,126

SPC Adoption Equity  
Index Score

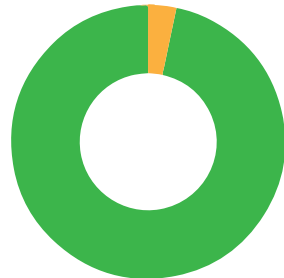


Fixed Broadband Providers  
by Population



4 or More Providers 2.02%  
3 Providers 17.75%  
2 Providers 60.80%  
Only 1 Provider 15.15%  
No Providers 4.28%

Mobile Broadband Access  
by Population



5G Service Available 96.68%  
LTE but no 5G Service 3.32%  
No LTE or 5G Service 0%

**ONLY 10%**  
of respondents  
**SELECTED FIBER OPTIC**  
as a connection type for their  
household

Cable is the  
**MOST COMMON**  
internet connection (54%)

**\$3,793,599**  
awarded in  
FCC RDOF Funds



**77%** are satisfied with their data plan

**59%** are satisfied with privacy/security

**57%** are satisfied with bundled services,  
tied with connection speeds

Top aspects they're **UNHAPPY** with are:



**46%**

Cost of Service



**29%**

Level of Customer Service



**29%**

Connection Speed

Fayette County participated in a joint broadband study with Southern Alleghenies Planning and Development Commission that was completed in the summer of 2020. The study included meetings with stakeholders, interviews and meetings with businesses, local officials, and residents to determine unserved and underserved areas of the County. Fayette County also participated in the 2022 SPC Connectivity Roadmap, and key findings from that report are highlighted on this page.

## KEY HIGHLIGHTS

- Fayette County completed and published a Broadband Study and Recommendations Report in the summer of 2020 focusing on WISP deployment.
- Fayette County completed a fiber project in December 2020 using CARES Act funding. The \$4.7 million project laid fiber in Wharton and Henry Clay Townships and Markleysburg Borough. QCOL is the ISP who installed the fiber.
- Due to COVID-19, the County's involvement and participation was limited during the Southern Alleghenies broadband study. The County is now planning to launch their own feasibility study in coordination with the Department of Community and Economic Development (DCED).
- The County wants cell towers in proper locations to provide additional potential for fixed wireless to be installed.

In conversation at German-Masontown  
Public Library:

Thomas is a dairy farmer. Atlantic Broadband's infrastructure terminated at the end of his road until this year when it finally came to Thomas' house. He had Verizon before, but it was very slow and, if it rained, it went out. He uses the internet to work from home, and his daughter uses it for schoolwork and to search for recipes online.

## KEY THEMES

Remote Work  
Affordability & Inequity  
Remote Learning -  
Wider Access  
Poor Service

# Public Engagement Report and Key Findings

## RESIDENT QUOTES

"We rely entirely on our mobile phone for an internet connection, as this is the ONLY way we are able to connect at all. Our connection has grown more unreliable. I have lost job opportunities due to poor speed and unreliable connection."

– **Redstone Township resident**

"Would like to see more affordable internet and cable options in my area, and also more reliable. Working from home daily, it is very frustrating when I lose my internet service."

– **Perry Township resident**

"Everything today requires an internet connection. Health questionnaires, inquiries, communications, school, etc., depend on an internet connection. It is frustrating when I need to connect and don't have adequate internet signal strength"

– **Nicholson Township resident**

"If we don't get broadband soon as young professionals, we will have to move out of Fayette County. We would not have purchased our home knowing that satellite internet was our only option. I have to use my phone hotspot in order to work from home."

– **North Union Township resident**

"Not having the infrastructure in place for all people to have internet in 2022 is debilitating for our future. It affects my employment opportunities and my children's education."

– **Franklin Township resident**

## PUBLIC OUTREACH & PROMOTIONS

Resident participation was imperative to better and more thoroughly understanding the state of internet connectivity in Fayette County. The Connect Fayette PA project was launched with the tagline, **Fast. Fiber. Fayette.** to help create brand recognition and trust for residents. The website [www.connectfayettepa.com](http://www.connectfayettepa.com) was launched as a landing page for the internet Survey and Speed Test. The website also provided visitors with details on their survey participation, a Frequently Asked Questions (FAQ) section, and a word from the Commissioners, as well as information on the importance of reliable, affordable broadband internet in a modern community. The survey and website went live on November 15, 2022, and remained open for resident submissions until January 15, 2023. Printable PDFs of the survey were made available for download on the website. The county ensured that printed surveys were distributed to several community anchor institutions. Municipalities and schools distributed surveys throughout the community as well. Both options were considerate of residents with little to no internet access who may be unable to participate in an online survey.

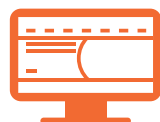
## ENGAGING STAKEHOLDERS

The Connect Fayette PA website was promoted through traditional media outreach, social media and digital marketing, e-blasts, and word of mouth. The County's Public Relations Initiative team created two digital commercials promoting the survey and operated a giveaway of county-branded items to encourage resident participation.

## ENGAGEMENT BY THE NUMBERS



**7**  
News Articles



**3,286**  
Website Views



**3** County  
Email Blasts



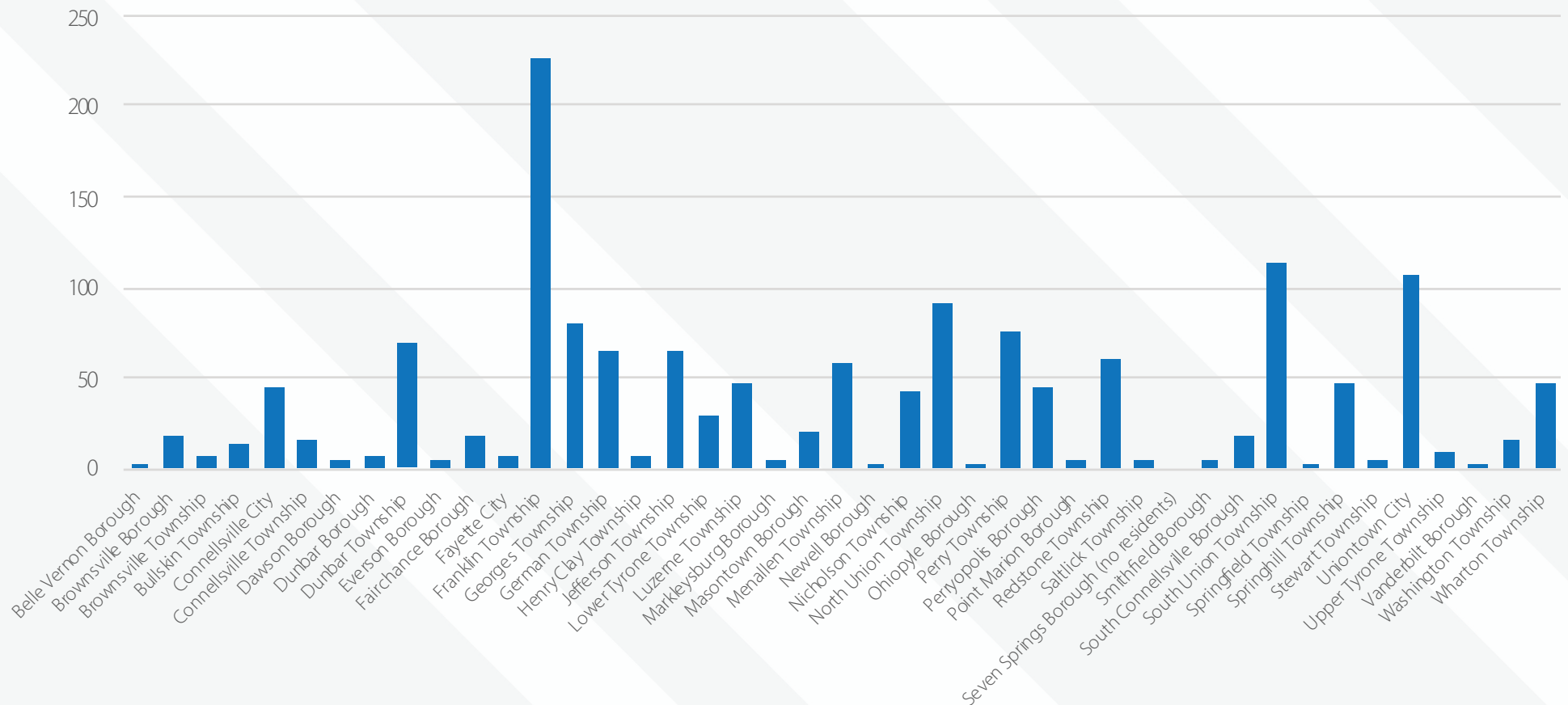
**1,467**  
Stakeholders  
Recorded



**1,506**  
Survey Responses

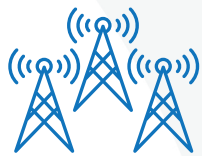


## TOTAL SURVEYS RECEIVED



## KEY FINDINGS

## Results from ISPs and Municipal Interviews and Surveys



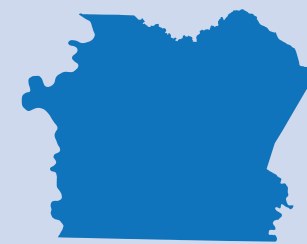
Lack of  
Infrastructure



Reliability



Affordability



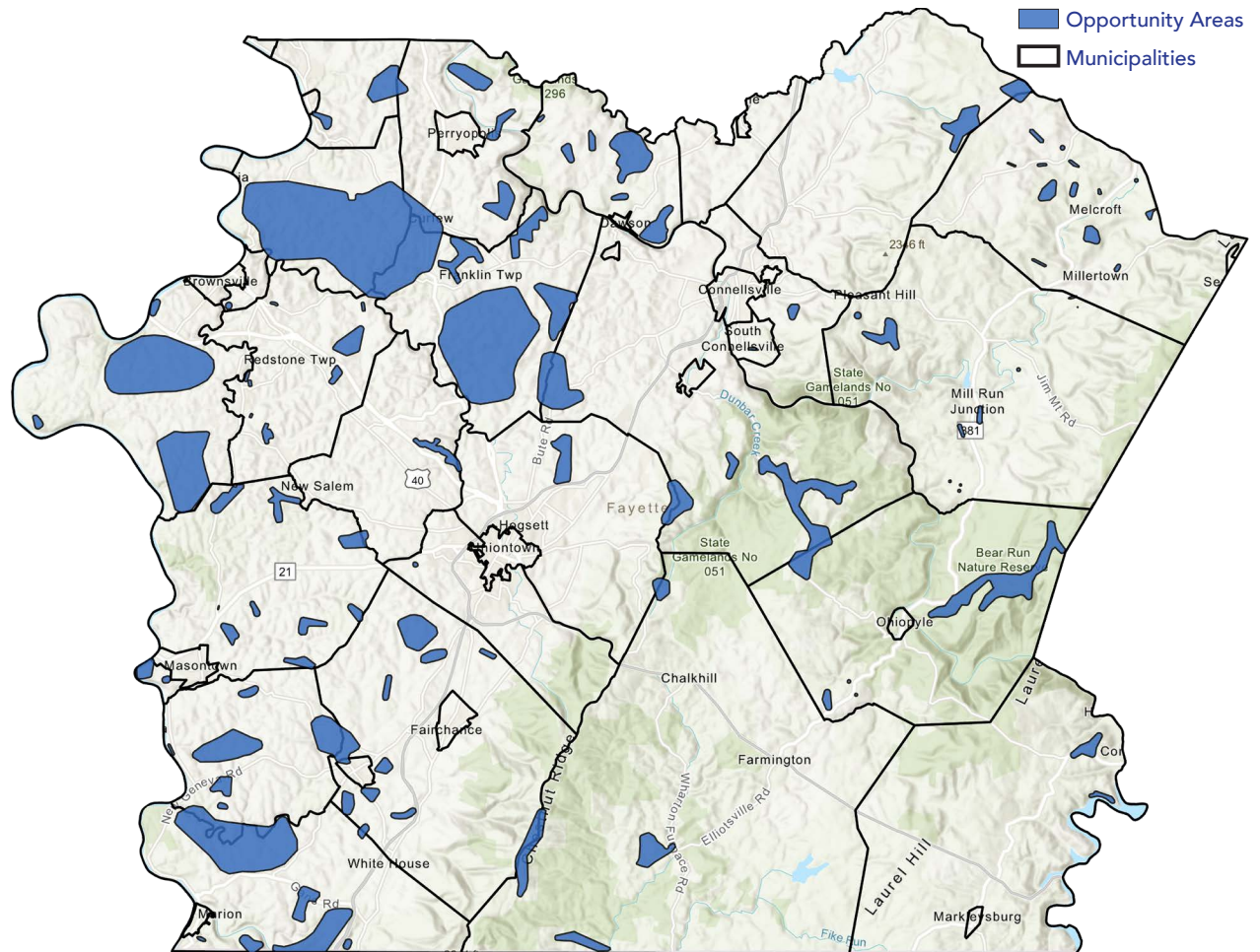
**105** COAs  
Identified

## Connectivity Opportunity Areas Identified Across the County (New Service Areas)

Fayette County is taking definitive action to ensure all residents have the option to connect to high-speed, affordable internet. These efforts reflect a national reckoning to bridge the digital divide by ensuring that urban and rural communities are adequately and appropriately connected. Further, the County's plan includes considerations around affordability and access for those with varied socioeconomic backgrounds. Fayette County will continue to be engaged with the Pennsylvania Broadband Development Authority (PBDA) as the state works toward a shared broadband goal. With new funding available, the study results will potentially shape the future of infrastructure expansion so all individuals can access and effectively use technology to participate in modern society.

The creation of COAs culminated in all the data outputs mentioned in this section. COA addresses were identified using Geographic Information Systems (GIS) desktop analysis, the County's Next Generation 911 database, household and business locations (overlaid on unserved broadband areas from FCC data and refined by the Availability Atlas data), and survey results. With these results, Fayette County can make informed decisions to expand broadband based on known gap locations that are genuinely unserved.

As of February 2023, our analysis identified **2,374** total addresses within all the Connectivity Opportunity Areas are unserved/underserved, meaning they have poor or no broadband connectivity. In comparison, the FCC data identified only **1,201** unserved/underserved



***There are 105 Opportunity Areas in this map.***

addresses within the COA locations. However, after conducting interviews with municipalities and ISPs, reviewing survey results, and assessing infrastructure data shared by ISPs in Fayette County, this feasibility study identified areas where the FCC maps were overstating access. More addresses were actually unserved or underserved. A dynamic version of this map will be available on <https://connectfayettepa.com/> with user instructions

so that residents can explore the map, zoom into the COAs, and understand which addresses are affected. The website will illustrate project build-out progress, with updates indicating which areas are completed and by which ISP and which areas are still underway. The public can also leave comments via the website if they believe a location is missing or not included in the unserved inventory.

Fayette County Broadband Infrastructure Analysis

# **THE CURRENT STATE OF BROADBAND IN FAYETTE COUNTY**



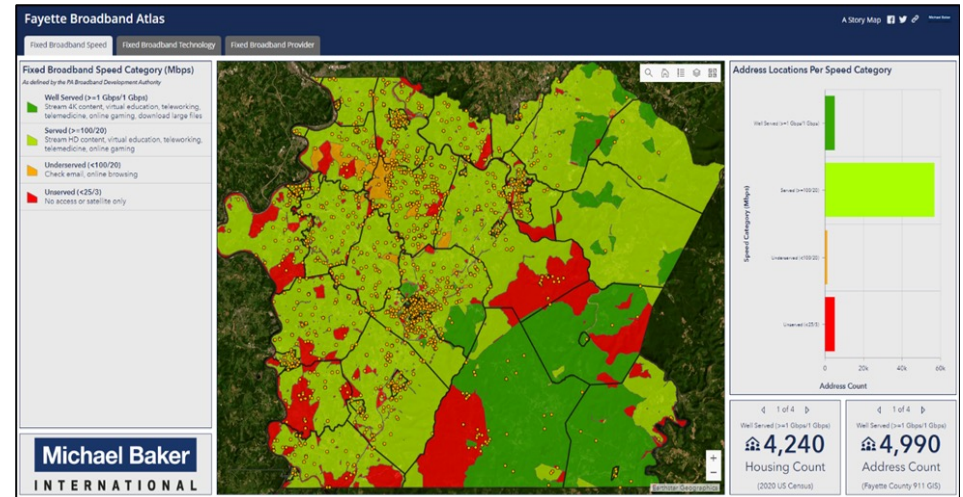
## Countywide Mapping: Identification of Unserved and Underserved Areas

The County utilized recent SPC data to develop a living broadband atlas called the Fayette County Broadband Availability Atlas.

This resource is an interactive map visualizing existing broadband activity within Fayette County. The Broadband Availability Atlas contains three tabbed dashboards that allow for quick analysis of providers' footprints, the fastest available speed in an area, and the technology (i.e., fiber, cable, and DSL) available. Mapping the current availability displays broadband thresholds of well-served, served, underserved, and unserved areas, the number of existing broadband providers in an area, and what technologies are currently available. This dashboard expands to include additional data layers, such as vertical assets like towers and other broadband data sourced directly from ISP interviews, giving the County a clearer view of the actual state of connectivity.

These efforts have and will set the stage for Fayette County to challenge the FCC's new National Broadband Map, released on November 18, 2022. This new National Broadband Map is intended to give a more accurate view of broadband coverage per address instead of by census block. However, gathering this data is a significant effort. States and counties can collect data to challenge the map and improve its accuracy. As cited above, challenging the map may benefit the County and increase its access to future funding in two ways: showcasing that there are more unserved locations in the County than FCC data may indicate and showing that the mobile wireless coverage is overstated. This provides the Commonwealth and Fayette County additional funding opportunities related to the IIJA BEAD program implementation and forthcoming 5G for Rural America implementation.

The Broadband Availability Atlas accounts for existing conditions to inform and future-proof decision-making. It utilizes external geospatial datasets, such as RDOF areas, to understand which rural areas are already projected to undergo broadband enhancements using other federal funds. RDOF is a separate program in which the FCC auctioned off unserved rural regions of America to ISPs. Three ISPs won RDOF Areas in Fayette County: Armstrong, QCOL, and Windstream. The County is interested in connecting with those ISPs that won RDOF areas in Fayette County and seeing where future expansion plans might align. Aligning and coordinating expansion plans will help avoid overbuilding and duplicative use of funds and may lead to resource sharing where possible.



*The Broadband Availability Atlas is an interactive online dashboard that identifies areas with varying broadband service and speed levels.*

### THE BROADBAND AVAILABILITY ATLAS INCLUDES THE FOLLOWING DATA:

- Broadband datasets: Most recent FCC Form 477 census block data broken down by speed, provider, technology, and provider density. A custom FCC Form 477 processing tool removed satellite providers from the dataset and correctly translated domain values to easily understandable definitions. It also includes FCC RDOF-awarded areas and previously designated Federal Opportunity Zones.
- Additional asset inventory cultivated from three sources:
  1. Data sharing agreements via non-disclosure agreements (NDAs) with ISPs and middle-mile providers
  2. Open-source vertical assets available via download from the FCC, and
  3. County-owned datasets
- Opportunity areas for adoption and broadband access via the previous SPC study





## Internet Service Provider (ISP) and Municipal Interviews Overview

To ensure this study is impactful, the County not only decided to conduct a survey but also conducted interviews with ISPs and Municipal leaders to develop a deeper insight into the County's broadband needs. The County conducted detailed interviews with nine ISPs and 14 of the County's municipalities. During these interviews, qualitative and quantitative data were collected to inform this planning effort.

The nine ISP interviews were conducted between October and November 2022. The ISPs interviewed were Armstrong, Breezeline, Comcast, Crown Castle, DQE Communications, Laurel Highlands Telephone Company, QCOL/VITALink, T-Mobile, and Verizon. Each entity described its company background and what services, speeds, and price points they offer. They were asked if they had identified areas

within Fayette County needing more broadband connectivity, and they shared their perceptions of unmet customer needs. Finally, they were allowed to share their future expansion plans and any concerns or constraints related to new funding requirements. A table presenting each ISP's standard plan pricing, advertised speeds, and technical mode of transmission is included in this report as Appendix D. This table also indicates if the ISP participates in federal affordability programs, such as ACP, or if they have an income-based plan to understand each ISP's commitment to price equity in the County.

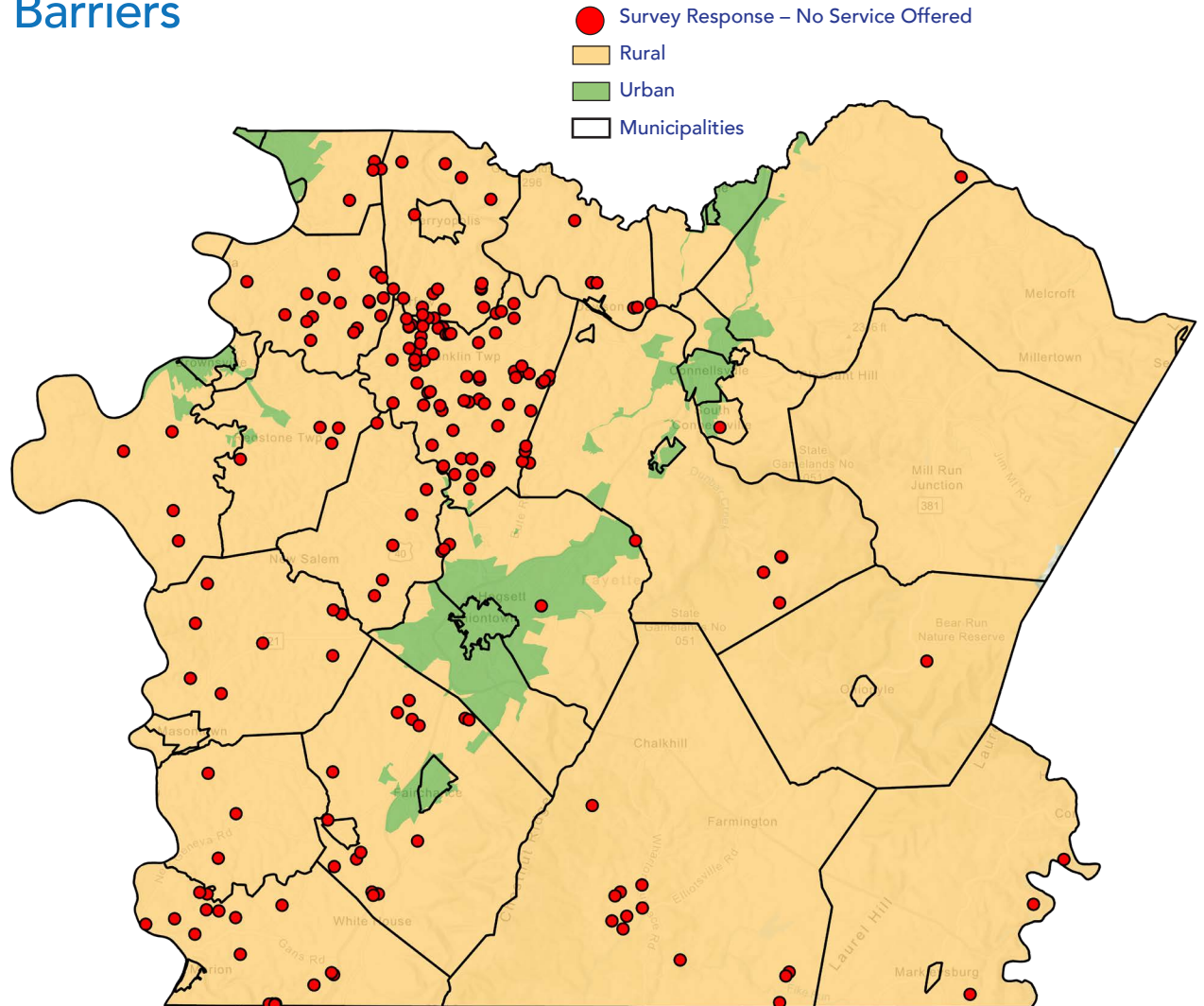
Surveys were sent to all 42 municipalities for input, including the 14 municipalities interviewed between

September and November 2022. The municipalities interviewed were Belle Vernon Borough, Brownsville Borough, Connellsville City, Dunbar Township, Franklin Township, Georges Township, German Township, Jefferson Township, Menallen Township, Perry Township, Point Marion Borough, Springhill Township, Stewart Township, and Wharton Township. The municipalities were asked questions regarding lack of internet access, barriers to access (economic status, digital proficiency, and topography), service affordability, cost of devices, and any active broadband projects in their communities. A majority of the municipalities responded that the lack of infrastructure, affordability, and funding for broadband initiatives drives the digital divide in the community.

## Rural and Urban Broadband Barriers

Lack of infrastructure, reliability of service, and affordability are critical barriers to internet access. While Fayette County suffers from infrastructure gaps and expensive plans, these results indicate that the highest and primary need is for expanded infrastructure. The graphic to the right shows the responses of residents living in areas without service. The results reinforce a national trend when broken down into rural and urban demographics. For rural residents, lack of infrastructure and service is the main barrier to access. While service is available in urban areas, 28% responded that they couldn't afford a faster connection, while 37% answered that they couldn't get a faster connection. These findings highlight the need for strategic planning to expand broadband access specific to rural and urban communities to address their barriers.

This survey also calls to attention significant gaps in coverage and quality access. For example, 7% of the total surveyed population relies on cellular data plans for the main home internet. Another 5% of the surveyed population rely on satellite internet, while 9% rely on DSL connections. While satellite, DSL, and mobile can support light-use functions, such as checking email or web browsing, they typically cannot support high-use functions required by the residents in Fayette County, such as remote learning/work, video streaming, or large file downloads. Mapping these responses provided valuable insight into creating the COAs.



*All survey respondents were asked about their internet reliability, with 40% citing that they have access to reliable internet.*



**25%**

**385** out of **1506** survey respondents say they must **travel to access Wi-Fi**

This further supports the lack of infrastructure in certain parts of the county as **1 in 4** respondents seemingly travel to access internet.



The **median payment price** was **\$101-\$125** from all respondents.



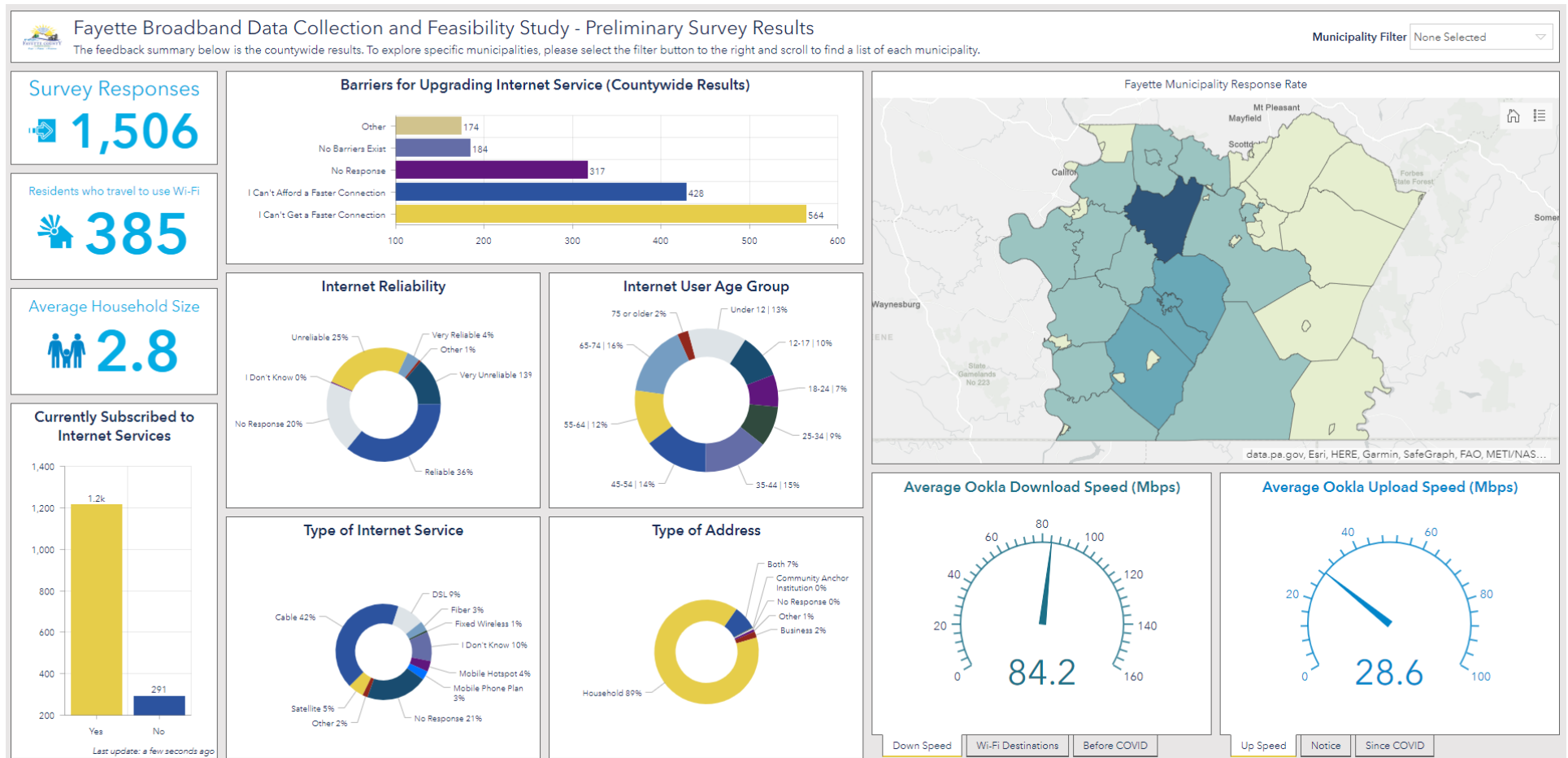
# Countywide Survey: Overview

## SURVEY RESULTS

The broadband survey ran from November 15, 2022, through January 15, 2023, resulting in 1,506 responses from households and businesses throughout Fayette County. The survey was offered online via the Fayette Broadband website. A total of 74 hardcopy surveys were distributed. 1,044 out of the 1,506 survey results were taken in rural areas, and 462 out of the 1,506 survey results were taken in urban areas. Residents and businesses that took the survey online also took a speed test, which was embedded in the survey and automatically

captured the user's download and upload speeds without requiring interaction from the user. During the survey, residents of Fayette County ran speed tests 1,432 times to determine their location's download and upload speeds.

Speed tests were collected during the online survey utilizing Speed Test by Ookla (<https://www.speedtest.net/>). The Speed Test can capture the user's ISP, download, and upload speed.

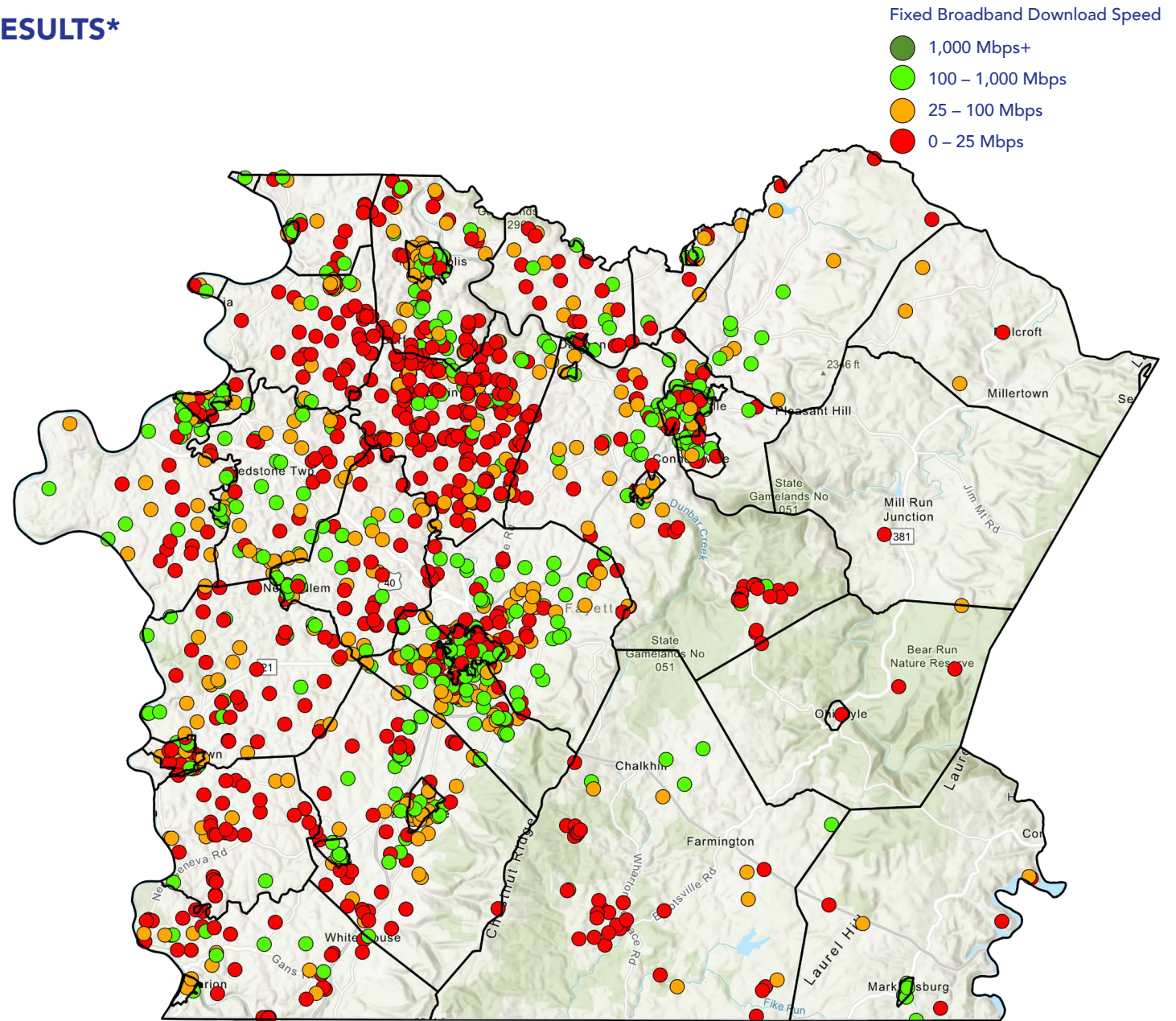


## MAP OF SURVEY SPEED RESULTS\*

**Rural Area Average Speeds.** The survey results show rural areas have the slowest average speeds: 68.7 download/26.2 upload, designating them as underserved. Many of the red and orange dots, which correspond to slow speeds, are clustered on the County's western side, which is mainly rural.

**Urban Area Average Speeds.** The average speeds among more urban and suburban areas were faster than rural areas: 119.2 download/34.0 upload. These speeds are technically considered served, but an assessment based on speeds alone does not account for cost barriers. For example, low-income residents may not have internet service due to high costs, even if service is available at their address. It is possible that many people living within urban areas with higher internet speeds might not be able to afford them without financial assistance.

\*Mapping analysis completed on February 23rd, 2023



**Observations:** A large portion of unserved (0-25) is concentrated in the northwest portion of Fayette County.



Fayette County Broadband Infrastructure Analysis

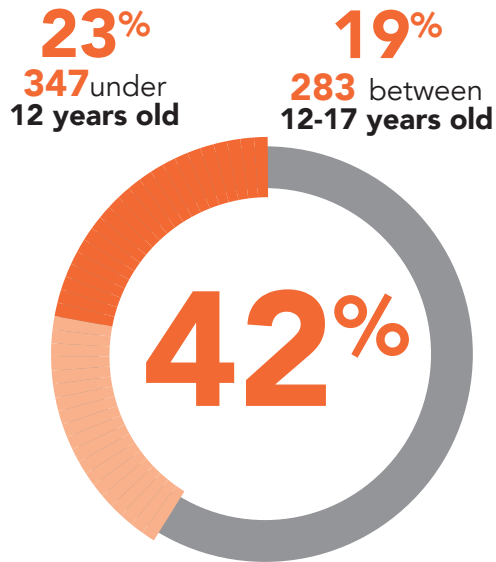
# UNDERSTANDING THE FAYETTE COUNTY DEMOGRAPHICS



# Understanding The Fayette County Demographics

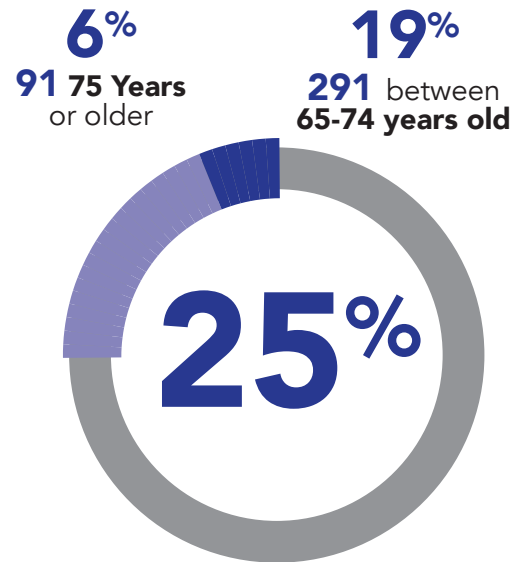
## HOUSEHOLDS WITH CHILDREN

**630** out of **1,506** have a Child Under **17 Years Old**



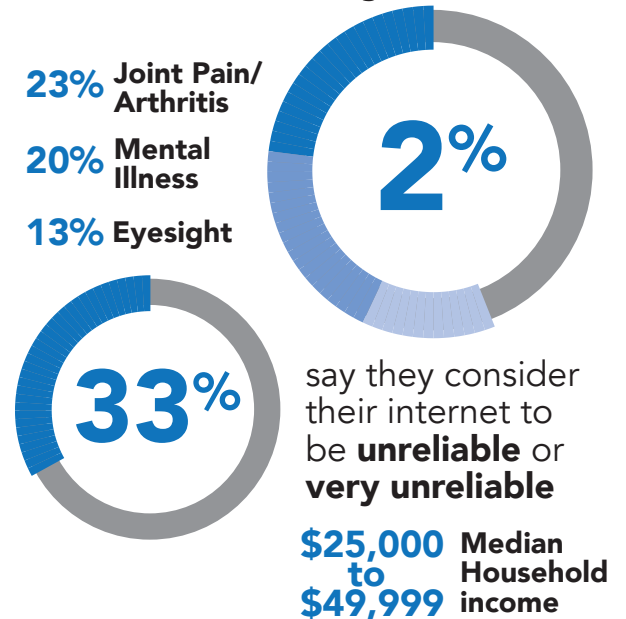
## HOUSEHOLDS WITH SENIORS

**382** out of **1,506** Households have **one or more Seniors**

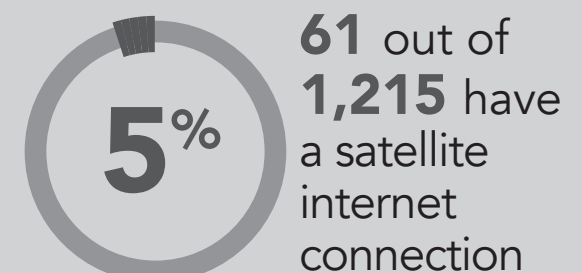
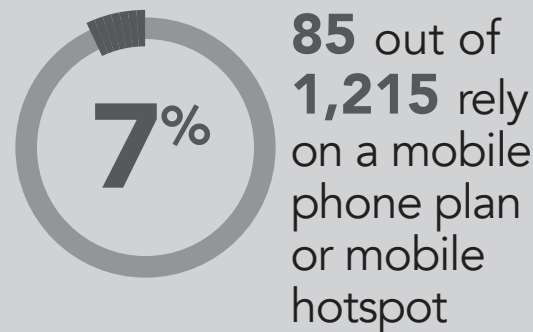
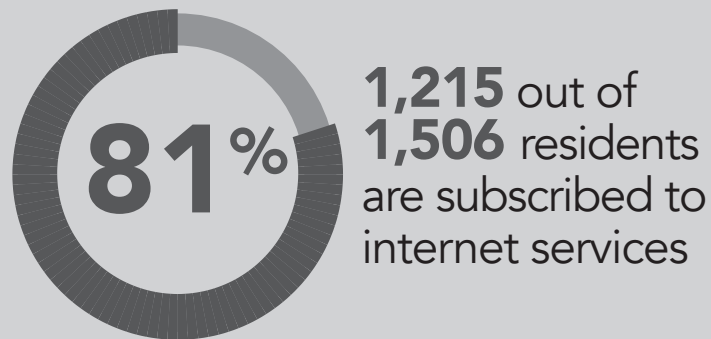


## HOUSEHOLDS WITH DISABILITIES

**30** out of **1,506** Respondents have a **Disability**

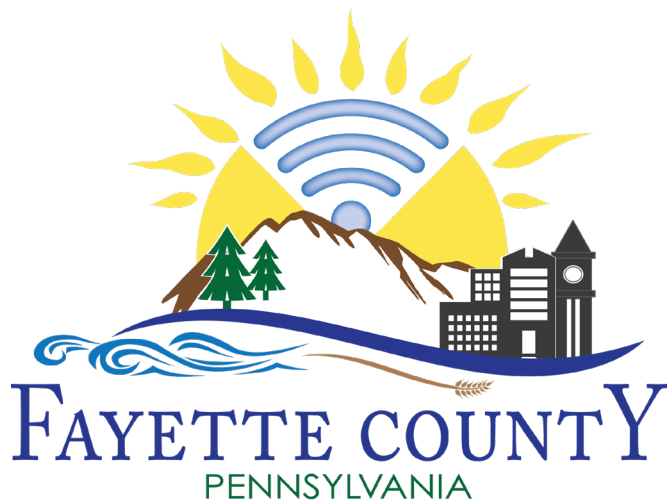


## WHY ARE PEOPLE UNCONNECTED?



Fayette County Broadband Infrastructure Analysis

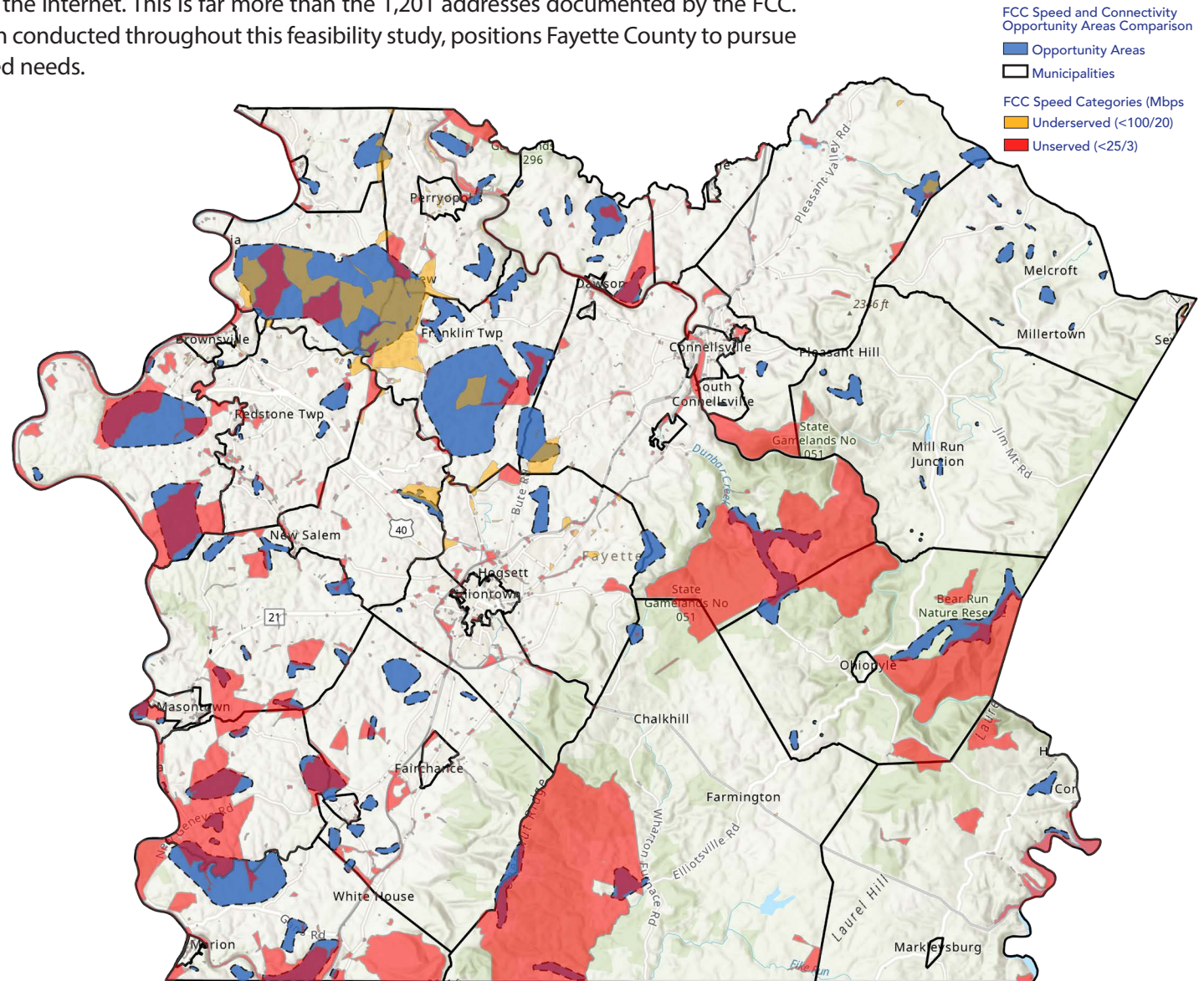
# **NEW ACCESS OPPORTUNITY AREA IN FAYETTE COUNTY**



## Connectivity Opportunity Area Data

This map shows a more accurate view of Fayette County's barriers to broadband access. The COAs identified through data analysis and survey responses revealed that, as of the development of this report in March 2023, 2,374 addresses in Fayette do not have adequate access to the internet. This is far more than the 1,201 addresses documented by the FCC. The refined mapping, backed by research conducted throughout this feasibility study, positions Fayette County to pursue increased funding based on the identified needs.

Further, this number reflects service at a point in time. The number of locations that need service may increase as more information is submitted by the public identifying previously unknown unserved areas. The FCC is currently in the process of creating a National Broadband Map that improves upon the previously used Form 477 data, but as they improve their location data there is the potential of these locations being challenged at any time within the FCC. These future challenges and possible updates to the location points may change the number of Fayette County COAs. Some gaps will be closed via private sector market growth, which will be tracked and incorporated into planning. Ultimately, the County will continue to refine and finalize the map of COAs per these variables.



*Note: Field verification was not part of the scope of this project.*



## Challenge Process Explained

### FCC Broadband Serviceable Location (BSL) Fabric

A large dataset of all locations in the US and territories that have broadband or could have broadband. A BSL is at the structure (building) level, not the address level.



### FCC Fixed Availability

Challenges the availability of fixed broadband at a particular Fabric location. Providers have 60 days to respond to a challenge.



### FCC Mobile Availability

Challenges the mobile availability at a particular geographic location. Providers have 60 days to respond to a challenge.



Fayette County Broadband Infrastructure Analysis

# IMPLEMENTATION STEPS FOR FAYETTE COUNTY



# Funding Strategy

For entities such as Fayette County looking to enhance broadband deployment and close the digital divide, a critical step in understanding broadband feasibility is understanding the paths for securing enough funds for initial investments, which are significant. To ensure program compliance, a comprehensive funding strategy was created to secure state and federal grants, including identifying funding sources, application development and submission, and grant administration. In preparing the strategy, the County cross-checked each potential opportunity to ensure that the County's broadband program needs to align with the award deadline/disbursement dates, that the project needs are eligible expenses under the award, and if there are any synergies between funds that could be paired together for greater impact. This strategy

is continually being updated to account for new funding announcements and information from conversations with funders, some of which will be significant enough to alter the award pursuit plan outlined in this report.

The County is preparing to access federal funding mechanisms indirectly available through the National Telecommunications and Information Administration (NTIA) and the FCC for internet access and adoption. The County is closely monitoring the status of forthcoming funds available through the PBDA, which will provide a competitive grant process to subgrantees, such as Fayette County, to provide access to the PA CPF, BEAD, and Digital Equity Act programs. The general County strategy for pursuit is to partner with ISPs

and Operators to secure funding, primarily in the County's pursuit of PA CPF funding, and will work to develop mutually advantageous agreements with technical partners to achieve this goal. Local Pennsylvania state agencies, such as the DCED, also provide grants to offer middle-mile and last-mile high-speed broadband infrastructure to unserved areas in Pennsylvania. Additionally, the ARC POWER grant, CARES Act, and ARPA are sources of funding anticipated to be utilized for broadband.

At least \$26 million in new funding will be required to connect all the unserved locations in Fayette County. The County is planning to solicit matching funds from service providers and to develop several applications to some or all the following funding entities:

Funder	High-level Strategy
American Rescue Plan Act – Capital Projects Fund (ARPA – CPF)	Distributed from the US Treasury to states, to be released from PBDA in Q2 2023
Area Development Program	From Appalachian Regional Commission (ARC) to apply in early 2024
ReConnect Grant Program, Round 6	From USDA to apply in Fall 2024
Partnerships for Opportunity and Workforce and Economic Revitalization (POWER) Initiative	From Appalachian Regional Commission (ARC) to apply Q1 2025
Broadband Equity and Deployment Program (BEAD)	From PBDA to apply in summer 2025

## Policy and Market Assessment

### DIG-ONCE POLICY

A significant barrier to broadband expansion, particularly wired broadband, is the cost of excavating existing roadways or digging, boring, or trenching into the ground. Dig-once policies typically require that broadband providers be notified when public rights-of-way are excavated and opened so that they can have the opportunity to install broadband infrastructure, including conduit and/or fiber optics.

In Pennsylvania, there is already a “call before you dig” policy that requires excavators to contact the Pennsylvania Public Utilities Commission (PAPUC) at least three days before breaking ground. PAPUC can notify broadband providers when they receive this notification. However, this is a minimal amount of advance notice that is geared at protecting underground facilities. It does little to allow other forms of infrastructure to be aligned and constructed alongside other projects. Nationally, “dig once” policies can facilitate broadband deployment by encouraging “joint-trench” agreements or “one touch” agreements that improve coordination amongst telecommunication providers. Such policies also often require that dedicated internet conduits be laid in the right-of-way during new construction to prepare for future broadband needs. Dig-once policies can also encourage shared leasing of broadband infrastructure, which facilitates shared access to existing poles and conduits. Further, such policies can also be written to encourage utility partnerships that sync conduit or fiber installation with any sewer or water projects conducted on County or municipal property.

A dig-once policy is a common-sense method of reducing the cost of communications infrastructure deployment. However, communities should think broadly when implementing dig-once policies, knowing that broadband infrastructure does not simply have to be buried alongside a roadway project or in coordination with a telecommunications project.

### RIGHT-OF-WAY ORDINANCE

Fayette County does not have a comprehensive right-of-way ordinance. Municipalities may only grant easements or rights-of-way with the express authority from the state legislature. However, municipalities may grant licenses to public service companies to construct lines if such lines will give state

buildings better service or if the line is necessary to serve the public. Licenses are revocable for cause if six months of notice is given. While permitting and zoning authority rests with municipalities, Fayette County has the opportunity to treat broadband like other types of critical infrastructure such as roads, water, and sewer. Preparing a template ordinance for municipalities to consider could be a step forward. The FCC has developed a [Model Code for Municipalities](#) that can be utilized as a guide.

### MARKET ASSESSMENT

An assessment of market conditions and constraints was performed through ISP interviews and reviewing publicly available information for each ISP on their rates of service and pricing options available in Fayette County (see Appendix D). As a large national provider, Verizon offers three types of technology within Fayette County (copper, fiber, and wireless). Verizon is aggressively and actively participating in grant opportunities offered through ARPA and IJA funding programs. They have a large footprint as a service provider in Fayette County. Crown Castle and DQE Communications apply mainly to non-residential customers such as businesses and community anchor institutions. Crown Castle noted that obtaining permits is the most significant barrier when expanding broadband, which impacts the cost and feasibility of projects within the County. Streamlined permitting, also addressed through the FCC’s Model Code for Municipalities, may increase market viability for broadband infrastructure projects.

Pricing and speed for Armstrong, Comcast, Laurel Highlands, and Breezeline align with the market rates for the product offering. These companies also have a large footprint throughout the County. Comcast has offerings for small/medium/enterprise-sized businesses. Most providers, specifically those serving residential customers, offer low-cost options for families that qualify, primarily through participation in the ACP, which provides qualified households with a credit of up to \$30/month towards internet and mobile services.

However, the lowest price varies across providers. Even with the discounts available through the ACP, the most affordable plans may still be unaffordable for those most in need. Verizon and QCOL, in particular, start at \$30/month or more even after the \$30 discount is applied.



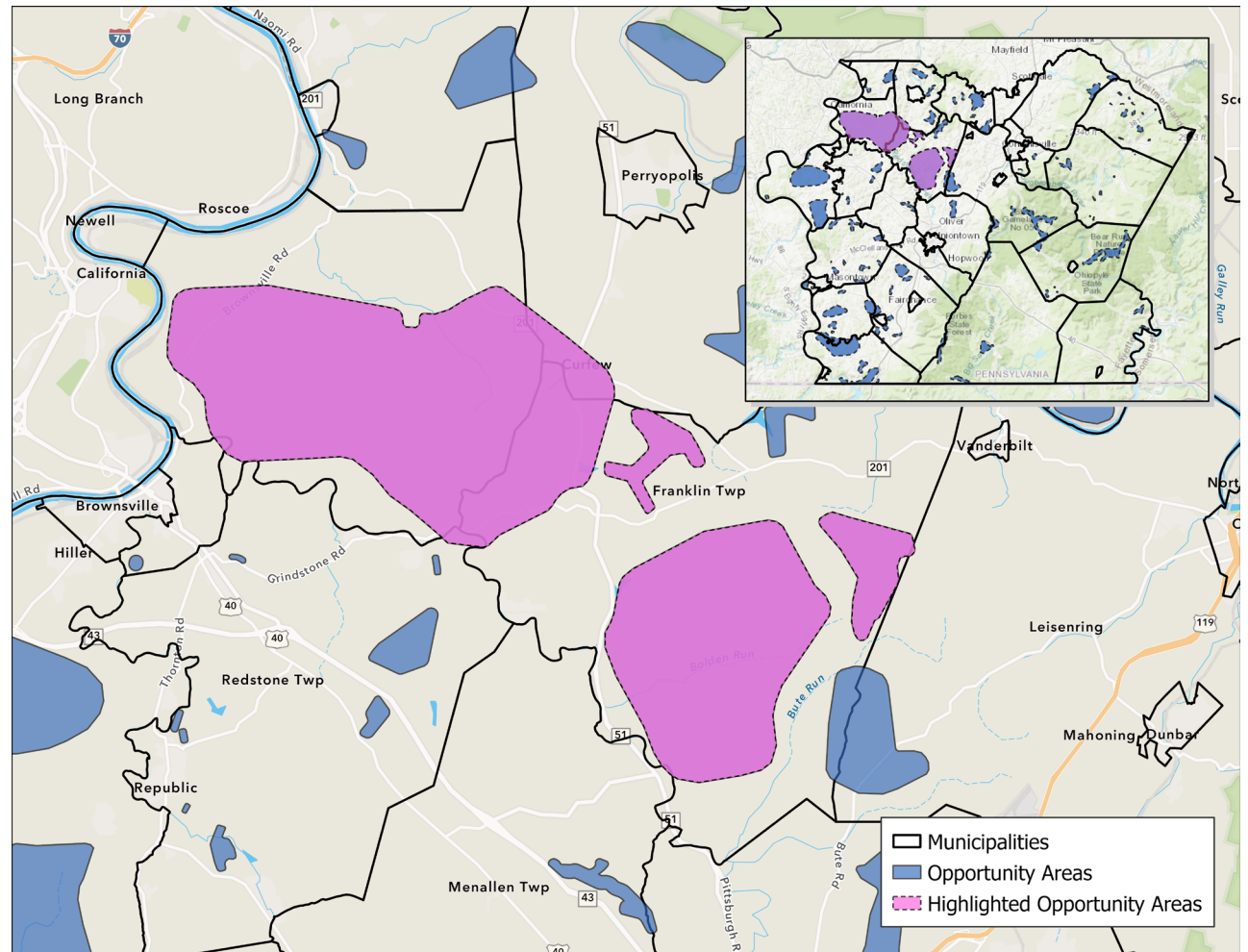
## Early Action Areas – Jefferson Township and Franklin Township

According to FCC data received, municipality/industry interviews conducted, and survey results, Connect Fayette: Analyzing Broadband Infrastructure has deemed the northwest corner of Fayette County to have a high need for broadband, particularly in **Jefferson Township** and **Franklin Township**.

An independent study found 33% of Franklin Elementary School students need internet access. Furthermore, Jefferson Township officials say there is no internet access at the Jefferson Township municipal building. Many residents rely on mobile Wi-Fi hotspots for internet access.

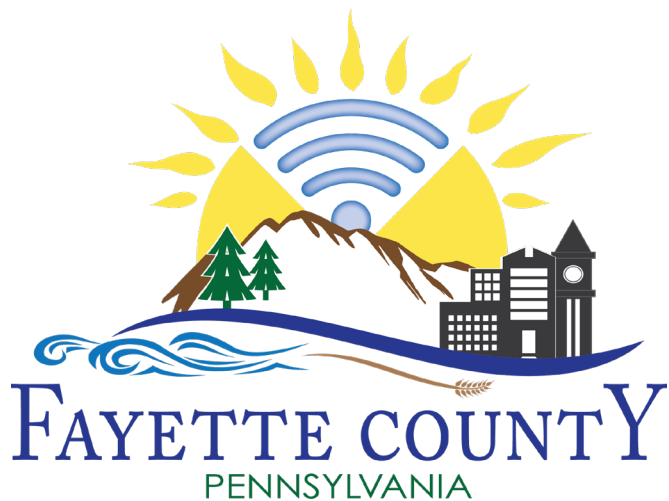
Of the 226 survey responses from Franklin Township, **35% of residents** report they must travel to access Wi-Fi. Franklin Township respondents also recorded an average Ookla download speed of 34.4 Mbps and an average upload speed of 8.1 Mbps, suggesting a large, underserved area in this part of the county.

Four polygons were identified from the full list of Connectivity Opportunity Areas. When identifying these areas several criteria were considered including number of homes in each COA, number of survey participants, average download/upload speeds, and proximity to existing ISP infrastructure. Additionally, we considered whether these polygons aligned with areas the FCC has already deemed as unserved/underserved.



*The four COAs highlighted in pink have approximately 662 addresses, primarily in **Jefferson** and **Franklin Townships**.*

# NEXT STEPS



## Road Maps for the Pathway Forward

The following are next-step recommendations to advance connectivity in Fayette County.



### OVERSEE A LOCAL ISP CHALLENGE

Once the COA maps and unserved locations are published, ISPs can challenge the data and correct locations that they believe may have been mistakenly marked as unserved or underserved. By overseeing a local ISP challenge, Fayette County can organize this input productively and use it to refine the County's mapping further potentially increasing anticipated funding allocations. An email should be sent to the ISPs within the County a few weeks ahead to inform them of the County's intent to compare and challenge the points the ISPs have indicated they serve. After a few weeks, Fayette County should email the COA boundaries and the unserved location shapefiles to the ISPs. An Excel spreadsheet indicating their unserved locations can also be shared at this time. The County should allow ISPs a few weeks to compare their latest served locations against the County's unserved locations and provide evidence on locations they disagree with and claim are indeed served. Evidence will be reviewed, and additional fieldwork may need to be performed to verify the evidence. The ISP evidence will either be accepted or rejected, adjusting the number of unserved locations and the number/size/shape of the COAs accordingly.



### ISSUE RFPs FOR FAYETTE COUNTY

After conducting the local ISP challenge, the County can rely on its updated map results to guide the next steps toward broadband infrastructure deployments in Fayette COAs. Building upon the findings of this Feasibility Study, Fayette County can develop two separate RFPs to engage service providers in county broadband work. A first RFP can be designed to achieve immediate or quick results by focusing on the Early Action project areas. This RFP would offer service providers the chance to propose plans for connecting unserved locations within the two Early Action Areas (described on page 25 of this report), of which providers can propose to connect one or both Early Action areas. While the Early Action projects are underway and awardee(s) are implementing their planning and construction activities for those areas, the County can issue a second RFP to include the remaining countywide unserved locations in the previously identified COAs not a part of the Early Action areas. This subsequent RFP will rely on the most updated mapping data available, which will need to be continuously refined over the next several years to include any missed locations, newly constructed locations, and newly deployed infrastructure not administered through Fayette County.



## LAUNCH COMMUNITY OUTREACH

The publication of this Connect Fayette Study is a first step for Fayette County in identifying broadband needs and developing projects to address those. However, continued public engagement and awareness will be instrumental in promoting these findings, securing local support in implementation steps, informing residents of the County's efforts and investment in broadband expansion, and benefitting from other ongoing programs and resources that can impact Fayette County. Specific recommendations include:

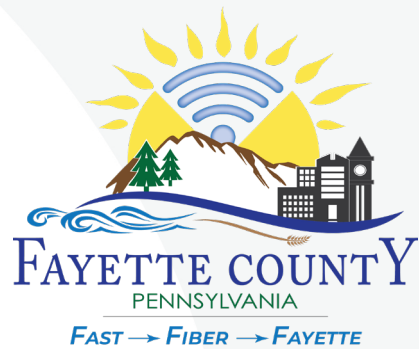
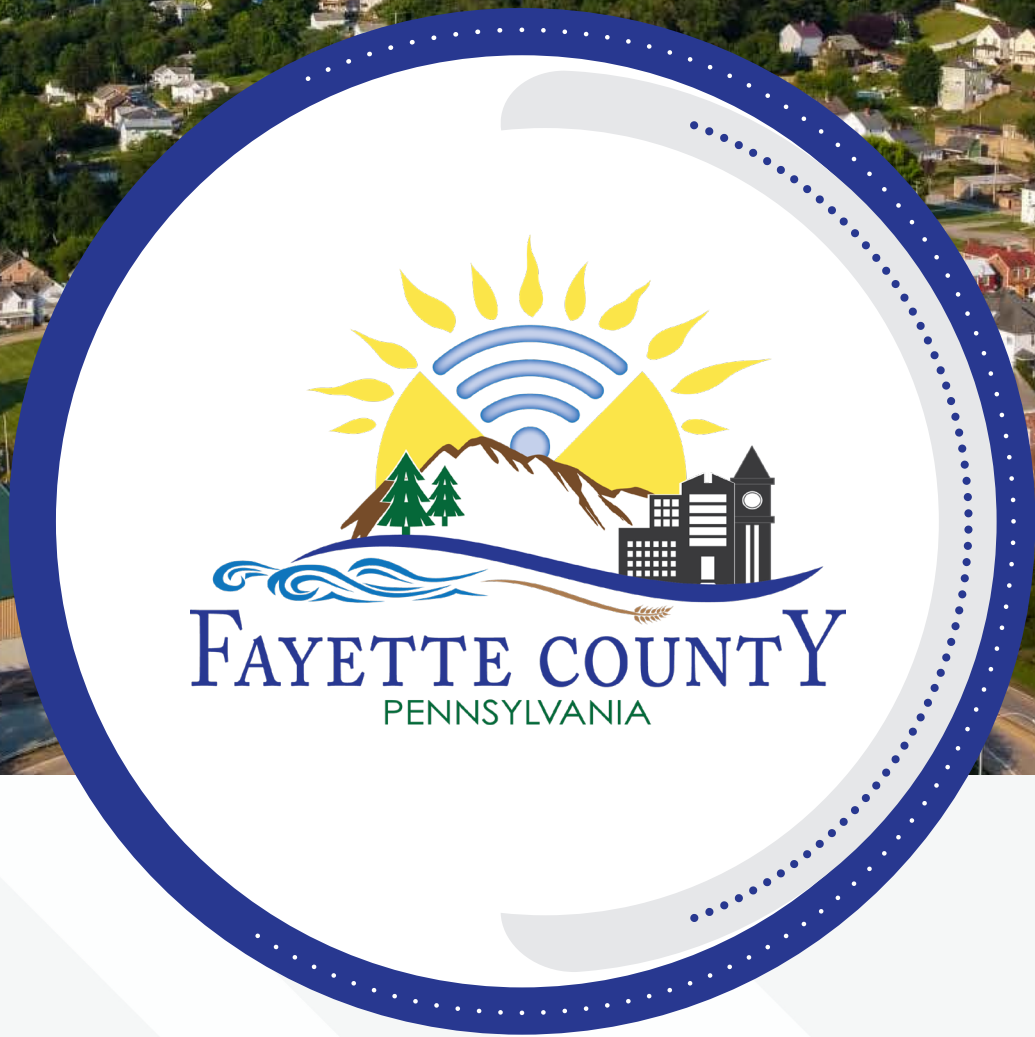
- Maintain the website to continue educating the community on the importance of broadband expansion within Fayette County.
- Continue to inform residents about available resources, such as the ACP. Include a description of the program on the County's website, include links to guidelines and tutorials provided by the FCC and others, and continue to educate local government representatives on this program so they can promote it within communities.
- Follow and participate in the statewide BEAD and digital equity planning efforts. Share this Connect Fayette study with PBDA and promote any state planning-related outreach opportunities in the coming months. PBDA is anticipating conducting listening sessions, workshops, and a public survey. As these become available, Fayette County should promote these on its website and encourage local municipal leaders and other stakeholders to share them with their communities to ensure that Fayette County's needs and concerns are represented in the state plan.



## CONTINUALLY UPDATE THE GRANT FUNDING STRATEGY

The County should continue to track existing funding opportunities and identify potential new grants which align with the County's funding needs, partnerships, timing, and eligibility requirements. As explained in the Funding Strategy section of this report, the County is anticipating forthcoming changes to broadband funding mechanisms, which could include changes to requirements, deadlines, and award amounts. These changes, perhaps at the federal and state levels, may alter the funding strategy presented in this report. For grants where the County has identified a partnership opportunity, the County requires the project to go out for RFP. Potential partners should be notified of the RFP process via email.





61 East Main Street  
Uniontown, PA 15401  
[connectfayettepa.com](http://connectfayettepa.com)

PREPARED BY:

**Michael Baker**  
INTERNATIONAL