pennsylvania
DEPARTMENT OF COMMUNITY
& ECONOMIC DEVELOPMENT

CONNECTED AND EMPOWERED:
A DIGITAL EQUITY PLAN FOR THE COMMONWEALTH OF PENNSYLVANIA

Pennsylvania Broadband Development Authority
November 2023

Harrisburg, PA

Commonwealth of Pennsylvania | Josh Shapiro, Governor
PA Department of Community & Economic Development | Rick Siger, Secretary | **dced.pa.gov**

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ADDRESSING THE DIGITAL DIVIDE

One of the original 13 colonies, Pennsylvania played a critical role in founding the United States. It is the fifth most populous state in the nation, home to 13 million people. Economic growth, innovation, and industry have been the backbone of our history and continue to be reflected in our path toward the future.

The continued growth and prosperity of the Commonwealth on the shared opportunities for each of our residents, regardless of where they live. As the 21st century has ushered in new methods of communication and online platforms, our work and social lives are increasingly supported by technology.

For our state to remain a great place to live, work, and grow, it is essential that the opportunities and resources online are available and encouraged for all residents across the Commonwealth.

> **"Kids had to go downtown for internet during COVID for access. They had low grades because of lacking service and the District required them to retake classes. The website was built for 10 people, but 300 kids were using it."**
>
> ***– Shared from Tioga County***

> **"I have a lot of neighbors coming in from other areas because the cost of living is cheaper than where their job is located, but they aren't able to get the speeds they need for their jobs."**
>
> ***– Shared from Dauphin County***

The digital divide refers to the differences between how residents can use modern information and communications technology. In Pennsylvania, 9% of the population lack access to home internet. However, this figure doesn't tell the full story: full and equitable access to information and communication online requires reliable and high-speed internet, a device capable of connecting to the internet, and skills to use it comfortably and safely.

Pennsylvania's large size, varied geography, and population diversity – all areas of pride that make the Commonwealth special – also compound the digital divide. Approximately 26% of the population lives in rural areas, where community resources are spaced further apart, and broadband infrastructure is still incomplete. Meanwhile, an analysis of 2019 census data shows that nearly 70% of low-income households are concentrated in urban areas where connectivity is available, but costs remain too high for many residents. With so many services moving online and the many activities available to those with a computer, the digital divide means lost opportunities for those who are left out.

Our digital divide limits education, dictates where people choose to live, slows new businesses and economic growth, constrains healthcare choices, and establishes a hierarchy of "haves" and "have-nots" that guides how services and information are delivered readily to some while minimized or wholly unavailable to others.

Your elected officials are working to get every resident online.

The Governor and the Pennsylvania General Assembly – working through state agencies such as the Pennsylvania Departments of Community & Economic Development, Agriculture, Aging, Education, Labor and Industry, and Department of Human Services – have made internet access and digital skills a priority.

For the past several years, the Commonwealth of Pennsylvania has been working to ensure that every Pennsylvanian wanting access to reliable and affordable high-speed internet can receive it.

From education to banking to filling out job applications and selling produce at your family farm – everyone should have the access and the skills they need to use the internet safely and confidently. The Commonwealth has invested in bridging this digital divide and establishing new paths forward to build an equitable and inclusive future to connect, empower, and include all Pennsylvanians in our increasingly online society.

Why does internet access matter?

We each use the internet in different ways, and some people use it rarely or not at all. However, every Pennsylvanian should have the choice. Even if you don't feel that you need internet today, if you want to attend an online town hall meeting or order groceries from home if you fall sick or your car breaks down: Pennsylvania wants to ensure you can get online and use online services whenever the need arises.

For example, the decrease in published, printed newspapers has permanently changed the way people get their news, including information about their healthcare, social services and world news. Online news is becoming more common, leaving residents who don't use home internet disconnected from events and updates from their community, especially in the 20 Pennsylvania counties with only one or with no local printed news sources in circulation.

PROVIDING OPPORTUNITIES FOR ALL PENNSYLVANIANS

In December 2021, the Pennsylvania General Assembly – your state elected officials – and the Governor of Pennsylvania at that time, Tom Wolf, signed into law the creation of the Pennsylvania Broadband Development Authority (PBDA). The PBDA was established to address the lack of access to affordable and reliable high-speed internet and determine how and where to invest the funding that Pennsylvania has received through the American Rescue Plan Act (ARPA) Capital Projects Fund (CPF) and will receive through the federal government's Infrastructure Investment and Jobs Act (IIJA), which passed in 2021 and is also known as the Bipartisan Infrastructure Law.

Whether you live in a rural area of Pennsylvania (for example, Elk County) or an urban environment (for example, Philadelphia), you should be able to purchase internet service for your home or business. Further you should have a way to learn and continue to develop new skills to use it in a safe and effective way.

The quickly changing online world, new applications and software, and many types of computers and tablets can be confusing and difficult to learn. You should know that there are many programs that can provide you and your family with assistance to learn computer skills and ensure you are safe while online.


Scranton, PA

Digital Inclusion

means creating programs, services, and community support systems that help all residents get help where needed so that everyone can benefit from being online.

Digital Equity

means everyone has access to computers, internet, and skills needed to participate fully in activities online: social networks, information and news, jobs, education, healthcare, and more.

This is what we want for every Pennsylvanian.

The PBDA has created this *Digital Equity Plan* to share what resources are available, understand what Pennsylvania residents need the most to be successful online, and set goals for meeting these needs. We want every resident to feel empowered to use technology and be included in online activities.

What does that mean, exactly? It means that regardless of your zip code, educational background, and socioeconomic status, the Commonwealth of Pennsylvania and the PBDA are ready to support you and allow you to participate in the digital economy.

CREATING A LASTING FRAMEWORK FOR DIGITAL EQUITY

What is broadband?

You may just know it as "internet", but "broadband" means internet that is high-speed and always on. Do you remember or still have dial up internet through your phone line? Broadband does not share a phone line – it is focused only on internet service.

Through the **Broadband, Equity, Adoption, and Deployment (BEAD) program**, Pennsylvania will receive $1.16 billion from the federal government to invest in new broadband infrastructure. Over the next five years, this money will be spent in areas of our state with no service or poor service so that internet service is available to every Pennsylvanian. While internet service is optional, every household should have the choice.

Through the Digital Equity Act, Pennsylvania will receive more funds from the federal government to invest in programs that offer affordable computers and laptops, computer classes, technical assistance, and more. Having internet service is not enough: Pennsylvania wants every resident to be capable and successful online. Successful computer use will help all residents access opportunities now and in the future. Increased education, job options, healthcare, shopping, and social connectivity help our quality of life and our economy for everyone and make Pennsylvania an excellent place to live work.

Once this Plan is completed in early 2024, the Digital Equity Act funds will become available. The PBDA will prepare grant programs to share funds with regions, counties, and community partners who wish to create or expand computer access, computer classes, or similar programs to help residents with digital support services.

The Digital Equity Act has **three main goals** to ensure that all people have:

- the skills,
- the technology,
- and the capacity needed to enjoy the full benefits of an online society and economy.

INTRODUCING OUR STATEWIDE DIGITAL EQUITY PLAN

This ***Connected and Empowered: A Digital Equity Plan for the Commonwealth of Pennsylvania*** was prepared through research, collaboration, and listening. It shares with Pennsylvanians the resources already available to help them work together to increase awareness and proficiency for themselves and their neighbors, to educate communities on the continued challenges in order to build shared understanding, and to invigorate efforts to support our fellow Pennsylvanians in gaining digital skills and confidence with technology. It also provides a roadmap towards narrowing the digital divide through strategic actions taken to achieve our goals for an equitable and inclusive future of connectivity.

How can you use this Plan?

- Chapter 2: Read about our Vision and how digital inclusion is part of state goals.
- Chapter 3: Find existing programs and resources.
- Chapter 4: Learn about our greatest needs and where we need more help.
- Chapter 5: Learn about community input and involved partners.
- Chapter 6: What's next? See our action steps and timeline.
- Appendices: Find more details about current programs, notes from community meetings, who we talked to, definitions of new terms, and more.

Our Vision for Digital Equity

Digital dignity reflects the American value of opportunity for all: every person should have the same access to participate in our increasingly connected society.

The vision for digital equity in the Commonwealth is to foster and create equitable, affordable, and robust high-speed broadband infrastructure and services that support digital dignity for all residents and connect Pennsylvania for the 21st century and beyond.

Empowering You to Find Support

This Plan contains a detailed description of current programs and resources: where to locate a free, rented, or low-cost computer or laptop; where to find computer classes; how to reduce your internet costs; how to find 1-on-1 in-person assistance; and more.

For some Pennsylvanians, computer access can be extra difficult yet also extra important. This Plan especially explored the challenges faced by different users and identified existing programs that provide support. It also sets targets for closing gaps for these specific populations:

Older Adults reached adulthood long before computers became so common in our daily lives.

Justice-impacted individuals have limited access to use or learn technology during incarceration and struggle to regain stability after re-reentry without support for access and skill building.

Rural residents are most likely to not have home internet, where the infrastructure is missing.

Low-income residents struggle with the costs of internet, which vary widely and can be a burden.

Residents with a language barrier struggle with understanding what choices are available and locating assistance in their preferred language.

Racial and ethnic minorities are historically impacted by underinvestment in their schools and neighborhoods, and often face unequal treatment and expectations.

Veterans have put their lives on the line for our nation, risking health and mobility, and online resources are essential for ensuring their care and wellness after their service.

Individuals with disabilities experience many aspects of our world differently, and the internet can be a great connector when accessibility needs are met to ensure computers and online services are usable and readable for everyone.

A 5-Year Strategy and Vision for Universal Broadband

In August 2023, Pennsylvania published ***Connecting the Commonwealth of Pennsylvania: A 5-Year Strategy Toward Internet for All*** to deliver universal broadband service to all PA residents. This plan, funded through the BEAD program, was developed by the PBDA to fit with this *Digital Equity Plan*. The 5-Year Strategy is also aimed at digital equity, but with a particular emphasis on infrastructure: built broadband networks are required to access reliable, affordable, high-speed internet. The 5-Year Strategy will guide the expansion of broadband infrastructure to ensure that every resident has service available at their address.

This ***Connected and Empowered: Digital Equity Plan for the Commonwealth of Pennsylvania*** was prepared jointly with the 5-Year Strategy and with community and stakeholder involvement throughout both efforts. These two documents go hand in hand and describe the PBDA's goals for expanding broadband infrastructure, lowering costs, helping people afford computers and related devices, and growing programs that teach digital skills.

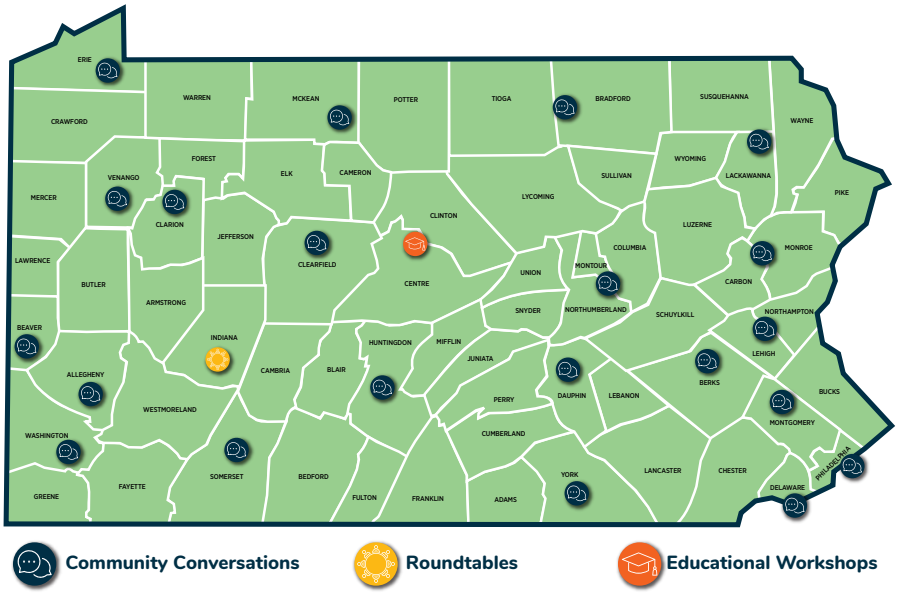
Community Engagement and Involvement

The ***Connected and Empowered: Digital Equity Plan for the Commonwealth of Pennsylvania*** was developed with substantial input and guidance from state agencies, community leaders, and residents.

The PBDA team traveled statewide and hosted:

- 23 Community Conversations
- 1 In-person and 4 Virtual Roundtables
- **6 Focus groups**
- and attended many more conversations with residents, community leaders, and elected officials in all 67 counties.

The Community Conversations were in-person events where residents discussed internet access and computer use. The Roundtables invited organizations and local leaders who help people get online to share what works well and what we can improve. The Focus Groups met with people from varied backgrounds to understand the challenges faced by different people, families, and regions.



Throughout this Plan, the PBDA also worked with a Digital Equity Stakeholder Working Group that included leaders across the state who work daily to connect people to the internet and teach computer use. Their insight was highly valued and helped create a *Digital Equity Plan* for every Pennsylvania resident.

We also conducted a statewide survey on internet use. Were you one of the 7,734 people who answered the survey and shared your experience? Your participation highlighted Pennsylvania's needs and was hugely important in guiding this Plan!

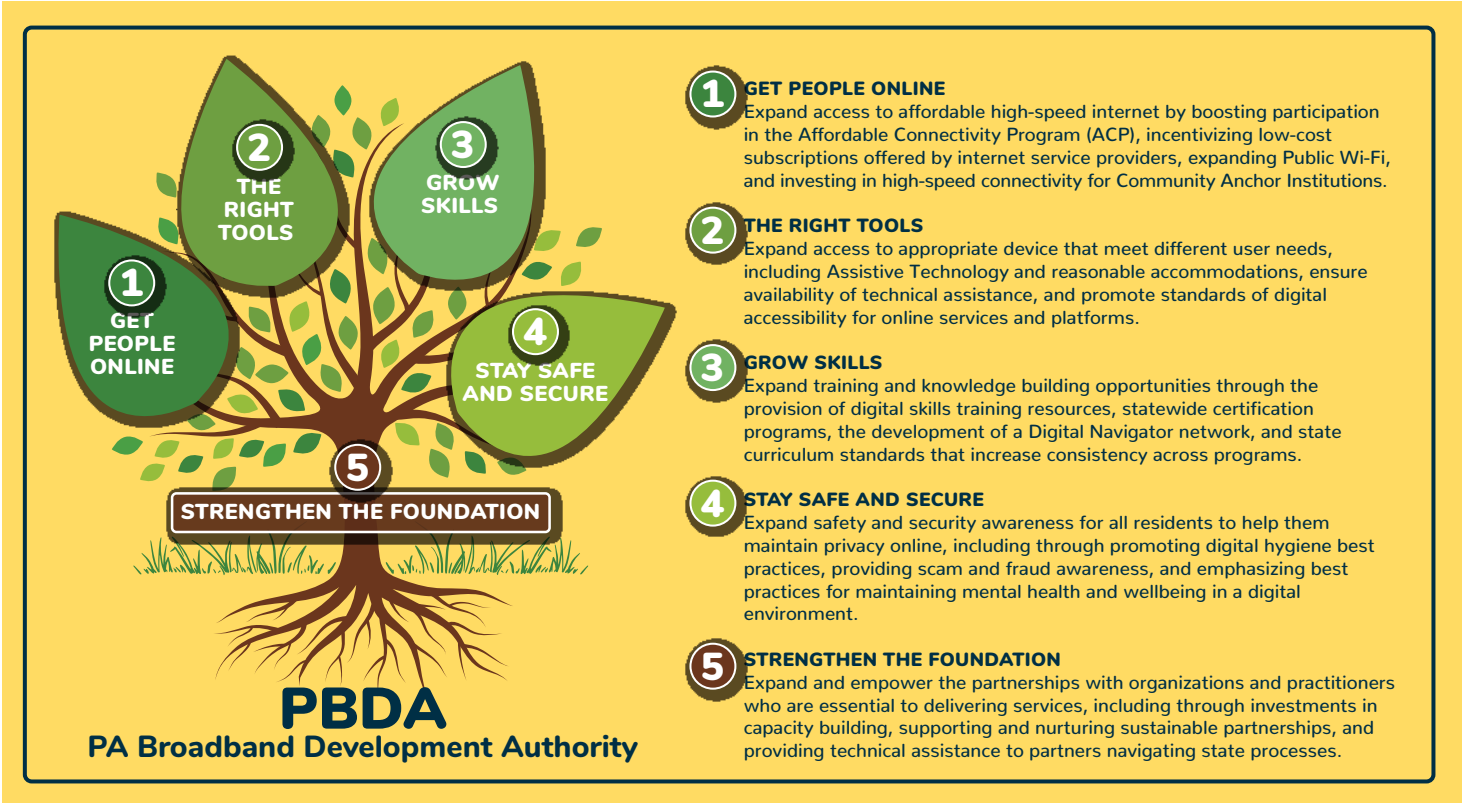
Between June and September 2023, community conversations were held in 23 locations across Pennsylvania.

FIVE GOALS CREATE OPPORTUNITIES FOR PENNSYLVANIANS

This Plan will guide the Commonwealth in growing and creating programs and services to help every resident feel safe, comfortable, and connected online.

Our Goals for Digital Opportunities for All Pennsylvanians

Our five goals aim to equip everyone in the Commonwealth with the tools, resources, and skills to benefit from internet access and be able to participate online.



GET PEOPLE ONLINE

This goal is about access. Every Pennsylvanian should have the infrastructure available to subscribe to reliable, high speed broadband service, and service plans should include affordable pricing options. Investing in high-speed access to Community Anchor Institutions and expanding awareness of the Affordable Connectivity Program (ACP) also support this goal.

The PBDA's guidelines for projects funded through their Broadband Infrastructure Program and BEAD program include requirements designed to meet this goal.

THE RIGHT TOOLS

This goal is about devices. Every resident should be able to have a device that meets their needs, whether their needs are best met through a tablet, smartphone, laptop, or desktop. Further, assistive technology should be available to those who need it. Technical assistance resources also support this goal, to ensure that devices provided will be used and lasting over time.

The PBDA's guidelines for projects funded through the Digital Equity Capacity grants will include requirements designed to meet this goal, accompanied by continued PBDA advocacy efforts.

GROW DIGITAL SKILLS

This goal is about knowledge. Every resident should be able to take classes, find assistance, and gain the skills they need to use the internet effectively. Skills range from basic knowledge to operate a computer, create an email account, and connect a printer; to more advanced assistance navigating online portals and learning common software that contribute to economic opportunities. State support for certification programs and shared curriculum resources will help streamline this goal, and staffed programs to work with residents directly throughout holistic approaches will also support this goal.

The PBDA's guidelines for projects funded through the Digital Equity Capacity grants will include requirements designed to meet this goal, accompanied by continued PBDA advocacy efforts.

STAY SAFE AND SECURE

This goal is about safety. Online security is important for all Pennsylvanians, whether they are beginners or experienced in digital practices. Avoiding scams, updating antivirus software, understanding the differences in levels of security, maintaining safe passwords, and more are part of keeping personal information safe online. Further, the anonymity of online behaviors can lead to confusion or even bullying, and safe practices for engaging online and maintaining mental health are also part of this goal.

The PBDA's guidelines for projects funded through the Digital Equity Capacity grants will include requirements designed to meet this goal, accompanied by continued PBDA advocacy efforts.

STRENGTHEN THE FOUNDATION

This goal is about partners. The state can administer funds, but services and resources rely on strong and dedicated partners working on the ground and within communities. Fostering strong partnerships, providing technical assistance, and equipping counties, coalitions, nonprofits, and institutional partners (i.e. schools, libraries, hospitals, and more) with resources and guidance are all part of strengthening the foundation that supports holistic and effective digital inclusion activities.

The PBDA's guidelines for projects funded through the Digital Equity Capacity grants will include requirements designed to meet this goal, accompanied by continued PBDA advocacy efforts.

MEASURABLE OBJECTIVES AND TIMELINE

The Commonwealth has been investing in programs that help connect residents with internet service, computers, training classes, and more for years and has been increasing these efforts since the 2021 creation of the PBDA.

BETWEEN 2022-2023

$200 million was put into the Broadband Infrastructure Program, which offers grant funding for new broadband infrastructure.

Over **$44 million** was dedicated to funding extra high-speed internet for community buildings, including libraries, schools, and municipal buildings *(grant program details in development)*

$20 million was dedicated to fund computer device programs *(grant program details in development)*

IN 2024

Through the **Digital Equity Capacity grants**, more Pennsylvania grant funding opportunities will be announced for organizations or other partners who provide programs that address any of the five goals of this Plan. Funding quantity and guidelines are expected in 2024. These funds will be administered by the PBDA.

Through the **Digital Equity Competitive grants**, federal grant funding will also be available for digital inclusion programs. Grant guidelines are expected in 2024. These funds will be administered by the National Telecommunications and Information Administration (NTIA).

IN 2025 AND BEYOND

This Plan will be evaluated every two years and updated to continue increasing our success and increasing the individual quality of life available to each person.

Our goal is universal broadband and fair, effective, and affordable support to get every Pennsylvanian to feel comfortable and included online by 2028. However, as technology changes, we anticipate that computer skills and needs will continue to evolve. Most of all, our goal is a lasting framework of infrastructure, community support systems, and resources that allow our residents to learn and thrive through all stages of life through childhood, adulthood, and dignified and stable retirement.

Join the PBDA and residents across Pennsylvania in promoting computer access and computer skills for your families, friends, and neighbors: internet connectivity brings us together. With the execution of this *Digital Equity Plan*, all Pennsylvanians, especially those who are disadvantaged, will have access to affordable high-speed internet connectivity, devices that meet their daily needs, and digital skills. Improvements in digital equity benefit every resident.

Jim Thorpe, PA

> "The issue of accessible government websites – many of them are not accessible – you have to have a brain that thinks about things in a certain way and end up missing opportunities."
>
> – *Dauphin County resident*

> "I have two children with special needs, and they can't attend virtual doctor appointments."
>
> – *Clearfield County resident*

2. COMMITMENT TO DIGITAL EQUITY IN PENNSYLVANIA

2.1 PENNSYLVANIA'S VISION FOR DIGITAL EQUITY

The Commonwealth strives to achieve universal and equitable connectivity to support the state's social, economic, and quality of life outcomes. Internet access and skills have been embedded into state goals and investments across multiple agencies. Moving forward, the PBDA is positioned to lead and coordinate statewide investments to connect residents meaningfully to digital opportunities.

The Digital Equity Act passed in 2021 defines digital equity and inclusion. Digital equity refers to the intended outcome whereby all individuals have the access, the tools, and the skills needed to participate in online activities. Digital inclusion refers to the work required to achieve digital equity.

> **DIGITAL EQUITY** means the condition in which individuals and communities have the information technology capacity needed for full participation in the society and economy of the United States.
>
> **DIGITAL INCLUSION** means the activities that are necessary to ensure that all individuals in the United States have access to and the use of affordable information and communication technologies, such as—
>
> (i) reliable broadband internet service;
>
> (ii) internet-enabled devices that meet the needs of the user; and
>
> (iii) applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration;
>
> **AND** includes—
>
> (i) obtaining access to digital literacy training;
>
> (ii) the provision of quality technical support; and
>
> (iii) obtaining basic awareness of measures to ensure online privacy and cybersecurity.
>
> *Source: Digital Equity Act (2021)*

In Pennsylvania, many residents are left out of digital opportunities because they need access to sufficient service speeds and devices suited to their needs or to familiarize themselves with how best to use digital tools and services.

Whether individuals access the internet by phone only or do not own a device, these individuals will need help using software and interacting with online platforms, including healthcare portals and job applications that can be difficult to navigate on a small phone screen. Those who do not have broadband access at home are limited in the digital skills they can use regularly and their ability to participate in digital activities (including school, work, or civic events) from home.

DID YOU KNOW?

According to 2023 data from the Digital Equity Act Population Viewer:

4.1% of Pennsylvanians (over 520,000 people) live in households without broadband availability.

11% live in households that do not have a computer or broadband subscription.

36.6% do not use a computer or tablet at home.

Susquehanna River — York & Lancaster Counties, PA

The Impact of Digital Equity in Pennsylvania

Socioeconomic factors like employment status and income are connected to one another and impact the ability to afford broadband access. This can create barriers in many ways, including:

> **"I think now [the internet is] one of the first ways to get communication. Communication is the most important thing among humans."**
>
> ***– Pennsylvania resident at a focus group***

Data USA reports that **11.8% of Pennsylvanians live in poverty, struggling to afford their basic needs.** The poverty level in 2023 was raised to $30,000 for a family of four, a low amount for families juggling food, housing, and health costs. Internet, computers, transportation costs, and more can often become unaffordable luxuries.

For the **unemployed and underemployed, seeking stable work increasingly relies on online job applications and digital skills.** In Pennsylvania, over 230,500 residents were unemployed as of July 2023, according to the U.S. Department of Labor Statistics.

A study conducted by researchers at the Federal Reserve Bank of Philadelphia in 2020 found a **27-percentage-point difference in labor force participation rates in Philadelphia between workers with and without a computer with a broadband connection,** based on 2014–2018 data.

Access to broadband and devices at home correlates to median income, according to the Federal Reserve Bank of Philadelphia. The median income of Pennsylvania counties with the highest device access rates is nearly $20,000 higher.

According to the National Center of Education Statistics (2021), **17.3% of postsecondary students in Pennsylvania were enrolled exclusively in online education courses, and another 27.5% were enrolled in some online courses.** Taking courses online allows Pennsylvanians to develop their skills from home and fit their education around existing jobs, family commitments, or other constraints.

As of 2021, the Federal Deposit Insurance Corporation (FDIC) reports that **2.6% of PA households are unbanked and 13.6% are underbanked.** In this report, common reasons for being unbanked include inconvenient bank locations, privacy concerns, and funds below the minimum balance requirements. Unbanked refers to adults that does not have a checking or savings account with an insured FDIC institution. Underbanked refers to adults who do have accounts with FDIC insured institutions, but regularly used alternative financial services.

The impact on individual success, upward mobility, future opportunities for the next generation, and community economic prosperity is clear for Pennsylvanians. Equitable access to broadband service, internet-enabled devices, and digital skills helps Pennsylvanians pursue continued education, advance their career opportunities, increase their pay, and save and invest in stability for themselves and their families.

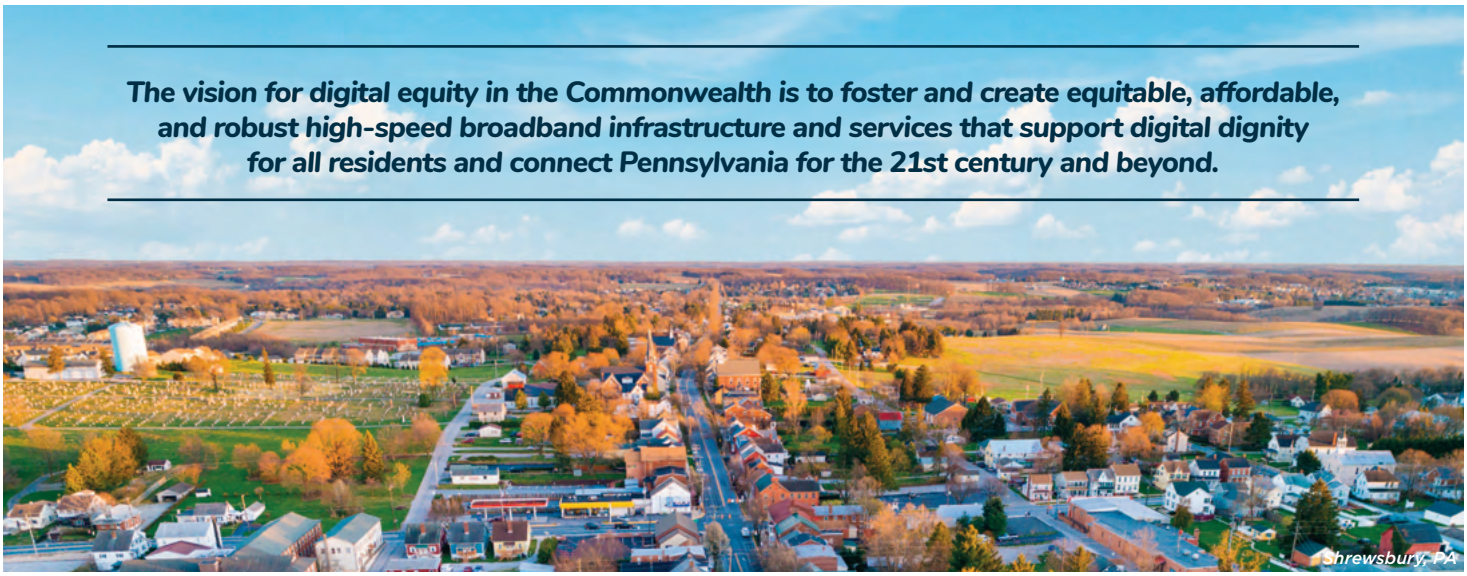
A Statewide Vision for A Connected Future

Digital equity's importance can also be described through the lens of "digital dignity," a phrase coined by Sharon Strover (2019). As our society increasingly relies on online services, platforms, and communication means, those lacking reliable access or limited exposure miss out on opportunities.

Students with computers at home can complete homework assignments. At the same time, those without access need to catch up in school or spend their evenings seeking out public Wi-Fi connections to achieve the same work. Aging residents can stay comfortably in their homes longer with online access to telehealth appointments, delivery services to the door, and social connections. New job and educational opportunities that support upward economic mobility are available to residents with reliable broadband access and a level of comfort with computer use. Residents can learn new skills and apply for jobs easily from their homes: in the evenings around work schedules, while caring for children, without requiring commute time or the expenses related to car ownership and public transit.

Digital dignity reflects the American value of opportunity for all: every person should have the same access to participate in the digital world. In a 2022 study by Matthews and Ali, researchers described how frequently internet use is taken for granted by those with strong computer skills and reliable broadband. Meanwhile, those without spend extra time and effort trying to locate the same information or access the same services through other means. Whether due to a poor connection or low comfort level with computers or software, individuals are silenced without the ability to contribute equally to virtual calls for work, with friends, and in public forums.

To support a healthy and economically strong Commonwealth, every resident deserves to have digital dignity and confidently participate in our increasingly connected society.



ESTABLISHING THIS VISION

Office of the Governor

The Shapiro administration recognizes that access to reliable, high-speed internet and the tools and skills to use it is essential to achieving the administration's educational goals, workforce, health, and economic prosperity. This vision builds upon a legacy of continued effort from the Commonwealth. The 2023 bipartisan budget focused on critical priorities, which are supported through increased digital inclusion programs and resources:

- Historic investment in K-12 public education, including resources for underfunded schools and increases to basic education funding across all districts.
- Investment in community and economic development to "spur job creation, foster innovation, and provide the funding to make Pennsylvania more competitive nationally."
- Expanding apprenticeships, vocational, and technical education programs supporting career pathways and advancement with family-sustaining wages.
- Investing in mental health and healthcare.

Advancing Digital Skills in Pennsylvania: 2022 State Plan and Recommendations

Under the previous administration, workforce development and digital equity were already focus areas. In 2021, the state participated in the National Governors Association's Workforce Innovation Network program to develop a plan for advancing digital skills. This was a joint effort with collaboration from the Governor's Policy Office staff, the Pennsylvania Department of Education, Labor & Industry, the Department of Community and Economic Development, and Team Pennsylvania. This was an important step towards recognizing the numerous points at which individuals experience barriers to using digital technology, developing a digital skills competency framework, and guiding future policy decisions.

> **"While affordable access is the first step, people must also know how to use technology safely and securely. Ensuring that people have this knowledge is critical to equitable economic recovery from the pandemic so that no one is left behind."**
>
> *– Advancing Digital Skills in Pennsylvania*

Commonwealth of Pennsylvania Statewide Broadband Plan (2022)

The PBDA published a statewide broadband plan that included four categories of challenges: broadband service infrastructure and availability, device and technology access, digital equity and affordability, and digital literacy and technical support. This document laid the groundwork for the PBDA's mission and goals in coming years, including identifying the state's values and vision for universal and equitable connectivity and action steps to address each of the four challenge areas. Digital equity is an underlying value throughout.

Connecting the Commonwealth: A 5-Year Strategy Toward Internet for All (2023)

Through the Broadband Equity, Access, and Deployment (BEAD) program, Pennsylvania received $5,000,000 in funds to prepare a Plan to guide how the state will deliver universal broadband access to every address. Through the BEAD program, Pennsylvania has received $1.16 billion to invest in expanded broadband service. This program focuses on developing broadband service to unserved or underserved areas, including all addresses with an internet speed of less than 100/20 (upload/download speeds, measured in Megabits per second) and Gig-speed service to Community Anchor Institutions. The Plan included goals for digital equity through universal access. It also recognized that connecting the Commonwealth requires equipping residents with the devices, skills, and assistance to get online to benefit a connected population.

A location has access to reliable high-speed broadband if they have service available that meets the following speed thresholds:

Served locations have access to minimum 100 Mbps download/ 20 Mbps upload (100/20).

Underserved locations have access to minimum 25 Mbps download/ 3 Mbps upload (25/3), but less than 100/20.

Unserved locations have no access or only access to broadband speeds below 25/3.

A Plan for the People of Pennsylvania

The PBDA has engaged with local government leaders, community stakeholders, and members of the public frequently since its inception in 2021. Pennsylvania residents' participation has helped drive this *Digital Equity Plan* forward and shape the vision for digital equity in the Commonwealth. Beyond the public engagement conducted during the development of this Plan, the PBDA has hosted town halls and listening sessions, met with digital equity advocates and practitioners, and heard about the challenges and needs faced daily.

2.2 A SHARED PRIORITY ACROSS THE COMMONWEALTH


Williamsport, PA

AN ONGOING COMMITMENT TO DIGITAL ACCESS AND SKILLS

The PBDA recognizes the need for increased collaboration and coordination among state and local agencies to ensure effective and efficient use of resources and collaboration across efforts with similar goals. Investment in access to technology and technology skills promotes and supports numerous initiatives across the Commonwealth.

A comprehensive review of priorities across state agencies was conducted to advance Pennsylvania's vision to support digital dignity for all residents and ensure that the PBDA's efforts are aligned with longstanding planning initiatives throughout the Commonwealth.

Economic Development

Access to high-speed internet is crucial for businesses to stay competitive. In Pennsylvania, the state is working towards providing universal access to high-speed internet to not only meet current demand but also address future demand. This will help attract innovative development and support business owners throughout the state. Reliable broadband availability is also important for local and regional economic development. It supports the growth of home-based businesses and enables people to work remotely. Remote work has become more prevalent, and residents must have dependable broadband access and gives people greater flexibility in choosing where to live and pursue job opportunities without leaving home.

It's imperative that all Pennsylvanians develop the skills necessary for high-growth, high-demand careers that pay a family-sustaining wage and contribute to Pennsylvania's economic growth.

Economic Development	Digital Equity Plan Alignment	Notes
Executive Order Commonwealth of Pennsylvania Governor's Office *Executive Order 2023-19 – Expanding and Governing the Use of Generative Artificial Intelligence	• Collaborate amongst agencies and resources across the Commonwealth of Pennsylvania. • Create processes to manage economic development projects. • Focus on servicing underserved communities.	These plans, under Governor Shapiro, emphasize the importance of collaboration and connecting the right partners to services in the economy to improve it. The goal of the plan aims to produce inclusive outcomes for the business community and the residents it serves.
Joint State Government Commission (JSGC)	• Create new businesses and markets to raise productivity levels. • Improve competitiveness.	JSGC's plan aligns with the PBDA's objectives to build resilient and sustainable infrastructure to support the anticipated economic growth attached to providing business services for its residents.

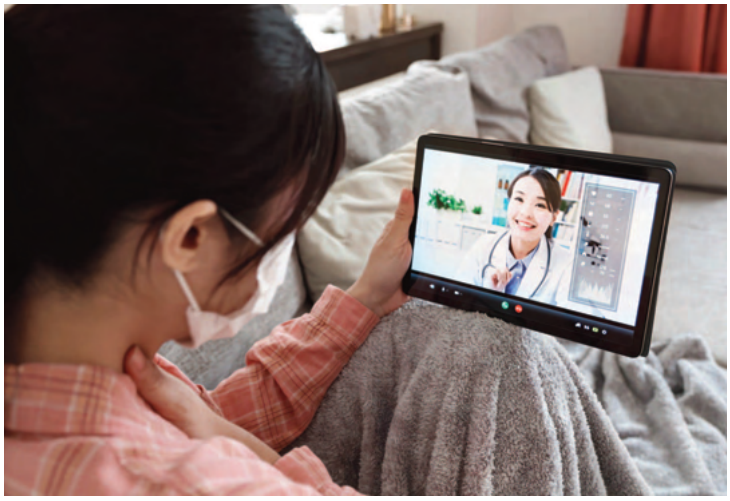
Rockland Manufacturing Group
Bedford, PA

Workforce Development

The digital divide has significantly impacted job access, training, and salaries, ultimately affecting the local, regional, and state economies. As technology evolves, it is essential to address these gaps to ensure fair and just opportunities for all. Training and on-the-job experience help residents improve their skills and address education gaps that separate people from jobs that would allow them to reach higher salaries and flexibility in the 21st century economy.

A highly skilled workforce is essential for maintaining vibrant communities and quality of life throughout Pennsylvania's urban and rural communities. Pennsylvania is committed to improving digital literacy skills and removing barriers to create the skilled workforce needed across all sectors of our economy. Technology access and training investments are essential to ensure that residents can participate in remote learning, continuing education programs, and workforce improvement programs.

Workforce Development	Digital Equity Plan Alignment	Notes
The National Governor's Association Workforce Innovation Network (NGA WIN)	• Remove digital literacy barriers. • Improve education policy. • Create digital literacy partnerships.	To advance the Governor's priorities, a Pennsylvania team representing workforce, education policy, adult education, libraries, and employers participated in the National Governor's Association Workforce Innovation Network (NGA WIN) to look at current and future digital skills needs across the Commonwealth and take initial steps towards addressing digital literacy transformation.
Workforce Innovation and Opportunity Act (WIOA) Combined State Plan	• Remove barriers to employment. • Collaborate across Commonwealth agencies and workforce development partners. • Address challenges related to digital literacy. • Increase opportunities for youth. • Strengthen the One-Stop Delivery System.	The synergies between the Department of Labor & Industry, WIOA, and the PBDA are well aligned to prepare residents for work by providing customized training to gain meaningful employment. The PBDA recognizes the need for apprenticeship programs and customized training geared toward specific job descriptions to fulfil the overwhelming demand for workers in the fiber and telecom industries. Agency collaboration will help combat the workforce shortage issues surrounding the implementation of new infrastructure.



Education and Training

The PBDA supports the ongoing efforts across the state to provide educational opportunities to residents for personal growth and career advancement. These educational training agencies and partners help residents obtain and maintain the skills needed for employment, thus removing barriers to work and creating technical career paths to sustainable employment. Training agencies play an instrumental role in connecting residents to careers by providing job skills tailored to the job descriptions obtained from potential employers that match the needs of companies. The PBDA's digital equity goals align with these existing agencies to provide training, skill development, and certification programs.

Educational and Training	Digital Equity Plan Alignment	Notes
Office of Commonwealth Libraries Five Year Plan	• Provide procedures and priorities for evaluation and reporting process.	The Libraries Five Year Plan outlines goals and activities that align with broadband access and expansion, such as supporting digital library services at the local level, expanding on digital navigator training and programs, and digital literacy staff development with project funding.
Evolving District Services	• Enhance and increase library public services, which are a vital structure for local libraries. • Help with funding technology and community needs. • Foster equitable library service across the Commonwealth.	Review current district services, identify common goals, and recommend improvements and efficiencies. Input from library directors and staff who provide or use district services was gathered, and recommendations from previous district studies were consulted.
Advancing Digital Skills - PA State Plan and Recommendations	• Develop a standard curriculum. • Increase training opportunities. • Identify gaps in training. • Includes a needs assessment related to digital skills specifically.	The Digital Literacy Programming Map provides information on digital literacy training opportunities. It helps the state find training gaps and identify areas where training opportunities can increase.
Pennsylvania Department of Labor & Industry: Bridging the Digital Divide (2022)	• Improve capacity and capability to deliver services to residents. • Provide digital skills training and services accessibly. • Leverage data systems to improve operations.	Seeking to close the digital divide within Pennsylvania's workforce system, the Department of Labor & Industry is taking the necessary steps to meet the goals that address dynamic workforce challenges and opportunities that include increasing broadband availability, building capacity for partner organizations, and investing in customized training.

Healthcare and Telemedicine

Pennsylvania strives to ensure all communities have equal access to healthcare programs and resources. While there are many contributing factors to gaps in healthcare, the time and travel commitments required to attend in-person medical appointments has a disproportionate impact on those who can least afford this effort, including aging individuals, those without a vehicle, persons with disabilities, and individuals with limited income and minimal time off work.

From diagnostics and treatment to providing electronic health record access, broadband plays a critical role in providing high-quality healthcare for Pennsylvanians. Telemedicine, health information exchanges, electronic health records, and high-speed data transmission systems shape health delivery services and the health of Commonwealth residents. Rural healthcare has become an increasing concern for residents in as traditional brick-and-mortar healthcare facilities are limited.

Healthcare and Telemedicine	Digital Equity Plan Alignment	Notes
Office of Mental Health and Substance Abuse Services (OMHSAS) Telehealth Funding Opportunity	• Invest in technology and training for behavioral health telehealth providers.	The PA Department of Human Services' OMHSAS has made available a $4 million funding opportunity to assist small behavioral healthcare providers. Grants of up to $50,000 are available to invest in technology and training for behavioral health telehealth providers.
State Plan on Aging	• Allow older adults to age in place with dignity. • Sign up for the Pharmaceutical Assistance Contract for the Elderly (PACE) prescription assistance program and other supports and services. • Stay connected with friends and loved ones to combat isolation. • Expand telemedicine access. • Expand device access to support these activities.	The Pennsylvania Department of Aging recognizes access to technology as a top emerging issue and trend. The Pennsylvania Council on Aging supports improved broadband internet access to help aging adults with telemedicine, home monitoring, fall prevention, and staying connected to prevent social isolation.
Final Telemedicine Survey Guidelines and Pennsylvania Department of Health Survey Policy	• Increase access to healthcare through telemedicine.	The Department of Health notes that telemedicine has a critical role in increasing access to high-quality healthcare for many Pennsylvanians. Telemedicine is an invaluable tool for patients and providers with continued growth anticipated.
Office of Health Equity	• Invest in data collection and make it accessible online. • Improve living conditions including access to housing, education, and nutrition. • Improve healthcare access in vulnerable populations.	The State of Health Equity in Pennsylvania report from 2019 identifies how social determinants for health and discusses health equity and the imbalances in healthcare access across different populations. It includes a Health Equity Action Plan for 2030.
PENNIE	• Help residents shop for health insurance plans. • Allow enrollment in a healthcare plan. • Lower monthly premiums.	PENNIE is the statewide health insurance exchange which connects residents to financial assistance to help lower the cost of coverage and care. Resources and enrollment are available online, including step-by-step guides, and phone support is also available.

Hyner View State Park, PA

Civic and Social Engagement

Pennsylvania has reviewed other statewide efforts that match its priorities to boost social engagement through internet use. These efforts understand how important the internet and devices are to engaging in online activities and news sources. From attending municipal or school board meetings online, seeking local information and updates and using municipal websites for permits or other forms, civic involvement increasingly relies on being able to participate online. Other Pennsylvania state agencies have set similar goals to increase meaningful usage for reasons such as social connection, email access, remote education and work opportunities, and access to essential services. Each of these priorities are supported and enhanced through investment in digital inclusion efforts.

Civic and Social Engagement	Digital Equity Plan Alignment	Notes
Department of Conservation & Natural Resources 2020-2024 Statewide Outdoor Recreation Plan	• Improve access to outdoor internet connectivity.	This plan describes the substantial opportunities for growth within the outdoor recreation economy in Pennsylvania. A top priority for the department is increasing mobile connectivity in outdoor recreation areas to enhance user experience and safety.
Center for Rural Pennsylvania's Broadband Availability and Access in Rural Pennsylvania	• Explore the availability of 25/3 Mbps speeds in the state. • Support efforts for universal broadband availability.	This study mapped speeds across the state to determine the true state of broadband connectivity. The research provides a considerable level of documentation and insight into the state of broadband connectivity experienced by rural residents across Pennsylvania, emphasizing crucially needed efforts to bridge the digital divide.
Department of State PA Online Voter Registration	• Register to vote online. • Get accurate information about voting districts and polling places. • Request mail-in and absentee ballots. • Find up to date and accurate election results. • Report election complaints.	Pennsylvania supports online voter registration, as well as related online services from requesting mail-in ballots and absentee ballots to checking on election results. Supporting election information and helping voters find clear and accurate information is an essential part of ensuring fair access to civic participation.

Other Essential Services

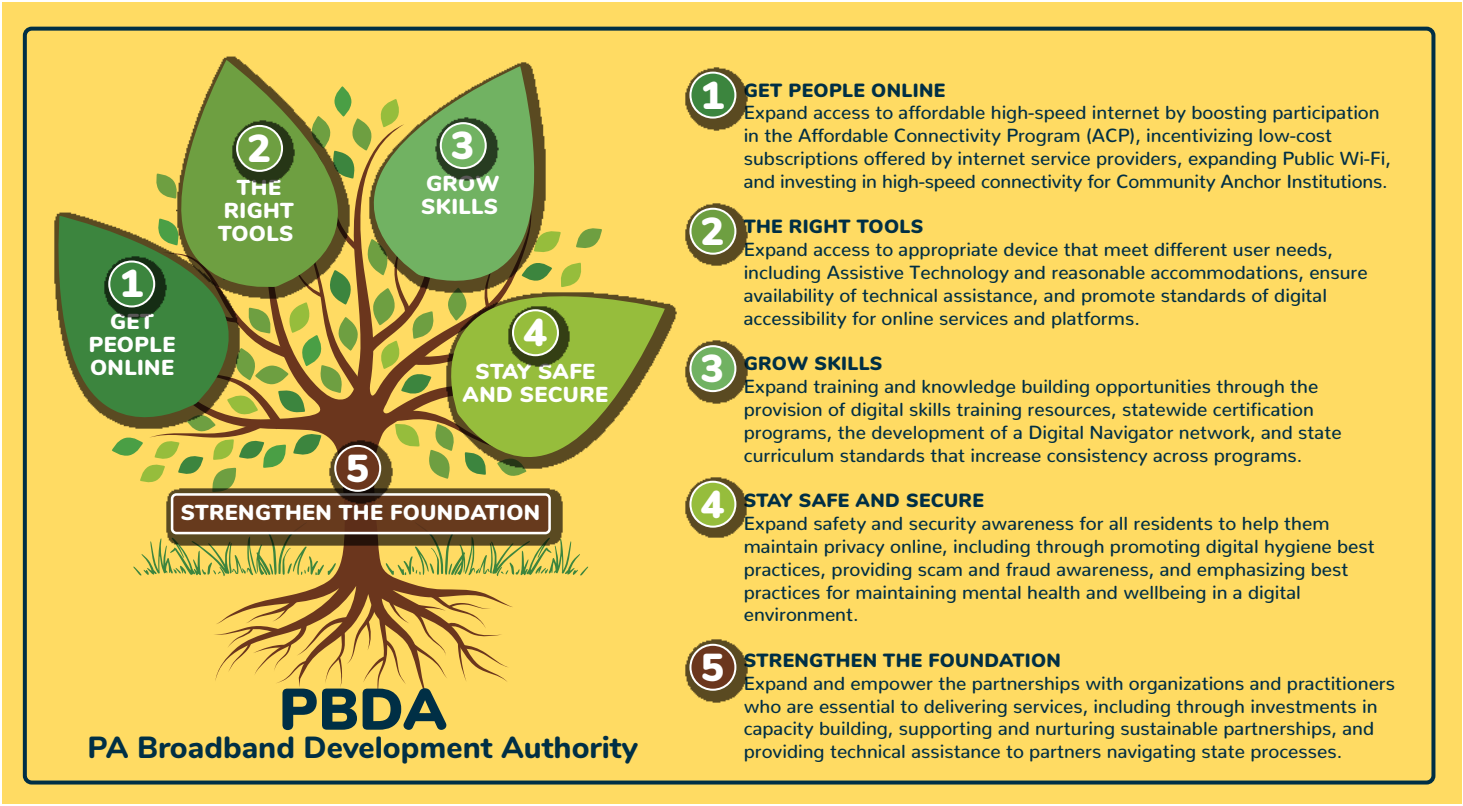
While planning for digital equity and inclusion, particular consideration is given to the needs of vulnerable communities that other essential services may underserve. Among these vulnerable populations are military Veterans and individuals with disabilities, with particular needs for access to telehealth services, digital literacy, and devices to connect them to essential support services. Pennsylvania's digital equity investments must ensure that these populations have access to the digital services they need to participate in social, civic, and economic activities successfully, comfortably, and with the dignity they deserve.

Other Essential Services	Digital Equity Plan Alignment	Notes
Military & Veterans Affairs' Project UP	• Increase telemedicine and mental health access for Veterans. • Provide appropriate devices so Veterans in Veteran care homes can stay connected. • Provide workforce and education access for Veterans when they return home.	Project UP assists Veterans with housing, career development, wellness, and supportive services.
Pennsylvania Department of Veterans Affairs (VA)	• Provide virtual VA Telehealth services. • Connect VA health specialists to clinics. • Collaborate and improve telehealth services.	This department aims to ensure Veterans can access care when and where they need it. VA Telehealth Services is transforming how Veterans access high-quality VA care. VA telehealth technologies make it easier for individuals to connect with a VA care team from your home, the clinic, or the hospital.
Library of Accessible Media for Pennsylvanians (LAMP)	• Provide digital assistance for people with disabilities. • Distribute devices such as smartphones, laptops, or assistive technology devices.	LAMP is a free braille and accessible media service for people with temporary or permanent low vision, blindness, or a physical disability that prevents reading or holding a book. People with a reading disability, such as dyslexia, benefit from these services.
Department of Banking and Securities	• Teach users how to avoid scams and identify theft online. • Promote cybersecurity steps to keep personal and financial information safe. • Educate Pennsylvanians about financial security and investment options. • Prevent financial abuse of older adults. • Guide financial security for justice-impacted individuals during reentry.	This department regulates banks and credit unions and offers resources for consumers and investors. Online financial services for individuals and for businesses allow greater access to financial services and flexibility to engage with them outside of traditional banking hours. The department partners with other agencies and external entities to provide training and informational materials related to identify theft, scams, online banking practices, and more.

2.3 GOALS AND OBJECTIVES TO ADVANCE THE DIGITAL EQUITY VISION

Pennsylvania's approach towards achieving digital inclusion and dignity is holistic and aimed at ensuring lasting impact from investments in technology and people. The PBDA is committed to responsible and effective use of the state's digital equity funds by focusing on thoughtful and thorough solutions in helping residents get support that leads to lasting impact and personal capability and self-reliance using online tools in the future.

The PBDA has established the following objectives to foster a more inclusive digital environment for its residents. These fall within five major goals in support of the Commonwealth's vision for digital equity.



GOAL: GET PEOPLE ONLINE

Broadband access and adoption are the two largest drivers of today's digital divide. Where infrastructure does not exist, building it must be a priority. Once infrastructure is available, it needs to be affordable and easily adoptable by Commonwealth residents. Increasing home and community-based access opportunities is the fundamental first step towards internet for all in Pennsylvania. Key objectives within this goal include:

- **Affordable Connectivity Program and Low-Cost Subscriptions**
  Access to low-cost broadband is particularly challenging for low-income households. Broadband plans can be cost-prohibitive, but the Affordable Connectivity Program (ACP) is a critical tool to help mitigate that cost. Established by the Federal Communications Commission (FCC) in 2021, the ACP provides a $30 monthly discount on an internet bill for qualifying households and a one-time up to $100 credit towards an eligible device. Requiring internet service providers (ISPs) to participate in ACP to apply for the BEAD program is an excellent step to ensuring that the ACP is widely available for Pennsylvanians, especially in areas that may lack internet service. With the greater availability of ACP, it will be necessary to increase consumer awareness of the program as just over 1.4M of Pennsylvanians are eligible but have yet to enroll in ACP. In addition to increasing ACP participation, encouraging more ISPs to offer low-cost internet plans will help increase adoption rates in the Commonwealth. In the PBDA's public engagement work, cost routinely was mentioned as a significant barrier to adoption, and appreciation for low-cost subscription plans was referenced often. Many service providers offer such plans to qualifying individuals but are often at specific speeds. Increasing plan offerings, such as having multiple low-cost options with higher speeds or broadening the eligibility criteria, is recommended.

- **Public Wi-Fi and Community Anchor Institutions**
  When broadband is not available or affordable in the home, residents often turn to public Wi-Fi access to get online. Libraries, schools, faith-based institutions, and other publicly accessible Community Anchor Institutions are a lifeline for job seekers, students, and others who, for various reasons, may not have internet access at home. Expanding access to free public Wi-Fi will be instrumental in ensuring Pennsylvania achieves internet for all. Partnerships, funding opportunities, and including Community Anchor Institutions in proposed broadband infrastructure build-outs will be necessary strategies to increase broadband access in Pennsylvania.

Key steps to address the goal of getting people online include:

- Support awareness and participation in the ACP program.
- Encourage low-cost broadband subscriptions at reliable high speeds that meet the minimum requirements of 100/20 Mbps for download/upload speeds.
- Support additional high-speed connectivity and capacity for Community Anchor Institutions.

GOAL: THE RIGHT TOOLS

Not every resident uses technology in the same way. Desktop computers, laptops, tablets, smartphones, and more each are useful in different ways. Having the right tools available makes an impact in a user's success online. Many supportive tools are also available to improve accessibility and legibility, but users aren't always aware of these tools or how to benefit from them.

- **Devices**
  While great tools, smartphones alone cannot meet the online needs of Pennsylvanians. Through extensive community feedback, it was very apparent that smartphones were the primary device utilized to access the internet. Availability of other devices was limited due to varying factors like cost, lack of access to broadband infrastructure, and the need for skills and training to use an appropriate device.

  Encouraging strategies centered around bulk purchasing of devices for residents, programs, and Community Anchor Institutions will be essential to getting Pennsylvanians appropriate devices. Bulk purchasing, while expensive on the front end, allows for both the best pricing and rapid distribution to residents in need. Additionally, the potential longevity of devices must be considered. Devices that become obsolete or cease to function after a year or two, while often cheaper to purchase, create significant waste and place programs and residents right where they started. Device refurbishing is also critical to connecting individuals to the devices they need. Partnerships with industries that often cycle their devices, like banks or universities, and connecting with device refurbishment businesses, help continue the life cycle of otherwise defunct or unwanted devices and help get them into the hands of those who need them most.

- **Technical Assistance**
  Another recurring theme regarding device access is needing help when something goes wrong. Technical assistance for both the device and assistive software is sorely needed and often unavailable for covered populations. Often, when technical assistance is needed, Community Anchor Institutions like libraries are where people turn to get help with their devices as no specific technical assistance is available elsewhere. While these institutions may be capable of troubleshooting basic problems, this help is often unpaid and performed by volunteers. In addition to basic technical support for devices, there is a demonstrable need for available, low-cost, assistive software and support.

- **Digital Accessibility, Assistive Technology, and Reasonable Accommodations**
  After conducting roundtable discussions and focus groups with individuals with disabilities, it became clear that the ability to access digital skills training, assistive technology, and accommodations for everyday activities was a recurring theme. Over the past 50 years, numerous laws have been enacted to ensure equal access to employment and technology and to increase the quality of life of people with disabilities. The Rehabilitation Act of 1973 was the first federal law to address civil rights and equal employment opportunity. It set a precedent for future legislation that would benefit people with disabilities. However, as technology advances, people with disabilities are more likely to experience a digital divide. According to the 2018 U.S. Census Bureau, over 40 million people in the United States have a disability, making them more vulnerable to discrimination and impeding their access to assistive technology. The American Disabilities Act of 1990 is another federal law that prohibits discrimination. The PBDA believes that digital accessibility is a collective responsibility and that content creators must ensure their content meets the Revised Section 508 Standards of the Rehabilitation Act. The PBDA complies with federal civil rights laws to ensure that the following strategies include the covered population and are embedded in the fabric of the *Digital Equity Plan*.

Key steps to address the goal of using the right tools include:

- Encourage standards of Universal Design in websites and software.
- Comply with Section 508 laws and policies regarding IT accessibility for people with disabilities.
- Include people with disabilities and other accessibility subject matter experts in developing public programs and policies.
- Pursue bulk purchasing of devices to secure competitive pricing.
- Build partnerships with industries with high technology turnover.
- Use existing and new partnerships with device refurbishment businesses.
- Sign up eligible households with the ACP and its device credit benefit.
- Offer robust technical assistance for devices and assistive software.

GOAL: GROW SKILLS

With increased access and the right tools, growing digital skills is the next step to closing the digital divide. As technology rapidly changes, diverse, low-cost, and free digital skills training must be readily available to Pennsylvanians. As Pennsylvania looks to train its workforce, provide education to students in a setting that best fits their needs, provide opportunities for telehealth, and make access to assistance programs easier, residents must have the digital skills to take advantage of our increasing digital society.

- ### Certification

  Repeatedly, stakeholders have shared that there is an overestimation of skills when individuals seek out digital skills assistance. Fundamental skills like knowing how to turn on a computer, general typing skills, and connecting to Wi-Fi often need to be taught. Many grant funding parameters for digital skills assume a baseline knowledge of technology. Requiring certification for digital skills programs may be problematic if those certifications don't consider the lack of baseline-level skills that residents may have. To truly meet the needs of Pennsylvanians, these foundational technology skills should be included and permissible for funding in grant programs.

- ### Digital Skills Training and Digital Navigation

  A lack of digital skills increasingly impacts everyday life for Pennsylvanians. With the increase of telework and as applications, education, and financial services move online, ensuring digital skills programs exist is imperative. Digital skill training and digital navigators will be instrumental in helping residents gain the necessary skills to pursue the opportunities internet access can offer. Pennsylvania has several digital skill training programs and digital navigator programs that serve as best practice models, but universal access to these programs is yet to be available. The ability to access online training allows these programs to be more readily available. However, challenges like funding, staffing, and equipment remain barriers to implementing digital skills programs across every county in the Commonwealth.

- ### State Curriculum

  Pennsylvanians face a significant lack of digital skills, access to resources, and unified support, which highlights the need for an inclusive digital equity ecosystem. To achieve this, it is important to incorporate nationally recognized best practices, such as implementing a statewide digital navigator program. This program should be built on a solid, sustainable foundation of individuals willing to address the challenges of digital inclusion.

  Pennsylvania is implementing a statewide digital navigator program that aims to provide new users and learners with access to comprehensive support to effectively use the internet and digital technology. The program will employ best practices and strategies to ensure the affordability and sustainability of the service options and transparency in the *Digital Equity Plan*.

  The program will utilize in-person and virtual engagement models for the digital navigator programs across Pennsylvania. As the PBDA develops a digital equity ecosystem, it will incorporate established digital navigator program models as resources to help participants and work towards achieving the overarching goal of creating a cohesive and consistent digital equity ecosystem catering to the needs of Pennsylvanians. The program will provide wrap-around resources and establish public and private partnerships in the community, thus increasing opportunities in the workforce.


Tioga Borough, PA

Key steps to address the goal of growing skills include:

- Develop a statewide digital equity ecosystem consistent with implementing the Digital Equity Act, BEAD programs, and Governor initiatives.
- Encourage the adoption of a statewide digital navigation model and training throughout the Commonwealth departments that are forward-facing to the public.
- Target grant funding to local areas with training deserts or lack of digital access skills to develop programming and resources with a focus on sustainability planning embedded in the funding structure for long-term viability.
- Increase Commonwealth-wide collaboration to increase accessible gateways to digital skills, workforce support, and training services.
- Create a statewide digital navigator program framework and standard.
- Develop broad, inclusive grant parameters that meet Pennsylvanians where they are skill-wise.
- Train and deploy additional digital navigators, including volunteer and paid positions that value the experience needed and support retention.

GOAL: STAY SAFE AND SECURE

Internet access offers numerous opportunities but comes with significant risks. It is convenient to check bank statements, register for classes, or sign up for a telehealth portal in today's digital world. However, the ease of access also increases the potential for personally identifiable information to be stolen, for users to be scammed, and for misinformation to spread.

- **Digital Hygiene**
  Digital hygiene is a critical first line of defense against new and evolving digital threats and securing personally identifiable information (PII). Best digital hygiene practices include recognizing and understanding phishing attempts, multi-factor authentication and strong password protection, routinely updating software, and the ability to discern real, safe, and secure websites from fraudulent ones. These skills will be necessary for residents of the Commonwealth to access the internet safely.

- **Scam and Fraud Awareness**
  In 2022, Pennsylvania residents filed over 90,000 scam reports between the Federal Trade Commission and the Internet Crime Complaint Center. In total, victims lost over $334 million. Older adults (aged 60 and older) lost a reported $80 million, with the most common scams involving investment, business e-mail compromise, romance, tech support, and cryptocurrency-related scams. Keeping residents safe online as we expand broadband access must be critical to digital skills and device training, especially for vulnerable populations. Additionally, there is often an assumption that predominately older adults are impacted by online scams when falling for an online scam can affect any generation.

- **Mental Health and Wellbeing**
  Staying safe online is about safeguarding online personal information, recognizing scams, and protecting users' mental health and self-esteem. *The 2023 Social Media and Youth Mental Health Report* shows that the longer adolescents spend on social media, the more prone they are to depression and that limiting social media exposure to just 30 minutes a day drastically improves the symptoms of depression. Additionally, cyberbullying has emerged as a serious mental health consideration. Cyberbullying is often associated with students, but the phenomenon exists across all ages online. While internet access can expand the ability for connectivity, it can also lead to feelings of fear, isolation, and depression. Ensuring robust knowledge regarding mental health and being online and providing readily available information about supports and services for anyone experiencing mental health concerns will help Pennsylvanians remain holistically safe and secure while accessing the internet.

Key steps to address the goal of staying safe and secure include:

- Partner with trusted experts to provide low- or no-cost consumer protection training.
- Require digital skills training funded through Digital Equity Act dollars to contain minimum data security components and information about mental health.
- Expand and amplify messaging and resources around mental health considerations related to internet use.
- Partner with sister agencies (Banking & Securities, Department of Health, Department of Education, etc.) to utilize existing resources and experts to protect and educate Pennsylvanians on staying safe online.
- Educate users about secure networks, cybersecurity tools, privacy settings, and device health.

GOAL: Strengthen the Foundation

Getting people connected, providing the right devices, enhancing digital skills, and teaching safety and security online presents a holistic process to closing the digital divide. It is evident through the PBDA's public engagement efforts that individuals usually don't just need assistance with one thing when it comes to getting online. When speaking to individuals about the full scope of their needs, they often need assistance with multiple facets to access the internet. Creating and sustaining digital equity resources must involve holistic approaches to serving the needs of residents and communities in the Commonwealth.

- **Capacity Building**
  Although there are many programs and organizations in Pennsylvania that are dedicated to digital equity work, there is still a high demand for more services. To meet the digital equity needs of Pennsylvanians, investing in program development, training, and outreach is necessary. While volunteers at libraries, non-profits, and other organizations have been instrumental in providing digital skills services, there is a huge need for paid digital equity professionals, including digital navigators. Investing in toolkits and train-the-trainer models will help expand digital equity services throughout the Commonwealth.

An attendee at a community conversation in Lackawanna offered the following comment:

> **"More people come to libraries for technology help than anything else. [We] offer a 'tech table' [for people] to sit down with a computer instructor to understand personal devices. That opens conversations into security discussions, etc. Libraries are viewed as a safe place for learning/education on technology."**

- **Sustainable Partnerships**
  The development of key partnerships in the digital equity space will be essential to moving the needle on closing the digital divide. Coalition building across diverse industries will help ensure a breadth of consideration about digital skills and devices needed to access a range of services and supports. For example, entities that offer digital skills training will need to consider how healthcare systems and financial institutions utilize online portals and multi-factor authentication measures for security. Digital equity coalitions and diverse, sustainable partnerships can unite the boots-on-the-ground trainers and program developers with industry partners to help tailor digital skills training and offer opportunities to provide continued funding for skill development and device distribution. Many successful coalitions exist in regional areas of the state; for example: the statewide Pennsylvania State Digital Equity Coalition (PASDEC) brings together many of these partners to drive collaboration and resource sharing. These coalitions can be used as models for other Pennsylvania regions.

- **The Pennsylvania Broadband Development Authority**
  The PBDA has and will receive significant funding to address Pennsylvania's digital equity challenges and barriers. While the exact amount of Digital Equity Act funding has yet to be released, Pennsylvania's Capital Projects Fund (CPF) has already designated $44,853,958.95 for capital improvements for Community Anchor Institutions and $20 million for a device program. The PBDA will be designing grant program guidelines for eligible entities to apply to these programs and will adjudicate those grants over the next several years. At present, the PBDA is set to sunset in 2031 or whenever the grant money has been spent, whichever occurs first. Establishing the PBDA as a permanent fixture for broadband infrastructure and digital equity-related programs would help keep broadband access and digital equity at the forefront as a statewide issue. The PBDA could serve as the permanent clearinghouse for additional broadband-related grants and, with state funding, establish permanent programs to close the digital divide.

- **Technical Assistance**
  The PBDA recognizes that a wide range of stakeholders are invested in the digital equity space. From large, robust non-profits with offices in numerous counties to small, local organizations to serve one community, and digital equity dollars must be accessible to qualified applicants across the board. Repeatedly, the need for technical assistance in grant applications for small organizations and the challenge these small organizations face in applying for and reporting on grant funding was brought up as a stakeholder barrier. Ensuring that, whenever possible, grant guidelines and reporting mechanisms are written with these considerations in mind will help address functional challenges small organizations may have historically faced when applying for funding opportunities. Additionally, the PBDA would like to explore bucketing a percentage of Digital Equity Act dollars specifically for small organizations and providing enhanced technical assistance for those applicants.

Key steps to address the goal of strengthening the foundation include:

- Invest in holistic program development.
- Monitor and create key performance measures to ensure programs are effective.
- Address barriers to resources that hinder the progression of services.
- Connect partners to programs to promote collaboration and better outcomes.
- Ensure equitable fund allocation to ensure programs get the proper funding.

The implementation plan in Chapter 6 provides a more detailed roadmap for how Pennsylvania will work to meet these goals through targeted actions and performance metrics that the PBDA will pursue over the next few years.

Together with the support and leadership of the PBDA, Pennsylvania's committed state agencies, community leaders, and digital equity practitioners, we can drive forward these five goals and invest in collaborative, successful, and enduring action steps to help Pennsylvania residents get connected.

3. ASSET INVENTORY

In order to best connect residents to available resources and assess where there are deficiencies in the availability of resources, the state has developed an inventory of digital inclusion assets.

The following sections do not represent a complete list of assets but rather a thorough summary of key assets identified across the state. Digital inclusion connects to many other topics and is often a supporting component of programs with different core goals. From organizations that offer annual tax clinics to assist people with online filing, to afterschool programs that include computer lab time and many other valuable activities within communities across the state, computer access and skills are frequently integrated into other programming. As a part of establishing this Plan as an enduring and sustainable roadmap towards achieving digital equity for all, regular maintenance and updates are anticipated.

Pennsylvania's Digital Inclusion Assets Include

- ☑ Statewide funding sources that support digital inclusion programs within any of the following categories.
- ☑ Statewide agencies and institutions that have a supporting mission and human resources in place to advance digital inclusion initiatives.
- ☑ Publicly available Wi-Fi locations.
- ☑ Recent data and statistical studies that document digital inclusion within Pennsylvania.
- ☑ Digital equity plans developed at local levels.
- ☑ Programs that offer computer literacy courses, technical support, and/or free or low-cost devices.
- ☑ Programs that help in signing up for the Affordable Connectivity Program (ACP)
- ☑ Coalitions and similar collaborative advocacy groups that focus on digital equity and inclusion within their area.
- ☑ Related pilot projects that advance digital inclusion through innovative means.

3.1 DIGITAL INCLUSION RESOURCES ACROSS THE COMMONWEALTH

Digital inclusion assets are wide-ranging. This section focuses on statewide resources and systems of resources.

DATA GATHERING

Mapping the Unserved and Underserved

Access to internet is a fundamental asset enjoyed by many Pennsylvania residents, yet there are still too many locations that lack reliable high-speed access. The PBDA has worked to map each location across the state that is 'served,' 'underserved,' or 'unserved' by broadband. The Broadband Service Map managed by the PBDA provides data on broadband access and gaps in access within Pennsylvania. The PBDA builds upon the FCC's national mapping data and is helping jurisdictions with challenge process.

Locations across Pennsylvania identified by PBDA

279,085 Unserved

54,048 Underserved

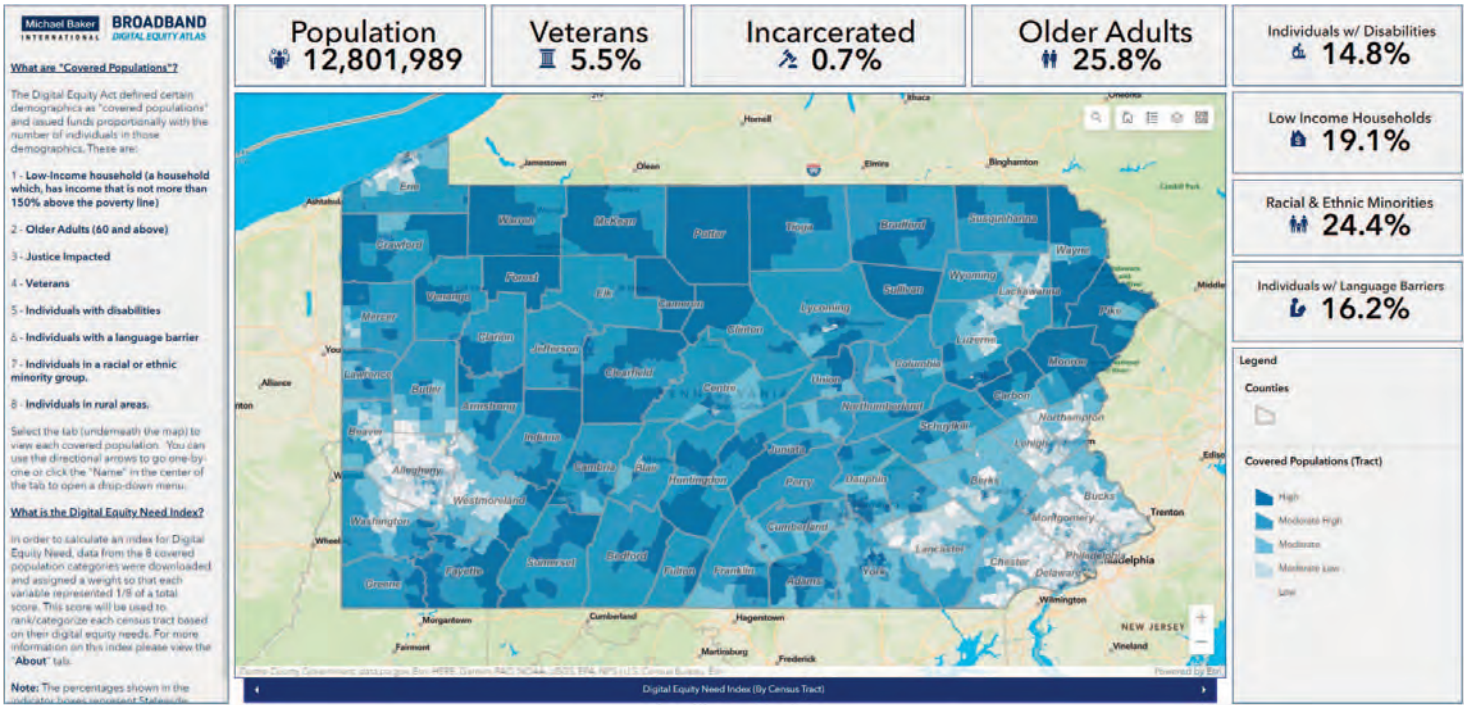
This *Digital Equity Plan* was prepared alongside the PBDA's efforts for the BEAD program. More details about broadband infrastructure and the analysis of locations served can be found in the *Connecting the Commonwealth: A 5-Year Strategy Toward Internet for All* plan. Between the BEAD and CPF programs, over $1.4 billion is dedicated to expanding broadband infrastructure in Pennsylvania within the next five years.

Digital Divide Index

The Digital Divide Index (DDI) is a data analysis framework developed by the Purdue Center for Regional Development. It covers all 50 states and uses a methodology that PBDA has emulated in its mapping. The DDI assesses physical access to technology and related socioeconomic factors that could limit digital skills and use. Its goal is to stimulate discussions among community leaders and residents. The DDI score ranges from 0 to 100, with higher numbers indicating a more significant digital divide. Data for this index comes from the five-year American Community Survey and Ookla Speedtest open dataset. The index combines many factors into two scores related to infrastructure access and demographic factors to determine a locality's DDI score.

Pennsylvania Digital Equity Atlas

A comprehensive Digital Equity Atlas was developed into a data dashboard to address fundamental needs and conditions. The Pennsylvania Broadband Digital Equity Atlas examines the demographic and socioeconomic repercussions of broadband adoption and affordability. The construction of this Atlas draws upon a range of data sources including datasets centered around Environmental Justice (low-income and minority populations) and Title VI factors (disabled, older adults, and limited English proficient populations).



Digital Skills Training Provider Map

The Commonwealth of Pennsylvania created the Digital Skills Training Provider Map to help adults in Pennsylvania find low-cost or free classes and trainings to improve their digital skills. The map shows anyone looking for trainings where local Community Anchor Institutions are offering affordable digital skills classes or tutoring. This map also helps digital navigators (staff at libraries, education programs, the PA CareerLink® and other organizations) to assist Pennsylvanians in finding digital skills courses that will meet their needs. At a regional and state level, the map shows where there is a need to prioritize offering more classes or a wider variety of digital skill classes. The Open Data PA website provides public access to data about where communities have – and lack – access to foundational and more advanced digital skills training, which researchers, advocates, and policymakers can use to map resources and develop policies and programs that promote digital inclusion throughout the state.

STATE RESOURCES

Department of Labor & Industry (DLI)

The DLI provides grant funding for programs to offer digital literacy and skill training that prepares job seekers for employment opportunities. The Digital Literacy and Workforce Development (DLWDG) grant program has awarded four rounds of funding in 2023. These grants were allocated to state entities coordinating with local workforce development boards, employers, and community organizations. In 2023, $685,000 was awarded through this program, and 16 organizations were selected to receive these funds.

PA CareerLink is the Commonwealth's employment, training, and education delivery system, serving as a statewide comprehensive one-stop jobs center. PA CareerLink is a federal and state-funded program administered by the Bureau of Workforce Development Partnership within the DLI. Programs are coordinated and delivered locally at PA CareerLink centers throughout the state. The primary service delivery mechanism is an internet-based system to promote a self-service environment. These services help job seekers access employment opportunities, enhance their skills, and find training and education programs. PA CareerLink has in-person offices in all 67 counties of Pennsylvania.


Harrisburg, PA

SkillUp PA is a component of PA CareerLink and offers a no-cost, flexible, self-directed, online jobs training program powered by the DLI. SkillUp PA provides over 6,000 courses and a variety of industry-recognized credentials, including but not limited to Microsoft programs, QuickBooks, CompTIA, and digital skills training. Job seekers who successfully pass the courses receive certificates of completion. SkillUp PA is also available to small businesses through partnership with the Local Workforce Development Boards. SkillUp PA is available from any computer, but high-speed internet is recommended, and an internet-enabled device is required since the courses are entirely online.

Department of Community and Economic Development (DCED)

As the department where the PBDA is housed, programs and funding for broadband access and digital equity programs exist within DCED. The department offers programs focusing on community development and economic growth through grants, loans and loan guarantees, tax incentives, and bonds. The Unserved High-Speed Broadband Funding Program (UHSB) and COVID-19 County Relief Block Grant Program under the CARES Act all provided funding to increase infrastructure build-out in areas of Pennsylvania without broadband access when residents needed at-home internet the most. Currently, the DCED is managing the CPF allocated for broadband uses, as well as managing the planning funds for the BEAD and Digital Equity Act programs. Further grant programs are in development using funds available through each of these programs.

Department of Human Services (DHS)

The DHS program offices are designed to provide services and support to Pennsylvania's most vulnerable individuals and families. The seven DHS offices include Administration, Child Development and Early Learning, Children Youth and Families, Developmental Programs, Income Maintenance, Long Term Living, Medical Assistance Programs, and Mental Health and Substance Abuse Services

Department of Drug and Alcohol Programs (DDAP)

The DDAP, formerly housed under the Department of Health, strives to provide education, intervention, and treatment programs to all Pennsylvanians with the ultimate goal of reducing drug, alcohol, and gambling addiction and abuse. DDAP has some programs that increase digital equity, including a media and digital literacy training curriculum for middle and high schoolers to help them make healthy choices while navigating online.

Department of Health

The Department of Health serves Pennsylvanians by providing programs and services that benefit all residents' health, safety, and well-being. The Department has partnered with other state agencies, like DHS, and community-based groups to develop the PA eHealth Initiative. Stemming from the Initiative, the coalition of stakeholders is responsible for creating and maintaining the PA Patient & Provider Network (P3N), which helps Pennsylvanians access healthcare information and services online.

LIBRARIES

The Office of Commonwealth Libraries administers state aid to local libraries. Over 80% of libraries within Pennsylvania are non-profit organizations; some are part of municipal government agencies. The libraries operate independently; there is no statewide system governing them all. While some counties have library systems with multiple locations, how they work is their choice and varies across local systems. Thus, libraries set their own local priorities, and programs are not standardized statewide. However, all library locations offer Wi-Fi, computer access, and basic assistance from library staff. Hot spot loans or rentals, laptop loans, and regular digital skills programs and classes and one-on-one technology help are provided in some locations, but not all. Most library locations self-report their services on their websites and also through the open data PA Digital Skills portal.

Libraries are undoubtedly an essential resource for digital inclusion, as they offer baseline access at no cost to the end user. Libraries were one of the original Community Anchor Institutions that offered computer access to their communities and embraced online technology. Libraries are highly used and trusted community spaces, typically centrally located within towns that aim to be highly accessible, including elevators, ramps, and restrooms.

The 467 libraries and related service outlets across Pennsylvania support digital inclusion in various ways, from providing broadband access to device access to skills development. According to the 2021 public library survey conducted by the Office of Commonwealth Libraries:

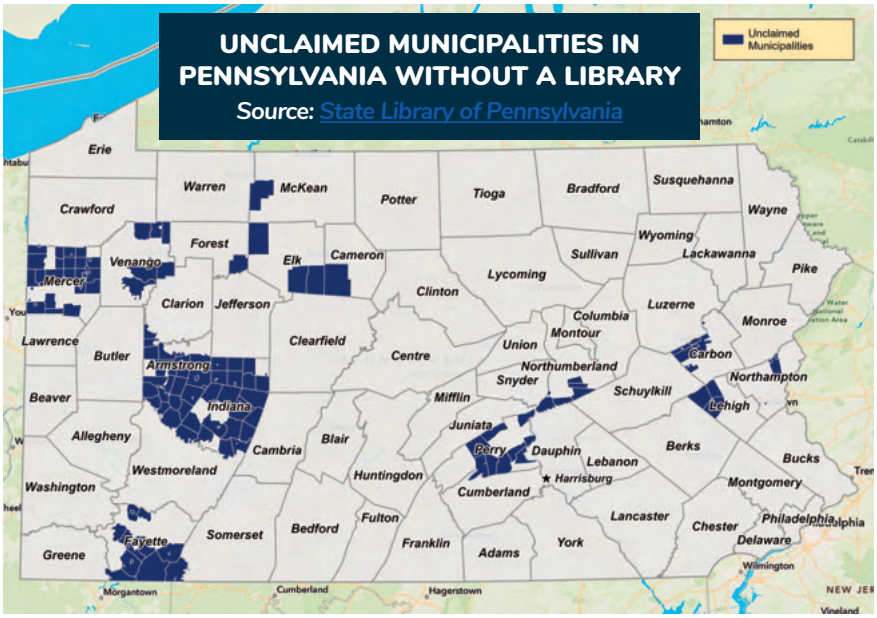
Libraries have, on average,
10,310 registered users
per location

All public libraries offer free public Wi-Fi.

228 libraries offer Wi-Fi access without log-in which reduces access barriers.

6,613 computers are provided across the libraries for use by the general public. *These computers have been used over a million times.*

Some municipalities do not have a local library; these are considered unclaimed municipalities. No law in PA currently requires municipalities to support a library. While some library locations may allow residents outside their service area to apply for library cards, many locations require residency within their boundaries. According to the State Library of Pennsylvania, **approximately 166 municipalities still need a home public library,** corresponding to 281,283 PA residents without a library. These residents may not have library access or may have to travel further to access a library they can use.



The unclaimed municipalities correspond to many rural areas where broadband infrastructure may also be lacking. Residents in these areas need access to reliable high-speed internet and an option to visit a nearby library. Within the unclaimed municipalities are **25,989 unserved** and **5,642 underserved** broadband serviceable locations.

Some state services exist for all Pennsylvanians. For example, every resident can receive in-person services at 1 of 29 district library centers in Pennsylvania. Each district library center has a library that provides services. The statewide platform for POWER Library is also available to all residents. POWER Library has online resources and e-books for checkout, including e-books on digital literacy and computer use. It includes links to a mapping dashboard to locate a library near you, find job resources, and access online learning courses. The Chat with a Librarian function allows users to interact with a librarian at any time of day or night to ask questions in English or Spanish.

INTERMEDIARY UNITS

There are 29 Intermediate Units (IU) operating in Pennsylvania. IUs are regional educational service agencies established by the Pennsylvania General Assembly that liaise between the Department of Education and local school districts. The 29 IUs are geographically defined and cover the entire state. The IUs offer, among other services, curriculum development, educational planning services, instructional materials services and technology, and continuing professional development.

The IUs train over 52,000 educators per year through professional development programming, including technology integration programs. Many IUs, especially in rural counties, serve as key community resources and have supported or participated in community-oriented programs focused on computer access or digital skills. They offer accessibility assistance for students in special education courses, family literacy programs, technology and STEAM lending libraries, adult learning courses, and more. The specific programs available through each IU differ, but the Pennsylvania Association of Intermediate Units maintains a complete list of IUs and their websites for more information.

HOUSING AUTHORITIES

Administered by the U.S. Department of Housing and Urban Development (HUD), Housing Authorities offer affordable housing to those with low income and have structured programs to serve older adults, Veterans, and unhoused individuals and help them access safe and secure housing within their means. HUD lists 63 public Housing Authorities in Pennsylvania, including 18 focused on cities and 45 on counties.

Housing Authorities are valuable assets in promoting digital inclusion as they own buildings and operate programs that house and serve many vulnerable residents across the state. They can bring computer access and digital skills courses into housing complexes, directly serving residents where they live. Many already do this and offer the staff and structure to expand more services through trusted sources and at or immediately next to peoples' homes. Housing authorities may provide computer labs with on-site staff that help residents use the internet. These are also multigenerational settings where a single program can serve three or four generations from one location, reaching older adults and their grandchildren together and enabling children to gain digital skills that position them to teach their families and excel in future schooling and careers.

Eligibility is income-based, but specific limits vary regionally. HUD sets the lower income limits at 80% and very low-income limits at 50% of the median income for a given county or metropolitan area. In 2023, income limits in Pennsylvania for Section 8 housing specifically are set at $21,650 for an individual or $30,800 for a family of four.

EXAMPLES OF DIGITAL INCLUSION PROGRAMS FROM A PA HOUSING AUTHORITY

In partnership with the Carnegie Library system, the Housing Authority of the City of Pittsburgh developed a program focused on digital literacy and health literacy. The Mobile Computing Lab is part of the Housing Authority's Computer Education and Training Program. It provides computer, printing, and internet access to residents in six buildings in six different neighborhoods. Each lab has laptops, hotspots, printers, and an information technology staff member on site. The Housing Authority also runs the Wi-Fi on Wheels (WOW) CyberBus and offers a mobile classroom on wheels with internet and computers. It serves a different neighborhood each weekday and offers digital literacy and skills instruction.

Public Housing Authorities can use their operating funds to provide computer internet services to residents in their units and common areas. HUD already allows funds to be used for internet connectivity infrastructure in HUD-funded multifamily rental housing, including new construction and substantial rehabilitations. Housing Authorities serve low-income individuals who must submit proof of eligibility, so facilitating eligibility in internet subsidies or treating the internet as a utility with no added cost can work through Housing Authorities to bring digital resources to vulnerable residents without further barriers.

COMMUNITY COLLEGES

There are 15 community college systems across Pennsylvania. These community colleges are embedded into local communities and responsive to local needs. The Pennsylvania Department of Education says, "Community colleges are at the forefront of remedial and developmental education, dual enrollment opportunities for secondary school students, workforce development, and public safety training. Within their regional service areas, these institutions have expanded educational opportunities for individuals from all walks of life and have contributed significantly to their area's economic, social, and cultural development." Community colleges allow individuals to earn two-year associate degrees, complete certificate programs in occupational and technical areas, and prepare students with the skills to transfer into four-year institutions. Community colleges also offer non-credit classes for individuals who want to develop skills. Computer courses focused on standard software programs, basic computer skills, and technical support and maintenance skills are commonly offered. Some locations offer free or low-cost courses available within the community.

The Workforce and Economic Development Network of Pennsylvania (WEDnetPA) program offered through DCED further supports affordable skills training by providing qualified employers with funding for employees to take courses that help skill-building relevant to their jobs. This funding supports partnerships between community colleges and nearly 1,500 companies that have partnered with them to connect current and future employees with needed job skills and placement.

The 15 community colleges offer computer basics, digital literacy, and information technology courses, and all have partnerships with local libraries and community organizations to provide free computer classes.

COMMUNITY COLLEGES ACROSS PENNSYLVANIA

Bucks County Cmty. College
Butler County Cmty. College
Cmty. College of Allegheny County+
Cmty. College of Beaver County
Cmty. College of Philadelphia+
Delaware County Cmty. College
Erie County Cmty. College
Harrisburg Area Cmty. College
Lehigh Carbon Cmty. College
Luzerne County Cmty. College
Montgomery County Cmty. College*+
Northampton Cmty. College*
Reading Area Cmty. College*
Pennsylvania Highlands Cmty. College*
Westmoreland County Cmty. College*

+ Provides free devices to students who qualify
* Provides free community Wi-Fi on campus

EXAMPLES OF DIGITAL INCLUSION PROGRAMS FROM COMMUNITY COLLEGES

Community College of Allegheny County has a Resource Navigator program as part of its Student Services. These navigators work directly with students to help connect them to resources both on and off campus. While not specific to digital inclusion, these navigators refer students to available resources, including low-cost computer devices and affordable internet service plans. All CCAC locations are accessible by bus.

Community College of Beaver County offers a six-week course on digital literacy through the local libraries to bring skills training directly into community centers. Ambridge and Aliquippa host the Community Classrooms program directly in their community libraries.

REGIONAL, COUNTY, AND CITY RESOURCES

City of Philadelphia Office of Innovation and Technology (OIT)

The City of Philadelphia Office of Innovation and Technology (OIT) includes several initiatives related to digital equity, including installing free public Wi-Fi hotspots in libraries, community centers, and other public places in underserved areas of the city. The PHLConnectED program provides free internet access to pre-K-12 students.

Other City of Philadelphia departments involved in digital inclusion efforts include:

- PHLDonateTech partners with PCs for People to refurbish donated computers and distribute them to residents who need a device.
- DigitalEquityPHL is a citywide effort that focuses on closing the digital divide in the city, and compiles resources available including digital navigators, public computer centers, classes, affordability guidance, and more.
- OpenDataPhilly is a portal developed by OIT's CityGeo team to make data more accessible to all Philadelphians.
- The City of Philadelphia has conducted in depth assessments and surveys on digital equity needs in the City. Results of the 2021 Household Internet Assessment Survey are viewable on the City's website.

Pittsburgh Innovation & Performance

Pittsburgh Innovation & Performance (I&P), a department-level agency in the City of Pittsburgh, is working to install free public Wi-Fi hotspots in libraries, community centers, and other public places in underserved areas of the region. Pittsburgh is also working to attract investment in startups and businesses, collaborate with organizations to promote digital equity, and prepare a city and county digital equity plan.

Regional and County Planning

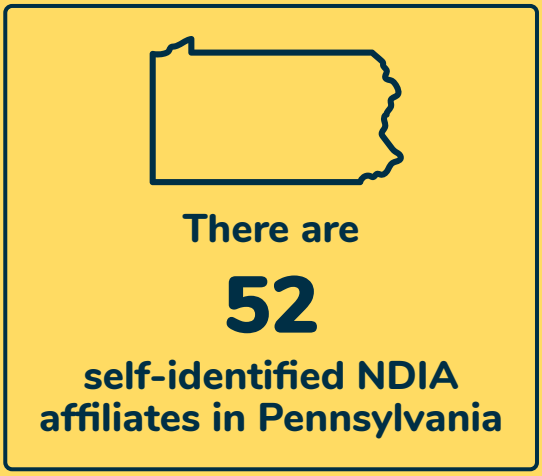
Local governments are significant assets in understanding the needs of their constituents, identifying the partners uniquely suited to their area, and communicating directly with their residents. County government - including planning, redevelopment, economic development, and geospatial staff positions - have deep knowledge of local issues and maintain the most in-depth asset mapping relevant to their communities.

At regional levels, there are seven Local Development Districts (LDDs) in Pennsylvania that cover 52 counties. The LDDs provide grant assistance, community development services, planning services, and more to enhance community and economic development in the regions each LDD covers. There are 10 Partnerships for Regional Economic Performance (PREP) regions that serve all 67 counties. PREP regions are set up to support regional coordination in economic development efforts. Both LDDs and PREP regions represent multiple counties, help drive collaboration across county lines, and bring more resources to supplement the often-limited capacity of county and municipal governments. For example, the Southwestern Pennsylvania Commission (SPC) created an adoption and equity dashboard as a resource for local counties, municipalities, and residents to find data about affordability and digital equity gaps within their area.

Biglerville, PA

NATIONAL RESOURCES

The National Digital Inclusion Alliance (NDIA) is a national organization focused on advancing digital inclusion through support for practitioners, policy guidance, awareness and advocacy, and data and research. The NDIA offers free resources and assets to local governments, community members, and digital inclusion advocates.



- NDIA Affiliates is a list of digital inclusion partners.
- NDIA membership includes an email distribution list that allows sharing of ideas and experiences across all members and weekly phone calls. It serves as a community for digital inclusion advocates to share best practices and crowdsource new ideas.
- NDIA developed the concept of digital navigators, a national best practice that pairs individual mentors with those needing support. They host a Digital Navigators Corps that develops programs in rural and tribal areas.
- Digital Inclusion 101 webinars provide resources and training for those looking to learn more about delivering digital inclusion services.
- NDIA offers free, customizable tools for communities, including a Digital Inclusion Asset Inventory Template and Digital Inclusion Asset Survey Template.
- The Digital Inclusion Coalition Guidebook helps communities understand how to establish a local coalition successfully.
- The Digital Inclusion Start-Up Manual guides creating a community digital inclusion program. It's designed for individuals looking to increase access and use of technology in disadvantaged communities through digital literacy training, affordable home broadband, affordable devices, and tech support.

Examples of other resources available to Pennsylvanians seeking to implement digital inclusion programs or promote awareness in their communities include:

- **Digital Inclusion Community Guide: Equitable Community Engagement Toolkit**
  In 2023, The City of Philadelphia released a version of a years-long effort to create an in-depth community-led guide to inclusive and equitable community engagement and services. While not specific to digital inclusion activities, digital access was recognized as a barrier and a need for more thoughtful and intentional approaches. The Digital Access Guide, one of many guides organized as toolkit sections, describes various ways residents are excluded when civic processes and meetings don't account for gaps in device access, broadband access, or comfort level with online use. The guide presents ways to engage with digitally disconnected residents and how to provide accommodations for those without means to access online activities or information. While many locations have created engagement toolkits and best practices, this is a recent Pennsylvania-specific resource that leaders and advocates can learn from and build upon.
- **Digital Inclusion Coalition Guide: Digital Equity Ecosystems Measurement Framework**
  The Digital Equity Ecosystems Measurement Framework was a research report created by the Digital Equity Research Center (DERC) at the Metropolitan New York Library Council. This report stems from a participatory research project that engaged 32 digital equity coalition leaders across the United States. The Framework presents best practices and measurable objectives for coalitions and groups of collaborative partners who seek to create a coalition or similar vehicle for collective action. It's a valuable guide in organizing and structuring an effective working group to make impactful change.


Philadelphia, PA

3.2 EXISTING DIGITAL EQUITY PLANS

Several areas within Pennsylvania have developed or are developing in-depth plans specific to their geography. The PBDA has reviewed and incorporated this valuable work that identifies the many assets, needs, and partners working towards digital inclusion in their communities. Additionally, they build upon a growing foundation of partnerships that further the effective implementation of Pennsylvania's statewide digital equity plan.

- **City of Philadelphia Digital Equity Plan (2022)**
  The Digital Equity Plan represents the City of Philadelphia's commitment to addressing the inequities contributing to the digital divide. Building upon the foundation previously established by the City's OIT department, the plan addresses major equity issues such as affordability, digital literacy and support, housing insecurity, and language, cultural, and racial barriers.

- **City of Pittsburgh Digital Equity Plan (pending)**
  The Pittsburgh Digital Equity Coalition (PDEC) is actively preparing a five-year plan for Allegheny County. The plan will describe the digital divide in Pittsburgh, detail the city and county's existing needs and challenges, outline action steps, and prepare a funding strategy to apply for federal digital equity grant dollars to make the plan a reality.

- **Southwest Pennsylvania Connected (SPC) Connectivity Roadmap (2022)**
  The Connectivity Roadmap is a plan that assists leadership from the ten counties of southwestern Pennsylvania in researching, collecting, developing, and prioritizing a pipeline of connectivity projects and initiatives to secure funding for implementation. In addition to articulating needs and gaps, the plan positions the region's counties, cities, and partner entities to qualify for a portion of state and federal funding.

- **Connect Beaver County Broadband Program (2022)**
  The Connect Beaver County Broadband Program refers to a countywide broadband connectivity plan tailored to the needs of Beaver County residents, including a digital navigator program and continued analysis of digital equity needs.

3.3 EXISTING DIGITAL EQUITY PROGRAMS

In addition to existing plans, the PBDA has identified digital equity programs that significantly close the digital divide across Pennsylvania. The programs identified in this section do not constitute an exhaustive list but represent an overview of types of digital equity assets. This section also provides a summary of key programs and resources that focus specifically on the eight covered populations.

It's important to note that many of these programs and resources serve as assets across multiple categories. A more comprehensive list and program details is provided in Appendix B: Digital Inclusion Asset Matrix.

FREE OR LOW-COST DEVICE PROGRAMS

These programs are an essential component of digital equity. Providing such services allows for fair and equal access to education, training, jobs, and dramatically improves the ability of individuals to participate in civic and social capacities. Eligibility for a free or low-cost device varies, but programs tend to operate similarly, basing the key qualifying standard on proof of income. Depending on the specific device needs of the eligible individual, e.g., a laptop for a student, the programs will either gift, loan, or sell the device (usually refurbished) at a low cost. Devices subject to these programs include laptops, desktop computers, tablets, and smartphones.

Pennsylvania examples:

- Team Children is an approved Microsoft refurbisher that offers low-cost computers with over $500 worth of pre-installed software, including Windows 10 Pro.
- Computer Reach offers free and refurbished devices in southwestern Pennsylvania, with a presence in Allegheny and Washington counties.
- PHLDonateTech offers devices to residents in Philadelphia.

National examples:

- PCs for People acquires recycled computers, refurbishes and repurposes them for families and businesses. Eligibility is based on verification of an income-based government assistance program or other poverty-level documentation.
- human-I-T connects low-income individuals and nonprofits to the internet, devices, and digital training.

DIGITAL LITERACY PROGRAMS

Digital literacy programs are classes designed to enhance an individual's ability to navigate the digital world. This asset is important to digital equity because it helps people gain the digital skills necessary to improve their livelihoods. Programs in this category offer classes covering various topics, from instructions on using devices and software to typing, job search assistance, and understanding the internet. Courses are typically offered in two categories: essential and advanced. Essential courses are designed to provide instructions based on limited or no experience. Advanced courses are intended for individuals with a basic understanding of device and software technology who want to build upon those skills.

Pennsylvania examples:

- The United Way of Greater Philadelphia and Southern New Jersey is a non-profit that has a digital navigator network to assist individuals in locating low-cost computers, internet access, getting online, and digital literacy.
- Technology Learning Collaborative is a Philadelphia-based, multi-sector organization that advocates for digital literacy and inclusion needs.
- Literacy Pittsburgh is a non-profit that offers personalized digital skills training that focuses on Microsoft Office, email, job searching, and online safety.

National examples:

- Northstar is an organization that provides digital literacy courses through local community organizations.


Mt. Union, PA

DIGITAL NAVIGATORS

A digital navigator program is made of a network of digital navigators who work directly with residents. The NDIA defines digital navigators as "trusted guides who assist community members in internet adoption and the use of computing devices…[via] ongoing assistance…" Such individuals can help residents with personalized technical support, lessons in using a mouse and keyboard, navigating software like email or benefits portals, and applying for and securing affordable internet service and devices. Navigators are usually based at a public, community-based institution such as schools or libraries, and can be volunteers, paid professionals, or cross-trained staff.

Pennsylvania examples:

- Drexel University's Digital Navigator Program is designed to assist the local community in finding digital skills courses, low-cost Internet access, refurbished devices, and technical support.
- The United Way Digital Navigator Network offers services that include locating digital skills classes, devices, and technical support.
- Tech2Elevate offers a digital navigator program that is launching in Beaver County.
- The City of Philadelphia offers a phone service to connect residents to digital navigators from across several organizations.

National examples:

- The NDIA offers best practices and resources for digital navigator programs and practitioners to learn from one another.

AFFORDABILITY ASSISTANCE

One of the most widespread issues relating to digital equity is affordability. Often, low-income households need help to afford even the most basic internet service plans. Programs that help with affordable Internet access are usually categorized by providing direct assistance, e.g., offering low-cost internet or discounts, or indirect assistance, e.g., helping find low-cost service or assisting with ACP participation.

Pennsylvania examples:

- PHLConnectED is the City of Philadelphia's initiative to help pre-K-12 families access free or low-cost Internet. The program allows families to apply for the ACP benefit, access low-cost Internet, and find a digital navigator.
- Many ISPs in Pennsylvania offer low-cost plans that, paired with the ACP benefit, can bring the cost of internet to very low or zero.

National examples:

- human-I-T helps locate low-cost internet plans available to qualifying low-income households.

TECHNICAL SUPPORT

As programs that provide devices and the skills to use them expand, so does the need for services that can assist users with technical issues, questions, and troubleshooting. This support not only helps users to gain confidence in using their devices, but it also supports the continued maintenance and functionality over time so that one-time investments have lasting value.

Pennsylvania examples:

- Generations on Line provides free digital skills and assistance to older adults. They help institutions with offering focused programs and providing direct assistance to individuals and caregivers.

National examples:

- The Older Adults Technology Services (OATS) under the American Association of Retired Persons (AARP) provides guidance and resources for older adults and ensures that digital inclusion plans are age-friendly and sustainable.

WORKFORCE AND SKILLS DEVELOPMENT PROGRAMS

Workforce and skills development programs provide various services for adults and students. With the workforce landscape shifting towards the increasing or absolute use of digital technology, developing an appropriately skilled and knowledgeable labor force is paramount. Workforce and skills development programs are an asset that offers services such as industry-specific training, workplace software skills improvement, and resume and job search assistance. There are also several programs geared towards high school students interested in pursuing careers in such as Information Technology and offer training programs in preparation for either college or joining the workforce directly.

Pennsylvania examples:

- Project Home's Practical Skills Computer Workshop program is designed to prepare individuals looking for employment by offering training that meets the demands of an evolving job market.
- Goodwill offers an eight-week training program designed for individuals who have yet to gain prior tech experience and are interested in pursuing a career in IT. Courses range from entry-level IT to specialized fields.

COALITIONS

Coalitions play a large role in connecting residents to available resources, building relationships across partners and organizations, and advocating for investments both existing and needed. Pennsylvania has a strong and growing network of coalitions focused on digital equity and digital inclusion:

- **Pennsylvania Statewide Digital Equity Coalition (PASDEC)**
  Launched in 2022 as a collection of organizations working to advance a statewide strategy for community-informed digital equity, PASDEC shares priorities that include community engagement, planning and implementation processes, and fostering partnerships.
- **Greater Pittsburgh Digital Inclusion Alliance (GPDIA)**
  The GPDIA was formed in 2020 to cooperatively address equitable access to communication technologies to speak with a voice that represents each community.
- **Digital Literacy Alliance (DLA)**
  The Digital Literacy Alliance works to overcome the digital divide in Philadelphia with a focus on digital literacy programming and policymaking.
- **Chester County Digital Alliance**
  The Chester County Digital Alliance supports and advocates for the unserved and underserved communities across the county. They address digital equity issues for vulnerable community members, e.g., low-income households, non-English speakers, and older adults.

Coalitions are varied in their approach and scale, so this list is not exhaustive but focuses primarily on coalitions dedicated specifically to digital equity efforts. Additional efforts include, but are not limited to:

- The **Pittsburgh Digital Equity Coalition (PDEC)** a group of anchor organizations and small community groups working to prepare a Digital Equity Plan for the City of Pittsburgh and Allegheny County.
- The **Southeast Asian Mutual Assistance Association Coalition (SEAMAAC)** supports refugees, immigrants, and asylees in the Philadelphia area, including internet access and fundamental technical support issues.

DIGITAL EQUITY ASSETS FOR COVERED POPULATIONS

Many of the assets included in this chapter offer multiple services, as well as serve diverse and wide audiences. However, there are some resources that focus more closely on meeting the needs of certain populations. This section provides a summary of digital equity assets that are most closely aligned with the eight populations below, but more details can be found in Appendix B: Digital Inclusion Asset Matrix.

Older Adults

Physical limitations and inexperience can make technology harder to use. People who did not grow up using technology, particularly those age 60 and above, may devalue the benefits and usefulness or see the barriers as greater than the benefits.

- Center in the Park focuses on older people's needs and offers one-on-one cell phone and smartphone technical support.
- Age-Friendly Greater Pittsburgh is a community-based organization that conducts small work group sessions with older adults. Classes are led by experts in various fields including transportation, digital access, and workforce skills development.
- Penn Asian Senior Services provides linguistically attuned services for Asian and other limited English proficient (LEP) adults in Southeastern Pennsylvania.
- The Lutheran Settlement House provides older adults with the technology to apply for jobs, search for housing, further education, meet with doctors, and connect with family and friends.
- Centro Hispano is a community-based center that offers services such as case management, group activities, health guidance, and computer classes.

Justice-Impacted Individuals

Incarcerated people are disadvantaged by a lack of access to digital skills training otherwise available to the public. The result is a reentrant population ill-prepared for the challenges of reentering free society.

- Berks Connections/Pretrial Services (BCPS) provides services, support, and community reintegration to individuals involved in the justice system and their families.
- Lancaster Housing & Redevelopment Authorities Reentry Coalition is a collaborative of stakeholders that works to ensure that successful reentry opportunities exist for every reentrant returning to their communities from jail or prison.

Rural Communities

Rural areas are underserved for many reasons, including fewer customers, decreased rural adoption rates, and difficult terrain compared to urban areas. Even when the internet is available, less competition among limited providers can result in higher prices and limited speed options for residents.

- The United Way helps people and families find access to low-cost technology and digital literacy classes, sign up for the ACP, and provides technical support by dialing 2-1-1.
- 4-H Changemakers is a community-centered program that allows youths to teach digital skills to members of underserved communities by creating an education plan that matches needs and learning opportunities.

Low-Income Households

Poverty contributes to poor housing and health conditions, unemployment, higher crime, and greatly reduces the opportunities for individuals to improve their circumstances.

- NerdiT NOW distributes low-cost devices ranging from cell phones to desktops within Pennsylvania, New Jersey, and Delaware.
- PHLDonateTech provides computers to families and people in need across Philadelphia.
- Level Up 412 offers devices and other tool and resources to eligible participants wanting to pursue careers in the tech industry.
- Beyond the Laptop is a non-profit that distributes refurbished laptops and provides connectivity to every disconnected Pittsburgh Public School family.
- Schuylkill County Intermediate Unit (IU29) supports Schuylkill County schools by providing devices for eligible students.

Individuals with Language Barriers, Including Low-Literacy Individuals

English remains the dominant language used by Pennsylvania businesses and services, and those with limited English language proficiency face additional barriers.

- The Welcoming Center offers a workforce development program for work-authorized immigrants who are, or have been, enrolled in Welcoming Center programs. The program includes a range of classes and levels, from foreign-educated professionals to ESL learners.
- Welcoming the Stranger is an educational non-profit provides free English as a Second Language (ESL) classes, computer skills, and United States citizenship exam preparation to adult immigrants and refugees in the Philadelphia metro region.
- Office of Children and Families - Philadelphia provides basic digital literacy classes, and an English for Speakers of Other Languages (ESOL) course.
- U.S. Committee for Refugees and Immigrants - Erie provides linguistically and culturally competent digital literacy instruction for refugees who have been in the US for fewer than five years.
- Housing Authority - City of Erie provides on-site educational programs staffed by the Multicultural Community Resource Center. Programs include GED, English as a Second Language, Adult Basic Education, computer instruction, job placement, and college preparation programs.
- League of United Latin American Citizens (LULAC) National Education Services Center (LNESC) advances the economic condition, educational attainment, political influence, housing, health, and civil rights of Hispanic Americans through community-based programs operating at more than 525 LULAC councils nationwide.
- Sisters of St. Joseph Welcome Center offers opportunities that allow immigrants to improve the quality of their lives through access to education, support services and programs leading to self-sufficiency. Provides digital literacy and ESL classes.
- IHM Center for Literacy offers instruction in ESL to immigrant populations in Philadelphia.
- The Literacy Council of Southwestern Pennsylvania provides reading, writing and language skills to adults to create new economic opportunities, a sense of community, and a higher quality of life.
- The Southeast Asian Mutual Assistance Association Coalition (SEAMAAC) supports refugees, immigrants, and asylees in the Philadelphia area, including internet access and fundamental technical support issues.

Racial and Ethnic Minorities

According to a 2021 Pew Research Center survey, Black and Hispanic adults in the United States remain less likely than White adults to say they own a traditional computer or have high-speed internet at home.

- Beyond Literacy offers workshops that cover computer skills, sending emails, and applying for jobs. They also have a mobile learning lab (bus) that provides tech resources and digital literacy workshops and low-cost devices. This lab also serves older adults.
- Latino Community Center is a community-based center offers a range of educational, training, support, and life improvement programs for Latino students, families, and community members.
- ACHIEVEability works to remove employment barriers and increase employability through training and connections to job resources.
- African Family Health Organization (AFHO) provides quality ESL and digital literacy programs to help individuals gain skills that enhance their ability to deal with real-life situations, meet personal goals, and become more self-determining and self-sufficient.
- University of Pittsburgh's Community Engagement Center - Homewood provides digital literacy classes for students, adults, and older adults, and coding classes. This center also offers an IT training program for students interested in IT careers.
- University of Pittsburgh's Community Engagement Center - Hill District provides digital literacy classes for students, adults, and older adults. This center also offers programming classes and guidance on how to sign up for the ACP benefit.

Veterans

The FCC states that barriers to broadband adoption among Veterans include insufficient digital literacy, perception of irrelevance, price, and lack of deployment where they live.

- Veterans Upward Bound supports up to 160 Veterans planning for college or already undergraduate students. Offers digital literacy training and device access.
- U.S. Department of Veterans Affairs runs a Digital Divide Consult that refers Veterans to a social worker who can investigate whether they are eligible for programs to help get Internet service or other technology needed for VA telehealth.
- Veterans Leadership Program (VLP) receives grant money to provide up to 100 Veterans with laptops.
- PA CareerLink Lackawanna County provides a range of job services, including resume writing, interview guidance, and application assistance for Veteran jobseekers in Lackawanna County.

Individuals with Disabilities

People living with a disability can find it harder to find a job, limiting their income, access to technology, and opportunities to develop digital skills.

- Electronic Access Foundation (EAF) collects, refurbishes, and distributes electronic devices to qualified charitable organizations that serve disabled populations. EAF also serves Veterans and low-income populations.
- TechOWL's Telecommunication Device Distribution Program (TDDP) provides specialized telecommunications devices, such as text telephones and amplifiers, at no charge to qualifying persons who are deaf or hard of hearing, with speech and language disorders, or with a physical disability.
- The Sierra Group Academy is a training program that uses mainstream and assistive technology to train and place jobseekers with disabilities.
- The Arc of York County offers a no-cost, eight-week digital literacy course for adults with intellectual disabilities.

3.4 BROADBAND ADOPTION

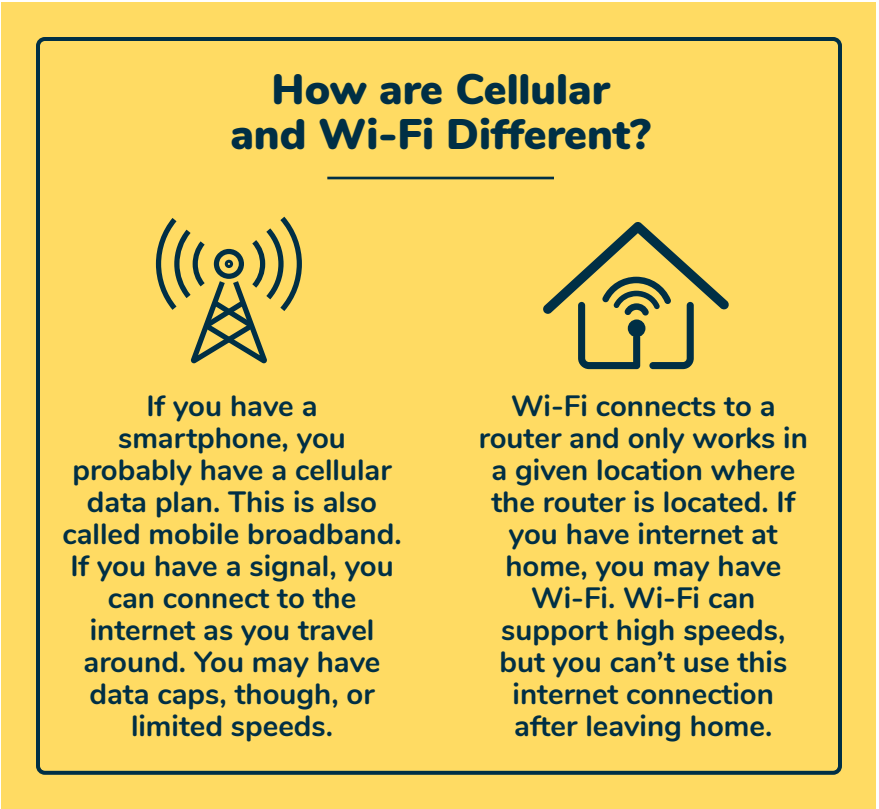
To fully participate in online spaces, broadband adoption is key. Many state and national efforts are in place to help all Pennsylvania residents sign up for an affordable and reliable internet subscription and use it to achieve their goals.

EXISTING BARRIERS TO ADOPTION

Many Pennsylvania residents face barriers to internet connectivity for various reasons. Some households may need a device (i.e., computer or smartphone) to connect to the internet, while others may need more skills to use or navigate the internet safely. **As of 2021, NTIA's Digital Nation Data Explorer reports that Pennsylvania lags behind the United States in internet and computer use.**

In Pennsylvania, 24.3% of households are not using the internet compared to the national average of 19.5%. The percentage of Pennsylvania residents who use the internet rose steadily from 1998 to 2010, but since 2010, internet use has remained relatively steady at around 74% of households.

According to the NTIA Digital Nation Data Explorer, approximately 66% of Pennsylvanians have smartphones, rising from 25% of users in the past decade. The shift in smartphone use may be due to higher costs of broadband subscriptions, high costs associated with computers, and alternative options to connect to the internet outside of the home. Smartphones have been developed with features that can help connect to the internet, such as using cellular data in addition to Wi-Fi. Though some tasks related to work and school are more accessible on a computer, the increased use of smartphones likely means increased internet use and, thus, broadband adoption.



THE AFFORDABLE CONNECTIVITY PROGRAM (ACP) AND FEDERAL SUBSIDIES

One of the most notable resources to promote adoption is the ACP, a federal program that provides a discount on monthly internet subscription costs as well as discounts on devices. Eligibility is limited by income, but this program has effectively made broadband service affordable and possible for many individuals who otherwise found it out of reach. Initially named the Emergency Broadband Benefit, the program was established in 2020 and was replaced by a slightly modified program with the new name of ACP at the end of 2021.

Similarly, the Lifeline program has been an ongoing federal discount on broadband service available to eligible families. Between the two offerings, the ACP provides a higher discount and has become the primary program through which Pennsylvanians can access their broadband service at reduced rates.

The City of Philadelphia created toolkits and flyers in multiple languages, to promote ACP enrollment resources and the 2-1-1 hotline.

ISP PROGRAMS THAT PROMOTE ADOPTION

Beyond participating in ACP and Lifeline programs, ISPs can promote adoption by:

- Providing strong customer support and service that assists customers with the ACP signup process, installation process, and related concerns.
- Providing clear information about their pricing and level of service, including add-on costs such as installation fees.
- Engaging in outreach events and marketing efforts to spread awareness of the ACP and Lifeline programs in signing up for internet service, including ACP signup events.
- Partnering with or providing support to external community resources that help users directly, including digital navigator programs and device distribution programs.
- Providing discounts, including set discounts or percent discounts, for members of covered populations.

What Kinds of Programs are Available Through ISPs?

One Pennsylvania cable provider reduced its cost of internet service to $30 per month, providing both the modem and Wi-Fi router at no additional cost. Combined with the ACP benefit, service is provided at zero cost to qualifying consumers.

Many ISPs are offering hands-on ACP learning sessions at local Community Anchor Institutions, answering questions and assisting qualified consumers get signed up for the program while on-site.

Several ISPs are auto-enrolling qualifying consumers into low-cost plans and the ACP, reducing administrative barriers for residents.

While ISPs are making strides in advocating for adoption, community-led programs at the local, state, and national levels have been leading the charge. Specifically, digital navigator programs and equity coalitions have successfully promoted and advocated for widespread adoption. Through targeted outreach, community organizations across Pennsylvania host events where residents are walked through signing up for the service.

DIGITAL NAVIGATOR PROGRAMS

Digital navigator programs are one successful way to increase broadband adoption among residents. Typically, digital navigators work in the community being served to foster trust with residents and are part of a more extensive established digital navigator program. Personal connection and education tailored to the residents' needs make digital navigators especially effective in increasing broadband adoption.

Digital navigator programs often support a range of primary and advanced digital skills, but their value in promoting internet adoption - the entry point into digital access – is also essential. Many residents have access to the service but choose not to subscribe for various reasons. These factors include high cost, confusion/mistrust over the value of available service plans, or a general perception that internet connection is irrelevant to their lives. Digital navigators can guide people through their concerns, help them understand the options available, and build their confidence in signing up for an internet service that is right for them.

Computer Reach

is an example of one successful digital navigator program in Pennsylvania. Since starting in 2021, the Pittsburgh-based digital navigator program has:

Served	Offered residents over	Trained
513	**700 hours**	**4**
Households	of digital skills training	digital navigators

OUTREACH AND ADVOCACY WITHIN COMMUNITIES

Advocacy and awareness campaigns are valuable in boosting adoption rates as well. These efforts help spread the word and ensure that individuals understand the value of reliable broadband service for their quality of life and their options regarding service and cost. State and local coalitions are essential in boosting adoption by involving trusted local voices. Overcoming mistrust and helping people locate trustworthy sources of information is essential.

Pennsylvania has several advocacy assets supporting adoption, including members of the PASDEC state coalition, and regional and local coalitions in which many of those same members participate. The PBDA supports digital equity coalitions and has actively participated in PASDEC meetings and events led by more local coalitions. Some of how coalitions support adoption include:

- **Convening within communities.**
  Organizing community events around digital inclusion resources and ACP enrollment. Hosting ACP enrollment events and pop-up booths.
- **Building advocacy networks.**
  Engaging with local representatives and elected officials to encourage them to promote the ACP program and other available resources. Educating all involved on the barriers people face to secure continued support for advocacy.
- **Sharing resources.**
  Gathering and circulating best practices, data sources, and ACP enrollment materials that are effective.

In the fall of 2021, the City of Philadelphia and Drexel University digital navigators attended a Back-to-School Bus Tour and helped folks enroll in the PHLConnectED program.

> **"[We need to] keep promoting the ACP program – we need it to continue. [It] would be a real shame to close the infrastructure divide but then have people not be able to afford to access it."**
>
> ***– NTIA State College Internet For All event panelist***

INCENTIVE PROGRAMS

Statewide programs could incentivize further participation in broadband and digital equity initiatives. Some incentive programs offer loans, grants, or tax benefits for infrastructure improvements that could be applied to broadband expansion (e.g., Unserved High-Speed Broadband Funding Program), while others, like the Pre-Apprentice and Apprenticeship Grant Program, focus on job training programming that could increase the number of workers involved in broadband and digital equity work. Further, education and outreach campaigns in other work sectors can be used as a model for broadband adoption measures in the state.

Similarly, the Pennsylvania Department of Community and Economic Development Regional Offices can be used as assets for developing and navigating this collaboration between stakeholders and the community.

EXAMPLES OF SUCCESSFUL OUTREACH FROM A PA COMMUNITY GROUP

Latino Connection's Community Accessible Testing and Education, or CATE, initiative highlighted a unique approach to utilizing community-trusted leadership to foster partnerships with stakeholders to communicate more effectively with residents.

- ☑ Latino Connection's historical connection to the community was leveraged to spread awareness to community members in ways that ensured buy-in based on preexisting trust.
- ☑ The CATE program was enriched through the Latino Connection's ability to incorporate culturally competent and relevant materials and resources, resulting in not only the expansion of accessibility to those resources but also greater access to both education and vaccination.
- ☑ By having resources accessible through a mobile vehicle, CATE also addressed a mobility disparity for those who may be unable to travel.

These elements significantly impacted the success rate of vaccinated individuals throughout Central Pennsylvania.

3.5 BROADBAND AFFORDABILITY

EXISTING BARRIERS

Internet subscription costs are unaffordable for many households in Pennsylvania. According to The Pew Research Center, the average cost of internet ranges from $50 to $70, but actual pricing varies widely beyond that. Many residents in PA pay over $100 and even above $200 for reliable broadband. When adding car or transportation costs, groceries for a family, health and medical costs, and other living expenses, it can be difficult for residents with limited income to manage an additional bill for broadband. This is one reason why many PA residents opt for only a mobile cellular plan instead of a fixed, wired broadband connection. While fixed and cellular services are valuable for connecting Pennsylvanians to the internet, households with only cellular services are limited in their connection speed and the amount of data they can use.

In well-served areas where there are multiple ISPs to choose from, the competitive market helps to keep prices in check, but many locations only have one provider available and have no options if costs are high. Many ISPs participate in the ACP to lower customer costs or offer their own low-cost plans.

SoFi calculates that Pennsylvania's average cost of living is $49,040, while a minimum wage job at the current rate of $7.25 only earns $15,080 annually.

On average, a Pennsylvanian pays over $20,000 a year for housing, food, and utilities alone.

Currently, just over 48% of ISPs in Pennsylvania participate in the ACP and nearly 21% offer their own low-cost plans for households with limited incomes.

ACP ENROLLMENT AND ENGAGEMENT EFFORTS

The ACP, another great asset in promoting adoption, is designed to increase affordability and offer low-cost broadband or cellular subscriptions to qualifying households. This is the primary resource available to low-income and eligible individuals to help them lower their internet costs. The ACP offers two forms of financial assistance:

1. A discount on monthly subscription costs. The standard discount is $30 per month, though that discount increases to $75 for residents on tribal lands.
2. A one-time $100 discount on an internet-enabled device, which may be a desktop, laptop, tablet, or smartphone.

Pennsylvania ACP Enrollment by the Numbers*

Since the ACP began, **$246,033,970** of ACP funds have been distributed within Pennsylvania to directly reduce costs to households, for an average savings of **$363 per enrolled household.**

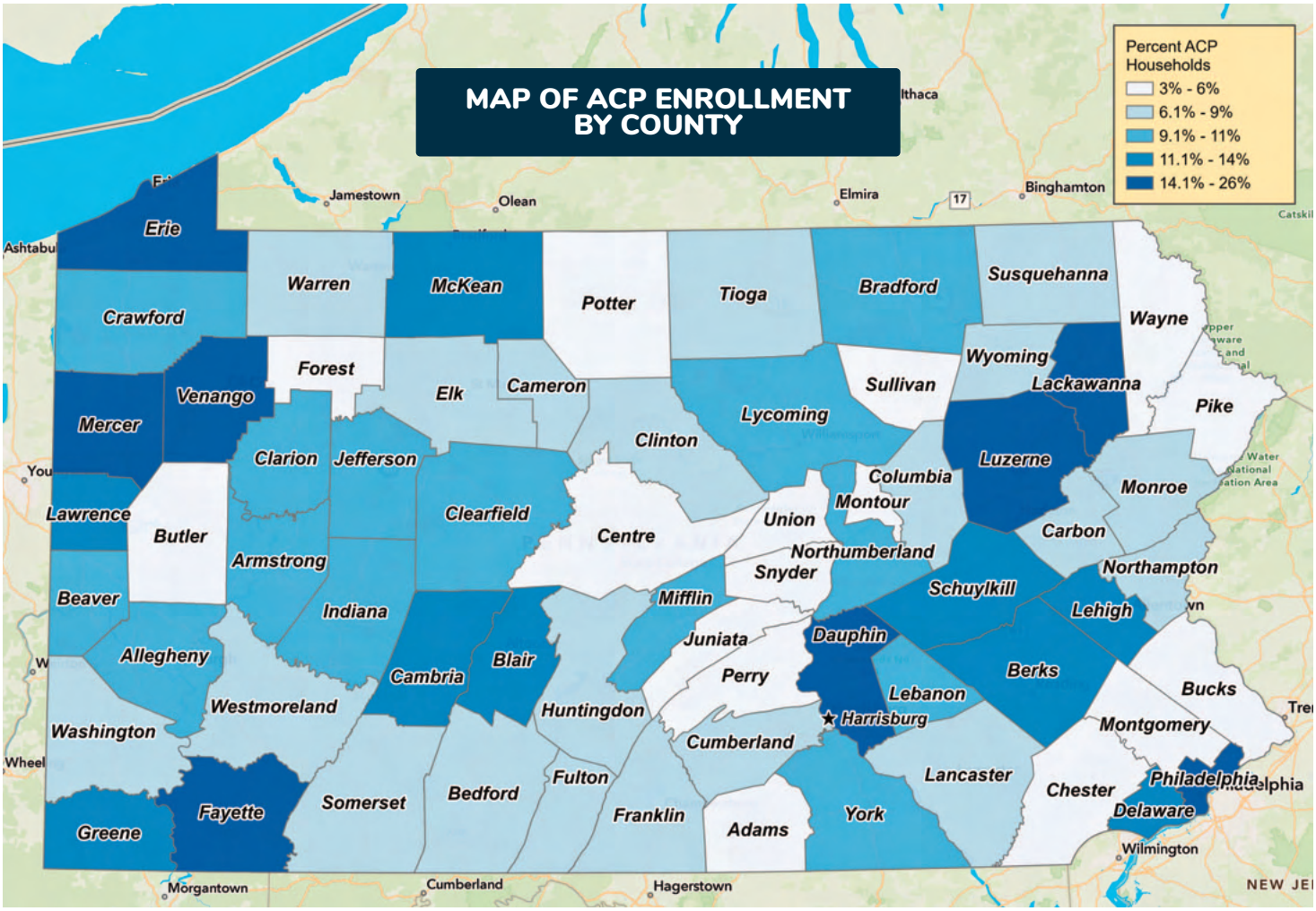
There are **2,075,520 eligible households** in Pennsylvania, but **only 31.5% have enrolled** in the program.

677,279 households enrolled

17,169 new subscribers per month

115,094 devices claimed

*As of June 2023, according to the ACP Enrollment and Claims Tracker



Enrollment in the ACP varies across different areas of Pennsylvania. There is a higher proportion of ACP enrollment among households located near the eastern and western borders of the state.

Efforts are underway to promote the ACP and help eligible households navigate enrollment. The PBDA has identified national resources supporting increasing adoption rates and assisting individuals with ACP enrollment. The PBDA's website includes a factsheet about the ACP program, eligibility details, information, links to the enrollment site, and more. Other examples include:

- Beaver County has a video and signup guide to help residents learn about the ACP and understand the steps and documents required to sign up.
- The City of Philadelphia offers GetACP, which helps residents find out if they are ACP-eligible. Individuals can also dial 2-1-1 to see if they are eligible.

The ACP is not the only way to address affordability but is the most far-reaching. More focused programs have helped with affordability and could be extended or expanded in the future.

The Community Conversations and Focus Groups conducted with residents across Pennsylvania included information about the ACP. Many attendees expressed that they were learning about the ACP for the first time.

According to the public survey conducted for this *Digital EquityPlan*, approximately 41% of respondents were unfamiliar with the ACP or any other subsidy programs at the time of survey completion. Only 7% were already enrolled in the ACP.

Only one person who responded to a non-English survey is enrolled in the ACP.

LEVERAGING FEDERAL AND STATE PROGRAMS

In addition to outreach and engagement efforts, the state can leverage how people qualify for the ACP as existing assets. These benefits programs require much of the same information and documentation for the enrollment process as ACP enrollment and could be used as partners to increase ACP enrollment. People who are enrolled in a qualified benefits program could be auto enrolled into the ACP with agency collaboration. Additionally, the agencies could continue to promote the ACP to those who qualify.

The FCC says a household is eligible for the ACP if the household income is at or below 200% of the Federal Poverty Guidelines or if a member of the household meets at least one of the criteria below:

- ☑ Received a Federal Pell Grant during the current award year;
- ☑ Meets criteria for a participating ISP's existing low-income internet program;
- ☑ Participates in one of these assistance programs:
  - Free and Reduced-Price School Lunch Program or School Breakfast Program
  - Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)
  - Medicaid
  - Federal Public Housing Assistance (FPHA), including:
    - Housing Choice Voucher (HCV) Program (Section 8 Vouchers)
    - Project-Based Rental Assistance (PBRA)/Section 202/ Section 811
    - Public Housing
    - Affordable Housing Programs for American Indians, Alaska Natives, or Native Hawaiians
  - Supplemental Security Income (SSI);
  - Special Supplemental Nutrition Program for Women, Infants, and Children (WIC);
  - Veteran's Pension

In 2023, the federal government mobilized several national programs to help spread awareness of the ACP to individuals already enrolled in qualifying programs. For example, the Social Security Administration (SSA) Supplemental Security Income recipients who have a "My Social Security" account let them know that they are eligible for ACP. The Department of Education emailed all Pell Grant recipients eligible for ACP and conducted a Back-To-School campaign to share ACP information. The Department of Veterans Affairs emailed VetResources email subscribers and mailed paper notices to Veterans receiving pension benefits.

The Broadband Infrastructure Program, administered by the PBDA, and other federal grant programs require grant funding recipients to participate in the ACP.

4. CURRENT STATE OF DIGITAL EQUITY: NEEDS ASSESSMENT


Pittsburgh, PA

Completing a needs assessment is critical to identifying the populations who are most in need of equitable and affordable broadband connectivity as well as access to the resources to successfully and securely navigate the internet.

This will provide an overview of the digital needs in the Commonwealth identified through the PBDA's work and assist in identifying the specific barriers for various demographic groups as they relate to digital equity. Needs and barriers vary by covered population, but include issues such as affordability, digital skills, and device access.

ONLINE INCLUSION BENEFITS ALL

Extensive collaboration, outreach, and research were conducted to understand the needs of Pennsylvania residents related to digital access and inclusion. Many common challenges were shared across geographic areas and across demographic groups.

The public survey captured the access and skills challenges experienced by Pennsylvanians. These responses highlighted trends that are shared across demographics and geographics in Pennsylvania:

Top Challenges to Internet Use:

- "The cost is too expensive": 54%
- "Service is unreliable or has frequent outages": 43%
- "I don't like the available service providers": 31%
- "I'm concerned about my security and privacy": 25%

Comfort Level with Digital Skills:

Survey respondents also ranked their comfort level with a variety of common online activities.

- "Searching for and finding the information I want" had the highest comfort level.
- Over 15% indicated low or no comfort with online payments and online banking.
- Over 20% indicated low or no comfort with filing official documents, social media, and healthcare consultations online.

Residents shared how frequently they use the internet for various activities, which reinforced that the internet supports daily activities far beyond email and news: telehealth, personal finances, education, shopping, video calls, job hunting, using government services, and more are regularly accessed via the internet. The survey is only one aspect of the engagement activities that gathered feedback, as the survey was optional and required time to complete: it's likely that many individuals who are least comfortable online or do not have access did not participate.

> **"We have one choice for internet. They tell us we have the fastest internet, but the minute one of us is on at the same time, I have no access to the internet. We have to leave the home and go somewhere else to connect. I'm forced to have a landline I don't want just to have internet which increases my monthly payment. Two miles down the road has better internet than me."**
>
> ***– Shared by an event attendee in Clearfield County***

> **"Improving digital skills will help find quality employment, lifting them from poverty."**
>
> ***– Shared by a focus group attendee for low-income individuals***

> **"When I went to college, I could not afford anything. I needed internet, but the only thing I could afford was a hotspot. While some people may be educated on the different technologies, sometimes it just doesn't matter if you can't afford it."**
>
> ***– Shared by an event attendee in Dauphin County***

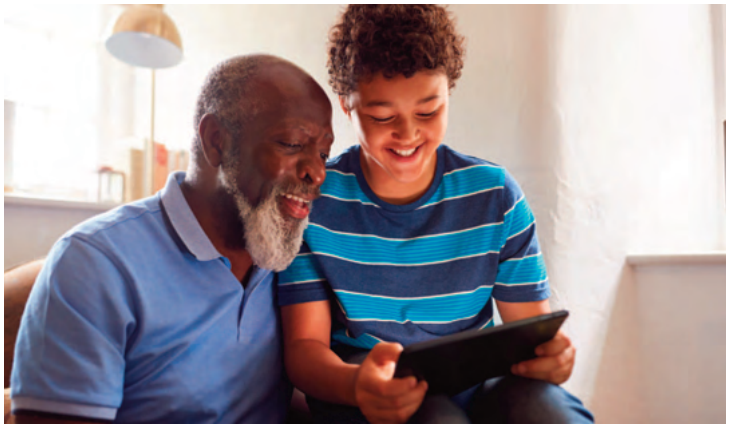
Residents and stakeholders shared stories of how the digital divide impacts opportunities they can access. Residents shared stories of losing connectivity during work from home, working outdoors to get a signal, or missing out on work from home opportunities. School districts receive different amounts of funding by location, and as a result some schools offer more services and support than others. Online teaching techniques require that teachers know how to use them, but that training isn't always provided. Parents with limited digital skills can't easily help their children with homework or check grades offered online. Community colleges echoed this finding by sharing that many college students have tablet and smartphones skills but need entry-level computer courses for typing and basic software.

The numerous digital equity assets that already exist, as described in Chapter 3, are clear indication that demand is high and many residents are seeking support.

Unequal Burdens of the Digital Divide

The Digital Equity Act acknowledges there are several contributing factors that disproportionately burden the eight covered populations listed below. These include limitations to internet and device access as well as gaps in skills and literacy.

- Older adults
- Justice-impacted individuals
- Rural residents
- Low-income residents
- Residents with a language barrier
- Racial and ethnic minorities
- Veterans
- Individuals with disabilities



These populations are historically underrepresented in data gathering. The census is the most statistically significant and regularly repeated dataset which aims to reach every household, but it has historically undercounted certain populations, including racial minorities. Demographic information is self-reported, and many people prefer not to share personal information. Those with housing insecurity or no fixed address are difficult to reach for census forms or other surveys. Undercounting residents leads to real impacts in how much funding is available to their communities, so underrepresentation corresponds to fewer resources. Throughout the development of this Plan, stakeholders who work with and residents who identify as belonging to these groups were consulted in depth. However, no personal information was requested or gathered from anyone, per NTIA requirements. This needs assessment is informed by qualitative input including personal stories and barriers shared verbally during outreach events.

INTERSECTIONALITY OF LIVED EXPERIENCES

This needs assessment also acknowledges that every Pennsylvanian is a unique and diverse individual. Many residents identify with multiple demographic groups, including the covered populations above. It's important to understand that challenges and barriers faced by one vulnerable population are often shared by others, and the impact of these challenges are only worsened for those who fall within more than one demographic. Even one barrier affects quality of life, but when faced with a number of barriers like many of Pennsylvania's most vulnerable residents, residents are left with the least access and some of the most substantial challenges in seeking assistance. The PBDA listened to residents and values the feedback received from those who face stigmas, are burdened by financial struggles, and reside in rural settings where resources may not be geographically close.

To give some examples, we heard:

- Many Veterans spoke about challenges with poor internet access in their rural communities, as well as the challenges they experience as older adults with limited incomes. Many discussed mobility limitations or other disabilities as well.

  At the Veterans Focus Group, there was lengthy discussion about health issues and mental health challenges faced by this population. The trauma that often follows servicemembers can be experienced through physical and mental conditions that both benefit from the healthcare and community ties supported by broadband yet are also a reason why seeking help in getting online can feel overwhelming.

- Many residents shared challenges related to affordability and limited incomes. These stories frequently overlapped with the economic challenges of rural communities with shrinking populations and little economic opportunity. Moving is often not an option.

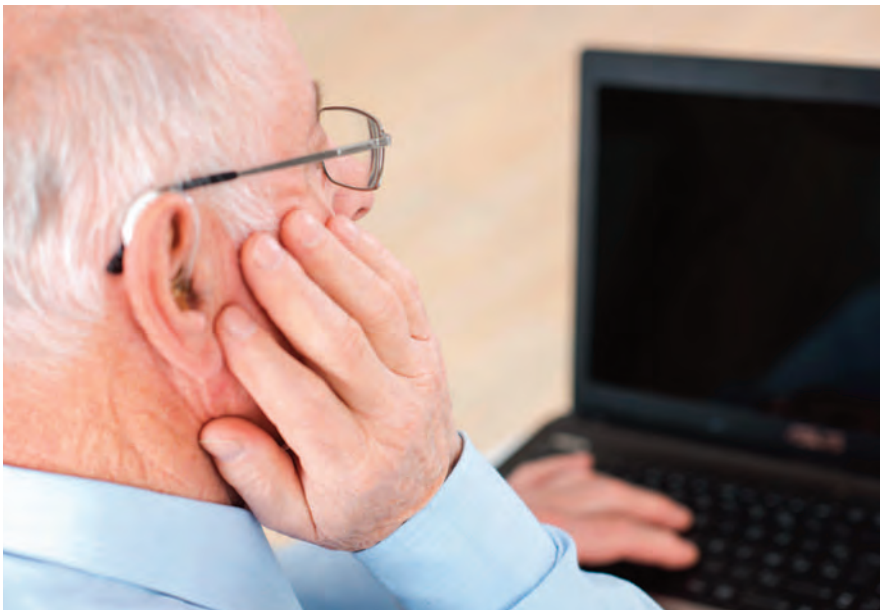
  An event attendee in Beaver County shared that her aging father lives alone in a rural area without broadband, and when cell service goes down in storms there is no way for him to call for help.

- Other discussions about low-income households overlapped with challenges faced by racial and ethnic minority communities. Residents shared that they feel overlooked and left out. They recognize that lack of broadband now limits educational and economic opportunities that extend into the next generation.

Throughout the following pages, challenges and barriers are described per covered population. These pages include some analysis of frequent intersectionality documented and observed in Pennsylvania.

4.1 POPULATION CHALLENGES AND BARRIERS

To best serve the needs of the Commonwealth, the PBDA used census data to create an online Digital Equity Atlas which allows users to research computer usage and access availability as well as how different populations are impacted, down to census tract level. The Digital Equity Atlas also provides an analysis of this data and assigns a Digital Equity Need Index to each census tract and county. A higher index score indicates that the area has many individuals who fall within the eight covered populations enumerated within the Digital Equity Act.



To explore the Digital Equity Atlas and view more granular data, users can navigate with a mouse or trackpad to zoom or magnify into a given geographic area and click on it. The selected area will then display census tract-level statistics among different demographic groups within that location. The navigation bar at the bottom includes options to view different data sets in the map, including per county instead of per census tract.

POPULATION CHALLENGES: OLDER ADULTS

The NTIA considers Americans aged 60 and older "aging individuals," or older adults. While experience level and general attitude among older adults towards the internet vary based on several factors, e.g., living situation, family assistance, income, and health status, there are key barriers and challenges to achieving digital equity and inclusion among Pennsylvania's aging residents.

Older Adults Represent

26% of the population in Pennsylvania

23% of the population nationally

of these Pennsylvania Residents:

31% live in census tracts with high Digital Divide Index scores

29% have a disability

16% live below the federal poverty level

14% are Veterans

Source: 2019 ACS 1 Year Estimate

Within Pennsylvania

- Presently ranked as the 9th oldest state in terms of residents' age, almost 26% of Pennsylvania's population is aged 60 or older.
- 36% of older adults (60+) live in rural areas.

Nationally

Older adults have varying experiences with broadband and struggle to access vital online services and activities like telehealth appointments and public benefits without adequate broadband adoption, which can be further complicated by socioeconomic factors. The AARP says they can face social isolation without reliable access to devices and broadband, which can compound physical and mental health issues and contribute to a lower quality of life. Additionally, the AARP indicates that older adults who lack a high school diploma, live in poverty, are non-White or foreign-born, live alone, suffer from poor health or physical disability, are female, or live in a rural area are more likely to face barriers to accessing, affording, and using broadband.

Thanks to Windy Hill on the Campus for cohosting the focus group event and the many Digital Equity Stakeholder Working Group members who represent the needs of the older adults they serve.

Thanks also to Rebecca May Cole of the PA Area Agencies on Aging for participation in the Unified Core Planning team.

Barriers and Challenges

Older adults were well represented at the many community conversation events held by the PBDA, where their thoughts and needs relating to digital inclusion and broadband adoption were captured. Additionally, the PBDA hosted a focus group event to hear more about residents' experiences.

Affordability

Many older adults are living on fixed incomes, which could make the cost of broadband and devices unaffordable. For most, the primary source of income is Social Security Retirement benefit which can be accessed anytime between age 62 and 67. Regardless of the source of income, many choose to go without high-speed internet service and functional devices when given the choice between internet bills and other life-sustaining costs like medicine or food. The Affordable Connectivity Program (ACP) provides discounted internet and a one-time device discount for people who struggle with affordability concerns, but not all who qualify are taking advantage of the benefits.

Physical Challenges

Disabilities, health issues, and other physical conditions are prevalent among older adults and can hinder the use of online technologies. Physical challenges may take the form of conditions that make skills like reading, typing, or scrolling on a mouse difficult, or limited mobility which can, for example, impact one's ability to drive to a local institution like a community center or library to access broadband and devices if they don't have access at home.

Difficulty Learning About Technology and Digital Skills

Many older adults feel they need help learning how to use new technology and face barriers navigating some online spaces independently, especially with emergent technologies and increased reliance on the internet for various necessary activities. Lack of confidence in learning new technology can apply to both physical skills, like using facets of a new computer or smartphone (key components, mouse, and keyboard), and non-physical aspects of the technology, like using an internet browser or app.

Skepticism About Broadband Value and Safety

Among this population, there are varying attitudes about how broadband and devices, or lack thereof, impact their lives. Some are unsure whether increased access to broadband, devices, and digital skills would improve their day-to-day lives or that they are disadvantaged by limited access. Further, many older adults are skeptical about using the internet, especially regarding data privacy and cybersecurity. Those who are interested in the internet want to ensure they navigate the internet safely, and while the need to maintain passwords is recognized, the need to constantly update passwords can be frustrating. Safety and security when online are of importance to older adults, and a significant concern is the threat of being scammed or having data compromised.

In Their Words

> "If I could change one thing about the internet it would be all the scams... I am afraid of being caught in one."

> "Internet access is a necessity. It's almost become like 911 in a sense. It's good to have access because you can report things or learn things, and if you think something's not legitimate, you can question or research it."

> "Most of us (who are older) have challenges with keeping up with the different types of devices, how to keep them updated, etc. – I may have the best of the best, but I'm not using it to the best of its capabilities."

> "My grandfather during COVID – he has cochlear implants, and when telehealth became a thing, he had a difficult time because he has relied on reading lips and having a slow internet connection compounded everything – it added to the compounding frustration."

Survey Results

The age question on the PBDA's statewide survey included options of ages 55-64 and ages 65+ due to the varying definitions of older adults or 'senior'. There were **3,343** people who self-identified as being 65 or older. Initial survey findings show:

- 10% don't have home internet access.
- High costs (29%), unreliability (23%), and security/privacy concerns (18%) are the most frequently cited challenges to access.
- 56% are very comfortable with searching for and finding information on the internet, but only 24% are very comfortable seeking medical care or telehealth consultations.
- 51% of respondents said they had no difficulty paying their monthly internet bills; 43% reported some difficulty; 5% reported great difficulty.

POPULATION CHALLENGES: JUSTICE-IMPACTED INDIVIDUALS

Justice-impacted individuals are those who are or have been placed in federal, state, or county confinement through formal sentencing. Justice-impacted individuals identified in the covered population are individuals who were formally incarcerated and confined within secured facilities outside of the federal incarceration levels, which includes county and state incarceration. Incarceration and the accompanying stigmas that can be imposed upon individuals last far beyond the period of sentencing. Upon release, reentry into society can be a challenging process as individuals must navigate changes in social structures, loss of connections, employment and housing gaps, access issues, and more. Internet access is a crucial support in connecting people as they reestablish their lives post-incarceration.

Incarcerated Individuals Represent

<0.10%
of the population in Pennsylvania

<0.60%
of the population nationally

of these Pennsylvania Residents:

34%
live in census tracts with high Digital Divide Index scores

***Source:** 2019 ACS 1 Year Estimate*

7.7:1
Black:White Imprisonment ratio

2.3:1
Latinx:White Imprisonment ratio

129 per 100k youths
Incarceration rates for residents under 18 years of age

***Source:** sentencingproject.org*

Thanks to the PA Reentry Council and to Jeff Abramowitz for cohosting a Justice and Reentry Roundtable, as well as Jeff's participation on the Digital Equity Stakeholder Working Group and the Unified Core Planning Team.

Within Pennsylvania

- Pennsylvania currently houses 37,658 incarcerated inmates within State Institutions.
- More than 10,600 inmates (28%) are considered elderly. The Pennsylvania Department of Corrections defines "elderly" inmates as those who are 50 years of age and older.

Nationally

Security concerns regulate access to books, educational materials, printed documents, software, and digital security. This imposes extreme disadvantages for those either enrolled in programming within facilities or for those seeking ways to increase professional skill building and educational training. Barriers like facility lockdowns, for example, are unique to inmates and can significantly disrupt the continuity of services. Opportunities available to the public, including digital skills, training, and workforce development, are largely unavailable to justice-impacted individuals.

Barriers and Challenges

The PBDA conducted a virtual roundtable with local stakeholders and community leaders who work directly with individuals who are incarcerated as well as those navigating the reentry process. Attendees spoke about the lived experiences of their community as well as constraints in providing services and coordinating resources.

Security and Restricted Access During Incarceration

Restricted access based on technology security measures within institutions is a significant challenge in connecting justice-impacted individuals behind the bars, which impacts their digital skills during reentry. Restrictions in operating systems are a large hindrance. During incarceration, individuals may only be able to use the internet under supervision to visit selected approved sites only. These security limitations make it difficult to offer training and educational programming. Fee-based services create additional barriers. Individuals may be asked to pay for access, even to email, which limits their ability to benefit from technology even when available. Some locations have introduced virtual reality training sessions to teach people in a restricted setting how to operate online banking for example, and other common daily uses for technology.

Continuity and Uniformity of Services and Equipment
Available services and equipment vary by location, which complicates closing the digital divide for justice-impacted individuals within institutions and those transitioning to reentry. While software and equipment exist within institutions, the technology can oftentimes be antiquated, and the level of available technology differs from institution to institution.

Barriers Impact Reentry Efforts
Without opportunities to learn and maintain digital skills, justice-impacted individuals lack applicable, foundational skills upon reentry. They can struggle to get access to a computer or other device, especially as device programs may require an address as finding stable housing is itself a challenge during reentry. Limitations in stable housing or stable internet significantly impact workforce development efforts during reentry as well. Many workforce development programs require some form of digital knowledge (touch screens, software use, typing capabilities, etc.) beforehand, with resources provided depending largely on being able to access websites and online applications outside of office hours. Individuals who have not been able to gain or maintain digital skills during incarceration find themselves struggling to use the support systems available during reentry because they can't get online. Mentorship programs during reentry were discussed by stakeholders in Pennsylvania as a successful model to help individuals adapt and succeed in reestablishing stability after incarceration.

Continuing Evolution of Technology
Software and equipment change even within the span of a few years. With limited access to technology behind bars, many are overwhelmed during reentry with new software and new platforms. For those who serve long sentences especially, upon release they are out of touch with current technology and how to use it.

Isolation and Intersectionality of Needs
Additional challenges also exist for justice-impacted individuals with disabilities, as institutions may lack the proper accessibility supports and services. The internet enables communication and is a window to the world beyond the walls, including connections to other people as well as information. Isolation is compounded for those who are cut off from even basic access, whether it's due to long incarceration and high unfamiliarity with computers, disabilities, or other reasons. Those who have physical disabilities struggle to use services that are available if the appropriate assistive technology is not also provided.

In Their Words

> "Prisons and jails need to provide more opportunities for people to communicate and create a greater capacity for people to reach out to their families."

> "Rehabilitation is more than just being released, it's also the preparation to move from behind the walls. There needs to be work done before existing in society. People need access to skills on a broad level, and everyone should have access."

> "Naming community entities as critical stakeholders can help streamline flow of services from institutions to agencies, while also allowing for stronger tracking of services, resources, partnerships, etc. utilized through data collection."

> "Before internet access needs to come stable housing and access to hardware. Post-release individuals have a hard time finding permanent or transitional housing, without which, they would not be able to access the internet or really even learn or attend classes."

> "They're not allowed to have internet due to parole; however, they still need to be able to operate... It's hard to work with them to find employment because they can't use the internet freely without a navigator."

> "Digital literacy could be brought inside so that folks have basic, foundational skills as they're getting out to deal with other issues like housing, work, etc."

> "We built a digital literacy program for reentry. But there are security roadblocks, so it's bare bones."

> "There's a difference between what long-term offenders need vs. what short-term offenders need, as it relates to technology. It's not a one-size-fits-all solution. There's a lack of continuity and regularity with training, etc. while individuals are incarcerated. Oftentimes they are not able to apply what is learned; therefore, they need to be retrained upon being released."

Survey Results

The PBDA had limited ability to work directly with individuals who are currently incarcerated. Justice-impacted individuals who may have taken the survey did not self-identify in any meaningful quantity, which was anticipated, as the PBDA sought to ensure that no personally identifiable information was gathered, and residents' privacy was respected. Rather than relying on survey results, the PBDA endeavored to include expanded opportunities for engagement and participation through a well-attended roundtable specific to this population and in-depth participation from representative stakeholders.

POPULATION CHALLENGES: RURAL RESIDENTS

Pennsylvania has a scenic landscape of rolling hills, agricultural land, dense forests, and weathered mountains that support the Commonwealth's rural communities. 2020 Census data show Pennsylvania is one of the most rural states in the country and has a population density of 291 people per square mile. For the NTIA's purposes, a rural area is any area other than a municipality that has more than 50,000 inhabitants; any urbanized area next to a municipality with more than 50,000 inhabitants; and in the case of a grant or direct loan, a municipality or incorporated area that has more than 20,000 inhabitants.

Rural Residents Represent

26% of the population in Pennsylvania

29% of the population nationally

of these Pennsylvania Residents:

39% live in census tracts with high Digital Divide Index scores

27% are older adults

20% are low-income

5% are racial and ethnic minorities

17% have a disability

***Source:** 2019 ACS 1 Year Estimate*

Thanks to the Center for Rural Pennsylvania for participation on the Unified Core Planning Team and the substantial work they have done to inform broadband needs for rural residents in Pennsylvania.

Within Pennsylvania

- 3.4 million residents call rural Pennsylvania counties home.
- The U.S. Census Bureau's 2020 Census shows there are 48 rural counties and 19 urban counties in Pennsylvania.

Nationally

Residents living in rural America have historically felt as though they have been left behind when it comes to infrastructure whether it's water or sewer, transportation, or access to high-speed internet. The cost of providing internet service in rural areas is extremely high, forcing ISPs to refrain from entering these "hard to reach" areas. ISPs are often reluctant to enter these markets without some level of governmental support because it may not be considered financially feasible to build out networks that serve very few users and bring in little revenue.

Barriers and Challenges

Rural residents were well represented at the many community conversation events, as well as through outreach conducted by the PBDA that started in 2022. Residents' thoughts, interests, and concerns were captured during the numerous touchpoints with rural communities.

No Service Available

Infrastructure is possibly the greatest barrier facing rural residents as homes are often spread apart and generally set back off a main road, making it very costly for ISPs to provide service. Residents are either forced to pay for the line extension from the road to the home or go without service. In some instances, the provider may be providing services in the region, but their existing capabilities are not robust enough to expand their services. Lack of infrastructure creates a "last to know" standard of living. Small, rural towns can suffer because lack of broadband means students and businesses leave, which is detrimental to the small town "way of life."

Expensive Service

Even when service is available, rural residents are often hit with high costs as ISPs have fewer customers per square mile and charge higher rates. Many Pennsylvania residents in rural areas shared that they pay well above $100 or even $200 per month for service, yet these prices do not mean better service than in urban areas. For households that have not previously had service, there may be a hefty fee to connect the residence to infrastructure along the street. The hookup costs can be charged to the customer and be cost prohibitive, especially on properties with large front setbacks and long driveways. Many rural residents shared that service is often unreliable and is disrupted in poor weather, which is frequent in Pennsylvania, so even if the cost is manageable, they complain that they don't get the service they pay for. This unreliable service limits residents' ability to run a business or attend school from home. Residents in this situation often look to move elsewhere, further contributing to economic decline in rural areas.

Lack of Provider Options
Limited ISP options in rural areas leave residents with only one option. And while service may be available, the speeds may not be fast enough to accommodate the number of individuals using the service at the same time. Consumers want to have options and be able to make their own decision on which provider to use. The lack of providers and competition continues to be a challenge for rural Pennsylvanians of all ages and for numerous business sectors. Attracting and sustaining residents, businesses, and employees is hampered by the lack of ISPs.

Unreliable and Interrupted Service
Rural residents spoke often about slow speeds that struggle to upload or download items. Weather can impact service, leaving rural residents frustrated. Completing online job applications or ordering something through an e-commerce platform creates a challenge, especially when the internet service times out, leaving people stranded online. Internet reliability is also a significant challenge for educators, institutions, and students, in addition to employers, businesses, and the agriculture sector. The specific challenges may be unique, but the commonality between them is the lack of reliability. Many residents shared stories of themselves or others choosing not to live in certain areas due to the unreliable internet. Others highlighted how rural residents, especially aging or disabled residents, have been cut off from emergency responders when they can't get internet or cell service to seek help.

Low Consumer Confidence
Consumer confidence in the government and its ability to ensure ISPs expand internet service to rural Pennsylvania has been a longstanding topic of discussion. There is a distinct amount of frustration with current service availability and providers. Additionally, consumers have expressed concern about their own abilities to learn how to use the internet safely as well as the ISPs' commitment to ensuring the consumer is receiving the speeds for which they are paying and that they can get a consistent connection without purchasing additional equipment.


Mifflin County, PA


Johnstown, PA

In Their Words

> "There's a lack of consistency – one street could have good access, and the next street could be down all the time."

> "One retired couple came to the area for its beauty. They know people who would like to move to the area and work remotely, but they need robust internet access and can't always get it."

> "I live in a beautiful rural area, and we have about 20 houses in our area that aren't served at all. I've offered to take a mortgage to help pay for a line to run a line, and no one will. I have two children with special needs who can't attend virtual doctor appointments."

> "ACP is better than nothing, but it still doesn't help if a bill is $200."

Survey Results

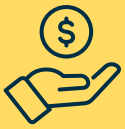
In the statewide survey, **3,322** respondents self-identified as a rural resident. Initial survey findings show:

- 11% don't have internet access.
- High costs (39%), unreliability (44%), and dislike for available ISPs (26%) are the most frequently cited challenges.
- 66% are very comfortable with searching for and finding information on the internet, but only 44% are very comfortable seeking medical care or telehealth consultations.
- 48% of respondents said they had no difficulty paying their monthly internet bills; 46% reported some difficulty; nearly 6% reported great difficulty.

POPULATION CHALLENGES: LOW-INCOME HOUSEHOLDS

NTIA covered populations include households for which the annual income for the most recently completed year is not more than 150 percent of an amount equal to the poverty level, as determined by using criteria of poverty established by the Census Bureau.

Low-Income Households Represent



19%
of the population in Pennsylvania

21%
of the population nationally

$63,463
Pennsylvania Median Household Income

of these Pennsylvania Residents:

45%
live in census tracts with high Digital Divide Index scores

19%
of low-income households do not exceed 150% of the federal poverty level

12%
of low-income households do not exceed 100% of the federal poverty level

10%
are households with older adults

17%
are households with residents aged 18 or younger

***Source:** 2019 ACS 1 Year Estimate*

Thanks to Housing Authority of the City of Pittsburgh for their involvement with cohosting a focus group, and the many Digital Equity Stakeholder Working Group members who represent the needs of these households.

Within Pennsylvania

- Households with higher income are more likely to have a broadband internet subscription. Of those with income below $20,000 per year, only 73.5% have a broadband internet subscription.
- Nearly 1 in 3 renter households pay more than 30% of the Area Median Average (AMI) on rent, making them "rent burdened".
- Over 15,000 individuals are estimated to be homeless in Pennsylvania. These individuals may have a mobile device, but no home internet without a home address.

Nationally

Not having access to the internet places low-income individuals at a disadvantage to those who do have access. Smartphone dependency is more common among adults with lower income households. Students who come from low-income homes are generally stuck in what is referred to as the "homework gap," meaning they are less likely to have a reliable internet service at home, do not have access to a desktop or laptop computer, and are more likely to use a smartphone to complete their assignments.

Barriers and Challenges

Events and outreach conducted statewide worked to include low-income residents. The PBDA ensured family-friendly settings with incentives including meals and transit aid to remove barriers to attendance.

Affordability of Service and Devices

The cost of internet service is a significant barrier to adoption. Residents on limited incomes must choose between bills to pay, and internet may not make the cut. As a result, they may use a smartphone only or rely on Wi-Fi at libraries or other publicly accessible locations. While this provides some connectivity, it places these residents at a significant disadvantage in using and learning technology skills. Small smartphone screens limit the online activities that can be supported, and community spaces have set hours and security restrictions. Working from home or taking online classes are missed opportunities for these residents without their own reliable home internet and devices. Additionally, low-income households cannot afford to ongoing software and maintenance costs involved with keeping them free from cybersecurity threats or viruses.

Skills Gap
For those without broadband service at home, there are also limited opportunities to develop skills using digital devices such as laptops or desktop computers. Computer skills lead to improved economic opportunities and there is ample interest, but residents still must be able to dedicate time to attend which can be difficult. Learning new digital skills is a luxury for those with broadband, a computer, and free time and can otherwise be a struggle.

Lack of Trust in Government and Systems
Gaining the trust of individuals is an important step to get them engaged in programs such as the ACP or other provider sponsored programs. Distrust is a common theme: low-income individuals regularly experience long sign-up processes for services that deliver minimal impact or deny them outright. Resident input reflected frustration at the lengthy sign-up processes required for programs that deliver minimal benefit for their efforts.

Housing Insecurity
Low-income individuals may move from location to location to find affordable housing or access to critical services. Individuals who reside in a basement or a single room within a dwelling that already receives internet services may have trouble getting a dedicated wired internet connection. Renters, especially those in multifamily units, may be constrained to the ISP selected by the building owner, and even if upgrades are possible to accommodate a different ISP, renters won't pay for them in a unit they don't own. Getting new service set up is itself a challenge for residents who are highly unstable and move frequently or do not have consistent housing. The homeless population is especially at risk.

Fees and Back Debt
An issue raised repeatedly was the fear of rising fees and accumulation of debt. Low-income individuals don't want to commit to services they can't afford, but broadband pricing can be hard to understand. Promotional prices may be only temporary, and the price shown doesn't always reflect the end price with added fees. Even when this isn't the case, confusion over fees can deter people from signing up. Residents shared fears of being turned down for the ACP discount because of back debt. While this is not permitted, concerns about debt and escalating fees are very real for households who are already under financial strain.


Point Marion, PA

Technology Awareness and Competing Priorities
Resident input reflected a lot of misconceptions and confusion around what broadband is and what service plans include. There are gaps beginning with basic access and extending to more advanced skills. While this is true across all populations, low-income households especially are often renters and not in control of their environment. Exploring ISP options and learning more about how to use technology takes time that competes with daily priorities such as employment, getting food on the table, and family care.

Customer Service
Pennsylvania's vision is to provide "digital dignity" to all, a phrase that reflects how disenfranchised residents can feel when they don't have similar levels of service and opportunities as others. Customer service complaints reflect this. Individuals shared that ISP customer service takes a long time or speaks in complicated technical terms that they can't understand. When they don't feel valued and respected, they don't see value in continuing the service.

In Their Words

> "Internet service is far too expensive and if I have to choose between food and having access to the internet, I have to pick food."

> "It is important to provide access to all neighborhoods, but there are also unhoused residents who can only get access by going to libraries – keeping households and rural households in mind is important, but so is considering those who don't have homes."

> "Some of the affordability issues are around what we don't know about how to use the products – we ran out of money trying to help families with things such as how to make the most of money, devices, and internet."

> "Even if I could afford internet services, I can't afford to buy a device to use it. It won't do me any good to have service and no way to use it."

Survey Results

There were **1,998** survey respondents that reported a household income of $50,000 or less. Initial survey findings show:

- 17% of respondents reporting incomes under $25,000 do not have home internet access.
- 81% of respondents reporting incomes under $25,000 use smartphones as their primary devices at home.
- High costs were cited as the number one challenge across all* low-income categories (54%), followed by unreliable service (36%) and dislike for available ISPs (22%).
- 30% of respondents reporting incomes between $25,000-$50,000 have limited or no comfort with seeking medical care or telehealth consultations.
- 65% of respondents across all low-income categories reported that it is either somewhat or very difficult to pay their monthly internet bill.

**Percentages are averaged across all three low-income categories (<25k, 25k-50k, >50k)*

POPULATION CHALLENGES: INDIVIDUALS WITH LANGUAGE BARRIERS

Individuals with a Language Barrier Represent

16%
of the population in Pennsylvania

21%
of the population nationally

Spanish & Chinese
Most Spoken Languages After English

of these Pennsylvania Residents:

35%
live in census tracts with high Digital Divide Index scores

4%
are older adults (60+) who speak English "less than well"

71%
live in non-rural areas

***Source:** 2019 ACS 1 Year Estimate*

Language barriers are barriers to communication between people who don't share a common language. This is especially an issue when an individual doesn't understand the native or the socially dominant language, because those who speak the dominant language are not equally at a disadvantage and can fail to recognize the comprehension difficulties faced by others. Language barriers include semantics, coding and decoding verbal or written messages, the inability to comprehend dialogue, and the inability to properly interpret information in one's respective native language.

Within Pennsylvania

- Census data shows that 11% of Pennsylvania residents speak a language other than English.
- Pennsylvania's average literacy and numeracy scale scores are statistically in line with the national average.

Nationally

The Pew Research Center estimates that almost 47% of immigrants do not speak English proficiently. The PBDA understands the need for interpretation services due to language barriers. For example, Pennsylvania Courts facilitated 49,229 statewide requests for interpreters in 2022 – a 36% increase from the year prior. These language barriers significantly impact any space where we rely heavily on communication, including services within healthcare, education, and workforce industries. Additionally, the lack of documentation as a citizen or established credit lends to challenges when seeking services, and many immigrants may fear deportation due to their immigration status, leading them to avoid beneficial established supports such as digital equity programs. Further adding to the challenges for individuals with language barriers are the differences between available technology and services in the U.S. and foreign countries.

Barriers and Challenges

Reaching this population required multipronged approaches that reflected the challenges of describing complex issues in many languages. Holding two Spanish language events and offering the survey in six additional languages were part of the efforts to address language barriers and better understand the complex nature of the challenges the population experiences.

Thanks to Literacy Pittsburgh for their involvement with cohosting a focus group and Centro Hispano for cohosting two Spanish language Community Conversations.

Lack of Sufficient Technical Support and Customer Service

Individuals with language barriers have difficulty in resource coordination as well as customer care and support. Whether it is difficult to express a need for assistance or an inability to find resources based on the communication disconnect, technical support is limited. Additionally, there is a perception that customer service is often seemingly strategic in having individuals choose plans with additional, unnecessary services and bundles that cause difficulty in refusing services for individuals with language barriers, thus increasing the cost of services.

Pittsburgh, PA

Limited Personal Bandwidth in Updating Knowledge on New Technology

Technology updates can occur rapidly, and if there is inaccessibility in acquiring that knowledge quickly, much of the information outside of basic skills can become lost. Education is often lost in translation due to language barriers, and most educational advancements and updates are programmed for distribution in the dominant language before being available and accessible for alternative language communities. Additionally, work schedules and demand for other priorities can often cause conflicting interests with digital skills education and resources. Technology and services vary between the United States and foreign countries, so even highly skilled immigrants can find navigating our systems to be challenging especially when they don't use the same language.

Limited Community Support

Some newly arrived immigrants have families they have left behind in their home country, with limited support systems in their new area. As a result, there may be difficulty in identifying social services and programs that assist in digital skill literacy and the acquisition of free or low costs materials, software, etc. This is further compounded by the inability to understand the rights of newly arrived residents in what they can qualify for within their immigrant status. Many immigrants arrive with limited documentation and no established credit, which can be a challenge in signing up for internet service.

Decision-Making Process in Device Acquisition

Many rely on their phone to access the internet. Its portability makes it a preferred tool compared to other devices like laptops and desktops. Additionally, many feel that cellular devices are more consumer-friendly and can offer translation services in a way that laptops and computers aren't readily equipped with and would require more setting alterations to accommodate language barriers.

Access to Translation

Representatives from organizations who work with this population spoke more at length about this barrier, which is substantial. With many languages spoken across Pennsylvania, it's a large task to ensure resources are available in users' native language. Where translations are offered, they focus on the most common language in most cases, and only translate the most used materials. In-person translation is highly beneficial to not only give basic information but help troubleshoot and respond to questions, but few programs or companies are able to offer this. One entity that serves refugee families provides an in-home translator on the day the internet is set up in their new home, a service that is offered because it is needed but is only possible because they have a large number of translators on their staff.

In Their Words

> "I used computers a lot [in my home country], but that knowledge is outdated now. It develops very, very fast."

> "It was easier to run my business in Spain, my home country, because the internet here is poor."

> "When we arrived [in the United States], we didn't have credit history, so getting internet was hard. I paid more than was in my budget because I didn't understand the communication well."

> Regarding the ACP, "I tried, but we didn't get it. I don't know why. I never received a message."

> "Communication barriers, and lack of community, as a result of being a New American make it difficult to ask for support or solve specific issues."

Survey Results

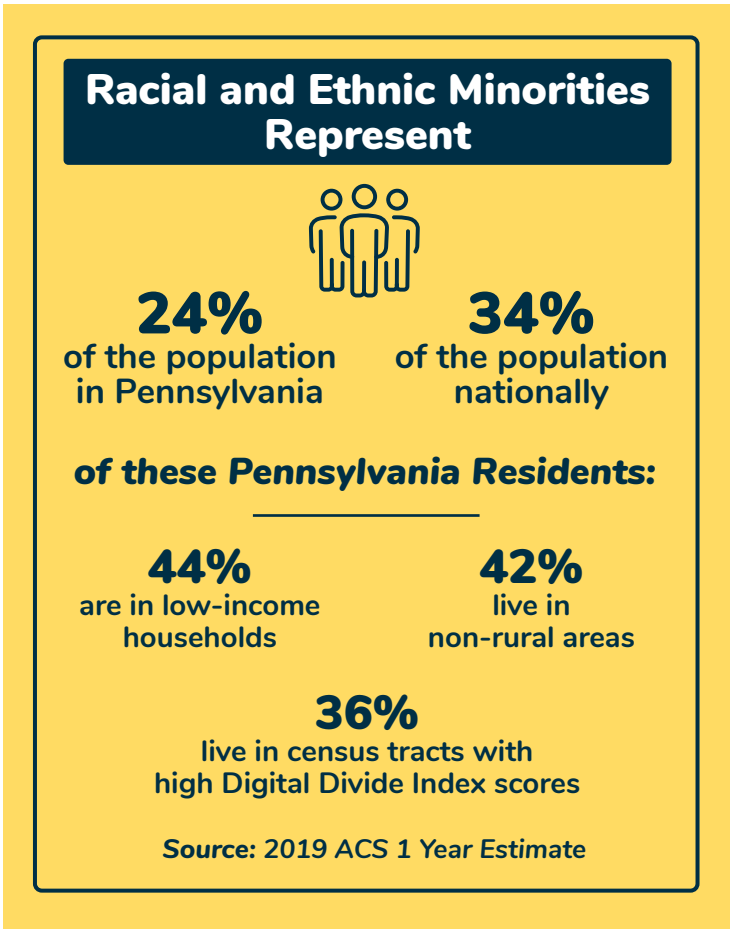
Individuals with language barriers were particularly hard to reach with a statewide survey. While the PBDA aimed to keep questions simple, the topic required some in-depth questions to truly assess residents' experiences and needs related to access, awareness, affordability, skills, resources, and security. The survey was offered in six languages, and several events were conducted in Spanish to attempt to gather input and participation as widely as possible and address language barriers. The Executive Summary of this *Digital Equity Plan* was also made available in seven languages during the six-week Public Comment period, and comments submitted in other languages were accommodated.

Representatives of organizations that work with this population helped speak for their barriers also. Access to translators is often limited, and communication barriers make it tough to seek help. The extra time and effort spent by non-native English speakers impacts their daily activities and limits the time and energy they can spare.

The survey was available in English, Korean, Spanish, Chinese, Simplified Chinese, Russian, and Vietnamese. Initial survey findings show:

- 17 electronic surveys were submitted in Spanish.
- 1 electronic survey was submitted in Simplified Chinese.
- 19 non-English paper surveys were submitted.

POPULATION CHALLENGES: RACIAL AND ETHNIC MINORITIES



Racial and ethnic minorities include individuals who identify as one or multiple races other than White. Within the United States, this is further defined by race, religion, ethnicity, sexual orientation, or physical disabilities. Racial and ethnic minorities typically exist within a collective space set apart from the societal dominant group, often on the lower end of the hierarchal power structure, with a shared sense of identity and common burdens.

Within Pennsylvania

- Median household income was $42,431 for Black or African American households, well below the $67,587 statewide median. Hispanic households have a $49,287 median income.
- The multiracial population has grown 226% since 2010, reflecting movement towards an increasingly diverse population. Notably, the Hispanic or Latinx population has grown over 45% since 2010.

Nationally

The FCC has acknowledged that ISPs have, intentionally or unintentionally, developed infrastructure and pricing patterns that provide fewer and lower quality services in many minority communities, a trend known as digital redlining. A Task Force to Prevent Digital Discrimination has been established to study and seek solutions to counter this effect. Black and Hispanic adults are almost twice as likely to lack broadband access. This digital inequity can increase already existing racial disparities in the development of professional development and further the systemic inequities that exist in education and employment. According to the PEW Research Center, 80% of White adults report owning a desktop or laptop computer, compared with 69% of Black adults and 67% of Hispanic adults.

Barriers and Challenges

The PBDA conducted in-person focus groups and conversations with residents and key stakeholders, particularly targeting outreach to the Hispanic and African American populations in the Commonwealth.

Community Ties are Important

Residents repeatedly emphasized how much they value community members participating and leading processes for the community. Residents may mistrust companies and government entities, but they help one another. From suggestions that skills training be intergenerational and pair youth with older adults from within a given community, to requests for programs to be staffed and run within the community by known and trusted citizens, this population expressed a desire to see capacity building that includes racial and ethnic minorities in teaching and training their peers and neighbors. Residents stated they preferred meaningful involvement and results rather than simply a free meal and a discussion session without follow-through.

Limited Providers and Digital Redlining

There are no regulations yet in place to ensure that ISPs build infrastructure and service all locations within a neighborhood, including areas that may be viewed as not profitable for expansion. Further, franchise agreements can create monopolies for one provider and prevent other ISPs from offering services in an area. Individuals can feel stuck or become strategically exploited through price gouging based on the lack of competition. This barrier is not specific to racial and ethnic populations but is a larger barrier specifically due to their dense representation in low-income communities which are disproportionately impacted by digital redlining. In areas with high poverty, ISPs have traditionally limited their offerings since market viability is tied to an expectation of many paying customers. The ACP attempts to alleviate this to some degree by paying the $30 subsidy directly to the ISP, supporting an incentive for them to expand services in low-income neighborhoods, but it doesn't incentivize service beyond a minimum.

Institutional Distrust

Racial and ethnic minorities have a longstanding history of being exploited and discriminated against, with past injustices creating a mistrust for government and healthcare systems. The effectiveness of external motivators and resources is minimal because of this mistrust, with many feeling that infrastructure, software, and devices provide harmful effects to the overall health of individuals utilizing them. This increases the gap in accessibility. While minorities may desire accessibility to broadband, many confirm that there is a mistrust in the infrastructure, rejection of the government's messaging provided on the quality and desired outcomes, and overall concerns on the perceived lack of transparency on health outcomes from broadband software users.

Existing Disparities

With the presence of already existing disparities, broadband accessibility can become much harder to acquire. Existing disparities, including transportation, health outcomes, socioeconomic status, educational differences, and other areas of known disparities with limited resources can compound and make it uniquely difficult and create stronger barriers to broadband access and digital skills education. Poor educational systems, for example, can amplify the barriers to achieving digital skill building. Transportation issues can increase barriers to accessibility to resources, and so forth.

In Their Words

> **"There are young people in the community that know how things work, we should be recruiting them to help."**

> **"We want to ensure the money doesn't just trickle down. Give us people based in – and with knowledge of – the community."**

> **"Is this effort going to be consistent and persistent? Or are you getting our hopes up?"**

> **"I think that inner city resources are already limited. Because of this, I expect service providers to be exploitative because this area has already monopolization and exploitation of services happening, and there's nothing we can do but either accept it or have no services."**

Survey Results

There were **741** survey respondents that identified themselves as Black or African American, Hispanic or Latin, Asian or Asian American, American Indian or Alaska Native, or Native Hawaiian or other Pacific Islander. Initial survey findings show:

- 4% of respondents don't have their own internet subscription.
- 3% of respondents said they don't have a computer or device to access the internet.
- High costs (53%) unreliability (27%), and security/privacy concerns (23%) are the most frequently cited challenges.
- 60% are very comfortable with searching for and finding information on the internet, but only 45% are very comfortable with both filing official documents and seeking medical care or telehealth consultations.
- 57% of respondents said paying for monthly internet service is somewhat difficult, while 7% said it's very difficult.

Reading, PA

POPULATION CHALLENGES: VETERANS

NTIA defines Veteran as a person who served in the active military, naval, air, or space service, and who was discharged or released therefrom under conditions other than dishonorable.

Veterans Represent

5.5% of the population in Pennsylvania

5.8% of the population nationally

of these Pennsylvania Residents:

31% live in census tracts with high Digital Divide Index scores

56% are older adults

7% live below the federal poverty level

12% are racial and ethnic minorities

30% have a disability

***Source:** 2019 ACS 1 Year Estimate*

Thanks to the Pennsylvania Department of Military and Veterans Affairs for their involvement with cohosting the focus group.

Within Pennsylvania

- 700,000 Veterans are served by the Pennsylvania Department of Military and Veterans Affairs (DMVA).
- 18% have a service-related disability
- 24% of Veterans live in census tracts with low vehicle ownership.

Nationally

Nearly half of all Veterans nationally found it somewhat or very difficult to readjust to civilian life after their time in service due to reasons like lack of social connection and support network and difficulty affording daily necessities. About one third of all Veterans say they had trouble paying their bills in the first few years after leaving the military.

Barriers and Challenges

The PBDA conducted a virtual focus group event with Veterans and community advocates who work with Veterans. The event was held online, eliminating a transportation barrier, and encouraging more widespread participation from across the state.

Price of Broadband Subscription

Many Veterans in Pennsylvania are retired or not in the labor force and are living on a fixed income. Further, it is difficult to seek employment or continuing education that could bolster one's income without access to broadband and devices.

Location of Residence

Over 40% of Pennsylvania Veterans live in rural areas, leaving many residents without adequate internet to accomplish daily tasks. Veterans can feel cut off from the rest of society without this connection to services, news and friends. Some Veterans also struggle to find stable housing where a broadband subscription could be linked. Homeless Veterans in particular rely on phones to make calls over Wi-Fi and often get kicked out of free Wi-Fi spots such as at malls or cafes. They then miss appointments and fall through the cracks.

Physical Mobility Challenges

Veterans in Pennsylvania are more likely to be older adults and more likely to have a disability, compared to the general population. They experience mobility challenges that impact their access to support and care. For example, traveling to VA medical centers can be time-consuming and logistically difficult. Digital access and skills can connect them to lifesaving healthcare and services. Meanwhile, mobility challenges also limit how easily they can get to in-person locations for assistance. Personal one on one help is ideal for Veterans needing digital skills training if locations are sufficiently accessible.

Airmen from the 193rd Special Operations Wing

Philadelphia Navy Yard Annex

Stigma Around Asking for Help

Veterans spoke strongly about the difficulties they experience in asking for help. The training and work ethic drilled into them throughout their career as they risked their lives emphasized self-reliance. Asking for help feels shameful or weak. While this may not be anyone's intent, acknowledging how the stress and burdens of service have impacted many Veterans' mentality is crucial. A negative experience can turn a Veteran away from seeking help again or returning to a program. Veterans reported difficulty accessing the medical care they needed, food benefits like SNAP, and unemployment benefits due lack of knowledge about available resources and the stigma around asking for help. Additionally, the VA doesn't provide benefits to Veterans whose discharge was not characterized as "under honorable conditions."

Privacy and Security Concerns

Attendees shared that learning digital skills is also overwhelming when they also are unfamiliar with cybersecurity and safety practices. Training is needed to use antivirus programs and avoid pitfalls. Many Veterans get taken advantage of by predators online via scams, which places them further at risk financially and emotionally, and discourages them from using the internet.

Device Access and Digital Skills Programs are Limited

Many Veterans do not understand how to operate other devices beyond a phone, but phones have limited capacity for online tasks and work. Veterans can get VA-issued iPads, but they often need to take those devices to the VA to get training. Attendees stated that up to 80% of Veterans don't have access to the VA: those without a location nearby will struggle to go in person to get technical assistance. They may be asked to mail the device back and return it if they can't figure it out. Thus, providing devices turns into a negative experience where Veterans are made to feel they are not capable enough or are not worth teaching. Specific training opportunities would be beneficial to teach common digital skills including use of videoconferencing platforms and telehealth sites.

In Their Words

> "All of these factors to closing the digital divide impact Veterans suicide prevention and internet access is critical to this."

> "When it comes to internet expense, the three most common words I hear are 'Can't afford it.' Many of [us] can't even afford a smartphone or another device. [We] rely on minute phones for everything, and that limits their access to services like telehealth and mental healthcare, let alone talking to families."

> "Veterans often don't want to ask for help, they try to do it on their own. Technical assistance across the board is necessary. Some of this stubbornness is 'trained into us' and we are trained not to ask for help unless it is 'critical to the mission.' We are trained to be machines and heroes. We are lost when we feel broken. We have to overcome shame for no apparent reason because it's trained into us as a sailor, soldier, or marine."

> "When COVID happened, everything moved online, including support groups. Veterans, especially in rural areas, had issues connecting and many were participating in the sessions with only a cell phone, which limits their ability to participate fully. After a while, some stopped coming. They fell through the cracks. Some are no longer with us."

> "Devices that are offered by the VA often have certain apps that are 'locked' and not accessible. There is no trust around people using the devices as these devices are expected to be returned and useable when returned."

Survey Results

2,539 respondents indicated they are U.S. military service member or Veteran or live with an active service member or Veteran. Initial survey findings show:

- 89% of respondents report having internet access at home.
- High costs (8%), unreliability (7%), and security/privacy concerns (5%) are the most frequently cited challenges.
- 41% of respondents indicated they have limited comfort or are not comfortable with social media, while 34% said they have limited or no comfort with filing official documents, and 32% reported little or no comfort with seeking medical care or telehealth consultations.
- 40% of respondents reported having a somewhat difficult time paying their monthly internet bill, and 5% said they have a very difficult time paying.

POPULATION CHALLENGES: INDIVIDUALS WITH DISABILITIES

Individuals with Disabilities Represent

14.8% of the population in Pennsylvania

13.8% of the population nationally

Source: 2019 ACS 1 Year Estimate

of these Pennsylvania Residents:

39% live in census tracts with high Digital Divide Index scores

42% are older adults (65+)

32% are in low-income households (below 150% of federal poverty line)

25% are racial and ethnic minorities

8% are under 18 years old

Some types of disability impact larger numbers of Pennsylvanians:

26.7% Hearing Difficulty

16.6% Vision Difficulty

41.8% Cognitive Difficulty

46.2% Ambulatory Difficulty

17.6% Self-Care Difficulty

25.8% Independent Living Difficulty

Source: 2022 ACS 1 Year Estimate

Individuals with disabilities are a diverse population, and they experience many types of challenges based on the specifics of their condition. Disabilities are categorized into six types: Hearing, vision, cognitive, ambulatory (mobility and movement), self-care, and independent living. Many individuals may fall into two or more of these categories. For these residents, access to services online can be a critical way to connect to resources and assistance, if the right tools and training are provided.

Within Pennsylvania

- Over 3.8 million unique Pennsylvanians are served by DHS benefit programs
- 324,000 students receive special education instruction
- 36% reside in areas with low vehicle ownership rates. If they don't drive, accessing services and resources is limited without home internet.

Nationally

According to the Pew Research Center, Americans with disabilities are three times as likely as those without a disability to say they never go online. People living with a disability have a harder time seeking employment, which limits their income. They are less likely to drive, which limits mobility beyond the home. Those with disabilities are three times less likely to hold a job. The U.S. Bureau of Labor Statistics reports that as of 2022, 21% of persons with a disability were employed, compared with 65% of persons without a disability. For residents with health and mobility limitations, the internet can bring more opportunities directly to them in comfort. However, the devices they use and the online services available need to be more accessible and welcoming.

Barriers and Challenges

The PBDA conducted a virtual roundtable with practitioners at agencies and organizations who serve individuals with disabilities, as well as a series of focus groups to hear from individuals directly. Several key issues and needs specific to this population were discussed during the events.

Thanks to Pennsylvania Statewide Independent Living Council (SILC) and TechOWL for cohosting the roundtable and the Commonwealth Institute at the Hiram G. Andrews Center for cohosting the focus groups.

Thanks to TechOWL and Temple University's Institute on Disabilities for their involvement with the Digital Equity Stakeholder Working Group.

Thanks to Mike Grier of the Pennsylvania Council on Independent Living for his participation on the Unified Core Planning Team.

"Assistive technology refers to any item, piece of equipment, software program, or product system that is used to increase, maintain, or improve the functional capabilities of persons with disabilities. Assistive technology helps people who have difficulty speaking, typing, writing, remembering, pointing, seeing, hearing, learning, walking, and many other things. Different disabilities require different assistive technologies."

Source: *The Assistive Technology Industry Association*

Assistive Technology (AT) Needs and Access

Many individuals with disabilities are unaware of what assistive technologies and programs are available. Computers and software can be difficult to learn and to use for those with disabilities. There are many forms of assistive technology, but getting the right resources to those who need them is a challenge. Assistive technology can include special purpose computers, keyboards, and positioning devices; software such as screen readers and communication programs; and more. The difficulty can be in understanding the numerous options available, affording them directly, gaining access to them through medical insurance, and learning how to install and use them. Pennsylvania's TechOWL program is a great resource statewide, but AT needs require customization per user which takes time, staff, and awareness of the program's offerings. Common devices such as teletypewriters (TTY) used by those who are hard of hearing only work via phone and are not compatible with digital platforms.

Accessible Online Design

Once users have broadband service and a device, the digital landscape continues to be difficult to navigate. There are many standards and resources to support accessible website design, including alternative text, live text that screen readers can interpret, keyboard navigation, and adequate graphic design standards that use hierarchies and legible color schemes for easy reading. Website design is not regulated across the internet, but achieving digital inclusion requires public services and platforms to be inclusive and accessible to those using AT and/or with limited vision or mobility. Health portals, financial services, and government websites need to lead the way in ensuring accessible design so that users don't get access to the internet only to be unable to interact with the content.

Intersectionality of Barriers

Limited vision, hearing, or mobility can make it very difficult to get to resource centers and take advantage of programs that do exist. For those who are also older adults, learning new technology skills can be intimidating. There is also a need for more language translation support.

Diversity of Disabilities

Individuals with disabilities is not a uniform population. Needs vary widely based on the specific conditions of the individual. Decreasing vision, hearing, and mobility are all common factors of aging that impact older adults who may have to adapt to new constraints they didn't have before. Meanwhile, youth with disabilities face barriers from early in their life that impact the educational opportunities they can access. Substantial support services are offered through schools, but with limited budgets and staffing, inclusive and equal education needs continued investment and evolution. The diversity of abilities and needs is a challenge, and as there is not a one-size-fits-all response, solutions need to be multi-pronged and involve personal engagement with individuals.

Accessible Processes and Information

Filling out forms and proving eligibility adds additional steps for residents who are often also burdened by similar processes across other needs. The AARP found that caretakers spend well over 20 hours per week providing care, and in a recent report they found that 25% of caretakers struggle with managing paperwork and eligibility of services. Whether residents have a caretaker or manage their needs entirely on their own, this research underscores the time burden required to manage medical needs and related services. Beyond healthcare, Pennsylvania residents expressed frustration that online resources often have outdated information, making them spend extra time searching for what they need or trying to determine what they qualify for.

In Their Words

> "There is a general disconnect between the direct support staff and the resources and needs of specific individuals."

> "Some companies do audits and assess digital inclusivity and digital accessibility, but those services are expensive. Perhaps we can help fund those expenses to ensure things are digitally accessible. There is a need for fuller evaluations of accessibility."

> "Employers and services are not providing accessibility software programs or training for individuals to learn the software."

> "For those visual issues, we need voice activated/voice guided devices. Those were not made available. I couldn't get anyone to work with me to get a device. Note that every 'screen reader' tool is NOT accessible.

> "Students range in their abilities. We have a range from some that have trouble turning on computers and accessing programs to very avid. I see in my program lower levels in technology use."

> "Resources and websites are often old and outdated; need to make sure information is in one place and current."

> "I feel like I am in a prison when the internet is not working."

> "I am tired of going to meetings where people who like me aren't the ones talking. It is not just bringing services; it is hiring the folks who live here and understand the community."

Survey Results

702 survey respondents self-identified as having a disability that impacts internet use. Initial survey findings show:

- 9% don't have service at their residence.
- 2% don't have a computer or device to get online.
- High costs (58%), unreliability (41%), and security/privacy concerns (32%) are the most frequently cited challenges.
- 44% are very comfortable with searching for and finding information on the internet, but only 31% are very comfortable seeking medical care or telehealth consultations.
- 16% of respondents have difficulty paying their monthly internet bill.

4.2 ADOPTION CHALLENGES

Even when broadband is available, signing up for a service plan is optional. As Pennsylvania works to ensure the widespread availability of broadband, helping people navigate the available options for service and guiding them on how to sign up for it becomes an important focal point. Successfully building infrastructure requires promoting the use of the internet service it delivers, and the most critical step in achieving higher adoption rates is understanding the challenges facing residents who have chosen not to subscribe to existing services.

WHERE ARE PENNSYLVANIANS NOT ONLINE?

Across the state, the lowest adoption rates reflect areas with poor access and availability. Aside from what is owed to a general lack of connectivity, adoption rates in Pennsylvania also show that cost is a factor. While overall adoption rates are high, low-income households subscribe to broadband internet at substantially lower rates. A 2019 study showed that only half of Pennsylvania households earning below $20,000 annually had signed up for broadband home service.

According to an analysis of the 2015 and 2021 American Community Survey performed by the Center for Rural Pennsylvania, this trend has continued. In 2021, households in poverty were twice as likely not to have internet access.

The statewide poverty rate amongst households with an internet subscription is 11%.

- In rural areas, it jumps to 20%
- In urban areas, it jumps to 27%

WHY ARE PENNSYLVANIANS NOT ONLINE?

There are many reasons why Pennsylvania residents do not use internet service, even when available. Once the infrastructure is in place, other common challenges reveal additional needs that can be addressed through support services or awareness campaigns.

In a 2021 survey conducted in Philadelphia, households without broadband cited one or more of the following reasons for forgoing service:

- **The cost of the monthly access fee**
- **Could not afford the cost of a computer**
- **Smartphone allowed them to accomplish all they needed online**
- **Did not want or need service**
- **Not comfortable using the internet or a computer**

When asked to identify the most important reason they do not have high-speed service at home, 42% cited affordability, which can refer to both monthly access fee or computer cost.

Need for Affordable Costs

High costs are a burden to households struggling to pay their bills. Costs include the monthly subscription costs, the costs associated with equipment including modems and routers, and purchasing computers and laptops. The rising use of smartphones and online applications means that many residents pay for broadband internet to the home and a mobile data plan for their phones. As residents consider how much they wish to pay, the monthly subscription fee is not the only expense they face and may choose to pass on.

Need for Transparency in Pricing

Costs of internet subscriptions vary widely, and many users subscribe to bundled services that include television and phone lines along with their internet. The price variations and bundled costs can make it hard to know exactly what a customer is paying for. Speed is also highly variable, and most plans say they offer "up to" a given speed; residents often don't realize what actual speed they will receive. The location of the internet router, quality and capacity of the device used, amount of use occurring simultaneously from other users on the network, and more can impact the actual speed and performance of the internet connection at a given household and at a given time.

Promotional pricing and added fees can be a further challenge. Discounted rates are often offered to new customers over a one or two-year period, but rates can jump quickly afterward and catch customers by surprise. Fees associated with installation and equipment, including routers, can also be a deterrent. Clear pricing is crucial for establishing trust amongst customers.

In 2023, the FCC adopted new rules requiring ISPs to show easy-to-understand labels allowing consumers to shop for the best options and compare plans across ISPs. Much like nutrition labels on food, broadband consumer labels are intended to clearly list all costs and identify introductory rates, speeds promised, and data caps.

> **"One of the biggest challenges for speed is related to speed on a phone versus a laptop. We get lots of calls from people complaining about speed on their device. We have to explain the difference between device capability."**
>
> ***– Shared by an event attendee in Erie County***

Per the PBDA's Public Survey:

60%
of respondents have bundled service (meaning they pay one bill that includes internet and other services such as phone or cable television) or are not sure.

43%
said they don't know their internet speed.

According to a Pennsylvania public survey respondent

> **"[There's] no choice... only have one provider, and there is no competition. They just keep raising their price, and you get nothing more [than] what you have."**

Need for Increased Competition and Customer Choice

Customers with only one provider to choose from have limited choice in plan options or costs. When customers with few or only one provider to choose from are dissatisfied with their service or don't find a plan that suits their needs or budget, they may choose not to subscribe at all.

> **"I've been freezing on internet calls, and my provider's speed test showed me I was only getting 4% of what I'm paying for."**
>
> ***– Shared by an event attendee in Beaver County***

A lack of competition especially impacts rural areas, as the lower population density means more infrastructure is needed for fewer customers. The higher ISP costs can be passed on to the customers through higher rates and limited plan options. Further, many rural residents have been left without access because the ISPs will not service their locations due to pricing challenges. This has hindered successful adoption, but the PBDA's investments in broadband infrastructure grants, including through the CPF and BEAD programs, will expand network availability. The PBDA's prioritization of grant applications that include adoption advocacy or supporting resources will help ensure that infrastructure investment leads to increased adoption rates.

Per the PBDA's Public Survey:

Respondents were asked to rank their comfort level with various safety and security practices. Fewer than half of respondents felt "very comfortable" with all but two of the seven options (multi-factor authentication and strong passwords).

Respondents indicated the least familiarity with managing their computer privacy settings.

> **"I had an aunt who was trying to use a laptop and got scammed via email because she had no awareness of digital safety."**
>
> ***– Shared by a Pennsylvania resident at a Focus Group event***

Need for Safety and Security

There's almost no limit to what you can do online. In addition to accessing information quickly and communicating with anyone worldwide, there are, unfortunately, some risks. The internet is a common place for theft, scams, malware, spam, and phishing. These threats are real but largely avoidable when users understand what they are, how they work, and how to recognize them. Digital literacy is a key part of online security, and those with limited knowledge or experience using computers also have a limited understanding of privacy practices and how to stay safe and secure.

The distrust of the government is a common theme. Residents may feel concerned about the government monitoring them; a fear stoked by legitimate news stories about data-tracking practices. Many private companies and platforms track and sell user data, and customers may feel uncomfortable with how much can be known about them through their online activities.

Need for Value

One of the most widespread sentiments regarding the internet is that it's merely a luxury, not essential to a person's everyday life; that people have gotten by without it longer than it's ever been around. This opinion greatly impacts adoption rates because it requires an understanding of what the internet is and how it drives participation in modern society. To overcome this, people need to be educated on the unlimited potential of the internet and aware of all the ways it can improve the quality of their lives.

Per the PBDA's Public Survey:

63%
agreed (somewhat or strongly) that they would pay more if better service was available.

78%
agreed (somewhat or strongly) that they would select a different internet plan if more options were available.

According to a Pennsylvania public survey respondent

"I live in the country and have no means of connecting to the internet. Satellite ISP is extremely unreliable where I live."

NEED FOR DIGITAL LITERACY ACROSS SECTORS

Digital literacy is no longer a compartmental issue within the industry. Investing in digital literacy education is critical to creating communities that can keep up with the digital age. Meeting and supporting the demands of today are an integral part of Pennsylvania's effort to develop literacy programming that moves toward a digitally sustainable and equitable future.

"Kids know social media, but they don't have computer literacy skills, such as typing and formatting, but these skills are required for job readiness and school."

– Shared by an event attendee in Philadelphia

- **Labor & Workforce:** Whether to find a job, learn new, employable skills, or access resume and application assistance, digital literacy can help acquire the right skills for long-term, gainful employment. Not only is it important for job readiness, but digital literacy also allows for a more inclusive and secure labor force.
- **Financial:** Understanding how to confidently handle monetary products is a crucial component of financial independence. Digital literacy can help individuals with electronic payments, online banking, online investment platforms, and internet-based insurance, as well as understand the risks of online fraud and theft.
- **Education:** Schools and other educational institutions must keep up with the new reality that digital skills are just as foundational as reading and writing. To better align with this rising demand, curriculums can remove outdated content and innovate with new tools, techniques, and staff resources.
- **Agriculture:** Precision agriculture, GPS, drones, data analytics, and farm management systems are examples of digital technologies that have made it possible for farmers to gather real-time data on soil conditions, weather patterns, water and fertilizer use, and crop development. Farmers with digital skills can optimize these resources to increase production and minimize environmental impacts.
- **Telehealth:** Telehealth helps patients alleviate transportation, time, and convenience barriers. However, expanding telehealth services also requires addressing the low digital literacy rates among underserved and vulnerable populations.

4.3 AFFORDABILITY CHALLENGES

THE COST OF INTERNET IN PENNSYLVANIA

Broadband subscription costs are difficult to measure statewide, as there is no central tracking mechanism for these costs. Customers have many different plans with varying providers, varying speeds, and may also be bundled with other services which obscure the cost for internet specifically. The survey results revealed trends, however, in how much Pennsylvanians pay for their internet service.

THE COST OF DEVICES

The costs for devices and services have long excluded individuals from being able to use the internet and benefit from access to it. When residents do not have cost-effective options, skills, or devices, they are less likely to subscribe to services even if they are offered in their area.

Pennsylvanians who struggle with costs often choose a smartphone as their primary device. This is a limited solution, as smartphones are often less effective in delivering the full range of benefits offered by a broadband connection. Certain platforms cannot be accessed through smartphone technology. Smartphone users also struggle with using small screens to complete specific tasks. Data caps on mobile plans can also bring hidden costs, or limit how much users can go online if they wish to avoid extra fees.

Per the PBDA's Public Survey:

52%
pay $100
per month or more.

22%
pay between
$75-$99 per month.

Only 10%
pay $50
per month or less.

WHAT IS AFFORDABLE?

A statewide survey conducted by Penn State University showed notable disparities between rural and urban areas in their willingness to pay, with respondents in rural regions reporting a greater willingness than those in urban areas. The survey also highlighted a pricing preference for broadband service falling within the range of under $60 per month. However, additional research supports that $60 per month may be too much, particularly in urban areas.

> **"For what we get, it's not affordable. I pay $180 per month for DSL. We have not expanded our business because of the lack of internet. Poor internet access is hindering my income. I could easily triple my income with better internet service."**
>
> ***– Shared by an event attendee in Huntington County***

The Connecting Philadelphia 2021 Household Internet Assessment Survey revealed the maximum reasonable price range for many Philadelphians fell between $10-20 per month. A similar question from the 2021 NTIA Internet Use Survey showed the mean price offline households wanted to pay was $10 per month. Additionally, 54% of respondents said they would only purchase home internet service if it were $0. These findings support a national emphasis on broadband affordability challenges.

Pennsylvanians are not alone. According to Pew Research Center, one in four households across the U.S. are worried about paying their internet bill over the next few months.

What We Heard

Per the PBDA's Public Survey:

2,897
people said the cost is too expensive.

53
respondents indicated they don't have access to a computer or device to access the internet.

391
respondents said their phone, computer, or device is not enough.

According to a Pennsylvania resident

> **"The cost keeps increasing, but the service doesn't get any faster or better. It goes out at times. The cost doesn't equate to the quality of the service provided."**

AFFORDABILITY PROGRAM CHALLENGES

Affordability programs such as the ACP have been instrumental in increasing subscription rates, but it is still widely underutilized. There is still a strong need for continued outreach to increase ACP participation in Pennsylvania. Understanding the challenges and barriers to affordability will help us tackle the issue and increase affordable options and adoption in Pennsylvania. These challenges are outlined below.

Lack of Awareness of the ACP Program

Despite substantial outreach and advocacy efforts, many eligible households still are not aware of the program or how to apply for it. Throughout the development of this *Digital Equity Plan*, the PBDA provided ACP information sheets at every community event conducted, and several attendees indicated they were learning about it for the first time.

> **"Programs are so rigid (like ACP) and it makes people barely getting by very vulnerable if they're just over the limit to get support."**
>
> ***– Shared by a Focus Group attendee***

Eligibility Barriers

Navigating the process of signing up for ACP can be challenging for individuals who lack sufficient digital skills. To successfully apply, users must complete multiple steps including creating an account through the National Verifier website, applying through the ACP sign-up portal, and contacting their ISPs. To complete the process, users need an email address, which many older adults may not have or know how to create. Additionally, proof of eligibility requires the uploading of personal documents, a task that may require access to a scanner and knowledge of how to use it. Even if they have digital documents, it can be challenging for those with limited digital skills to save and upload PDFs. Digital navigators can serve as valuable resources, providing step-by-step assistance to help residents sign up. Still, the eligibility requirements also mean that many individuals are left out who are above the income threshold, but still very much struggling financially.

Security Concerns

Many people avoid applying for subsidy programs due to concerns about sharing their sensitive data. The application process requires the sharing of personal identifying information, which can be intimidating and uncomfortable for many people. Those who are not familiar with online safety are more likely to avoid the process out of caution. Additionally, many people have a general distrust of government programs, which can lead to skepticism about subsidy programs administered by government entities.

Funding Uncertainty

The ACP is a temporary solution to a permanent problem. The renewal of the ACP has been uncertain for months, and there are widespread predictions that the program will end in early 2024. Unless Congress takes action to renew the program with added funding, the ACP will run out of funds early in 2024.

4.4 SUSTAINABILITY OF RESOURCES NEEDED

In Pennsylvania, organizations and advocates involved with digital inclusion services and programs have expressed clear needs to support lasting programs and effective delivery of services. Sustainability is critical to the lifecycle of the digital inclusion ecosystem to ensure that investments in new programs and resources are set up for lasting impact and can be successful year after year.

As Pennsylvania expands and enhances digital inclusion resources, the state seeks to look beyond the initial planning and establish a framework for long-term success based on measurable outcomes. New programs must be able to survive the initial implementation phase. This can be done by incorporating community feedback and intended outcomes into the preliminary planning and preparing methods for regular evaluation and updates.

This requires the foresight to embed safeguards into program structures, such as identifying an ongoing financial source, choosing the right partners, securing corporate sponsors, and creating a robust training program. Administrative support and concise language around funding requirements related to program structure, operations, and reporting should be put in place to ensure the programs become self-sustaining early on. This will increase the likelihood that they will be viable for years to come.

As the state prepares this *Digital Equity Plan*, practitioners and advocates identified a series of needs and challenges related to providing and maintaining services. Along with the needs of individual residents seeking to connect to the internet, these needs related to operations and delivery are also critical to address through the state's implementation of this *Digital Equity Plan*.

CHALLENGES FOR PROGRAMS AND IMPLEMENTATION

Limited Staff Capacity

Many of the programs and resources that are designed to help people get online and learn online skills are dependent on human resources. Effectively reaching residents is time-intensive and requires reliable, available, and trained staff. Resources that do not involve direct staff time may still need continued staff time and skill to maintain.

Limited Funding

Funding goes hand in hand with staffing: money is required to pay staff, in addition to other expenses, including building costs and equipment costs. Lack of funds makes it difficult to hire and retain staff members. Promoting new services and reaching the target audiences also takes time, especially when serving vulnerable populations. Building trusted relationships is essential to getting community-focused resources into the hands of those who need them most. Fluctuations in funding streams and unreliable funding make it very hard for organizations to plan for long-term success, develop growth strategies they can confidently implement, and ensure that programs advertised throughout a community will still exist months later as word of mouth spreads and more people start seeking assistance.

In the PDBA's Digital Equity Stakeholder Questionnaire

16%
reported sufficient staff capacity to manage grant funds and participate in program expansion efforts. Most participants indicated a need to hire more staff or seek technical assistance.

44%
identified "immediate funding" as a need and 92% listed "reliable long-term funding" as a need.

Time-Consuming Funding Reporting

Many digital equity practitioners rely on grants and sponsorships to support their operating budgets, which can come from various sources, follow different timelines, and vary widely in the amount of money available. The time spent on seeking funding, tracking funding, and monitoring program impact to report back to funders takes away from practitioners' ability to serve individuals. More reliable funding streams, consistent and reasonable reporting standards, and longer funding cycles would all help reduce the administrative burden and let practitioners spend their time providing more services.

CHALLENGES IN PROVIDING AND MAINTAINING EQUIPMENT

Variety of Devices and Systems

Digital skills programs need to be equipped to teach a wide variety of skills on different types and brands of equipment. Providing "a device" doesn't always mean it meets the needs or the abilities of the recipient. The many types of technology complicate digital inclusion efforts. Simple and streamlined programs may not address user needs.

Limited Hardware Lifespans

Efforts to provide computers and similar devices can fall short if new users don't have the technical skills to maintain and upgrade them. Programs that offer equipment to borrow must plan ahead and budget for regular maintenance and upgrades. Donation and reuse programs have to consider how long the devices will last when in the hands of new users.

Software Upgrades and Licenses

These costs impact programs that keep devices for loan and individuals who receive devices for low or no cost. If they can't afford the upgrade, they stop using it.

Discontinuation

When the platform or product ends, individuals and staff alike must learn new programs. Customer support is often not available after a product or service is discontinued.

The Digital Literacy Alliance in Pennsylvania shared valuable insights about challenges with program implementation. Some common issues:

- ☑ **Building up expertise is critical.**
- ☑ **Funding is needed to sustain people and staff.**
- ☑ **Software is an ongoing cost.**
- ☑ **Design obsolescence is a feature.**
- ☑ **Desktops last longer than mobile devices.**
- ☑ **Organizations spend a lot of time supporting imaging and technology updates which takes away from the time they have to provide services.**
- ☑ **Compatibility across devices and operating systems is lacking.**

CHALLENGES WITH STAFF DEVELOPMENT AND TRAINING

Finding Qualified Staff

Successful programs need staff that are prepared to meet people on their own level and assist them in a way that makes them comfortable. Social skills and sensitivity training are important, along with knowledge of different operating systems, device types, and common software. Shared curriculums and protocols are needed among staff members. Background clearances may be needed, especially if assisting people with personal tasks involving private information, such as healthcare portals or social security forms. Some programs provide in-home services, which require staff members to go to individual homes and work with residents in their own space. Limited capacity impacts both the ability to attract and retain qualified candidates (with a reasonable salary) as well as allows the time needed to offer consistent training across all staff members.

Long Term Career Opportunities

With limited funds, many digital equity practitioners use volunteer or entry-level support, including internships and fellowships from students or recent graduates. The time and effort spent on training is frequently repeated as they move on. Without long-term career opportunities and long-term job stability, it's hard to keep qualified staff over time.

In Philadelphia, residents expressed concern to the PBDA that they often see volunteers or interns come into their neighborhoods for only short periods. Building capacity and hiring staff who are local and who stay within the community over time was repeatedly emphasized as a more effective and preferred approach.

Language Barriers

The Department of Human Services offers language services in 36 different languages besides English. Across the state, many languages are represented, complicating efforts within a given community or geographic area to aid all who need it. Many organizations that provide digital inclusion programming or support must choose which languages they can support, especially when paired with capacity constraints. Small organizations and nonprofits don't have the budget or the capacity to have fluent language skills represented on staff or available through translation services. Shared translation support services would help local partners be able to reach more residents and overcome language barriers.

In responses to the PDBA's Digital Equity Stakeholder Questionnaire, Spanish was the most commonly offered language beyond English. Digital skills training and computer use resources in Chinese, Arabic, German, and other common languages spoken in Pennsylvania are much more limited.

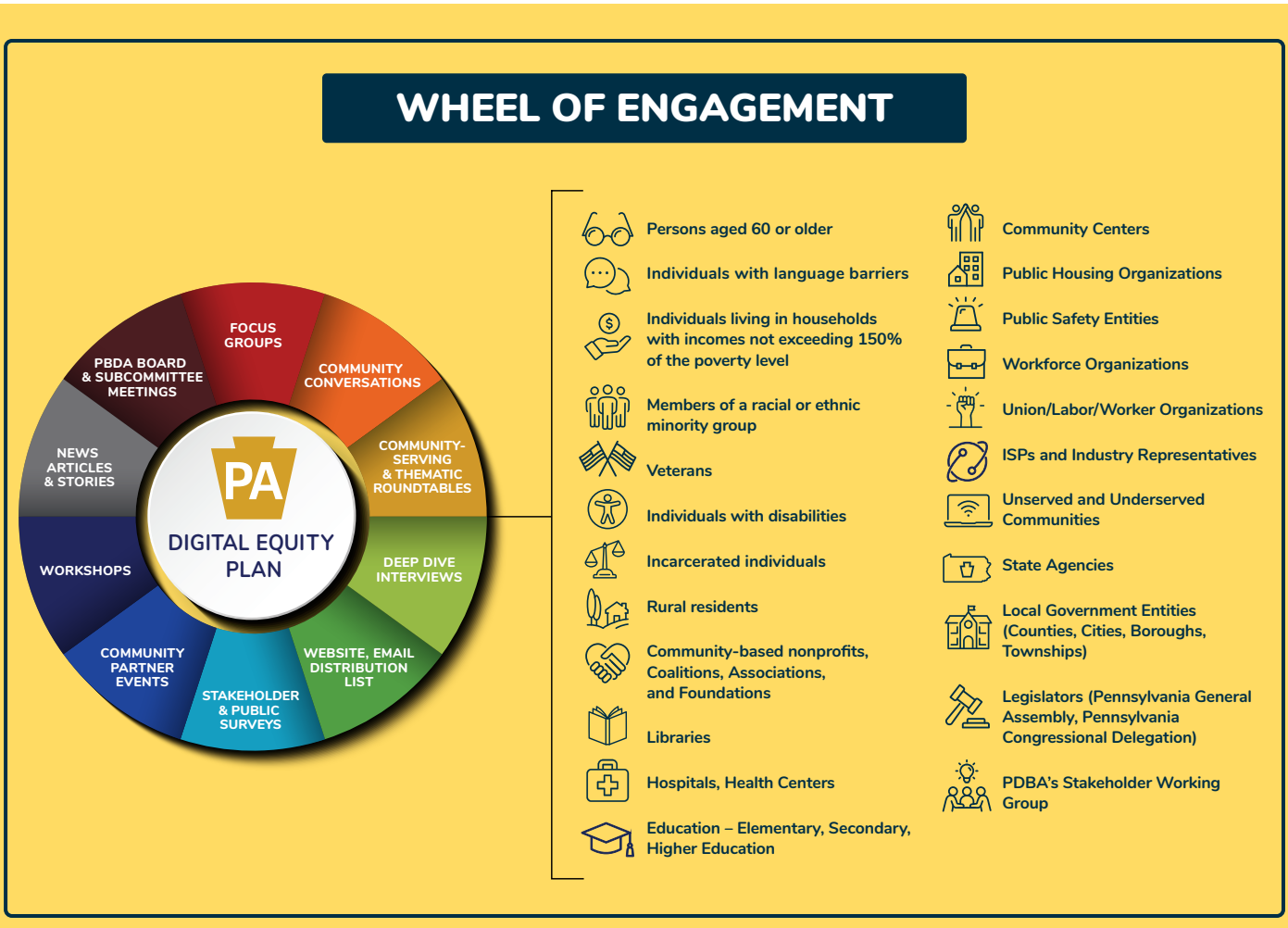
The PA 211 phone system operated by United Way connects Pennsylvanians to resources and assistance statewide. PA 211 has multilingual staff available, but also relies on a chat translation tool that includes 75 languages. There are few staffed programs that can manage this range of languages though for in-person and in-depth assistance.

5. COLLABORATION AND STAKEHOLDER ENGAGEMENT

5.1 COORDINATION AND OUTREACH STRATEGY

Pennsylvania's digital equity community outreach strategy and implementation ensured meaningful engagement and collaboration while developing the *Digital Equity Plan*. Operating by its core values of **partnership, community, transparency, equity, sustainability, and accountability,** the PBDA created a stakeholder engagement plan that coordinated communications and outreach to reach as many Pennsylvanians as possible. The stakeholder engagement plan was drafted in the spring of 2023 and made available for public comment. The PBDA wanted to not only get input from communities, but also seek input before starting on how those communities wanted to be engaged. The final stakeholder engagement plan was revised to reflect that input.

The strategic decision to conduct *BEAD and Digital Equity Plan* community engagement together was a natural, more intensive extension of community and stakeholder engagement work the PBDA has been actively doing since its inception in December 2021. The PBDA's earlier outreach work laid a foundation for the broad engagement conducted for *Connecting the Commonwealth: A 5-Year Strategy Toward Internet for All* and the *Digital Equity Plan*. This cohesive effort resulted in a robust stakeholder engagement process involving a wide variety of stakeholders, including individuals and organizations representing the eight covered populations outlined in the Digital Equity Act.



PUBLIC ENGAGEMENT STRATEGY FOR PLAN DEVELOPMENT

The PBDA's multifaceted engagement strategy reflected the variety of needs, barriers, and preferences for engagement shared with the PBDA through feedback to the Digital Equity Stakeholder Engagement Plan and by key stakeholders, namely the PBDA's board of directors, subcommittee members, a Unified Core Planning Team, and the Digital Equity Stakeholder Working Group. The PBDA also worked closely with community partners across the state, such as coalitions and local event co-hosts, to ensure local considerations were factored into engagement planning and execution.

Offering a mix of in-person and virtual opportunities, the PBDA sought to reach all Pennsylvanians inclusively and transparently, providing opportunities to engage, considering different accommodations and varying comfort levels. While details about key engagement activities are outlined in this chapter, a table of tactics employed, target audiences, purpose, and outcomes of each tactic can be found in Appendix F.

The comprehensive coordination and outreach strategy provided insights and data that informed the development of the *Digital Equity Plan*. The strategy also lays the groundwork for ongoing collaboration as Pennsylvania transitions into implementation.

Collaboration and Stakeholder Engagement Goals

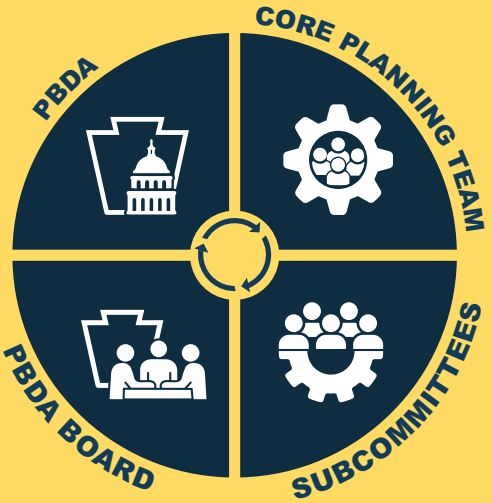
Full geographic coverage of the Commonwealth's 67 counties through engagement efforts to assess broadband service and digital equity.

Meaningful engagement with diverse stakeholders, including unserved, underserved, and historically underrepresented communities, in a manner that streamlines the process and avoids confusion.

Implementing a multi-faceted campaign to communicate with and inform all Pennsylvanians.

Establishing clear procedures to ensure transparency.

COMMITMENT TO COLLABORATION



Thank you to the Unified Core Planning Team members for their valuable time and guidance:

Carrie Cleary, Office of Commonwealth Libraries

Jeffrey Abramowitz, the Petey Greene Program

Kevin Sunday, PA Chamber

Kyle Kopko, Center for Rural PA

Russ McDaid, PA eCommerce

Lisa Schaefer, County Commissioners Association of Pennsylvania

Mike Grier, PA Centers for Independent Living

Russ McDaid, PA eCommerce

Todd Eachus, Broadband Communications Association of Pennsylvania

STRATEGIC LEADERSHIP AND GUIDANCE

The enabling legislation that created the PBDA included provisions for an 11-member governing board. The Board consists of the secretaries of the Pennsylvania Departments of Agriculture, Community and Economic Development, Education, General Services, and Budget; the executive director for the Center for Rural Pennsylvania, the chairperson from the Pennsylvania Public Utility Commission; and four legislative members. The Board has provided strategic leadership and oversight of the development of both the *BEAD and Digital Equity Plans*.

The legislation enabled the creation of four subcommittees to advise and guide the PBDA. The Data & Mapping, Technical, Workforce & Supply Chain, and Outreach & Education subcommittees were formed and comprised of subject matter experts, industry partners, and representatives from stakeholder organizations. In addition to hosting regularly scheduled public meetings, the subcommittees were consulted for their expertise throughout the planning and engagement activities.

Unified Core Planning Team

To further enhance guidance and input, a Unified Core Planning Team was established and met biweekly to provide feedback and suggestions, review work, and assess progress. Intended to ensure the *Digital Equity Plan* reflects the Commonwealth's covered populations, the Unified Core Planning Team was comprised of representatives from the PBDA, board of directors, subcommittees, and stakeholder working group so that the covered populations were represented and there was a diverse cross-section of groups included. The planning team was able to give thoughts and insights incrementally throughout the public engagement process.

Digital Equity Stakeholder Working Group

In spring 2023, the PBDA formed a Digital Equity Stakeholder Working Group comprising individuals and organizations from various sectors. Members were selected because they work with or directly represent the needs of the eight covered populations identified by the Digital Equity Act. This group met biweekly to share input and insights throughout plan development, including:

- Review of the public survey content and phrasing.
- Assist with public engagement planning and promotions.
- Contribute to the asset inventory.
- Share experiences related to challenges faced by their organization and the individuals they serve.
- Identify desired outcomes that guided the PBDA's goal development.

In addition to the biweekly meetings, the PBDA used the Working Group's feedback to guide best practices in accessibility, both of locations and language used, and to strive for public outreach efforts that were as inclusive and accommodating as possible. This included considering languages spoken, strategies around advertising events, and location suggestions for each event.

Thank you to the Digital Equity Stakeholder Working Group members for their valuable time and guidance:

Aliyah Stanger, PA Housing Finance Agency

Ashley Pollard, City of Philadelphia

Bryce Maretzki, PA Housing Finance Agency

Byron Wright, Pittsburgh Housing Authority

Chris Field, Online Together

Christine Houck, PA Workforce Development Board

David Gonzalez, York County Economic Alliance

Doug Brown, Dauphin County

Dr. Greg Koons, PAIU

Drew Pack, Cleveland Federal Reserve

Gwen Ross, PA Workforce Development Board

James Martini, PA Workforce Development Board

Jen Blatz, Greater Pittsburgh Digital Inclusion Alliance

Jules Koehl, United Way

Kate Rivera, Technology Learning Collaborative

Kate Ulreich, Pitt Information Technology

Ken Zimmerman, IU 13

Kimeka Campbell, Young Professionals of Color/DE Advocate

Kimmel Proctor, Beyond Literacy

Kristen Rotz, United Way

Laura Grassia, Temple University - Device Distribution Program

Mike Toledo, Centro Hispano

Nicholas "Chip" Gilliland, DMVA-Office of Veterans Affairs

Nick Davatzes, PA Housing Finance Agency

Norman Bristol Colon, DCED-Diversity, Equity, and Inclusion Officer

Rosta Farzan, Pittsburgh School of Computer Information

Sam Estrada, PA Department of Military and Veterans Affairs

Tahurou Samaila, PA Workforce Development Board

Tobey Dichter, Generations On Line


Souderton, PA

A COLLABORATIVE APPROACH TO MEANINGFUL ENGAGEMENT

Community partners included entities operating in the digital equity space, statewide and local organizations, nonprofits, associations, and government entities. Collaborating with these groups helped to extend the PBDA's reach and access essential constituencies. They played an invaluable role in executing public engagement plans and supporting the development of the *Digital Equity Plan*.

The PBDA used several engagement methods to reach covered populations, the public, and stakeholders where they live, work, and play. The coordination of in-person and virtual events, with printed and online feedback resources, provided Pennsylvanians with opportunities to offer their feedback and insights to the PBDA. Working with a network of stakeholders, including individuals and organizations, helped amplify messaging and promote the value of participation. The outreach and engagement methods employed by the PBDA included:

BETWEEN 2022-2023

$200 million was put into the Broadband Infrastructure Program, which offers grant funding for new broadband infrastructure.

Over **$44 million** was dedicated to funding extra high-speed internet for community buildings, including libraries, schools, and municipal buildings *(grant program details in development)*

$20 million was dedicated to fund computer device programs *(grant program details in development)*

IN 2024

Through the **Digital Equity Capacity grants**, more Pennsylvania grant funding opportunities will be announced for organizations or other partners who provide programs that address any of the five goals of this Plan. Funding quantity and guidelines are expected in 2024. These funds will be administered by the PBDA.

Through the **Digital Equity Competitive grants**, federal grant funding will also be available for digital inclusion programs. Grant guidelines are expected in 2024. These funds will be administered by the National Telecommunications and Information Administration (NTIA).

IN 2025 AND BEYOND

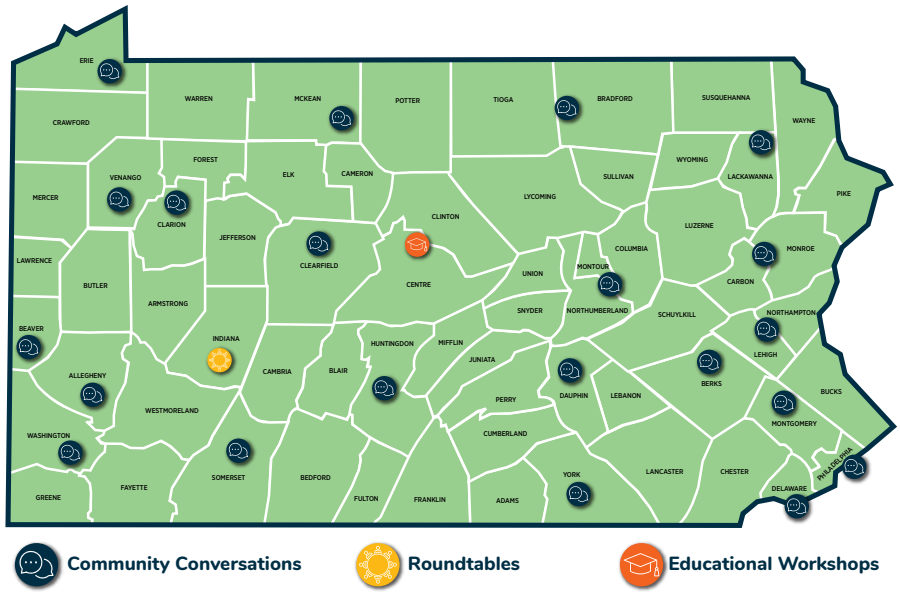
This Plan will be evaluated every two years and updated to continue increasing our success and increasing the individual quality of life available to each person.

Our goal is universal broadband and fair, effective, and affordable support to get every Pennsylvanian to feel comfortable and included online by 2028. However, as technology changes, we anticipate that computer skills and needs will continue to evolve. Most of all, our goal is a lasting framework of infrastructure, community support systems, and resources that allow our residents to learn and thrive through all stages of life through childhood, adulthood, and dignified and stable retirement.

Community Conversations

The PBDA hosted a series of 23 strategically located Community Conversations for covered populations, individuals, households, organizations, and government entities, during which 601 participants learned about broadband and federal programs while providing their insights and experiences related to topics such as digital equity, literacy, broadband adoption, affordability, and cybersecurity needs.

To ensure consistency, participants were asked the same series of questions at each event, including an icebreaker question intended to help presenters, facilitators, and the PBDA gain initial insight into participant experiences.



Community Conversations were strategically located to ensure coverage of the entire state, focusing on ensuring equal representation of rural and urban communities. Co-hosted by community-based partners, Community Conversations featured the following: a meal, family-friendly spaces and activities for children. All event sites met Americans with Disabilities Act (ADA) accessibility standards. Transit passes were supplied on request at select locations identified as highly accessible by public transit.

Key themes that emerged tell the story of digital equity barriers in Pennsylvania. At every Community Conversation, residents discussed their challenges with internet availability, affordability, and adoption. One-page summaries of the discussion from each Community Conversation can be found in Appendix C.

Attendees were asked,
"If your internet was an animal, what would it be and why?"

The animals most frequently suggested were:

Snail

Sloth

Unicorn

Horse

Turtle

A special thanks to the co-hosts who helped make the focus groups possible, including:

Windy Hill on the Campus
Aging Individuals Focus Group,
September 14, 2023, York Co.

Housing Authority of the City of Pittsburgh
Individuals Living in a Covered Household Focus Group,
September 21, 2023, Allegheny Co.

Literacy Pittsburgh
Individuals with a Language Barrier Focus Group, September 21, 2023,
Allegheny Co.

Latino Convention
Focus Group representing both Racial and Ethnic Minorities & Individuals with Language Barriers,
September 22, 2023, Dauphin Co.

Commonwealth Technical Institute at the Hiram G. Andrews Center
Individuals with Disabilities
(4) Focus Groups,
September 28, 2023, Cambria Co.

Pennsylvania Department of Military and Veterans Affairs
Veterans Focus Group,
September 26, 2023, Virtual

Focus Groups

A series of focus groups was organized to further explore Pennsylvania's covered populations' experiences, barriers, and challenges around broadband. The PBDA partnered with subject-matter experts to gather groups of 10-20 individuals with shared experiences. Each facilitated focus group lasted approximately one hour, allowing for well-rounded discussions. Each participant could ask questions and provide their perspective in an informal environment. Focus group summaries can be found in Appendix C.

Roundtables

To allow for more in-depth conversation and data gathering, the PBDA hosted community-serving and thematic roundtables. Audiences for the roundtables included community services and institutions, local governments, community leaders, ISPs, and other stakeholders. The PBDA convened the roundtables to discuss both the BEAD and Digital Equity work and provided stakeholder representatives with the opportunity to share additional insight about concerns and issues of importance. Roundtable summaries can be found in Appendix C.

Each roundtable was organized into three discussion segments to gain input on:

- Existing programs and resources.
- Needs and challenges relevant to the stakeholders in attendance and those they serve.
- Implementation strategies and partnerships to address the needs.

Five Thematic Roundtables

BEAD & Digital Equity Community & Institutions Roundtable
June 21, 2023
in-person event in Indiana Co.

Workforce Development Roundtable
June 28, 2023
virtual event

Internet Service Providers Roundtable
July 7, 2023
virtual event

Justice & Reentry Roundtable
August 10, 2023
virtual event

Individuals with Disabilities Roundtable
September 19
2023, virtual event

Community Partner Events

Numerous other partners and community organizations hosted further events to provide information about Pennsylvania's Internet for All initiative and to discuss the issues, challenges, and opportunities in their communities. These events were grassroots efforts conducted by organizations interested in broadband expansion and digital equity. The local events helped extend the PBDA's reach and maximize efforts to gather data and input about digital equity.

The PBDA thanks ALL COMMUNITY PARTNERS who helped participate in this effort and spread the word!

While this list is not exhaustive, the following examples represent community efforts that were aligned with this *Digital Equity Plan:*

- The offices of the Governor and the Secretary of the DCED, amongst other elected and appointed officials, were instrumental in sharing this effort and circulating the survey online and through media.
- The NTIA hosted digital equity discussion sessions in several Pennsylvania communities.
- The Technology Learning Collaborative held a Digital Equity Conference in Philadelphia in October. The PBDA attended and engaged with the over 140 attendees in small table discussions about needs and goals.
- The Greater Pittsburgh Digital Inclusion Alliance (GPDIA) organized a series of stakeholder and resident work sessions in Pittsburgh and surrounding areas.

Statewide Broadband Connectivity and Digital Access Survey

The PBDA developed a community survey to help assess connectivity and digital access and identify barriers. Intended for all Pennsylvanians, the PBDA made the survey available in multiple formats and languages. Respondents could access the survey through a link, a QR code, a mailer, or by phone. Paper surveys were also available for residents at select businesses, educational centers, local government offices, social service offices, and healthcare facilities. The survey was also available in seven languages and braille.

Over four months, the PBDA widely promoted the survey through its website, community events, and printed and social media. The Outreach and Education Subcommittee, digital equity stakeholder groups, and several community partners also helped raise awareness of the survey through their newsletters, social media, and membership communications. Mailers with printed surveys were also sent to a randomized selection of 5,000 Pennsylvania households. Additionally, Community Conversation participants were asked to fill out the survey as a part of the event to support uniform data collection efforts.

How 7,744 Pennsylvanians Responded

6,902
electronically (in English)

216
mailed completions

19
completions by phone

18
electronically (in Spanish)

1
electronically (in Simplified Chinese)

588
in-person completions

3
surveys completed in braille

SURVEY KEY FINDINGS

☑ Statewide Participation

Older adults represent the demographic group that had the largest response rate. Responses were received from residents all every Pennsylvania county, and a range of ages and income levels. While questions were optional, most respondents did share their county. A question about housing revealed that the majority of those who took the survey live in single-family homes, though apartments, attached units, mobile homes, and no permanent housing were also options selected by some. These responses provided valuable insights into residents' feelings about their internet and how well they understand their speed, their internet bill, and various digital skills including privacy and security practices.

☑ Survey Trends for Access

There were several important data points that emerged from the responses. When viewed as a whole, 90% of respondents said they have an internet subscription, but 10% said they don't have internet service available at their residence. Additionally, 98% indicated they have a device that can access the internet.

When asked about access challenges, cost (54%), reliability (43%), and lack of competition (31%) were the options most frequently mentioned. However, slow internet also remains an issue, as 16% of respondents said their service is too slow, and 43% indicated they could work from home if their internet were faster.

☑ Survey Trends for Affordability

Only 10% of respondents strongly agreed with the statement that their "internet service is affordable," while 23% strongly disagreed with that statement. In terms of affordability, more than half of respondents indicated they have no issue paying their monthly internet bill. However, 43% reported some level of difficulty, and 6% reported great difficulty.

Looking closer at the monthly cost of internet service, 75% of respondents pay $75 or more for internet monthly, with 52% paying more than $100 and 22% paying between $75 and $99. It's also important to recognize that 63% also somewhat or strongly agreed that they would pay more for faster internet service if it were available where they live.

☑ Survey Trends for Comfort Level

In terms of comfort level with digital skills and familiarity with security and privacy concepts, respondents reported being fairly to very comfortable with functions of internet use and being fairly or very familiar with various security and privacy concepts. 93% of respondents indicated being at least comfortable with searching for and finding information online, while 85% indicated similar levels of comfort with online payments and shopping, and 75% reported feeling similarly about online banking, saving and sharing files, using social media, seeking medical care or telehealth consults, and filing official documents. The questions related to familiarity with internet security and privacy concepts yielded similar results, with 87% of respondents being fairly to very familiar with keeping strong passwords, approximately 82% being either fairly or very familiar with multi-factor authentication and avoiding scams or phishing, and 76% indicating the same levels of comfort with software updates.

☑ Target Audience

The survey report further breaks out responses by race and ethnicity and populations, including older Pennsylvanians, individuals with disabilities, LGBTQIA+ Pennsylvanians, low-income residents, rural residents, and Veterans. The analysis sections for race and ethnicity and the populations examine the responses specific to each category, thus providing further insight into characteristics, subscriptions, affordability, use, satisfaction, and skills.

The full survey findings for the Broadband Connectivity and Digital Access Survey can be found in Appendix E.

Digital Equity Stakeholder Questionnaire

An in-depth stakeholder questionnaire was implemented to gather insights about assets, programs, and capacity. Through strategic deployment, the PBDA was able to engage organizations and collect additional information about existing broadband and device access programs and assistance, digital literacy and skill development initiatives, and organizational barriers and obstacles. The stakeholder questionnaire provided valuable feedback from digital equity practitioners, not only about the programs and resources they offer but also about the needs and challenges they experience in reaching the most in need community members and maintaining their services over time. The capacity constraints and barriers to growth expressed by organizations and individuals who work daily to help residents get connected and comfortable online are critical needs explored and integrated into this *Digital Equity Plan*. Insights from the questionnaire informed the Digital Equity Asset Inventory and the needs assessment, including challenges experienced with covered populations and challenges related to program operations and sustainability.

Website and Email Communications

The PBDA website and email distribution list were essential to engaging key constituencies and keeping them informed. Program information, announcements, and events have been and will continue to be publicized through the web pages and a newsletter. The PBDA used its online presence to create a one-stop-shop to communicate information about BEAD and Digital Equity program and activities. Using an email distribution list helped extend the PBDA's reach by providing regular and as-needed touchpoints for residents, businesses, and organizations that registered to receive updates. The list enabled the PBDA to provide program updates and promote events quickly.

Public and Media Relations

Amplifying details about engagement opportunities and messaging about program work was necessary to encourage robust participation and keep the Pennsylvanians informed. The PBDA sought strategic opportunities to develop and deliver its story by engaging print, online, and broadcast media outlets to expand its reach and support information dissemination.

The Impact of Public Participation

While developing the *Digital Equity Plan*, the Commonwealth heard from residents, businesses, organizations, associations, government entities, officials, industry representatives, and other stakeholders. Whether through discussion at an in-person or virtual event, taking a paper or online survey, providing comments or questions to the statewide plans, or participating in a focus group or interview, all the data, feedback, and stories shared were essential to shaping and informing the path forward. The body of work created through all the touchpoints tells Pennsylvania's broadband and digital equity story, with several issues, barriers, and challenges consistently emerging. Most frequently heard throughout the engagement process were concerns about cost, reliability, speed (when people have internet at home), and lack of an ISP.

These findings are reflected throughout this *Digital Equity Plan*, which is built around the critical challenges, barriers, and ideas shared by Pennsylvania residents.

PUBLIC COMMENT PROCESS

Pennsylvania wants to ensure a comprehensive plan that meets the state's diverse digital equity needs. Hearing from members of the public, organizations, and stakeholders about the Commonwealth's *Digital Equity Plan* is essential to encouraging widespread buy-in and putting the *Digital Equity Plan* on the path to success.

Stakeholders and event participants expressed interest in further additional engagement to hear about outreach outcomes and next steps. As a part of the PBDA's ongoing engagement, it released the draft *Digital Equity Plan* through traditional and social media outlets. It was available for the public to review, ask questions, and offer feedback for a six-week period. The Executive Summary and Asset Inventory Matrix were translated into 7 languages, and comments were accepted in all languages.

The PBDA also scheduled seven in-person and two virtual facilitated public comment sessions to review the draft *Digital Equity Plan* and solicit further input.

5.2 CONTINUED COLLABORATION AND STRATEGIC IMPLEMENTATION


Pittsburgh, PA

Accomplishing the implementation strategy will require identifying the right partners capable of supporting the work necessary to meet the needs of Pennsylvanians. The Commonwealth will work with a diverse network to achieve its digital equity goals. Collaborating with groups with the capacity to support projects, develop programs, and effectively implement grant funding is essential to ensuring Pennsylvanians have the access to the necessary to participate in our digital society fully. The PBDA's systemic approach to collaboration will incorporate state, regional, and local efforts to strategically work toward the digital goals for all Pennsylvanians.

Interagency Coordination

Coordinating with state agencies will be part of the PBDA's ongoing efforts, as the open communications channels will help better align work at the state level. The PBDA will seek strategic interagency collaboration to get the most out of state investments while pursuing digital equity interests.

This collaboration will include regular discussions and advocacy at industry events that also impact other sectors. For example, collaboration with the Pennsylvania Department of Banking and Securities to advance digital literacy needs in the financial sector and improve customer access to safe online banking practices.

As 2023 marks the beginning of a new administration, state agencies are creating strategic plans. The PBDA has been asked to serve as subject matter experts and contributors to the following, and will continue to collaborate across other agencies as well:

- Contribute to an updated Master Plan on Aging.
- Act as a partner to help the Department of Banking and Securities deploy financial services training to covered populations.
- Work with the Department of Labor & Industry on overlapping workforce development goals.
- Work with the Department of Human Services on their Affordable Connectivity Program (ACP) grant.
- Serve on the Department of Education's PA MASLAW Initiative, which is a statewide collegiate basic needs program.

Empowering Coalitions

Leveraging the strength of existing coalitions and organizations will extend the PBDA's overall impact as those already providing digital equity and inclusion programs and services are positioned to connect with the residents and communities in need through outreach efforts. Collaborating with groups in the digital equity and inclusion space will add value as the PBDA considers the most effective methods for reaching the Commonwealth's diverse population.

Coalitions and their members represent trusted community-based partners who know their residents best. The PBDA's authority is constrained by the legislation that created the PBDA, which is closely linked to the funding sources it administers. Once this *Digital Equity Plan* is completed, the PBDA will no longer have access to planning and community engagement funds. Collaboration with the coalitions to continue the ground outreach and advocacy will be important, and the PBDA aims to assist through such methods as resources, toolkits, and website materials to share.

Connecting to Existing Networks and Resources

This *Digital Equity Plan* includes a multitude of existing resources summarized as part of the asset inventory. The PBDA intends to continue collaborating with these organizations and entities that offer services and build upon existing networks where possible. Syncing existing services and increasing awareness about their availability is critical to advancing Pennsylvania's digital equity goals. Efforts to build upon existing services and existing networks for communication or resource sharing will be prioritized. The PBDA doesn't seek to start anew whenever there is a system in place that can be strengthened and amplified.

One such option is the 211 system, designated for use as an information and referral phone line by the Federal Communications Commission in 2000 and serves the community through United Way as a comprehensive source of information about local resources and services. The 211 system is already used very effectively in Pennsylvania to direct individuals to digital inclusion services and assist them in signing up for the ACP. Building upon known assets like this, which residents already are familiar with, is an example of a collaboration opportunity.

Community Anchor Institutions

Community Anchor Institutions will be critical assets to the Commonwealth in achieving digital equity. Community Anchor Institutions are uniquely positioned to reach a broad audience due to the nature of the work done and the services provided. Institutions such as libraries, schools, higher education, and public housing organizations facilitate vulnerable populations' use and understanding of broadband. Working with these Community Anchor Institutions as well as community support organizations and workforce development organizations can drive forward the PBDA's work and significantly impact the Commonwealth's digital equity goals.

Fostering Partnerships

The PBDA will consider public-private partnerships (PPPs) to get the most out of available funding. Using PPPs can strengthen efforts and make the most of groups exploring digital equity work or offering programs and services. Pooling resources and working together will give partnerships the collective strength to follow through with the full scope of an initiative from beginning to end, including everything from promotion and outreach to delivering the support, training, or devices. Public-private partnerships will be an effective tool for structuring and providing holistic services, as the participating entities can coordinate an approach to serve their community or region best.

All forms of partnership, whether PPP or otherwise, are valued as the PBDA seeks to coordinate with groups of entities who organize amongst themselves to pursue holistic and collaborative programs that connect resources and deliver seamless and full-service experiences for the individuals they serve.

The PBDA will seek ways to strengthen the digital equity ecosystem as funding allows. The capacity building and competitive grant programs will promote digital equity and inclusion by ensuring that residents and communities have the skills, technology, and capacity needed. The NTIA digital equity grant program funding allocations and associated guidelines will influence the PBDA's decision-making process. The PBDA eagerly anticipates advancing Pennsylvania's interests and will pursue opportunities aligned with the NTIA's grant structure and the Commonwealth's priorities.

6. IMPLEMENTATION PLAN

6.1 THE PBDA'S STRATEGIES AND PERFORMANCE METRICS

The PBDA firmly believes that closing the digital divide requires a human-centered approach. To create an actionable *Digital Equity Plan* for Pennsylvania, the PBDA has focused its implementation strategies on leveraging partnerships, developing minimum standards and requirements for Digital Equity Act grant funding, weaving digital equity considerations through all PBDA grant programs, and advancing outreach and engagement strategies to better equip residents to engage in our digital society.

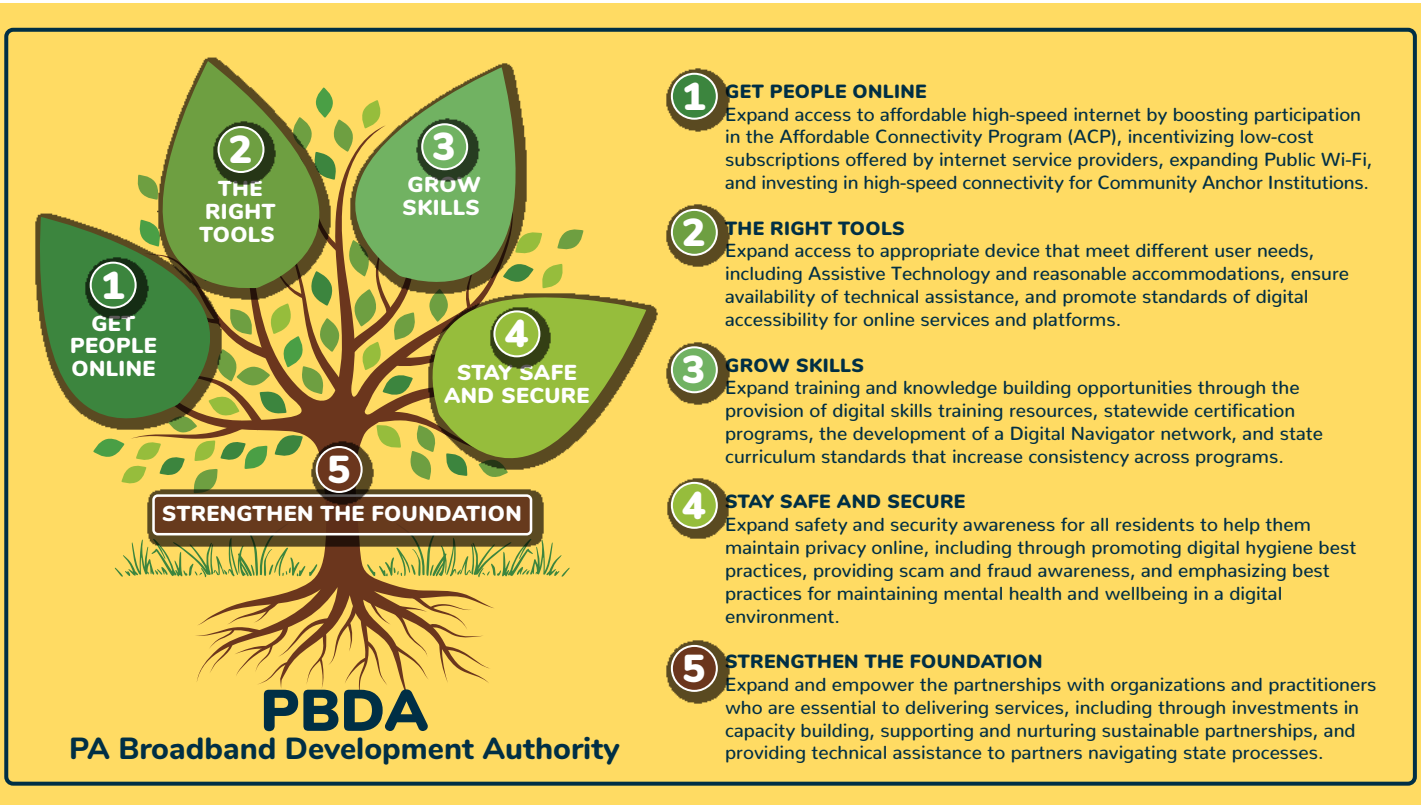
Our five primary goals and the implementation strategies detailed below will help all Pennsylvanians – especially covered populations – access healthcare, economic opportunity through education and workforce development, financial services, and full civic participation in our Commonwealth.

The PBDA intends on applying for the NTIA's Digital Equity Capacity Grant when the Notice of Funding Opportunity is released. As the guidance for that grant's application requirements have yet to be released, the strategies outlined in this Implementation chapter focus on actions that the PBDA has the oversight and authority to implement.

Each strategy includes an action step, and a key performance indicator (KPI). The KPIs provide a measurable outcome. Many of these KPIs reference how the PBDA will establish guidelines and reporting requirements for the grants they currently or expect to administer; the term 'subgrantee' refers to recipients of these PBDA-administered grants. Timelines for these are included in Section 6.2.

Finally, the grant programs that the PBDA oversees have been or are being developed to address digital equity goals comprehensively. Each program aims to contribute to multiple strategies where possible. Some KPIs are repeated in the following implementation plan: this is by design, as it reflects how these programs will be deployed to advance multiple strategies.

The PBDA will use these to track progress, monitor when each action step is completed, and prepare for periodic re-evaluation of Pennsylvania's progress towards achieving our vision for digital equity.



GOAL 1: GET PEOPLE ONLINE

Pennsylvania residents must be able to get online to access the benefits that broadband has to offer. Affordability and infrastructure access were barriers for all covered populations in Pennsylvania, which makes addressing these barriers a fundamental goal for Pennsylvania's *Digital Equity Plan*. The PBDA will continue to support awareness and participation in the Affordable Connectivity Program (ACP) and other low-cost, reliable high-sspeed plans. The PBDA also will support increased connectivity to Community Anchor Institutions to improve access to public internet options. Additionally, the PBDA will incorporate affordable options, including participation in the ACP, into other grant funding streams for a consistent commitment to affordability.

Strategy 1.1 Support participation in the ACP program through BEAD and CPF infrastructure funding and increase awareness of ACP through partnerships, outreach, and education.

- **Action:** All PBDA broadband infrastructure funded projects require participation in ACP or similar or other low-cost programs.
  - *KPI: Award and oversee $1.4 billion dollars for deployment of infrastructure projects that increase broadband access by 2030.*
  - *KPI: Establish the baseline of ACP and low-cost adoption in a funded project area before deployment of service. Once the baseline is established, increase ACP and low-cost adoption by 5% of qualified households in project areas.*
- **Action:** Create an affordability resource page on the PBDA website including details on available resources statewide for broadband affordability.
  - *KPI: Work with sister agencies to link and promote the affordability page for Pennsylvanians seeking state resources.*
- **Action:** Require subgrantees receiving CPF funds for Community Anchor Institution facilities program and device program to promote the PBDA's affordability page and alternative ACP resources. Promotion sources may include, but are not limited to, their website home page or bulletin boards.
  - *KPI: Deploy $20 million in dedicated funding for device access by 2026.*
  - *KPI: Deploy $45 million in dedicated funding for facilities improvements for Community Anchor Institutions by 2026.*
- **Action:** The PBDA will continue awareness activities and promotions of ACP resources and enrollment assistance programs.
  - *KPI: The PBDA will highlight the ACP on the affordable resource page with educational materials in multiple language to include a digital toolkit and information to support the development of coalitions and digital navigation programs.*

Strategy 1.2 Encourage reliable, low-cost broadband subscriptions that are a minimum of 100/20 Mbps for download/upload speeds.

- **Action:** Incentivize BEAD-funded projects to have a middle-class affordability plan. Further guidelines for this are provided in the PBDA's BEAD Initial Proposal to be submitted in December 2023.
  - *KPI: Distribute $1.16 billion in funding for BEAD projects within five years with adherence to affordability metrics being 25% of scoring.*
- **Action:** Encourage the adoption of the middle-class affordability plan through state advocacy.
  - *KPI: Develop an interactive map on the PBDA website that provides the affordability and price averages across Pennsylvania. Data will be collected through annual BEAD & CPF grant reporting by ISPs. The PBDA will update this website quarterly.*
- **Action:** Increase transparency of federal funding for broadband and digital equity work.
  - *KPI: List available federal funding grant opportunities for broadband or digital equity work on the PBDA website and update monthly.*

Strategy 1.3 Develop additional connectivity considerations for Community Anchor Institutions.

- **Action:** Create and deploy a CPF program aimed at capital improvements to Community Anchor Institutions.
  - *KPI: Invest $45 million by 2026 for projects funded for capital improvements to Community Anchor Institutions that increase access to telehealth, education, and work.*

GOAL 2: THE RIGHT TOOLS

In tandem with the availability and affordability of broadband infrastructure, access to devices and supporting services is essential. This includes the opportunity to acquire any necessary accessibility software and robust technical assistance. Device access is a barrier for all covered populations. This hypothesis was confirmed through the PBDA's community engagement work throughout the development of this *Digital Equity Plan*. Resident feedback and survey results revealed trends of not only lack of a device, but even more often the use of an insufficient device, including reliance on a mobile device only and lack of accessible hardware and software.

In recognition of community feedback, the PBDA will develop grant guideline requirements focusing on technical assistance access for devices and ensuring digital skills and navigation projects seeking funding have a sustainable plan for acquiring and maintaining devices to meet the accessibility needs of all Pennsylvanians. In addition to guideline requirements, the PBDA will also focus on fostering new and continuing partnerships to enhance opportunities for device recycling and make Pennsylvania residents aware of opportunities to receive low or no-cost devices.

Strategy 2.1 Strive for Universal Design whenever and wherever possible.

- **Action:** Provide guidance and resources for staff and subgrantees to educate them on best practices for Universal Design, which refers to programs and environments designed to be accessible to people of varying abilities and can be used to the greatest extent possible by many individuals.
  - *KPI: Require all digital equity act subgrantees to attend and complete a PBDA-approved training on Universal Design and Accessibility in accordance with federal and state laws.*
  - *KPI: Require all PBDA staff complete a Commonwealth-approved training on Universal Design and Accessibility in accordance with federal and state laws by the end of 2024.*
  - *KPI: Consult with the Chief Accessibility Office and other subject matter experts on accessibility and training needs.*

Strategy 2.2 Bulk purchase devices to secure competitive pricing.

- **Action:** The PBDA will designate $20 million for device purchases through the CPF device program. CPF device subgrantees who apply will provide a narrative for how they will use the devices, what populations they will serve, and what device type they would like to procure. A mix of device types will be purchased to fit subgrantee needs. CPF device subgrantees will also have to detail a plan for technical support and sustainability of the devices.
  - *KPI: Deploy $20 million in dedicated funding for device access by 2026.*

Strategy 2.3 Build partnerships with industries that have high technology turnover.

- **Action:** Facilitate connections between industry partners with high technology turnover and community partners who need devices.
  - *KPI: Continue PBDA participation across industries to promote and spur new opportunities. Host quarterly "lunch and learn" virtual events that aim to pair digital equity practitioners with high technology turnover industry representatives (e.g. financial services).*
  - *KPI: Prioritize these partnerships in the PBDA Outreach and Engagement sub-committee. Prioritize building partnerships with digital equity stakeholders and other industry subject matter experts who may have device turnover (e.g. banking, universities, local governments etc.) by placing this topic on at least two annual committee agendas.*

Strategy 2.4 Increase awareness of access and device programs.

- **Action:** Maintain a website resource of device refurbishers in Pennsylvania.
  - *KPI: Create a list of device refurbishing organizations and make it available on the PBDA website by the end of 2024. The PBDA will update this list quarterly.*
- **Action:** Increase awareness of the ACP device credit benefit.
  - *KPI: Highlight the ACP device credit benefit on the PBDA website by the end of 2024.*
  - *KPI: Encourage sister agencies to link to the PBDA website on agency websites to increase awareness and traffic.*

Strategy 2.5 Provide robust technical assistance for devices and assistive software through a CPF device program in development, and forthcoming Digital Equity Act funding.

- **Action:** Require subgrantees to detail a plan for ongoing technical assistance related to their devices, whether given for ownership or available as a loan. Subgrantees must provide narrative details on fixes or replacements for broken devices, a plan for basic IT guidance for device recipients, and consider inclusion of limited warranties for refurbished devices.
  - *KPI: Track progress through annual subgrantee reporting, including number of devices deployed and number of residents assisted with technical support.*

GOAL 3: GROW SKILLS

With rapidly changing technology, growing digital skills and meeting Pennsylvanians where they are while ensuring our residents are ready to engage online is critical. Ensuring grant funding dollars are available for residents' basic digital needs will lay a solid foundation to build upon as Pennsylvanians seek digital opportunities. The need for digital skills training was an expressed need for all eight covered populations. From seniors wanting to learn how to connect with loved ones to justice-impacted individuals who wanted to be familiar with technology before their release, robust digital skills training is essential. The PBDA will focus on collaboration to increase accessible gateways to digital skills, workforce support, and training services.

The PBDA is keenly aware of the benefits of digital navigation programs and the digital navigators' important role in the community. A true digital equity ecosystem has a strong foundation, starting with a primary focus to grow digital skills and increase access to essential resources including telehealth, civic engagement, financial services and other industries where digital skills are an essential entry point. The PBDA will support fostering a statewide digital equity ecosystem inclusive of digital navigators. Given the broad interest in Digital Equity Act funding from long-time and new stakeholders, the PBDA will establish a state 'blueprint' for digital navigation to create consistency in quality training and ensure that residents seeking to meet with a digital navigator can understand a baseline standard of services to expect.

Strategy 3.1 Create a "blueprint"/standard for digital navigation in the Commonwealth.

- **Action:** Create a blueprint for digital navigation to serve as a standard for subgrantees seeking digital navigation program funding. Other programs that also meet this requirement and are not seeking funding can apply to be designated as "Digital Navigation Blueprint Compliant."
  - *KPI: Create the digital navigator blueprint to ensure a baseline standard of service for residents seeking digital navigation services. Increase the number of digital navigator compliant programs.*

Strategy 3.2 Develop broad, inclusive grant parameters that meet Pennsylvanians where they are with digital skills.

- **Action:** Ensure grant parameters include foundational computer skills like typing and navigating the internet. Make parameters flexible enough to be inclusive of both entry level, like powering on devices, as well as more advanced skills. Require subgrantees to explain the need, the path chosen for skill level(s) to address, and plan for sustainability.
  - *KPI: Require annual reporting from grant recipients. The PBDA will use this reporting to create a dashboard inclusive of tracked measurables like numbers of grant recipients, projects funded, and people served.*

Strategy 3.3 Train and deploy additional digital navigators.

- **Action:** Create a grant scoring rubric that prioritizes paid digital navigators over unpaid digital navigator programs.
  - *KPI: Develop a baseline and track the increase in programs that pay digital navigators.*

GOAL 4: STAY SAFE AND SECURE

Broadband access opens a world of possibilities but also comes with risks. It's never been more convenient to access support, services, and opportunities. Yet to safely participate online, users must safeguard personally identifiable information and be aware of fraud and scams. Promoting cybersecurity and digital hygiene awareness and education will help keep Pennsylvanians safe as they access online opportunities like telemedicine and financial services. Many covered populations expressed concern regarding cybersecurity and their lack of knowledge pertaining to good cybersecurity and digital hygiene practices. In all cases, covered populations requested more information or training regarding staying safe and secure online. In addition to cybersecurity concerns, the PBDA heard feedback regarding the need to equip Pennsylvanians with increased awareness of the risks of cyberbullying and the mental health impacts of being online.

Strategy 4.1 Require cybersecurity and digital hygiene training standards in digital skills trainings funded by Digital Equity Act funds.

- **Action:** Partner with sister agencies and stakeholders to develop a minimum standard for cybersecurity and digital hygiene training to be included in digital skills training programs.
  - *KPI: Convene a workgroup of relevant stakeholders by the end of 2024 to develop minimum standards for digital skills training programs centered around cybersecurity and digital hygiene practices.*
- **Action:** Work with sister agencies to ensure cybersecurity is included in trainings, outreach, and programing that the state provides for residents.
  - *KPI: Encourage the adoption of the developed cybersecurity and digital hygiene standards into state resources and routinely review for new information.*

Strategy 4.2 Promote mental health awareness and resources to combat cyberbullying and understanding of the mental health impacts of being online.

- **Action:** Work with sister agencies and stakeholders to develop materials and promote safe mental health practices online
  - *KPI: Amplify resources for safe online mental health practices by linking to relevant state resources on the PBDA website.*
  - *KPI: Create one-page handout highlighting safe practices and update annually. Translate the one-page handout into additional languages.*

Strategy 4.3 Work with trusted partners to educate Pennsylvanians on how to stay safe online.

- **Action:** Promote PA Department of Banking & Securities (DoBS) financial security trainings to covered populations.
  - *KPI: Partner with DoBS to increase the deployment of financial security trainings to covered population communities by 10% by 2025.*

GOAL 5: STRENGTHEN THE FOUNDATION

The PBDA believes that a holistic, person-centered approach to digital equity is the strongest path forward towards 'Internet for All.' Encouraging strong organizational partnerships for no-wrong-door, intersectional systems to serve communities, help communities get ready for digital equity funding and programming, and ensure trusted organizations have access to apply for grant funding is critical in Pennsylvania.

The Digital Equity Act is founded on serving the eight covered populations and supporting an environment where those communities have equitable access to broadband and the tools and training needed to thrive online. Too often, the communities and residents of covered populations have been left behind, which creates a justified skepticism of trust, especially regarding government programs. A recurring theme from the PBDA's community engagement was smaller, community-based organizations are considered some of the most trustworthy by covered populations. To make digital equity funds more accessible to these small, trusted organizations, the PBDA will dedicate a portion of funding and provide enhanced grant technical support to support small organizational subgrantees.

Strategy 5.1 Fund and provide robust technical support for small non-profits/subgrantees.

- **Action:** Establish a separate bucket of funding using up to 10% of the total Digital Equity Act funds received by Pennsylvania to be set aside for small organizational subgrantees that have small budgets and limited staff; specific definition to be developed after the amount of funding is known.
  - *KPI: Dedicate staff to providing enhanced technical support for applicants that lack staff capacity to make funds more equitably accessible.*
  - *KPI: Track grant applications and dollars requested and deployed through annual reporting requirements.*

Strategy 5.2 Create a Digital Equity Readiness checklist.

- **Action:** Create a template for communities to equip them to apply for Digital Equity Act funds. The checklist will mirror the "broadband ready" checklist from the BEAD requirements.
  - *KPI: Distribute the checklist to every county by the end of 2024. Post the checklist on the PBDA website and track how many times the checklist is downloaded quarterly.*
  - *KPI: Hold two webinars in 2024 focusing on the checklist and answering community questions.*

Strategy 5.3 Encourage partnerships for holistic approach.

- **Action:** Develop a capacity grant scoring rubric that prioritizes partnerships to meet multiple digital needs of Pennsylvanians.
  - *KPI: Establish a list of digital equity practitioners that offer more than one digital equity service or support.*
  - *KPI: Develop a grant scoring rubric that prioritizes digital equity practitioners, partnerships, and coalitions serving multiple covered populations with multiple digital equity services.*
- **Action:** Require digital equity subgrantees to show how they will prioritize a person-centered approach. For example, if a subgrantee requests digital skills training funding they must demonstrate how they will meet the device needs to deploy their training.
  - *KPI: Require subgrantees to engage communities to prove community needs. Subgrantees will be permitted to spend a certain percent of funding to host community outreach including meetings or surveys. Subgrantees will annually report on progress of addressing the community needs.*
  - *KPI: Report annually to NTIA to show performance of subgrantees addressing identified community needs.*

6.2 TIMELINE

The Commonwealth has been investing in programs that help connect residents with internet service, computers, training classes, and more for years and has been increasing these efforts since the 2021 creation of the PBDA. Implementation of the objectives within this Plan will be accomplished through funding programs and collaboration efforts over the next five years.

BETWEEN 2022-2023:

- **The Broadband Infrastructure Program allocates $200 million in grant funding for new broadband infrastructure.** This grant program opened in June 2023 for its first cycle of applications. A first round of awards are anticipated in late 2024.
- **The Multipurpose Community Facilities Program dedicated over $44 million to fund extra high-speed internet for community buildings, including libraries, schools, and municipal buildings.** Grant program details are still in development and are anticipated to open for applications in 2025.
- **The Digital Access and Opportunity Grant Program dedicated over $20 million to fund computer device programs.** Grant program details are still in development and anticipated to open for applications in 2025.
- **The PBDA prepared a *BEAD 5-Year Action Plan, BEAD Initial Proposal Volumes I and II*, and this *Digital Equity Plan*.** These steps are required for Pennsylvania to access the federal funds that will follow through both the BEAD and Digital Equity Act programs.

IN 2024:

- **The *Digital Equity Plan* will be submitted to the NTIA in January 2024.**
- **Pennsylvania will advance the BEAD program and prepare to award funding for infrastructure projects.** Pennsylvania has prepared a *5-Year Action Plan* and *Initial Proposal* in 2023. Pending NTIA review and acceptance, initial BEAD funds are anticipated to be available to the PBDA in 2024. Once funds are available, the PBDA will create a grant application process for eligible entities seeking BEAD funding to build new broadband infrastructure in unserved and underserved areas.

  The full $1.16 billion that has been awarded to Pennsylvania for BEAD implementation will be fully released once the PBDA provides a Final Proposal and the NTIA accepts it. The Final Proposal reflects collaboration with local stakeholders, ISPs, and the NTIA, so a final document and the release of full BEAD funds is not anticipated all steps and reviewed are completed and approved by the NTIA.

- **Pennsylvania will establish a Digital Equity Capacity grant program for the Commonwealth.** Through the Digital Equity Capacity grants, funding will be announced for entities who provide programs that address any of the five goals of this Plan. Funding quantity and guidelines are expected in 2024. These funds will be administered by the PBDA and are specifically intended to support implementation of the *Digital Equity Plan*.

  The exact timeline for the Digital Equity Capacity grant has yet to be determined. This grant program is funded by the federal government and allocates $1.44 billion to be divided amongst all 50 states, territories, and tribal governments. The amount of funding awarded to Pennsylvania will be decided following the successful completion and acceptance of this *Digital Equity Plan* to the NTIA.

  The PBDA anticipates preparing the Pennsylvania Digital Equity Capacity Grant program in 2024. The application process may open later in 2024 or in 2025, depending on when NTIA decisions are made that enable the PBDA to proceed to the next steps.

- **The federal government will establish a nationwide Digital Equity Competitive grant program.** Federal grant funding will also be available for digital inclusion programs through the Digital Equity Competitive grants. Grant guidelines are expected in 2024. The NTIA will administer these funds.

  This $1.25 billion nationwide grant program will fund annual grant programs for five years to implement digital equity projects. Eligible applicants can apply directly for these funds without going through the PBDA. However, the competition will be national and not specific to Pennsylvania.

  The NTIA still needs to release details or guidelines for the Digital Equity Competitive Grant Program. The Digital Equity Act specifies that these funds will be available for digital inclusion activities "to support efforts to achieve digital equity, promote digital inclusion activities, and spur greater adoption of broadband among covered populations."

BETWEEN 2025-2028:

The grant programs created between 2023 and 2024 will remain available until funds are spent.

This Plan will be evaluated every two years and updated to continue increasing our success and increasing the individual quality of life available to each person.

BEYOND 2028:

The PBDA was signed into law in late 2021, establishing the PBDA as an independent agency of the PA DCED. The PBDA is authorized for a maximum of 10 years or until the end of the federal funding available to the PBDA is exhausted. All current broadband and digital equity funds available to the PBDA at this time are due to be expended within five years, the continued existence of a Pennsylvania broadband authority or similar agency at present does not exist beyond 2028 without legislative action.

Beyond 2028, the Commonwealth will need to consider long-term ownership of the initiatives started with this *Digital Equity Plan* and other initiatives currently led by the PBDA.

The PBDA places a high emphasis on fostering successful partnerships, building local capacity, and strengthening the digital equity ecosystem. The ecosystem is comprised of the on-the-ground practitioners and providers who deliver resources and services. Pennsylvania aims to equip and empower these partners so that from 2028 and beyond, the Commonwealth has a highly effective and collaborative foundation in place with partners who are prepared to carry the work forward.

7. CONCLUSION

The PBDA would like to thank the many stakeholders and residents who gave their time and knowledge to participate in this *Digital Equity Plan*. The input from Pennsylvania residents has been instrumental to the development of the goals and strategies presented here.

The Asset Inventory reflects the substantial work already being done by digital equity practitioners across the Commonwealth who are immersed in their communities and actively helping people to connect and learn online. These partners help make Pennsylvania a successful thriving place to live and work, and their efforts are highly valued as the foundation for our digital equity investments to build upon in coming years.

The residents, organizations, institutions, and other stakeholders who participated in engagement events played an essential role in understanding the true needs of Pennsylvanians, particularly those of our most vulnerable populations. Thanks to this input, the PBDA is positioned to focus state funding where it is most needed.

Finally, our vision and the strategies outline within this *Digital Equity Plan* to achieve that vision are deeply informed by the experiences and insights shared by so many Pennsylvanians. We thank the Unified Core Planning team, the Digital Equity Stakeholder Working Group, and the PBDA Board for their unwavering and dedicated support and time throughout this process.

Together, we will ensure that every Pennsylvanian feels included and empowered to engage in and benefit from digital opportunities. The Commonwealth's investments in connectivity for all will continue to grow our modern economy and support a high quality of life for all Pennsylvanians.

APPENDICES

This *Digital Equity Plan* is supported by substantial additional work, including input and participation from stakeholders and residents. The Appendices will be completed alongside the Final version of this Plan in early 2024.

For the public review period, draft versions only of the Appendices with an asterisk (*) and bolded font are available for review.

Appendix A: Glossary and Acronyms

Appendix B: Digital Equity Asset Inventory Matrix

Appendix C: Community Engagement Meeting Summaries

Appendix D: References

Appendix E: Survey Results

Appendix F: Outreach Strategy

Appendix G: Stakeholder Tracker

Appendix H: State Goals Alignment Matrix

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