

# JOINT STATE GOVERNMENT COMMISSION

General Assembly of the Commonwealth of Pennsylvania

## DELIVERY OF HIGH-SPEED BROADBAND SERVICES IN UNSERVED AND UNDERSERVED AREAS OF THE COMMONWEALTH

Fifth Annual Report  
of the Task Force and Advisory Committee  
on High-Speed Broadband Service

August 2024



*Serving the General Assembly of the  
Commonwealth of Pennsylvania Since 1937*

**REPORT**

*Senate Resolution 47 of 2019*

*Delivery of High-Speed Broadband Services in Unserved  
and Underserved Areas of the Commonwealth*

*Fifth Annual Report*

<b>Project Manager:</b>	Yvonne Llewellyn Hursh, Counsel
<b>Project Staff:</b>	Bryan W. DeWalt, Public Policy Analyst Lydia L. Hack, Staff Attorney Allison N. Kobzowicz, Policy Analyst Wendy L. Baker, Office Manager/Executive Assistant
The report is also available at <a href="http://jsg.legis.state.pa.us">http://jsg.legis.state.pa.us</a>	

## JOINT STATE GOVERNMENT COMMISSION

Room 108 Finance Building  
613 North Drive  
Harrisburg, PA 17120

**Telephone:** 717-787-4397  
**Fax:** 717-783-9380  
**E-mail:** [jntst02@legis.state.pa.us](mailto:jntst02@legis.state.pa.us)  
**Website:** <http://jsg.legis.state.pa.us>

The Joint State Government Commission was created in 1937 as the primary and central non-partisan, bicameral research and policy development agency for the General Assembly of Pennsylvania.<sup>1</sup>

A fourteen-member Executive Committee comprised of the leadership of both the House of Representatives and the Senate oversees the Commission. The seven Executive Committee members from the House of Representatives are the Speaker, the Majority and Minority Leaders, the Majority and Minority Whips, and the Majority and Minority Caucus Chairs. The seven Executive Committee members from the Senate are the President Pro Tempore, the Majority and Minority Leaders, the Majority and Minority Whips, and the Majority and Minority Caucus Chairs. By statute, the Executive Committee selects a chairman of the Commission from among the members of the General Assembly. Historically, the Executive Committee has also selected a Vice-Chair or Treasurer, or both, for the Commission.

The studies conducted by the Commission are authorized by statute or by a simple or joint resolution. In general, the Commission has the power to conduct investigations, study issues, and gather information as directed by the General Assembly. The Commission provides in-depth research on a variety of topics, crafts recommendations to improve public policy and statutory law, and works closely with legislators and their staff.

A Commission study may involve the appointment of a legislative task force, composed of a specified number of legislators from the House of Representatives or the Senate, or both, as set forth in the enabling statute or resolution. In addition to following the progress of a particular study, the principal role of a task force is to determine whether to authorize the publication of any report resulting from the study and the introduction of any proposed legislation contained in the report. However, task force authorization does not necessarily reflect endorsement of all the findings and recommendations contained in a report.

Some studies involve an appointed advisory committee of professionals or interested parties from across the Commonwealth with expertise in a particular topic; others are managed exclusively by Commission staff with the informal involvement of representatives of those entities that can provide insight and information regarding the particular topic. When a study involves an advisory committee, the Commission seeks consensus among the members.<sup>2</sup> Although an advisory committee member may represent a particular department, agency, association, or group, such representation does not necessarily reflect the endorsement of the department, agency, association, or group of all the findings and recommendations contained in a study report.

---

<sup>1</sup> Act of July 1, 1937 (P.L.2460, No.459); 46 P.S. §§ 65–69.

<sup>2</sup> Consensus does not necessarily reflect unanimity among the advisory committee members on each individual policy or legislative recommendation. At a minimum, it reflects the views of a substantial majority of the advisory committee, gained after lengthy review and discussion.

Over the years, nearly one thousand individuals from across the Commonwealth have served as members of the Commission's numerous advisory committees or have assisted the Commission with its studies. Members of advisory committees bring a wide range of knowledge and experience to deliberations involving a particular study. Individuals from countless backgrounds have contributed to the work of the Commission, such as attorneys, judges, professors and other educators, state and local officials, physicians and other health care professionals, business and community leaders, service providers, administrators and other professionals, law enforcement personnel, and concerned citizens. In addition, members of advisory committees donate their time to serve the public good; they are not compensated for their service as members. Consequently, the Commonwealth receives the financial benefit of such volunteerism, along with their shared expertise in developing statutory language and public policy recommendations to improve the law in Pennsylvania.

The Commission periodically reports its findings and recommendations, along with any proposed legislation, to the General Assembly. Certain studies have specific timelines for the publication of a report, as in the case of a discrete or timely topic; other studies, given their complex or considerable nature, are ongoing and involve the publication of periodic reports. Completion of a study, or a particular aspect of an ongoing study, generally results in the publication of a report setting forth background material, policy recommendations, and proposed legislation. However, the release of a report by the Commission does not necessarily reflect the endorsement by the members of the Executive Committee, or the Chair or Vice-Chair of the Commission, of all the findings, recommendations, or conclusions contained in the report. A report containing proposed legislation may also contain official comments, which may be used to construe or apply its provisions.<sup>3</sup>

Since its inception, the Commission has published over 450 reports on a sweeping range of topics, including administrative law and procedure; agriculture; athletics and sports; banks and banking; commerce and trade; the commercial code; crimes and offenses; decedents, estates, and fiduciaries; detectives and private police; domestic relations; education; elections; eminent domain; environmental resources; escheats; fish; forests, waters, and state parks; game; health and safety; historical sites and museums; insolvency and assignments; insurance; the judiciary and judicial procedure; labor; law and justice; the legislature; liquor; mechanics' liens; mental health; military affairs; mines and mining; municipalities; prisons and parole; procurement; state-licensed professions and occupations; public utilities; public welfare; real and personal property; state government; taxation and fiscal affairs; transportation; vehicles; and workers' compensation.

Following the completion of a report, subsequent action on the part of the Commission may be required, and, as necessary, the Commission will draft legislation and statutory amendments, update research, track legislation through the legislative process, attend hearings, and answer questions from legislators, legislative staff, interest groups, and constituents.

---

<sup>3</sup> 1 Pa.C.S. § 1939.

## **TASK FORCE**

---

**Senator Tracy Pennycuik**  
Communications & Technology, Chair

**Senator James (Jimmy) Dillon**  
Communications & Technology, Minority Chair

## ADVISORY COMMITTEE

---

**Brian F. Barno**

Vice President, Government Affairs  
Broadband Communications Association  
of Pennsylvania

**Honorable Debra L. Bogen**

Secretary, Pennsylvania  
Department of Health  
*\*Designee:* Muneeza Iqbal, MPH  
Deputy Secretary for Health Resources  
and Services

**Barbara A. Burba**

CEO/Owner  
Amerisite Wireless Development  
President PA Wireless Association

**Brandon Carson**

Executive Director  
Pennsylvania Broadband  
Development Authority  
Pennsylvania Department of Community  
& Economic Development

**Patrick M. Cicero, Esquire**

Consumer Advocate  
Pennsylvania Office of Consumer Advocate  
*\*Designee:* Barrett C. Sheridan  
Assistant Consumer Advocate

**Stephen M. DeFrank**

Chairman, Pennsylvania  
Public Utility Commission  
*\*Designee:* Joel H. Cheskis, Counsel

**Gladys Brown Dutrieuille**

Chairman, Pennsylvania  
Public Utility Commission  
*\*Designee:* David E. Screven  
Deputy Chief Counsel, Law Bureau

**Joseph H. Gerdes, III**

Director of Government Relations  
Pennsylvania State Association  
of Township Supervisors

**Kyle C. Kopko, Ph.D., J.D.**

Executive Director  
Center for Rural Pennsylvania

**Honorable Khalid N. Mumin**

Secretary, Pennsylvania  
Department of Education  
*\*Designee:* Carrie Cleary, MLIS  
Office of Commonwealth Libraries

**Vince Phillips**

Pennsylvania State Grange

**Honorable Russell C. Redding**

Secretary, Pennsylvania  
Department of Agriculture  
*\*Designee:* Mark Critz, Executive Director  
of the Rural Development Council  
and Western Regional Director

**Steven J. Samara**

President, Pennsylvania Telephone Association

**Honorable Rick Siger**

Secretary, Pennsylvania Department  
of Community and Economic Development  
*\*Designee:* Paul Opiyo, Director  
of Policy and Planning

**Honorable Nancy A. Walker**

Secretary, Pennsylvania Department  
of Labor & Industry



General Assembly of the Commonwealth of Pennsylvania  
JOINT STATE GOVERNMENT COMMISSION

Room 108 – Finance Building  
Harrisburg, Pa 17120

717-787-4397  
Fax 717-783-9380  
<http://jsg.legis.state.pa.us/>

*Executive Committee*

August 2024

Senate Members

**Kim L. Ward**  
President Pro Tempore  
**Joseph A. Pittman**  
Majority Leader  
**Jay Costa, Jr.**  
Minority Leader  
**Ryan P. Aument**  
Majority Whip  
**Christine M. Tartaglione**  
Minority Whip  
**Kristin Phillips-Hill**  
Chair, Majority Caucus  
**Wayne D. Fontana**  
Chair, Minority Caucus

To the Members of the General Assembly of Pennsylvania:

We are pleased to release the fifth and final report for Senate Resolution 47 of 2019, *Delivery of High-Speed Broadband Services in Unserved and Underserved Areas of the Commonwealth*. SR47 created a legislative task force and directed the Commission to establish an advisory committee to assist in its study. The Broadband Advisory Committee (BBAC) includes representatives from Commonwealth agencies with an interest in broadband delivery, as well as Internet service providers, and related cable, wireless, and other technology industries and associations.

House Members

**Joanna E. McClinton**  
Speaker  
**Matthew D. Bradford**  
Majority Leader  
**Bryan D. Cutler**  
Minority Leader  
**Dan L. Miller**  
Majority Whip  
**Timothy J. O'Neal**  
Minority Whip  
**Michael H. Schlossberg**  
Chair, Majority Caucus  
**George Dunbar**  
Chair, Minority Caucus

This report provides an update on the role of broadband in the fields of education, healthcare, agriculture, tourism, community and economic development, and barriers to development. It also discusses funding resources, recent developments in Pennsylvania state and local initiatives, recent activities and legislative enactments in other states, and efforts to identify unserved and underserved communities in Pennsylvania. The BBAC continues to endorse recommendations discussed in previous editions but did not propose new recommendations in this final installment.

The Commission extends its thanks to the members of BBAC who have contributed their knowledge, expert advice, and time to the report process over the past five years. The full report is available at <http://jsg.legis.state.pa.us>.

Administrative Staff

**Glenn J. Pasewicz**  
Executive Director  
**Yvonne M. Hursh**  
Counsel

Respectfully submitted,

Glenn J. Pasewicz  
Executive Director





# TABLE OF CONTENTS

---

<b>INTRODUCTION</b> .....	1
<b>RECOMMENDATIONS AND PROPOSED LEGISLATION</b> .....	3
<i>Review of Recommendations Proposed in Prior BBAC Reports</i> .....	3
2020 Report Recommendations .....	3
2021 Recommendations .....	6
2022 Recommendations .....	6
2023 Recommendations .....	7
<u>Permanent Mapping Project</u> .....	7
<u>Permanent Use of Telemedicine</u> .....	7
<u>Municipal Broadband Providers</u> .....	8
<b>CURRENT FUNDING PROGRAMS AND OPPORTUNITIES</b> .....	9
<i>The Bipartisan Infrastructure Law</i> .....	9
<i>Broadband Equity, Access, and Deployment (BEAD) Program</i> .....	9
<i>Digital Equity Plans and Programs</i> .....	10
<i>Affordability Connectivity Program</i> .....	10
<i>Federal ARPA - Capital Projects Fund (CCPF)</i> .....	11
<i>Broadband Infrastructure Program</i> .....	11
<i>Multi-Purpose Community Facilities Program</i> .....	13
<i>Digital Connectivity Technology Program</i> .....	13
<i>Mapping Efforts</i> .....	13
<i>Current Federal Grant and Loan Programs</i> .....	14
<i>U.S. Department of Agriculture</i> .....	14
<i>Rural Digital Opportunity Fund (RDOF) Phase II</i> .....	15
<i>U.S. Department of Education</i> .....	15
<i>U.S. Department of Housing and Urban Development</i> .....	16
<i>Federal Communications Commission</i> .....	16
<i>Current Pennsylvania Grant and Loan Programs</i> .....	16
<b>UPDATE: DEFINING, DELIVERING AND REGULATING BROADBAND</b> .....	19
<i>Defining Broadband</i> .....	19
<i>Delivering Broadband</i> .....	20
<i>Improving Speed and Availability</i> .....	20
<i>Rural Electric Cooperatives</i> .....	21
<i>Municipalities</i> .....	22
<i>Government Agencies</i> .....	23
<i>Regulating Broadband</i> .....	23

<b>UPDATE: SPECIFIC TOPIC AREAS</b> .....	25
<i>Connectivity in Education</i> .....	25
<i>Telehealth</i> .....	25
<i>Agricultural Innovation</i> .....	26
<i>Pennsylvania Legislative Initiatives</i> .....	26
<i>Internet Use and Technology Adoption by Pennsylvania Farmers</i> .....	26
<i>Precision Agriculture</i> .....	29
<i>Artificial Intelligence</i> .....	31
<i>Right to Repair</i> .....	32
<i>Workforce Development</i> .....	33
<i>Digital Literacy</i> .....	34
<i>Adoption by Consumers</i> .....	35
<i>Adoption by Small Business</i> .....	35
 <b>UPDATE: RECENT PENNSYLVANIA INITIATIVES</b> .....	 37
<i>Broadband Ready Communities</i> .....	37
<i>Local Efforts</i> .....	40
 <b>APPENDIX</b>	
<i>2019 Senate Resolution 47</i> .....	43

## INTRODUCTION

---

Senate Resolution 47, Printer's No. 951, adopted on June 26, 2019, created a legislative task force on high-speed broadband services and directed the Joint State Government Commission to conduct a study on the delivery of high-speed broadband services in unserved and underserved areas of the Commonwealth. The Commission was further directed to establish an advisory committee to assist in its study. The Broadband Advisory Committee (BBAC) includes representatives from Commonwealth agencies with an interest in broadband delivery, as well as Internet service providers and along with related cable, wireless, and other technology industries and associations. Nationally, the COVID-19 pandemic continues to highlight the need for expanded connectivity in rural areas as well as pockets of urban areas that are unserved by high-speed Internet.

This is the last of five reports authorized by SR 47. This report will provide an update on the role of broadband in the fields of education, healthcare, agriculture, and community and economic development, barriers to development, funding resources, recent developments in Pennsylvania state and local initiatives, and efforts to identify unserved and underserved communities in Pennsylvania. (The Advisory Committee discussed issues relating to broadband via email since June 2023.) New recommendations were not proposed, but the recommendations from prior reports are reproduced in this volume.

Finally, it should be noted that the recommendations contained in this report represent the general consensus of the Advisory Committee. They are not unanimously endorsed and should not be considered the official position of all the organizations represented on the committee.



## **RECOMMENDATIONS AND PROPOSED LEGISLATION**

---

### *Review of Recommendations Proposed in Prior BBAC Reports*

Two of the recommendations proposed by the Advisory Committee have been enacted into law. The Pennsylvania Broadband Development Authority established in 2021 was based upon recommendations made by the Advisory Committee in its 2020 and 2021 reports. Telemedicine became a covered benefit under health insurance by the enactment of the Act of July 3, 2024 (P.L.516, No.42), consistent with the Advisory Committee’s 2023 recommendation.

#### *2020 Report Recommendations*

The federal Infrastructure Investment and Jobs Act (aka the Bipartisan Infrastructure Law) was signed into law on November 15, 2021 and includes \$65 billion for broadband deployment. Many provisions of the IIJA address recommendations made by the BBAC in its 2020 report.

Under IIJA, each state’s grant application must include a five-year plan that brings local and regional broadband development efforts into the process. Subgrants cannot exclude “cooperatives, nonprofit organizations, public-private partnerships, private companies, public or private utilities, public utility districts, or local governments from eligibility for such grant funds.”

*This requirement of inclusiveness of potential subgrantees addresses BBAC Recommendations #2 and #3 regarding authorizing community-based entities to be eligible for state broadband grants.*

Subgrantees must provide broadband service at speeds of at least 100/20 Mbps with low latency. They also must have an average of below 48 hours of outages over a 365-day time period. Providers must offer at least one low-cost option for broadband connection and must have their broadband service available to customers within four years of receiving the grant. Subgrant winners that are not in high-cost areas will be required to match at least 25 percent of a project’s cost with funding from a non-federal source.

The Assistant Secretary of Commerce for Communications and Information in the U.S. Department of Commerce will also establish a grant program to make grants “on a technology-neutral, competitive basis to eligible entities for the construction, improvement, or acquisition of middle mile infrastructure.” \$1 billion will be allocated for fiscal years 2022-2026 for the middle mile grants. To be eligible for these grants, applicants must be willing to prioritize:

(A) connecting middle mile infrastructure to last mile networks that provide or plan to provide broadband service to households in unserved areas;

(B) connecting non-contiguous trust lands; or

(C) the offering of wholesale broadband service at reasonable rates on a carrier-neutral basis.

Projects must be completed within five years of receiving the grant. The Assistant Secretary in authorizing grants will consider the applicant's ability to support retail broadband service and provide connectivity to anchor institutions. The amount awarded in a middle mile grant must be less than or equal to 70 percent of the total project's cost.

The Act also allocates \$14.2 billion to the Emergency Broadband Benefit Program, renamed the Affordable Connectivity Program. The program will be indefinitely extended to provide affordable broadband connection to low-income households, but the monthly subsidy for low-income households will be lowered from \$50 to \$30.

*This provision and the Digital Equity Capacity Grant and Competitive Grant Programs (discussed in the following paragraph) help meet BBAC Recommendation #5 relating to availability of a low-cost minimum service alternative for lower income subscribers.*

The Act establishes another program under the Assistant Secretary of Commerce for Communications and Information called the State Digital Equity Capacity Grant Program. States that apply for these grants must submit a State Digital Equity Plan that includes identification of barriers to digital equity in the state, objectives for increasing digital equity, how completing the objectives will benefit the state, and a description of a plan to collaborate with key stakeholders in the state. This program will receive \$1.5 billion. Additionally, a Digital Equity Competitive Grant Program will also be established, and will receive \$1.25 billion.

The Act establishes a statement of policy that all Americans should enjoy equal access to an ISP that provides comparable speeds no matter who they are or where they live. The Act calls upon the FCC to create rules that will prevent "digital discrimination of access based on income level, race, ethnicity, color, religion, or national origin." The FCC will also create model policies that can be utilized on the state and local level to combat digital discrimination and the FCC's public complaints process will be revised so consumers are able to report digital discrimination. These measures are being set in place in this Act to combat "digital redlining," the systematic discrimination by ISPs against low-income communities.

*This provision also addresses BBAC Recommendation #5, with respect to making the same speed and access standards applicable to all lower income subscribers, regardless of geographic location. This provision at least partially addresses BBAC Recommendation #8, which calls for incentives to reach areas of marketplace failure.*

The possible use of funds for the state subgrants are as follows:

- (1) unserved service projects and underserved service projects;
- (2) connecting eligible community anchor institutions;
- (3) data collection, broadband mapping, and planning;
- (4) installing internet and Wi-Fi infrastructure or providing reduced-cost broadband within a multi-family residential building, with priority given to a residential building that—
  - (A) has a substantial share of unserved households; or
  - (B) is in a location in which the percentage of individuals with a household income that is at or below 150 percent of the poverty line applicable to a family of the size involved (as determined under section 673(2) of the Community Services Block Grant Act (42 U.S.C. 9902(2)) is higher than the national percentage of such individuals;
- (5) broadband adoption, including programs to provide affordable internet-capable devices; and
- (6) any use determined necessary by the Assistant Secretary to facilitate the goals of the Program.

Grant should be prioritized in order of unserved projects, underserved projects, and connecting community anchor institutions (those lacking access to one gigabit broadband service).

*The eligibility of anchor institutions as prioritized grant recipients addresses BBAC Recommendation #7, which calls for support for anchor institutions in unserved and underserved areas to maintain minimum high speed wired services.*

The Act also requires the FCC to establish a deployment locations map, an online tool to identify the location of each broadband infrastructure deployment project funded by the federal government.

*This requirement would address the BBAC requirement for deployment reports from grantees under the grant programs established by the BBAC's version of the authority.*

## *2021 Report Recommendations*

The 2021 report included draft legislation to create a Pennsylvania Broadband Development Authority. On December 22, 2021, Governor Wolf signed Act 96, creating the Pennsylvania Broadband Development Authority (PBDA) in Chapter 61 of Title 64 (Public Authorities and Quasi-Public Corporations) of the Pennsylvania Consolidated Statutes. While Act 96 is more narrowly drawn in terms of funding sources and overbuild protections than the BBAC proposal, it accomplishes a lot of BBAC goals for the creation of such an authority.

The PBDA was created to receive and administer federal grants under the Infrastructure and Investment Jobs Act. The PBDA is set to expire in 10 years or when all of the federal money received is spent. Many provisions of Act 96 and the PBDA powers and duties are directly based on the requirements that must be met in order to receive those federal funds.

## *2022 Report Recommendations*

As currently established in Act 96, the PBDA is composed solely of state government leaders. BBAC believes that the experience and expertise of the non-governmental bodies represented on BBAC could be of great value to the PBDA as it engages in its grant-making role. Accordingly, the BBAC recommends that the PBDA create a subcommittee consisting of the membership of BBAC to serve in an advisory capacity.

*The Broadband Development Authority has created four subcommittees on the topics of Data & Mapping, Technical, Workforce & Supply Chain, and Outreach and Education. A variety of stakeholders are represented on the subcommittees, including some of the entities that currently serve on Joint State Government Commission's Broadband Advisory Committee.*

Act 96 is designed to endure until the federal funding under the federal Infrastructure and Investment Jobs Act is exhausted. The BBAC proposal would have funded the PBDA with federal appropriations, Pennsylvania general fund appropriations, the issuance of bonds and the establishment of grant and loan programs. The decision regarding the appropriateness of limiting the duration of the PBDA and its funding sources is a policy one, but if in the future the General Assembly determines that the PBDA should become a permanent entity, those funding sources could be added to the statute to otherwise provide for the permanent state funding proposed in BBAC Recommendation #9.

*This recommendation continues to be supported by the Advisory Committee.*

To counter the reluctance of some internet providers to submit plans for broadband projects to protect perceived competitive advantages, an amendment could be added to the BBDA grant application requirements.



Amend 64 Pa.C.S. § 6124(f) by adding a new paragraph to read:

(6.1) An affidavit that the eligible entity will comply with the requirements of the act of December 10, 1974 (P.L. 852, No. 287) referred to as the Unground Utility Line Protection Law.

*This recommendation continues to be supported by the Advisory Committee.*

Under FCC rules issued in 2015, if a state establishes a fund that covers special construction charges (one-time build-out costs) to bring fiber to schools and libraries that need it, the E-rate Program will increase an applicant's discount rate for these charges up to an additional 10 percent to match the state funding on a one-to-one dollar basis.

BBAC recommends that a general appropriation be made in the State Budget to the Department of Education for the sole purpose of grants for public library and school technology purposes in order to provide funds to public libraries and schools to use as state matching funds for special construction under the federal e-rate broadband program pursuant to 47 CFR 54.505.

*This recommendation continues to be supported by the Advisory Committee.*

## *2023 Recommendations*

### Permanent Mapping Project

The Advisory Committee has suggested in previous reports that the Pennsylvania Broadband Development Authority act be amended to become permanent entity with annual appropriations in addition to the federal funding under the Bipartisan Infrastructure Law. The Advisory Committee recommends that the mapping aspects of the PBDA be made the permanent responsibility of either the PBDA, or if the authority is allowed to expire, another permanent agency of the government to ensure that broadband coverage provided today does not evaporate in the future. Providers may come and go or may find an area to have become financially disadvantageous after a period of time and withdraw from coverage. A permanent, ongoing mapping project could monitor coverage and at some interval (perhaps every five years) verify that areas that have been identified as served continue to be served.

### Permanent Use of Telemedicine

Providers of health services under Medicare and Medicaid (Medical Assistance in Pennsylvania) are authorized to provide telehealth services under federal and state guidance. As licensees of the Pennsylvania Department of State, health care providers in general can provide services within their existing scopes of practice via the use of telemedicine when appropriate, provided it is done according to accepted standards of care. However, commercial health insurers

are not required to allow or reimburse for telemedicine.<sup>4</sup> The Advisory Committee recommends that telemedicine be a mandatory benefit of commercial insurers, with parity in payment between in-person and telemedicine services.

### Municipal Broadband Providers

The Advisory Committee has not and is not likely to come to consensus on whether the “right of first refusal” currently possessed by local telecommunications carriers regarding startup of new municipal broadband networks should be repealed. This has the potential to cause confusion and litigation surrounding the federal broadband grant programs, including the digital equity grant program, whose parameters have not yet been established.

---

<sup>4</sup> The Pennsylvania Insurance Department (PID) surveyed the commercial insurers and determined that all insurers were covering telehealth services to some extent at the time of the survey. The Department has not been made aware of any significant changes since the survey was completed. Moreover, no insurer has reported that it is planning major changes for telehealth coverage post-PHE, but many of them indicated they will likely re-evaluate their policies at the end of the PHE. (PHE – Covid-19 public health emergency). “Professional Licensing, Frequently Asked Questions about Telemedicine in Pennsylvania,” *Pennsylvania Department of State*, accessed July 16, 2024, <https://www.pa.gov/en/agencies/dos/resources/professional-licensing-resources/telemedicine-faqs.html>.

## **CURRENT FUNDING PROGRAMS AND OPPORTUNITIES**

---

### *The Bipartisan Infrastructure Law*

The federal Infrastructure Investment and Jobs Act, signed into law on November 15, 2021, includes \$65 billion for broadband deployment nationwide. The funding is divided across multiple projects that are on different time frames. Some of the programs are close to launch in Pennsylvania while others are still in development.

#### *Broadband Equity, Access, and Deployment (BEAD) Program*

While originally guaranteed a minimum allocation of \$100 million from the Broadband Equity, Access, and Deployment (BEAD) program, National Telecommunications and Information Administration (NTIA) released the final funding amounts in late June of 2023, and Pennsylvania's allocation was significantly larger than originally projected, at slightly under than \$1.2 billion (\$1,161,778,272.41).<sup>5</sup> The PA Broadband Development Authority submitted the Initial Proposal Volume I on October 27, 2023 and Initial Proposal Volume II on December 8, 2023.

Volume I was approved by NTIA on February 14, 2024. It outlines existing broadband funding, unserved/underserved Broadband Serviceable Locations (BSLs), Community Anchor Institutions (CAIs),<sup>6</sup> as well as the challenge process for BEAD funding. The BEAD program requires Pennsylvania to conduct a map challenge process, which will assist in determining which BSLs and CAIs will be eligible to be served utilizing BEAD funds. The BEAD challenge period ran from April 24 to May 23, 2024. Final determinations will be made from June 23 to July 22, 2024 within 30 days of receipt.

---

<sup>5</sup> U.S. National Telecommunications and Information Administration (NTIA) Internet for All, "Biden-Harris Administration Announces State Allocations for \$42.45 Billion High-Speed Internet Grant Programs as Part of Investing in America Agenda," Press Release, June 26, 2023, <https://www.internetforall.gov/news-media/biden-harris-administration-announces-state-allocations-4245-billion-high-speed-internet>.

<sup>6</sup> Community Anchor Institutions are identified as an entity such as a school, library, health clinic, health center, hospital or other medical provider, public safety entity, institution of higher education, public housing organization, or community support organization that facilitates greater use of broadband service by vulnerable populations, including, but not limited to, low-income individuals, unemployed individuals, children, the incarcerated, and aged individuals. § 1.C.(f), pp.11-12, Notice of Funding Opportunity, Broadband Equity, Access and Deployment Program, Executive Summary, May 2022, <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf>

Volume II was approved by NTIA on May 6, 2024. It outlines local coordination efforts, subgrantee selection processes, implementation activities, labor standards and workforce readiness, low-cost service options, and middle-class affordability. The final proposal will be due on May 6, 2025.

### *Digital Equity Plans and Programs*

Digital Equity grants are planned in three stages – the digital equity planning program, the digital equity capacity program, and the digital equity competitive programs.

Applications for the State Digital Equity Planning Grant Program, which will assist states in their goals of creating a State Digital Equity Plan, were due to the NTIA July 12, 2022. Pennsylvania received \$1.6 million in planning funds, and its Digital Equity Plan was accepted on March 26, 2024.<sup>7</sup>

The planning grant is only one piece of the State Digital Equity Capacity Grant Program but had to be completed before additional State Digital Equity Capacity Grant Program funding is provided. Additional funding from this program was announced by a Notice of Funding Opportunity issued on March 29, 2024. Pennsylvania’s application was due May 28, 2024, and the Commonwealth’s tentative award for this grant program is \$25,508,473.61.<sup>8</sup>

Additionally, a Digital Equity Competitive Grant Program will also be established, to be administered by the NTIA directly, which will receive \$1.25 billion to be distributed in discretionary grants over five years, and which is intended for organizations such as schools, libraries, nonprofits, and others offering digital inclusion activities and promoting Internet adoption.<sup>9</sup> The Digital Equity Competitive Grant Program is expected to launch in early 2025.<sup>10</sup> The Notice of Funding Opportunity for this grant program was announced in July 2024, and the application period ends September 23, 2024.<sup>11</sup>

### *Affordability Connectivity Program*

The Bipartisan Infrastructure Law allocated \$14.2 billion to the Emergency Broadband Benefit Program, renamed the Affordable Connectivity Program. In January 2024, the FCC announced that the program was running out of funds, likely to be exhausted by late April/early May. Accordingly, the FCC released its plan to wind down the program, first by ceasing

---

<sup>7</sup> U.S. National Telecommunications and Information Administration, Internet for All, “Pennsylvania’s Digital Equity Plan Accepted,” Press Release, March 26, 2024, <https://www.internetforall.gov/news-media/pennsylvanias-digital-equity-plan-accepted>.

<sup>8</sup> NTIA, *Notice of Funding Opportunity, State Digital Equity Capacity Grant Program Executive Summary*, [https://www.ntia.gov/sites/default/files/publications/ntia\\_fy24\\_sdecgp\\_nofinal.pdf](https://www.ntia.gov/sites/default/files/publications/ntia_fy24_sdecgp_nofinal.pdf)

<sup>9</sup> 47 U.S.C. § 1724.

<sup>10</sup> “Digital Equity Act Factsheet,” *Pennsylvania Broadband Development Authority*, accessed July 16, 2024, [https://www.broadband.pa.gov/wp-content/uploads/2024/06/DigitalEquityAct-FactSheet\\_2024.pdf](https://www.broadband.pa.gov/wp-content/uploads/2024/06/DigitalEquityAct-FactSheet_2024.pdf).

<sup>11</sup> NTIA, *Notice of Funding Opportunity Digital Equity Competitive Grant Program*, <https://www.ntia.gov/federal-register-notice/2024/notice-funding-opportunity-digital-equity-competitive-grant-program>

acceptance of new enrollments on February 7, 2024.<sup>12</sup> The program formally closed on June 1, 2024.<sup>13</sup> This program was a subsidy, and enrollees no longer receive financial support through this program to purchase Internet service. At the time of the enrollment freeze on February 7, there were 763,742 Pennsylvanians enrolled in the program.<sup>14</sup> House Bill 2195 was introduced and referred to the Pennsylvania House of Representatives Committee on Consumer Protection, Technology and Utilities on April 8, 2024. The bill would establish a Pennsylvania Affordable Broadband Internet Access Service Program, to be funded by appropriations and other sources such as federal funds, grants, donations, gifts and other payments for any source. Although legislation has been introduced in Congress, nothing to replace the ACP has been enacted.

### ***Federal ARPA - Capital Projects Fund (CPF)***

#### ***Broadband Infrastructure Program***

The Capital Projects Fund awarded Pennsylvania \$279 million for broadband infrastructure improvements funded through Pennsylvania's Broadband Infrastructure Program, which is a competitive grant program for both large-scale regional projects and line extensions. It will serve around 15 percent of underserved locations in the state. The Pennsylvania Broadband Development Authority made \$200 million available in grants to be distributed.<sup>15</sup> Grant recipients were announced on April 18, 2024. The \$204 million allocation was awarded to 53 projects in 42 counties. It is expected to reach 40,000 homes and businesses, providing internet access to over 100,000 Pennsylvanians.<sup>16</sup>

There were 13 internet service providers who received grants. Counties with the most projects identified were Indiana (5), Blair (4), Cambria (4), and Centre, Clarion, Clearfield, and Somerset with three each. Two projects were located in each of the following counties: Butler, Cumberland, Huntingdon, Juniata, Lancaster, McKean, Monroe, Perry, and Wayne. See Table 1.

---

<sup>12</sup> FCC News, "Affordable Connectivity Program to End Soon Barring Congressional Action," Press Release, January 11, 2024, <https://docs.fcc.gov/public/attachments/DOC-399712A1.pdf>.

<sup>13</sup> "Affordable Connectivity Outreach Grant Program," FCC, accessed July 8, 2024, <https://www.fcc.gov/acp-grants>.

<sup>14</sup> "ACP Enrollment and Claims Tracker," *Universal Service Administrative Co. (USAC)*, accessed July 8, 2024, <https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/>.

<sup>15</sup> "Capital Projects Fund (CPF) Program," *DCEd*, accessed March 5, 2024, <https://dced.pa.gov/programs-funding/broadband-in-pennsylvania/capital-projects-fund-cpf-program/>.

<sup>16</sup> Pennsylvania Broadband Development Authority, "Shapiro Administration Invests \$204 Million in Federal Funding to Provide 40,000 Homes and Businesses with Affordable and Reliable High-Speed Internet Access," Press Release, April 18, 2024, <https://www.broadband.pa.gov/shapiro-administration-invests-204-million-in-federal-funding-to-provide-40000-homes-and-businesses-affordable-and-reliable-high-speed-internet-access/>.

**Table 1**  
**ARPA Capital Projects Fund**  
**Grant Recipients**  
**April 2024**

<b>Provider</b>	<b>Total Funding Awarded</b>	<b># of Projects</b>	<b>Counties Served</b>
Adams CATV Inc.	\$387,969	1	Wayne
Alleghenies Broadband, Inc.	\$1,809,524	1	Blair
Armstrong Telecommunications, Inc.	\$12,470,081	2	Butler
Blue Ridge Communications	\$524,857	1	Monroe
Cleverack Communications	\$4,771,248	1	Bradford
Comcast Cable Communications LLC	\$61,662,438	12	Adams, Beaver, Berks, Blair, Cambria, Chester, Cumberland, Indiana, Lackawanna, Luzerne, Washington, Wyoming, York
Connect Holding II LLC, d/b/a Brightspeed	\$782,163	1	Perry
Frontier Communications Parent, Inc.	\$3,528,901	3	Columbia, Lancaster
Upward Broadband, LLC	\$1,476,288	1	Dauphin, Lebanon
Verizon North LLC	\$23,448,076	7	Cambria, Crawford, Indiana, Schuylkill, Somerset, Westmoreland
Verizon Pennsylvania LLC	\$54,939,712	15	Blair, Cambria, Carbon, Centre, Clarion, Clearfield, Elk, Forest, Huntingdon, Indiana, Jefferson, McKean, Monroe, Pike, Warren, Wayne
Windstream Pennsylvania, LLC	\$11,979,595	3	Centre, Clarion, Erie
Zito West Holding, LLC	\$26,388,039	5	Cumberland, Franklin, Juniata, Perry
<b>TOTAL</b>	<b>\$204,168,891</b>	<b>53</b>	

Source: Compiled by JSGC Staff from “ARPA Capital Projects Fund: Broadband Infrastructure Program Award List,” *Pennsylvania Broadband Development Authority*, accessed July 12, 2024, <https://dced.pa.gov/download/2023-2024-arpa-pa-broadband-infrastructure-program-approved-projects/?wpdmdl=123707>.

### *Multi-Purpose Community Facilities Program*

The Multi-Purpose Community Facilities Program, established in Pennsylvania through the Capital Projects Fund, made \$45 million available for grants for anchor institutions (such as libraries and schools) and local governments to improve facilities that “directly enable work, education, and health monitoring at the respective facility.”<sup>17</sup> Grants have a minimum of \$250,000 and a maximum of \$2 million.<sup>18</sup> The application period for this grant was closed on April 20, 2024. The Broadband Development Authority received 599 separate applications proposed within 65 counties. Requests total more than \$860 million. Awards are expected to be announced in July and August 2024.<sup>19</sup>

### *Digital Connectivity Technology Program*

The Digital Connectivity Technology Program, established through the Capital Funds Project, is making \$20 million in technology devices (e.g., laptop computers) through competitive grants for anchor institutions and local governments. The application period is June 20, 2024 to August 19, 2024. A minimum of 20 devices and a maximum of 200 devices may be granted to each recipient.<sup>20</sup>

### *Mapping Efforts*

The FCC released the third version of its broadband coverage mapping in November 2023. This map reflected data from June 30, 2023 and before.<sup>21</sup> On January 2, 2024, the FCC opened the filing window for the fourth version of the map, which will reflect data from December 31, 2023 onward.<sup>22</sup> March 1, 2024 was the deadline for ISPs to submit new data, and the maps were updated in May 2024. Version five will be released to licensees in June 2024 so that they can submit challenges. In July, the ISPs will be able to submit data for the period ending June 2024; on September 3, 2024 this window will close. The map will be updated to version five in November 2024.<sup>23</sup>

---

<sup>17</sup> “COVID-19 ARPA PA Multi-Purpose Community Facilities Program,” *DCED*, accessed March 5, 2024, <https://dced.pa.gov/programs/covid-19-arpa-pa-multi-purpose-community-facilities-program/>.

<sup>18</sup> *Ibid.*

<sup>19</sup> Email received from The Pennsylvania Broadband Development Authority, May 8, 2024.

<sup>20</sup> “COVID-19 ARPA Digital Connectivity Technology Program,” *Pennsylvania Department of Community and Economic Development*, accessed July 8, 2024, <https://dced.pa.gov/programs/covid-19-arpa-digital-connectivity-technology-program/>.

<sup>21</sup> Masha Abarinova, “FCC Releases Third Version of National Broadband Map,” *Fierce Telecom*, last modified November 20, 2023, <https://www.fiercetelecom.com/broadband/fcc-releases-third-version-national-broadband-map>.

<sup>22</sup> “Broadband Data Task Force Announces Opening of Broadband Data Collection Filing Window and Release of Updated Broadband Serviceable Location Fabric,” *FCC*, last modified December 20, 2023, <https://docs.fcc.gov/public/attachments/DA-23-1186A1.pdf>.

<sup>23</sup> “Broadband Data Collection,” *FCC*, accessed March 5, 2024, <https://www.fcc.gov/BroadbandData>.

The PBDA developed the Pennsylvania Broadband Map, which details the proposed Capital Project Funds areas and can be found on its website. This map contains layers that include the areas that are considered served as of August 16, 2023, areas that are eligible for the Rural Digital Opportunity Fund (RDOF), a broad view of Capital Project Fund project areas, and specific proposed locations in Capital Project Fund areas. These layers can be filtered by many factors including whether the locations are served, underserved, or not served, and by type of project: coaxial cable/hybrid fiber coaxial project, fiber to the premises project, or fixed wireless project.<sup>24</sup>

### *Current Federal Grant and Loan Programs*

#### *U.S. Department of Agriculture*

The ReConnect Program provides funding for broadband infrastructure and is available for:

- Corporations
- Limited Liability Companies and Limited Liability Partnerships
- Cooperatives or mutual organizations
- States or local governments, including any agency, subdivision, instrumentality of political subdivision thereof
- A territory or possession of the United States
- An Indian Tribe, as defined in Section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. §450b)<sup>25</sup>

The funding can be used for “the construction or improvement of facilities required to provide fixed terrestrial broadband service..., reasonable pre-application expenses..., [or] to fund the acquisition of an existing system that does not currently provide sufficient access to broadband...”<sup>26</sup> For 100 percent grants, \$150 million is available with maximum grants of \$25 million. Areas that are classified by the USDA Economic Research Service as a Frontier and Remote Area Level 4 qualify for maximum grants of \$35 million. For 100 percent grants for specific populations including Alaska Native Corporations, Tribal Governments, Colonias, Persistent Poverty Areas and Socially Vulnerable Communities, there is \$350 million available in funding. The maximum grant is \$25 million, except for the previously mentioned exception which allows for grants of \$35 million. For 50 percent grant/50 percent loans, \$150 million is available for loans and the same amount is available for grants. \$25 million is the maximum for each portion and they must always be equal. For 100 percent loans, \$150 million is available with a maximum of \$50 million. In places where 90 percent of households lack sufficient access to broadband, \$200 million is available for grants with a maximum of \$25 million.<sup>27</sup>

---

<sup>24</sup> “Capital Project Funds–Broadband Infrastructure Program,” *ArcGIS*, accessed March 19, 2024, <https://experience.arcgis.com/experience/7cafb0b5d9444eb18d0873c8afaafb86/>.

<sup>25</sup> “Program Overview,” *USDA*, accessed February 20, 2024, <https://www.usda.gov/reconnect/program-overview>.

<sup>26</sup> *Ibid.*

<sup>27</sup> *Ibid.*



For a project to be eligible, the proposed funded service area (PFSA) must have at least 50 percent of households lacking sufficient broadband service. Sufficient broadband service is defined as 100/20 Mbps. The PFSA must be a rural area, and the project must provide broadband service to all premises within the PFSA.<sup>28</sup> Pennsylvania did not receive any funding from the ReConnect Program in FY 2023.<sup>29</sup>

The USDA also administers several other loan and grant opportunities. These include the Business and Industry Guaranteed Loan Program, which has a FY 2023 appropriation of \$37 million, the Community Facilities Direct Loan and Grant Program with \$2.8 billion in direct loans and around \$25.3 million in grants, the Community Facilities Guaranteed Loan Program with \$650 million available, around \$124 million for the Distance Learning and Telemedicine Grant Program, and over \$76 million in the Rural Broadband Loan and Loan Guarantee Program. The Community Connect Grant Program made \$82 million available.<sup>30</sup>

The Rural Business Development program has around \$37 million available in FY 2023. The Rural Community Development Initiative (RCDI) made \$6 million available for economic development in low-income rural communities. The Rural Economic Development Loan and Grant Programs received \$90 million to local utility organizations undertaking rural projects. The Telecommunications Infrastructure Program has \$690 million available for broadband deployment.<sup>31</sup>

### *Rural Digital Opportunity Fund (RDOF) Phase II*

The RDOF Phase II Auction will be administrated in the same way as the initial Phase I Auction. There is \$11.2 billion in funding that will be available in this auction. The second phase has yet to declare an opening or closing date for the auction.<sup>32</sup>

### *U.S. Department of Education*

The Student Support and Academic Enrichment Program, Title IV, Part A makes available \$1.38 billion in funding for increasing the use of technology and digital literacy of students.<sup>33</sup>

---

<sup>28</sup> “Service Area Eligibility Requirements,” *USDA*, accessed April 25, 2023, <https://www.usda.gov/reconnect/service-area-eligibility-requirements>.

<sup>29</sup> *Investing in Rural High-Speed Internet* (USDA), <https://www.usda.gov/sites/default/files/documents/investing-rural-broadband.pdf>

<sup>30</sup> *BroadbandUSA Federal Funding Guide* (BroadbandUSA, May 2023), [https://broadbandusa.ntia.doc.gov/sites/default/files/2023-05/Federal\\_Funding\\_PDF\\_Guide\\_5\\_1\\_23.pdf](https://broadbandusa.ntia.doc.gov/sites/default/files/2023-05/Federal_Funding_PDF_Guide_5_1_23.pdf), 22-51.

<sup>31</sup> *Ibid.*

<sup>32</sup> “Rural Digital Opportunity Fund,” *USAC*, accessed February 20, 2024, <https://www.usac.org/high-cost/funds/rural-digital-opportunity-fund/>.

<sup>33</sup> *BroadbandUSA Federal Funding Guide*, 161.

## *U.S. Department of Housing and Urban Development*

A program called Choice Neighborhoods provides funding to revitalize distressed HUD housing. The program strongly encourages the use of funding for broadband connectivity. \$350 million is available in this program in FY 2023. The Community Development Block Grant (CDBG) I Section 108 Loan Guarantee Program makes \$300 million available in FY 2023.<sup>34</sup> The U.S. Department of Housing and Urban Development's (HUD) Community Planning and Development (CPD) Office, which promotes economic development in low-income neighborhoods and specifically mentions broadband access as a possible use, has \$3.3 billion available.<sup>35</sup>

## *Federal Communications Commission*

On March 8, 2024, the FCC increased the funding cap for the Healthcare Connect Fund to \$706,926,603 to represent a 3.6 percent inflation adjustment to the 2022 funding cap. The E-Rate program also received a 3.6 percent inflation adjustment, making the 2023 funding cap \$4,940,076,139.<sup>36</sup>

## ***Current Pennsylvania Grant and Loan Programs***

Some Pennsylvania programs are funded through federal money and therefore have been mentioned previously in the appropriate sections on the federal funding piece.

Local Share Account funds are available in Fayette, Luzerne, Monroe, Northampton and Lehigh, Philadelphia, and Washington Counties to be used for economic development, community improvement, and public interests.<sup>37</sup> The Business In Our Sites Grants/Loans (BOS) program is meant to “empower communities to attract growing and expanding businesses by helping them build an inventory of ready sites.”<sup>38</sup> Municipalities, municipal authorities, redevelopment authorities, industrial development agencies, and private developers are eligible to apply for funds program to be used on site development and business, infrastructure, and land and building. The combined grant and loan award does not have a maximum or minimum for the loan portion, but the grant portion must be capped at \$4 million or 40 percent of the total award. Because of the inclusion of “facilities for the transmission of information,” broadband infrastructure is an eligible expense for these funds.<sup>39</sup>

---

<sup>34</sup> *Ibid.*, 173-201.

<sup>35</sup> *Ibid.*

<sup>36</sup> Federal Communications Commission, “WIRELINE COMPETITION BUREAU ANNOUNCES E-RATE AND RHC PROGRAMS’ INFLATION-BASED CAPS FOR FUNDING YEAR 2024,” News Release, March 8, 2024, <https://docs.fcc.gov/public/attachments/DA-24-229A1.pdf>.

<sup>37</sup> “Local Share Account (LSA),” *Pennsylvania DCED*, accessed February 28, 2024, <https://dced.pa.gov/business-assistance/business-financing/local-share-account-lsa/>.

<sup>38</sup> Business In Our Sites Grants/Loans (BOS),” *Pennsylvania DCED*, accessed February 28, 2024, <https://dced.pa.gov/programs/business-in-our-sites-grants-and-loans-bos/>.

<sup>39</sup> *Ibid.*

The Keystone Community Program (KCP) does not specifically mention broadband funding in its eligible uses, but funds can be used for development grants, which include improvements to public infrastructure. Units of local government, redevelopment or housing authorities, nonprofit organizations, community development corporations, and business improvement districts, neighborhood improvement districts, downtown improvement districts, and similar organizations are eligible to apply for funding. The KCP also awards designations to some applicants to supply a more targeted investment. The designations are based on the location of the improvement project.<sup>40</sup>

The Pennsylvania First Program (PA First) provides grants, loans and loan guarantees to businesses, municipalities, municipal authorities, redevelopment authorities, industrial development authorities or corporations, and local development districts. To be considered, a project “must offer substantial economic impact, either for the Commonwealth as a whole or for the locality or region in which a business will locate or expand.” These projects must also have a private match and a plan for job creation and preservation. Broadband projects would be an eligible expense because they would be counted as infrastructure, which is one of the uses for the program funding.<sup>41</sup>

Additional grant programs are discussed later in this report under specific topic areas.

---

<sup>40</sup> “Keystone Communities Program (KCP),” *Pennsylvania DCED*, accessed February 28, 2024, <https://dced.pa.gov/programs/keystone-communities-program-kcp/>.

<sup>41</sup> Pennsylvania First Program (PA First),” *Pennsylvania DCED*, accessed February 28, 2024, <https://dced.pa.gov/programs/pennsylvania-first-program-pa-first/>.



## **UPDATE: DEFINING, DELIVERING AND REGULATING BROADBAND**

---

### *Defining Broadband*

The term “broadband” refers to the high-speed transmission of data over a wide band (broadband) of frequencies. How wide the band must be to be deemed high speed is constantly evolving. The FCC issued a report in March 2024 that announced a new minimum speed of uploads of 100 megabits per second and downloads of 20 megabits per second (100Mbps/20Mbps), and a long-term goal is to increase the minimum to 1,000Mbps/500Mbps. The FCC’s report stated that:

Based on our evaluation of the data, we find that our universal service goals for section 706 have not been met, and we therefore conclude that advanced telecommunications capability is not being deployed to all Americans in a reasonable and timely fashion. Most significantly, at present, 100/20 Mbps terrestrial fixed broadband service has not been physically deployed to approximately 7% of Americans. Rural areas and Tribal lands significantly trail more urban areas, with approximately 28% of people living in rural areas and approximately 23% of people living on Tribal lands lacking access to 100/20 Mbps fixed broadband services. While we expect the Broadband Equity, Access, and Deployment (BEAD) Program and other federal and state programs will narrow these divides in the coming years, at this time, we find that these physical deployment shortcomings are sufficient to warrant a negative finding under section 706 before we even begin to consider our other universal service goals, for which we hope to have more comprehensive data available in future inquiries.<sup>42</sup>

Under Pennsylvania’s Chapter 30 law, 66 Pa.C.S. §§ 3011 et seq., “broadband” is defined as “a communication channel using any technology and having a bandwidth equal to or greater than 1.544 megabits per second (Mbps) in the downstream direction and equal to or greater than 128 kilobits per second (Kbps) in the upstream direction.” This speed was established in 2004. 66 Pa.C.S. § 3012. Chapter 30 requires Pennsylvania ILECs to provide broadband throughout their service territories in exchange for permitting ILECs to choose alternative regulations (briefly, fewer restrictions and less regulatory oversight than traditional regulation). Today, every Pennsylvania ILEC has opted for alternative regulation and is subject to Chapter 30’s broadband mandate.

---

<sup>42</sup> FCC, “Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion,” FCC-24-27, adopted March 14, 2024, released March 18, 2024, <https://www.fcc.gov/document/fcc-increases-broadband-speed-benchmark-0> (FCC 2024 Report), 2-3.

Multiple federal funding programs impose minimum speeds that are vastly higher than Chapter 30. For example, BEAD-funded broadband projects must reach a minimum of 100 Mbps download/20 Mbps upload.<sup>43</sup>

### *Delivering Broadband*

Broadband high-speed Internet access transmits data using a wide range of frequencies and enables many messages to be communicated simultaneously. Broadband is provided through wired and wireless (or as used interchangeably, fixed and mobile) technologies. Wired broadband connects to a building via digital subscriber line (DSL), coaxial cable, fiber optic cables, and power lines. Some wireless technologies use satellites. Regardless of the type of connection, all technologies providing broadband rely on some form of physical infrastructure.

The Commission's 2020 report defined the types of broadband delivery systems available in detail, and will not be reiterated in this report.<sup>44</sup> However, an update on the number of providers and the types of service available in Pennsylvania was included in the Commission's 2022 report, using Pennsylvania Department of Community and Economic Development databases, which were in turn based on 2020 FCC reports.<sup>45</sup>

### *Improving Speed and Availability*

In the FCC's 2024 report, new data sources were used to measure coverage. In previous years, the FCC relied primarily on the FCC Form 477 deployment data, which is provided by ISPs. For the 2024 report, the FCC's Broadband Data Collection (BDC) was used. The FCC stated that the BDC data "represent significant improvements over FCC Form 477 data, through the use of more precise location-by-location fixed data, mobile data based on standardized parameters, and the Commission's ability to improve the data through public challenge processes and conducting verifications and audits of provider-reported data."<sup>46</sup> Based on the data reported in the FCC 2024 report, Pennsylvania has available fixed 100/20 broadband (included fixed wireless) in 95.1 percent of the state, with urban areas with 99.4 percent coverage and rural areas with 81.4 percent coverage. If fixed wireless is not included in these data, the percentages drop incrementally to 94.5 percent statewide, 99.3 percent urban, and 79.4 percent rural.<sup>47</sup> Consistent with prior year

---

<sup>43</sup>Amy Huffman, "NTIA Releases Requirements for \$42.5B of BEAD Funding: Here's What It Says About Digital Equity," *National Digital Inclusion Alliance*, last modified May 13, 2022, <https://www.digitalinclusion.org/blog/2022/05/13/ntia-releases-requirements-for-42-5b-of-bead-program-funding/>.

<sup>44</sup> Pennsylvania General Assembly, Joint State Government Commission, "Delivery of High-Speed Broadband Services in Unserved Areas and Underserved Areas of the Commonwealth," September 2020. <http://jsg.legis.state.pa.us/resources/documents/ftp/publications/2020-09-03%20Broadband%20Report%20web.pdf>

<sup>45</sup> Pennsylvania General Assembly, Joint State Government Commission, "Delivery of High-Speed Broadband Services in Unserved Areas and Underserved Areas of the Commonwealth," July 2022. [http://jsg.legis.state.pa.us/resources/documents/ftp/publications/2022-07-06%20\(SR47\)%20Broadband%20Final%20Report%20%202022.pdf](http://jsg.legis.state.pa.us/resources/documents/ftp/publications/2022-07-06%20(SR47)%20Broadband%20Final%20Report%20%202022.pdf)

<sup>46</sup> FCC 2024 Report, 2.

<sup>47</sup> FCC 2024 Report, 133.

findings, rural coverage in Pennsylvania continues to lag urban. Service availability does not ensure adoption, however. As of December 31, 2022, most Pennsylvanians had adopted fixed broadband (including fixed wireless) at speeds of 25/3Mbps, representing 81.1 percent of the state. About half, or 51.3 percent, had adopted 100/20 Mbps service. Speeds of 940/500, similar to the FCC’s long-term goal, were adopted by only 21.2 percent of Pennsylvania consumers.<sup>48</sup>

The overall state averages for fixed broadband range widely from county to county. Four rural counties are identified as having less than 50 percent availability of fixed broadband at the 100/20 Mbps level. They are Bradford (48.9), Forest (37.6), Fulton (40.6), and Sullivan (46.7). Additionally, another 20 counties are identified as having fixed broadband at the 100/20 Mbps level in only 50 to 75 percent of their rural areas. Those counties are: Bedford, Clarion, Clearfield, Columbia, Crawford, Greene, Huntingdon, Indiana, Jefferson, Juniata, Mercer, Montour, Northumberland, Perry, Snyder, Somerset, Susquehanna, Venango, Warren, and Wyoming.<sup>49</sup>

### *Rural Electric Cooperatives*

Pennsylvania has 13 rural electric cooperatives (RECs). Tri-County Rural Electric Cooperative was the first of these organizations to create a broadband subsidiary offering fiber optic service, and their future plans include expansion into northern Bradford County. More recently, REA Energy Cooperative created a subsidiary called In the Stix Broadband and entered into a contract with Indiana County to build 350 miles of cable fiber. This project has a total cost of 14 million dollars and will cover an estimated 1710 residents and 151 businesses throughout 1,861 locations.<sup>50</sup>

In May 2022, Claverack Rural Electric Cooperative, which serves members in Bradford, Lackawanna, Luzerne, Lycoming, Sullivan, Susquehanna, Tioga and Wyoming Counties, created Claverack Communications to serve as its broadband subsidiary and branded the project Revolution Broadband. The plan is to construct 1,500 miles of fiber-optic lines in Bradford, Susquehanna, and Wyoming Counties. The initial phase would install 300 miles of fiber-optic cable to provide internet access to 2,000 members.<sup>51</sup> Claverack was one of the grantees announced in the April 2024 APRA Capital Projects Fund round of funding grants by the Pennsylvania Broadband Development Authority. Claverack received \$4.8 million for its Bradford County project.<sup>52</sup>

---

<sup>48</sup> FCC 2024 Report, 147.

<sup>49</sup> FCC 2024 Report, 283-284.

<sup>50</sup> Patrick Cloonan, “Indiana County approves broadband deal with REA subsidiary,” *Indiana Gazette*, April 13 2023 [https://www.indianagazette.com/local\\_news/indiana-county-approves-broadband-deal-with-rea-subsiary/article\\_58938c93-fb20-53db-9309-2afe4fda309b.html](https://www.indianagazette.com/local_news/indiana-county-approves-broadband-deal-with-rea-subsiary/article_58938c93-fb20-53db-9309-2afe4fda309b.html)

<sup>51</sup> Steve Allabaugh, “Our broadband revolution begins,” Claverack Rural Electric Cooperative, Inc., *PennLines*, pp. 13a-14b, May 2022.

<https://www.claverack.com/sites/default/files/documents/PennLines/5.22%20clav%20pl%20final.pdf>

<sup>52</sup> Revolution, News, “Claverack REC Secures \$4.8 Million Grant to Expand Revolution Broadband Access,” April 24, 2024. <https://revolutionbroadband.net/news/claverack-rec-secures-4-8-million-grant-to-expand-revolution-broadband-access/>

While no other cooperatives in the state have announced entering the broadband market, reviewing FCC maps shows that there are numerous underserved populations which overlap with Rural Electric Cooperative service areas. While only two rural electric cooperatives have entered the broadband access market in Pennsylvania, across the country over 250 electric cooperatives offer broadband services.<sup>53</sup>

### *Municipalities*

While broadband internet service has frequently been provided by privately owned companies, previous reports of the Commission have detailed local government efforts to provide internet services. Once a comparative rarity, between 2021 and 2023, 47 local government-backed broadband projects have been completed nationwide, with more being planned.<sup>54</sup> These projects took a variety of approaches, with some building a fiber network for private companies to operate, while others offering internet service directly.

Previous reports detailed York County's commitment to building out broadband infrastructure. Since 2020 the county has invested \$26.5 million, but many rural areas of the county still lack infrastructure.<sup>55</sup> Future areas of expansion include building 144 miles of middle mile fiber in southern York County at a cost of \$20 million, with plans to expand another 189 miles if the funding can be secured. In February 2023, York County created a contract with LIT Communities to continue building out and providing service through this network.<sup>56</sup>

Municipal networks continue to be developed in other states. In total, there were over 400 municipal broadband networks serving 600 communities in the United States.

In Waterloo, Iowa, the community voted to issue \$20 million in municipal bonds to build a local network. Four New York state municipalities are starting community networks using state funds to expand middle mile networks to Sherburne, Nichols, Diana, and Pitcairn. In Ohio, city fiber is being installed in New Albany and Dublin, located outside of Columbus. Three other networks are found in Scioto (Consolidated Co-op), Hudson (Velocity Broadband), and Fairlawn and Copley (FairlawnGig).

While Maryland's dark fiber network was originally built to handle emergency services, the state now leases parts of the network to private sector operators to build out last mile projects. Much of the network is spread throughout Howard County west of Baltimore. In Northern

---

<sup>53</sup> National Rural Electric Cooperative Association (NRECA), "Broadband," visited July 18, 2024. <https://www.electric.coop/issues-and-policy/broadband>

<sup>54</sup> Sean Gonsalves, "New Municipal Broadband Networks Skyrocket in Post-Pandemic America As Alternative To Private Monopoly Model," Institute for Local Self-Reliance (ILSR), January 18, 2024, <https://ilsr.org/articles/municipal-broadband-skyrocket-as-alternative-to-private-models/>

<sup>55</sup> Silas Chamberlin, Letter/Opinion, "YoCo Fiber is an historic, \$26.5 million investment in high-speed internet for all," *York Daily Record*, October 18, 2023. <https://www.ydr.com/story/opinion/readers/2023/10/18/yoco-pa-fiber-a-26-5m-investment-in-high-speed-internet-for-all/71221486007/>

<sup>56</sup> Lit Communities, Press Release, "York County Commissioners Finalize Agreement for New Fiber Broadband Network, Internet Service Provider," February 14, 2023. <https://www.prnewswire.com/news-releases/york-county-council-finalizes-agreement-for-new-fiber-broadband-network-internet-service-provider-301745528.html>



Maryland, there is a citywide fiber in Westminster operated by Ting that serves a population of 19,000. Newark, New Jersey has a city broadband network that was built through a public-private partnership in 2016 and has expanded its reach by 30 percent in recent years.<sup>57</sup>

While municipalities nationwide continue to enter the broadband market, questions remain about their long-term financial viability. A study of 15 municipal broadband projects in operation during 2010-2019 demonstrated these concerns.

“... none of the projects generated sufficient nominal cash flow in the short run to maintain solvency without infusions of additional cash from outside sources or debt relief. Similarly, 87% have not actually generated sufficient nominal cash flow to put them on track to achieve long-run solvency. In addition, 73% generated negative nominal cash flow over the past three fiscal years, leaving them poorly positioned to make up their deficits and causing them to fall farther into debt. An assessment based on the net present value of these projects’ operating cash flow indicates that 53% of projects would not be on track to break even assuming the theoretical best-case performance in terms of capital expenditures and debt service.”<sup>58</sup>

### *Government Agencies*

As previously reported, the Pennsylvania Turnpike constructed a dark fiber network along much of its length. In late 2021, Plenary Broadband Infrastructure was awarded a 25-year contract for commercializing 220 miles of fiber along in the eastern half of its service area. The network will have operations and maintenance performed by Tilson Technology Management. In February of 2023, it was announced that both partners would also operate the 276-mile western route of the turnpike. The goal was to provide a fiber backbone running through the middle of the state that can act as a middle mile network. Providers could lease this network and build out their own last mile projects.

### ***Regulating Broadband***

Broadband is not heavily regulated by either the federal government or Pennsylvania. Most government intervention comes in the form of determining what speeds qualify as broadband to receive government incentives for development and deployment. Broadband, as a relatively new technological development, is usually found under the umbrella of telecommunications laws and regulations, although the fit is not exact.

---

<sup>57</sup> ILSR, Community Networks, “Community Network Map,” updated September 2021, <https://communitynets.org/content/community-network-map>

<sup>58</sup> Christopher S. Yoo, Jesse Lambert, and Timothy P. Pfenniger, “Municipal Fiber in the United States: A Financial Assessment,” *Telecommunications Policy*, Vol 46, Iss. 5 (Jun. 2022), [https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=3448&context=faculty\\_scholarship](https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=3448&context=faculty_scholarship)

For several years, efforts have been made to classify broadband internet access as a telecommunications service, which would allow the FCC to create new regulations and restrictions over broadband providers. This concept, known as “net neutrality,” has been in and out of favor under different presidential administrations. Rules were first established by the Obama administration and repealed by the Trump administration. Efforts have been made in Congress under the Biden administration, but no legislation has been enacted. Recently, the FCC commissioners voted to reinstate net neutrality and officially declared broadband internet access services to be a telecommunications service, subject to federal oversight through the FCC.<sup>59</sup>

---

<sup>59</sup> FCC, “In the Matter of Safeguarding and Securing the Open Internet Restoring Internet Freedom, Declaratory Ruling, Order, Report and Order, and Order on Reconsideration,” FCC 24-52, adopted April 25, 2024, <https://docs.fcc.gov/public/attachments/FCC-24-52A1.pdf>.

## **UPDATE: SPECIFIC TOPIC AREAS**

---

### *Connectivity in Education*

Connect K-12's 2023 "Report on School Connectivity" found that 74 percent of schools have reached the FCC's goal of 1Mbps per student of connectivity. In Pennsylvania, 75 percent of districts have reached this goal. Pennsylvania also pays only \$0.63 per Mbps, which is below the national average of \$1.01 per Mbps.<sup>60</sup>

In November 2023, the FCC released a Notice of Proposed Rulemaking (NPRM) that would allow schools to use E-Rate funding to invest in Wi-Fi devices and hotspots that will be used off of the school premises for educational purposes.<sup>61</sup> The comment period on the NPRM ended on January 8, 2024.<sup>62</sup> Some commissioners opposed this NPRM because of the amount of other government funding available for low-income or unconnected individuals; however, the Affordable Connectivity Program (ACP), which provided \$30 a month of assistance for low-income households, ended April 2024. The end of this program will affect almost 23 million current participants.<sup>63</sup>

### *Telehealth*

Pennsylvania has added telemedicine as a mandated benefit under health insurance policies. Telemedicine is defined as the "delivery of health care services to a patient by a health care provider who is at a different location, through synchronous interactions, asynchronous interactions or remote patient monitoring."<sup>64</sup> The law covers almost all the different forms of health care insurance coverage offered in the Commonwealth, including Medical Assistance (MA) and Children's Health Insurance Plan (CHIP) managed care agreements. Services must be medically necessary and consistent with the standard of care. The law takes effect at various times depending on the type of provider. For insurers who are required to file rates or forms with the

---

<sup>60</sup> 2023 *Report on School Connectivity* (Connect K12, Connected Nation, 2023), [https://s3.amazonaws.com/connected-nation/898e8ecb-8046-4850-af4b-b89b12c1a4a1/Connect\\_K12\\_Connectivity\\_Report\\_2023\\_FINAL.pdf](https://s3.amazonaws.com/connected-nation/898e8ecb-8046-4850-af4b-b89b12c1a4a1/Connect_K12_Connectivity_Report_2023_FINAL.pdf).

<sup>61</sup> FCC, *Notice of Proposed Rulemaking*, November 8, 2023, <https://docs.fcc.gov/public/attachments/FCC-23-91A1.pdf>.

<sup>62</sup> "Addressing the Homework Gap Through the E-Rate Program," *Federal Register*, accessed March 5, 2024, <https://www.federalregister.gov/documents/2023/12/07/2023-26033/addressing-the-homework-gap-through-the-e-rate-program>.

<sup>63</sup> Anna Merod, "FCC's Affordable Connectivity Program Wind-Down Could Widen Homework Gap," *K-12 Dive*, last modified January 25, 2024, <https://www.k12dive.com/news/fcc-affordable-connectivity-program-homework-gap/705583/>.

<sup>64</sup> 40 Pa.C.S. Chapter 48 (relating to telemedicine), §4702. Enacted by the act of July 3, 2024 (P.L.516, No.42).

federal government or the Commonwealth, the statute applies to a policy for which a rate or form is filed on or after 180 days after the effective date of the act. For insurers who are not required to file rates or forms, the statute applies to a policy issued or renewed on or after the effective date of the act. MA and CHIP managed care plans are subject to the act beginning January 1, 2026. The statute itself is effective 90 days after enactment, or October 3, 2024.<sup>65</sup>

## ***Agricultural Innovation***

### *Pennsylvania Legislative Initiatives*

In September 2023, Pennsylvania was awarded more than \$1 million in federal funds under the USDA Agricultural Marketing Service’s Specialty Crop Block Grant Program. Eleven projects were approved, including a \$97,761 grant to Penn State University to develop precision agriculture technology to improve quality, yield, and energy efficiency in indoor urban growing systems.<sup>66</sup>

As part of the 2024-2025 budget package that was adopted in early July 2024, the Agriculture Innovation Grant Program was established in the Department of Agriculture. These grants could potentially include internet service projects that support innovative agriculture technology and equipment.<sup>67</sup>

House Bill 744, Printer’s No. 857 was introduced and referred to the Consumer Protection and Professional Licensure Committee on June 6, 2023. The bill will establish consumer rights to repair farm equipment.

### *Internet Use and Technology Adoption by Pennsylvania Farmers*

In 2019, the USDA reported on internet use and technology adoption rates among Pennsylvania farmers compared with the rest of the country. Since then, the USDA has provided biannual updates with new data in 2021 and 2023. The USDA statistics showed that the country experienced an increase in the number of farms with internet access over a five-year period, rising from 75 to 85 percent.<sup>68</sup> The number of farms with internet access rose by two percent during this period, increasing from 64 to 66 percent. It is notable that Pennsylvania farmers had the second lowest connectivity rate in the continental US, behind only Arizona.<sup>69</sup>

---

<sup>65</sup> 40 Pa.C.S. § 4803.

<sup>66</sup> “Pennsylvania Awarded \$1 Million In Federal Grants To Boost Sales, Quality Of Vegetable, Fruit, Nut, And Nursery Crops,” *Pennsylvania Pressroom*, September 8, 2023, [https://www.media.pa.gov/Pages/Agriculture\\_details.aspx?newsid=1335](https://www.media.pa.gov/Pages/Agriculture_details.aspx?newsid=1335)

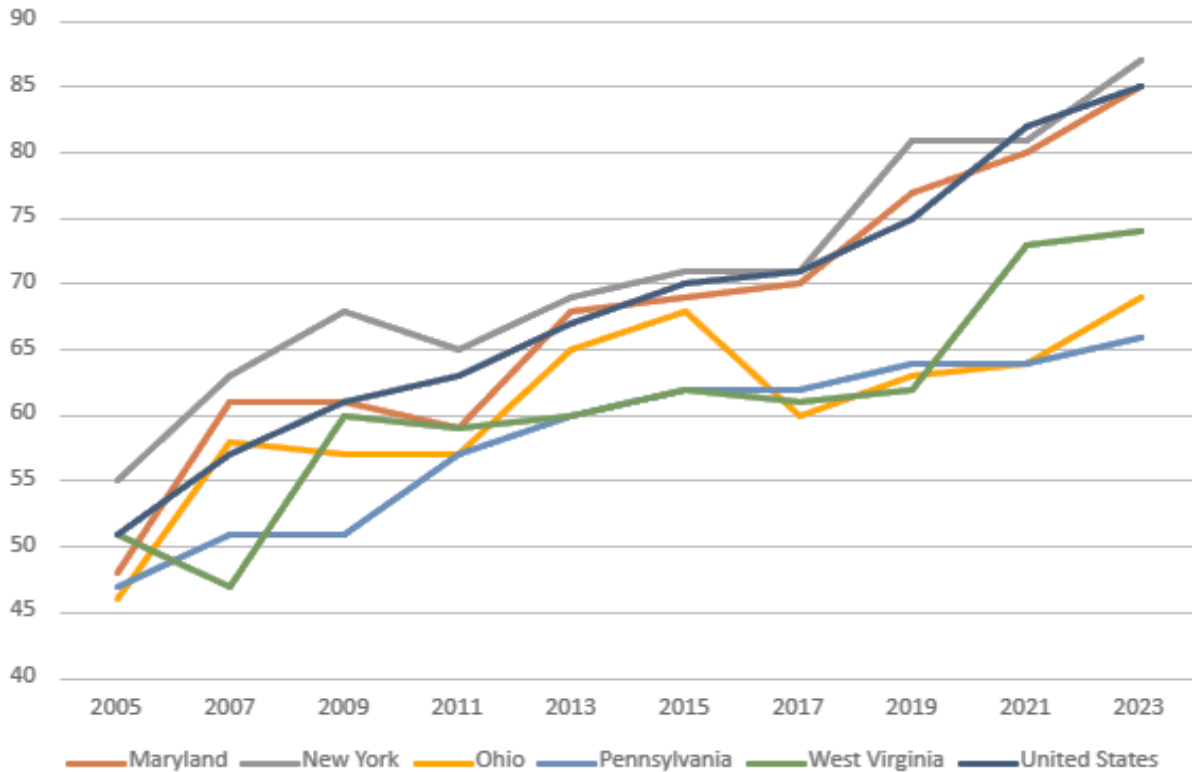
<sup>67</sup> Article XVI-Z of the act of April 9, 1929 (P.L. 343, No.176), known as the Fiscal Code, as amended by the Act of July 11, 2024 (P.L.--, No.54).

<sup>68</sup> U.S. Department of Agriculture, *Technology Use (Farm Computer Usage and Ownership)* (Washington, DC: GPO, 2023 p 6., <https://downloads.usda.library.cornell.edu/usda-esmis/files/h128nd689/4j03fg187/fj237k64f/fmpc0823.pdf>

<sup>69</sup> *Ibid.*

**Chart 1**

**Percentage of Farms with Internet Access in the Northeast Region and U.S.  
2005-2023**



Source: National Agricultural Statistics Service, Technology Use Reports: 2005-2023.

A historical look at the internet connectivity level of farms in the neighboring region shows that not only does Pennsylvania have less broadband than its neighbors, but it is growing at a slower rate. While nearby states had similar access to internet 18 years ago, they are now split between those that have been able to keep pace with the nation’s internet expansion and those lagging behind. Pennsylvania has had the slowest broadband growth at farms in the region and experienced 10 percent less growth than the nation as a whole.

While recent federal investment in internet infrastructure may help to close this gap in bringing internet to the remaining farms, it is likely to grow increasingly difficult. Geographic features such as mountains may play a role in this divide along with the composition of our farmers. It is estimated that up to 60 percent of vegetables in the state may be produced by Plain Sect Growers such as Amish and Mennonites who may, for religious reasons, avoid connecting their farms to the internet depending on the rules of their communities.<sup>70</sup>

<sup>70</sup> “Working with Plain Sect Growers,” Penn State Extension, accessed July 17, 2024, <https://extension.psu.edu/working-with-plain-sect-growers>.<https://extension.psu.edu/working-with-plain-sect-growers>

The USDA also reported on the type of technology used to give Pennsylvania farmers internet access. Unchanged from the past reports, farmers still rely heavily on cellular providers to achieve internet access. Farmers with internet access saw a one percent increase in broadband access and a two percent increase in cellular. Despite the ubiquity of the service, Pennsylvania and New Jersey had the lowest amount of satellite internet access at 7 and 8 percent.<sup>71</sup>

<b>Table 2</b>		
<b>Internet Access Methods for Farms</b>		
<b>2023</b>		
<b>Internet Type</b>	<b>PA</b>	<b>US</b>
Dialup	4	2
Broadband	62	51
Cellular	57	75
Satellite	8	23
Other	1	2

Source: USDA Technology Use Report 2023.

Data presented by the USDA show that adoption of technological devices remains a serious obstacle as Pennsylvania was under the average U.S. device usage rates in every category. In 2023, 51 percent of PA farmers owned a desktop or laptop computer, which is 11 percent fewer than in 2019. This is second lowest usage of desktops in the continental U.S., behind New Mexico. Between 2021 and 2023 the number of farmers who used smart phones rose from 53 to 61 percent. Approximately one in four used tablets or other portable computers.

The USDA also collected data on the types of agriculture-related activities. While only a minority of farmers across the country use the internet in the ways indicated, in all categories measured, Pennsylvania was below national averages. While some of these categories had improved in 2021, they have since declined.

---

<sup>71</sup> U.S. Department of Agriculture, Technology Use (Farm Computer Usage and Ownership) (Washington, DC: GPO, 2023 p 11. <https://downloads.usda.library.cornell.edu/usda-esmis/files/h128nd689/4j03fg187/fj237k64f/fmpc0823.pdf>

<b>Table 3</b>				
<b>Type of Agricultural Internet Use 2019 Compared to 2023</b>				
Type of agricultural Internet Use <sup>72</sup>	2019		2023	
	PA	US	PA	US
Purchasing ag. inputs	24	24	26	32
Conduct ag. marketing activities	14	19	18	23
Accessing USDA/NASS report	10	12	9	13
Access other USDA Reports	15	20	12	20
Access other federal gov. websites	14	21	12	19
Conduct business with USDA websites	10	11	10	16
Conduct business with other Federal gov. websites	7	9	7	11
Conduct business with non-ag. websites	41	53	29	49

Despite lack of interest for farmers using the internet in the ways measured by the USDA, the impact of broadband on farming communities is measurable. A recent study found that more internet access in farming communities at the rate of 25 download 3 upload was associated with a 3 percent increase in crop yields.<sup>73</sup>

*Precision Agriculture*

The same USDA report cited earlier also featured data on the adoption of precision agriculture. Overall, the report found that these practices were growing throughout the U.S., but that it is heavily dependent on farm size. It is estimated that half of the larger farms throughout the country use technology like yield maps, soil maps, variable rate technology, or GPS guidance. However, less than 25 percent of smaller farms used any of these technologies.<sup>74</sup> Those that do adopt digital agriculture technologies were more likely to use public data to shape their decisions and hire consultants than those farms which didn't. The report also noted that technology adopted depended on the crop; for example, corn and winter wheat can benefit from yield monitors which track the moisture of crops.

<sup>72</sup> U.S. Department of Agriculture, Technology Use (Farm Computer Usage and Ownership) (Washington, DC: GPO, 2023 p 8. <https://downloads.usda.library.cornell.edu/usda-esmis/files/h128nd689/4j03fg187/fj237k64f/fmpc0823.pdf>

<sup>73</sup> Katherine LoPiccolo, "Impact of Broadband Penetration on U.S. Farm Productivity: A Panel Approach," Telecommunications Policy 46, no. 9 (October 2022): 102396, <https://doi.org/10.1016/j.telpol.2022.102396>.

<sup>74</sup> U.S. Department of Agriculture, Technology Use (Farm Computer Usage and Ownership) (Washington, DC: GPO, 2023 p 12. <https://downloads.usda.library.cornell.edu/usda-esmis/files/h128nd689/4j03fg187/fj237k64f/fmpc0823.pdf>

This represents a difficulty for many Pennsylvania farmers because the average size of farms was 139 acres compared to the average size of 444 acres nationwide.<sup>75</sup> Less than 20 percent of acres farmed in Pennsylvania in 2019 used GPS technology for on-farm production activities. As shown in Table 4, only 20 percent of farmers in Pennsylvania use precision agriculture practices. The report found that only 10 states, including West Virginia, have lower precision agriculture adoption rates.

<b>Table 4</b>		
<b>Precision Agriculture Adoption Rates by State, Change from 2021 to 2023</b>		
<b>State</b>	<b>2021</b>	<b>2023</b>
Maryland	36	36
New Jersey	27	27
New York	23	27
Ohio	30	31
Pennsylvania	20	20
West Virginia	7	8
U.S.	25	27

Source: USDA Technology Use Report 2023.

It has been speculated that a possible reason more larger farms adopt precision agriculture is because the benefits of these technologies scale with acreage as they are able to save more on a larger number of products.<sup>76</sup> The report does not note how resources such as education or access to capital play a role in digital agriculture adoption.

While precision agriculture might still be uncommon in Pennsylvania, exposure of farmers to precision agriculture equipment is growing. At the 2023 Pennsylvania Farm Show precision agriculture equipment was on display. Those that sell the technology noted that costs are starting to lower on base models, which are among the most frequently purchased.<sup>77</sup> Farmers want to be able to experiment with more basic tools and grow more comfortable with them before making greater investments. One example is drones that cost approximately \$35,000 and seed cover crops into standing corn and spray fungicide on wet fields. Another technology of interest to

<sup>75</sup> Farms and lands in Farms 2019 Summary

[https://www.nass.usda.gov/Publications/Todays\\_Reports/reports/fnlo0220.pdf](https://www.nass.usda.gov/Publications/Todays_Reports/reports/fnlo0220.pdf)

<sup>76</sup> Jonathan McFadden, Eric Njuki, and Terry Griffin. February 2023. Precision Agriculture in the Digital Era: Recent Adoption on U.S. Farms, EIB-248, U.S. Department of Agriculture, Economic Research Service. Pg 29, <https://www.ers.usda.gov/webdocs/publications/105894/eib-248.pdf?v=3184.5>

<sup>77</sup> Tom Venesky, “Precision AG Equipment Star Attraction at Keystone Farm Show,” Lancaster Farming, January 10, 2024, [https://www.lancasterfarming.com/country-life/fairs-and-shows/precision-ag-equipment-star-attraction-at-keystone-farm-show/article\\_b741610a-afbf-11ee-b5db-47543c9d4425.html](https://www.lancasterfarming.com/country-life/fairs-and-shows/precision-ag-equipment-star-attraction-at-keystone-farm-show/article_b741610a-afbf-11ee-b5db-47543c9d4425.html).



Pennsylvania farmers was a bedding robot that can put straw into animal stalls saving time and energy on this physically demanding activity. Those selling this equipment believed that income is the deciding factor that determined adopting new technology. When profits are high farmers may invest in new technology; when they are low, they would prefer to retrofit old equipment.

In addition to exposing the current generation of farmers to precision agriculture at the Pennsylvania Farm Show, some organizations are making efforts to educate the next generation of the state's farmers about technology. Corporate donors recently donated demonstration simulators to eleven Future Farmers of America chapters.<sup>78</sup> Among these was Cedar Crest FFA in Lebanon County. These simulators will help students learn how to use self-driving tractors steered by GPS.

Ongoing research conducted at Pennsylvania State University furthers the country's exploration of the benefits of new farming equipment. Penn State researchers found that calves wearing sensors and using automatic feeders could help farmers detect pneumonia in calves earlier. The study noted that "Seventy percent of sick calves were predicted four days prior to diagnosis, and 80% of calves that developed a chronic case of the disease were detected within the first five days of sickness."<sup>79</sup> Other types of sensors could be used to more accurately record temperature from nitrogen, which can help farmers apply correct levels of fertilizers.<sup>80</sup>

### *Artificial Intelligence*

Discussions over the use of A.I. in agriculture have grown since the inaugural broadband report. and the term is inclusive of many of the precision agriculture technologies discussed in previous years. These include using computer guidance in conjuncture with sensors that collect data from farms and highly controllable farm equipment that can make exact adjustments to inputs or control automated farming equipment. By 2028, the AI agriculture is expected to grow into a \$4.7 Billion industry.<sup>81</sup>

AI is expected to play a large role in the agriculture industry in the decades to come and its implantation is dependent on quality broadband connectivity. The U.S. had over 200 A.I.-based agriculture start-up companies in 2023.<sup>82</sup> Some examples of AI applications in farming include use of indoor farming to distinguish between crops and weeds. As discussed in previous reports, AI can increase productivity while decreasing waste, and thus help companies stay competitive despite recent increases in farming inputs and labor costs.

---

<sup>78</sup> Elizabeth Deornellas – Aug 4 2023. Lancaster online. [https://lancasteronline.com/news/local/lebanon-s-cedar-crest-among-11-ffa-chapters-nationwide-to-receive-precision-agriculture-driving-simulator/article\\_4acb5790-32fd-11ee-b5f0-af23843f15a9.html](https://lancasteronline.com/news/local/lebanon-s-cedar-crest-among-11-ffa-chapters-nationwide-to-receive-precision-agriculture-driving-simulator/article_4acb5790-32fd-11ee-b5f0-af23843f15a9.html)

<sup>79</sup> Jeff Mulhollem July 13 2023. <https://www.psu.edu/news/research/story/precision-technology-machine-learning-lead-early-diagnosis-calf-pneumonia/>

<sup>80</sup> <https://www.psu.edu/news/engineering/story/new-soil-sensor-may-improve-efficiency-crop-fertilization/>

<sup>81</sup> <https://intellias.com/artificial-intelligence-in-agriculture/>

<sup>82</sup> <https://www.forbes.com/sites/forbesbusinesscouncil/2023/02/02/how-ai-is-cropping-up-in-the-agriculture-industry/?sh=62e0963c2b4f> Wendy Gonzalez, Feb 2, 2023.

While reducing labor through automation is a large component, other uses for AI include:

- detecting leaks in irrigation systems
- crop and soil monitoring
- diseases and pests on plants
- monitoring livestock
- yield mapping and predictive analytics
- automatic weeding and harvesting
- sorting harvest produce
- security surveillance.<sup>83</sup>

Best practices for implanting AI include using multiple types of data, tracking multiple data points, implementing around the clock monitoring and machine learning to improve more over time. A.I. can be used to monitor crops to learn more about the conditions they flourish in and make fine adjustments to farm equipment. Despite the benefits, there are also many challenges associated with digital farming, including:

- Lack of education in how to use the technology
- poor marketing / teaching of technology
- large upfront costs
- skepticism of new technology among farmers
- lack of necessary internet infrastructure.<sup>84</sup>

Throughout the country, internet use is growing on farmlands with connected devices that save farmers money through lowering production costs and helping them make technology-informed decisions. With more data collection tools becoming accessible to farmers, there are also growing concerns over how companies that manufacture this equipment will use the aggregated data collected from farmers. Currently there are few restrictions on how this so-called “big data” can be employed.<sup>85</sup>

### *Right to Repair*

The Commission’s inaugural broadband report discussed the right to repair movement and its importance to farmers who rely on specialized equipment such as tractors. While many manufacturers have stipulations requiring their own technicians to repair electronic devices, forbidding consumers and independent technicians from repairing these devices, supporters of the right to repair rules say that if adopted, it would reduce waste from thrown out electronics and present a more affordable option to consumers.

---

<sup>83</sup> <https://intellias.com/artificial-intelligence-in-agriculture/>

<sup>84</sup> <https://masschallenge.org/articles/agriculture-innovation/>

<sup>85</sup> <https://kleinmanenergy.upenn.edu/news-insights/from-farm-to-cloud-precision-agriculture/>

Manufacturers have traditionally opposed these laws, citing a desire to protect trade secrets. Concerns that releasing the source code would allow unsafe modifications or illegal changes to emission levels. The Right to Repair movement is popular with many farmers who had a long history of independent repair practices prior to the advent of computerized farm equipment.

The issue has grown in significance before state legislatures in recent years. In 2023, 33 states and Puerto Rico introduced right-to-repair legislation. Among these, four states have passed right-to-repair laws: Colorado, California, New York and Minnesota. Previous right-to-repair laws had passed in Colorado and Massachusetts.<sup>86</sup> The Colorado law which came into effect in January of 2024 is the only one that specifically covers farming equipment.<sup>87</sup> Law would require manufacturers to provide technical instructions and sell the tools and parts necessary to repair this equipment. Now that some laws are passed, manufacturers associations are hoping to avoid many state level right to repair laws and instead wish to create a unified right to repair policy for the country.<sup>88</sup>

In Pennsylvania, right-to-repair legislation has been introduced several times but has yet to appear before the general assembly. In the 2021-2022 Legislative Session, Senator Vogel introduced right-to-repair legislation in the form of Senate Bill 998, which was submitted to the Protection and Professional Licensure Committee. In 2023, SB744 was introduced in June by Senator Regan and was referred to the same committee. While SB744 covers the right to repair electronic equipment and appliances as well as enforcement measures, in its current form, it excludes farm equipment.

While it seems likely that right-to-repair legislation is here to stay, some advocates warn that how the laws are executed is equally important. For example, provisions in the newly passed New York law allow companies to sell part assemblies rather than individual parts in some conditions for safety reasons, which can undermine the ability of third-party repair people to work on broken devices.<sup>89</sup>

### *Workforce Development*

In July of 2023, Governor Shapiro signed an executive order to direct up to \$400 in federal funds to the Commonwealth Workforce Transformation Program. The program will provide reimbursement to organizations that provide training to infrastructure workers. Organizations may receive up to \$40,000 for each new worker they train. The Commonwealth Workforce Transformation Program (CWTP) is managed by the Pennsylvania Department of Labor and Industry (L&I). Funding is expected to be distributed from the federal Bipartisan Infrastructure

---

<sup>86</sup> <https://www.ncsl.org/technology-and-communication/right-to-repair-2023-legislation>

<sup>87</sup> <https://nationalaglawcenter.org/update-on-right-to-repair/>

<sup>88</sup> <https://www.ncsl.org/state-legislatures-news/details/right-to-repair-laws-seek-to-put-diyers-and-manufacturers-on-level-field>

<sup>89</sup> <https://www.theverge.com/2022/12/29/23530733/right-to-repair-law-new-york-tech-hochul-oems-parts>

Law and the Inflation Reduction Act of 2022 and earmarked for workforce development and on-the-job training.<sup>90</sup>

In August of 2023, the L&I announced four grants, each amounting to \$200,000. The Construction Apprentice Preparatory Program will use the funding to train 30 students for some of the following skills: “telecommunications technician, line erector (power-line distribution erector), line installer-repairer, telecommunicator, line maintainer, telecom installer technician, and network engineer.”<sup>91</sup> Two International Brotherhood of Electrical Workers (IBEW) Locals, 126 and 1319, each received funding to expand their training program to accommodate 35 and 18 to 20 additional apprentices, respectively. Finally, NuPaths, LLC will expand its program to accommodate training 20 new teens and young apprentices for broadband jobs as well as give them an opportunity to enroll in a paid apprenticeship program that will earn them eight credits at Harrisburg University.<sup>92</sup>

L&I awarded an additional \$685,000 in Digital Literacy and Workforce Development Grants in August 2023, bringing the total awarded in that grant program to almost \$3.5 million. The most recent round of awards included workforce development in Montgomery, Lawrence, Mercer and Lackawanna counties, the Literacy Council in York County, libraries in Montgomery, Westmoreland, Lancaster, Clarion, Jefferson, Venango counties, as well as other digital literacy programs across the state.<sup>93</sup>

### *Digital Literacy*

The Digital Literacy and Workforce Development Grants discussed in the section above also provide support to digital literacy programs across the Commonwealth. As discussed under the Capital Projects Funds section earlier in this report, the Commonwealth announced \$20 million in March of 2024 would go toward devices and connectivity in “workforce training centers, municipalities, and local entities.”<sup>94</sup> The expanded access is expected to provide connectivity to 12,000 people in their work and education.<sup>95</sup>

---

<sup>90</sup> Commonwealth of Pennsylvania, Governor’s Office, Executive Order 2023-17 – Commonwealth Workforce Transformation Program (CWTP), July 31, 2023, [https://www.pa.gov/content/dam/copapwp-pagov/en/governor/documents/Executive-Order-2023-17\\_Commonwealth-Workforce-Transformation-Program.pdf](https://www.pa.gov/content/dam/copapwp-pagov/en/governor/documents/Executive-Order-2023-17_Commonwealth-Workforce-Transformation-Program.pdf).

<sup>91</sup> “Shapiro Administration Helps Train Workforce that Will Improve Broadband Infrastructure Across the Commonwealth with New Apprenticeship Grant Funding,” *DCED*, last modified August 23, 2023, <https://dced.pa.gov/newsroom/shapiro-administration-helps-train-workforce-that-will-improve-broadband-infrastructure-across-the-commonwealth-with-new-apprenticeship-grant-funding/>.

<sup>92</sup> *Ibid.*

<sup>93</sup> “Shapiro Administration Announces Grant Funding to Enhance Digital-Literacy Programs, Helping Workers to Navigate Job Search Process,” Press Release, August 17, 2023, <https://www.media.pa.gov/pages/Labor-and-Industry-details.aspx?newsid=792>.

<sup>94</sup> Harrison Cann, “Pennsylvania Gets \$20 Million to Boost Broadband and Device Accessibility,” *City & State PA*, last modified March 1, 2024, <https://www.cityandstatepa.com/policy/2024/03/pennsylvania-gets-20-million-boost-broadband-and-device-accessibility/394630/>.

<sup>95</sup> *Ibid.*

### *Adoption by Consumers*

In the 2022 American Community Survey (ACS) 1-Year Estimate Subject Tables, 90.1 percent of Pennsylvania respondents had an internet subscription. 89.9 percent of respondents had broadband of some type, with 76.3 percent having cable, fiber optic, or DSL connection. Some respondents, 11 percent, had a cellular data plan but no other source of connectivity. Of those Pennsylvanians surveyed with a household income of less than \$20,000 per year, 73.5 percent had a broadband subscription and 26.1 percent had no Internet subscription. Households with income between \$20,000 and \$74,999 per year saw higher rates of adoption, with over 87.1 percent saying they had a broadband subscription and around 12.6 percent saying they did not. In households with a median income of \$75,000 or more, over 96.6 percent had a broadband subscription and only 3.3 percent did not.<sup>96</sup> Nationally, 91 percent of survey respondents had broadband of any type.<sup>97</sup>

### *Adoption by Small Businesses*

Broadband has grown increasingly important for small businesses since the COVID-19 pandemic. A survey of over 1,000 small and mid-level businesses in 2022 showed that many small businesses had started offering online sales. This survey showed that 63 percent of businesses added digital operations and 73 percent upgraded communication or network devices.<sup>98</sup> These upgrades appear to have paid off as 65 percent noted higher revenue through online operations than pre-pandemic levels.<sup>99</sup> Other ways these businesses have adapted was finding new ways to attract workers and utilizing remote workers. The survey noted that:

- 73 percent offered a stipend for home internet service
- 50 percent had hired remote workers who do not live locally
- 88 percent offer flexible schedules to attract talent
- 59 percent provided devices or technology to help employ and retain talent.

While in many ways operations have returned to business as usual in wake of the pandemic, other companies have likely permanently changed the ways they conduct business.

In September of 2023, the U.S. Chamber of Commerce released a study which found that 93 percent of small business owners in Pennsylvania use at least one technology platform to run their business, two percent below the national average. Of these small businesses, 48 percent believe that A.I. will help their businesses in the future, while 21 percent are already using an AI platform. Among the small companies that used six or more platforms (“power users”), 79 percent

---

<sup>96</sup> “Types of Computers and Internet Subscriptions,” *United States Census Bureau*, accessed February 16, 2024, <https://data.census.gov/table?q=broadband&t=Computer%20and%20Internet%20Use&g=040XX00US42>.

<sup>97</sup> *Ibid.*

<sup>98</sup> Claudia Russo, “77% of small businesses view technology like high-speed internet as ally,” Verizon News Center, April 26, 2022, <https://www.verizon.com/about/news/small-businesses-technology-key-ally>

<sup>99</sup> *Ibid.*

grew sales, profits and their workforce when compared to the previous year. Of the low technology adopters, or small businesses that used one platform or less, there was more growth in these metrics when compared to the previous year, but not to the same degree as the power users.<sup>100</sup>

Despite the belief that technology is helping to increase company growth, there was also decreasing optimism among Pennsylvania small businesses compared to 2022 surveys. The number of businesses who plan to increase technology use in two to three years dropped from 85 to 77 percent. The number of small business owners who believed technology would help grow their business dropped from 90 to 79 percent. Similarly, the number of power users who believed technology helped them stay competitive with large businesses, handle supply chain difficulties, and stated that they would struggle to survive without access to tech platforms also decreased. It should be noted that 39 percent of Pennsylvania small businesses were concerned with state level regulation of technology increasing legal and compliance costs.<sup>101</sup>

Once online, small businesses must have the skills and knowledge to be able to use digital tools to improve their business. This is important because small businesses with the skill to use digital tools were found to be significantly more likely to report growth, and those that plan to continue to invest in digital tools were expected by researchers to see additional growth in the future. Among small business owners, the skills necessary to use digital tools were increasingly seen as essential to business operations. However, recognizing the importance does not diminish the many reasons why it has been hard for small businesses to adapt to the online world. Barriers to digital tools included difficulty retraining existing employees along with the amount of time necessary to learn and gain proficiency in these tools. Microbusinesses with under 10 employees had additional challenges and were less likely to be early users of digital tools.<sup>102</sup>

---

<sup>100</sup> U.S. Chamber of Commerce, Technology Engagement Center, “Empowering Small Business: The Impact of Technology on U.S. Small Business,” p.34, August 2, 2022. <https://www.uschamber.com/technology/empowering-small-business-the-impact-of-technology-on-u-s-small-business>

<sup>101</sup> Ibid.

<sup>102</sup> The Bipartisan Policy Center, “Small businesses go digital,” October 2022. <https://search.issuelab.org/resource/small-businesses-go-digital-benefits-trends-and-barriers-of-digitalization.html>

## **UPDATE:**

# **RECENT PENNSYLVANIA INITIATIVES**

---

Over the last three years, several county and local governments have entered into public-private partnerships with commercial ISPs to provide internet service to their communities. Existing ISPs have also upgraded equipment and speed and expanded service areas to help meet the Commonwealth's internet needs. The Advisory Committee's 2023 report listed three ongoing projects that had received ARPA funds and had begun broadband expansion. The thirteen new projects funded in 2024 and listed on page 16 of this report demonstrate a continuing effort on the part of local government and ISPs to move broadband forward in Pennsylvania.

### *Broadband Ready Communities*

The concept of "Broadband Ready Communities" (BBRC) began in Wisconsin in 2015, and by early 2023, four more states had established programs: Indiana, Georgia, Tennessee and Colorado. In early 2024, Kansas and Pennsylvania announced new BBRC programs. BBRC programs in general share several key components. A single point of contact is appointed in the community for broadband projects, to improve communication and coordination among interested stakeholders, including neighboring municipalities, counties, and ISPs. The program should establish timely procedures and practices for accepting or denying broadband project applications. Additionally, the program should provide reasonable time for local government review, permit processing, and assessment of broadband projects. Ideally, these programs can reduce permitting delays and work on building local capacity. Communities must pass an official resolution authorizing participation in Pennsylvania's program and designate a single point of contact, to be known as the Municipal Broadband Champion. Municipalities and counties may apply for Pennsylvania's program, and the application period is open from April 8, 2024 through December 31, 2024.<sup>103</sup>

In addition to the 23 bills listed in the chart below, Senate Bill 739, addressing insurance coverage of telemedicine, became Act 42 on July 3, 2024.

---

<sup>103</sup> Jake Varn, The Pew Charitable Trusts, Memo to State Broadband offices, "How 5 States Are Creating Broadband-Ready Communities," March 23, 2023, <https://www.pewtrusts.org/en/research-and-analysis/speeches-and-testimony/2023/03/23/how-5-states-are-creating-broadband-ready-communities>; Pennsylvania Broadband Development Authority, Factsheet, "Broadband Ready Communities (BBRC)," April 19, 2024, [https://www.broadband.pa.gov/wp-content/uploads/2024/06/BBRC\\_FactSheet\\_2024.pdf](https://www.broadband.pa.gov/wp-content/uploads/2024/06/BBRC_FactSheet_2024.pdf).

<i>Proposed Legislation</i>		
<b>Bill #</b>	<b>Topic</b>	<b>Status</b>
SB 85, PN 34	Streamline regulations of local exchange telecommunication carriers (LETC) regarding broadband deployment; requiring periodic review of all regulations; establishing procedures for issues, disputes and appointments	S. Communications & Technology January 12, 2023; 2 <sup>nd</sup> consideration and re-refer'd to Appropriations May 1, 2024
SB 377, PN 321	Creates the Rural Coworking and Innovation Grant Program – permissible use of funds includes extension or improvement of broadband service connections	S. Community, Economic & Recreational Development Cmte. February 21, 2023
SB 397, PN 341	Amends the sales tax exemption for wireless network equipment to clarify that it applies to equipment that provides wireless voice and data services	S. Finance Cmte February 21, 2023
SB 462, PN 837	Adult education and workforce recovery grant program – Digital literacy training a permissible use of funds	S. Education Cmte. March 3, 2023; 2 <sup>nd</sup> consideration & refer'd to Appropriations June 7, 2023
HB 129, PN 112	Authorizes the PBDA and Dept of General Services to collaborate to authorize contracts to advance broadband buildout and facilities broadband services using Commonwealth real estate, telecommunications or infrastructure assets	H. Consumer Protection Cmte. March 7, 2023
HB 333, PN 296	Increases the state definition of broadband for ILECs to offer 100/20 Mbps service or minimum FCC speeds, whichever is greater, by January 1, 2026	H. Consumer Protection Cmte. March 13, 2023
SB 566	State-owned Assets and Broadband Services Act – inventory of state-owned assets and county-owned assets with info on possible use of assets for fixed or mobile broadband services for unserved and underserved areas; state agencies may lease assets for deployment; County-owned income generated	S. Communications & Technology March 28, 2023
HB 872, PN 848	Allows PennDOT and LETC, cable television, or telecommunications services owned and operated by a public utility to coshare relocation costs of service lines	H. Transportation Cmte. April 10, 2023
SB 605, PN 617	Provide grants for development of behavioral health telehealth services	S. Health & Human Services Cmte. April 19, 2024
HB 1023, PN 1012	Exemption from personal income tax income from the installation of equipment to expand access of high-speed	S. Finance Cmte April 24, 2023



<i>Proposed Legislation</i>		
<b>Bill #</b>	<b>Topic</b>	<b>Status</b>
	broadband service on real property for calendar years 2023-2025	
SB 710, PN 765	Health care provider may not use telemedicine to prescribe medication that USFDA has issued a risk evaluation and mitigation strategy – medications with serious safety concerns	S. Health & Human Services Cmte May 15, 2023
HB 1151, PN 1219	Establishes an application process for fiber option cables to be laid across railroad rights-of-way	H. Consumer Protection, Technology & Utilities May 18, 2023
SB 744, PN 857	Provide right to repair for agricultural equipment	S. Consumer Protection & Professional Licensure Cmte. June 6, 2023
HB 1408, PN 1692	Amends the Public School Code to create the Public School Facility Grant Program – permissible uses include internet connectivity (not including purchases of hardware or software)	Passed H. June 26, 2023 (142-61); to S. Education Cmte. June 30, 2023
HB 1465, PN 2161	Establishes workplace safety rules and makes prevailing wage law applicable to public utilities engaged in underground infrastructure work	Passed H. October 18, 2023 (131-72); to S. Consumer Protection & Professional Licensure Cmte. October 19, 2023
HB 1512, PN 1728	Authorizes telemedicine; provides for insurance coverage	Passed H. April 10, 2024 (197-3); to S. Banking & Insurance Cmte April 22, 2024
HB 1651, PN 1949	Reorganizes the executive branch offices in charge of workforce development	H. Labor & Industry Cmte. August 30, 2023
HB 1652, PN 1950	Reorganizes the executive branch offices in charge of workforce development	H. Labor & Industry Cmte. August 30, 2023
HB 1655, PN 1954	Limits the amount local governments can charge public utilities for restoration work following projects to what PennDOT permits for subsurface operations and aboveground utilities	H. Consumer Protection, Technology & Utilities Cmte. September 5, 2023
SB 1123, PN 1507	Facilitating Access for Streamlining Telecommunications program to provide reimbursement for pole attachments for high-speed internet transmission	S. Communications & Technology, April 5, 2024

<i>Proposed Legislation</i>		
<b>Bill #</b>	<b>Topic</b>	<b>Status</b>
SB1140, PN 1504	Establishes procedures for fiber optic broadband lines at railroad crossings	S. Communications & Technology Cmte April 5, 2024
HB 2195, PN 2870	Establishes the Affordable Broadband Internet Access Service Program	H. Consumer Protection, Technology & Utilities Cmte. April 8, 2024
SB 1215, PN 1658	Adds public utilities to the prevailing wage act, but only to the extent engaged in underground infrastructure work	S. Labor & Industry Cmte. May 31, 2024

*Local Efforts*

Greene County has entered a partnership with Windstream to provide broadband service for six townships with 105 miles of fiber optic cable. The County is putting up its share of the investment with a \$ 2.5 million grant from the Appalachian Region Commission, while the company is providing \$2.7 million for the project. Windstream has also expanded in Armstrong County using money from its own capital investment program.<sup>104</sup>

Previous reports from the Commission have detailed the importance of cities thoroughly vetting broadband partners. After a decade of difficulties, Lancaster has formed a public-private partnership with Shenandoah Telecommunications Company. Also known as Shentel, the company planned to bring internet to Lancaster in October 2023. Previous projects in the city had left Lancaster with an incomplete network of dark fiber. Shentel will “lease, maintain and operate existing city-owned fiber, install additional fiber” with the goal of reaching every home in the city over the next three years.<sup>105</sup>

---

<sup>104</sup> Carl Weinschenk, “Windstream Gains Pennsylvania Public-Private Partnership,” telecompetitor.com, October 18, 2023. <https://www.telecompetitor.com/windstream-gains-pennsylvania-public-private-partnership/>

<sup>105</sup> Shentel, “Glo Fiber Announces Expansion of its Fiber Network to City of Lancaster, PA,” November 1, 2023, <https://www.shentel.com/en/news/2023/november/glo-fiber-lancaster-pa>

Despite an unprecedented level of broadband funding coming to the state, this does not mean all challenges associated with broadband expansion are solved. In January of 2024, Huntingdon County Commissioner Jeff Thomas voiced concerns that red tape and regulatory barriers were preventing broadband funds from reaching rural areas. He stated that it was difficult to gain access to state game lands for the purpose of constructing broadband towers, and that the permitting process was too difficult. At the same event the President of Broadband Communication Association of Pennsylvania, Todd Eachus, indicated that the emphasis on offering high wages was causing concerns at the federal level and placed Pennsylvania at significant risk for success. Additionally, he expressed concerns about pole owners using pole attachment requests as an excuse to delay a potential competitor's broadband buildout or demanding additional financial reimbursement from the attaching provider.<sup>106</sup>

---

<sup>106</sup> Anthony Hennen, *The Center Square*, "Broadband expansion turning into 'jobs program,' leaving rural residents behind," *The Center Square*, January 18, 2024. [https://www.theprogressnews.com/news/state/broadband-expansion-turning-into-jobs-program-leaving-rural-residents-behind/article\\_3aba06fc-b616-11ee-9dfd-f30e7ac8277d.html](https://www.theprogressnews.com/news/state/broadband-expansion-turning-into-jobs-program-leaving-rural-residents-behind/article_3aba06fc-b616-11ee-9dfd-f30e7ac8277d.html), and Todd Eachus, "BCAP Testimony on Regulatory Reform," October 25, 2023, <https://policy.pasenategop.com/wp-content/uploads/sites/140/2023/10/BCAP-Regulatory-Reform-Testimony-10.25.23.pdf>.



PRIOR PRINTER'S NO. 656

PRINTER'S NO. 951

THE GENERAL ASSEMBLY OF PENNSYLVANIA

# SENATE RESOLUTION

No. 47 Session of  
2019

INTRODUCED BY PHILLIPS-HILL, YAW, GORDNER, HUTCHINSON, COSTA,  
BAKER, AUMENT, STEFANO, WHITE, BROWNE, HAYWOOD AND  
BARTOLOTTA, APRIL 29, 2019

SENATOR PHILLIPS-HILL, COMMUNICATIONS AND TECHNOLOGY, AS  
AMENDED, JUNE 12, 2019

## A RESOLUTION

- 1 Establishing a legislative task force on the delivery of high-  
2 speed broadband services and directing the Joint State  
3 Government Commission to establish an advisory committee to  
4 conduct a study on the delivery of high-speed broadband  
5 services in unserved areas and underserved areas of this  
6 Commonwealth and to report its findings and recommendations  
7 to the Senate.
- 8 WHEREAS, Effective economic development today requires  
9 unprecedented levels of collaboration and communication among  
10 State and local government, business, education, health care,  
11 tourism and community leaders; and
- 12 WHEREAS, High-speed Internet access has become an essential  
13 element of economic vitality; and
- 14 WHEREAS, High-speed broadband availability increases  
15 individual worker productivity, breaks down the traditional  
16 geographic barriers to jobs and careers in high-paying fields  
17 and connects Pennsylvania businesses to international markets  
18 around the world; and
- 19 WHEREAS, Small towns and rural communities across this

1 Commonwealth are the cradle of the best of American ingenuity,  
2 potential and values; and

3 WHEREAS, Without sufficient access to broadband and a high  
4 level of use of available technology, these small towns and  
5 rural communities and their residents will remain  
6 technologically and economically isolated and competitively  
7 disadvantaged; and

8 WHEREAS, The availability of high-speed broadband in  
9 Pennsylvania is continuing to increase across multiple  
10 technological platforms, but certain locations and communities  
11 are either underserved, having insufficient broadband speeds to  
12 fully leverage the benefits of the technology, or are unserved  
13 altogether; and

14 WHEREAS, TECHNOLOGICAL DEVELOPMENTS HAVE ENABLED NUMEROUS <--  
15 COMPETITIVE PROVIDERS TO ENTER THE VOICE AND BROADBAND  
16 MARKETPLACE USING MULTIPLE TECHNOLOGIES, AND MOST CONSUMERS HAVE  
17 THE ABILITY TO CHOOSE AND PURCHASE SERVICES FROM REGULATED AND  
18 UNREGULATED PROVIDERS; AND

19 WHEREAS, TODAY, TRADITIONAL LANDLINE VOICE PROVIDERS HAVE  
20 LESS THAN 12% OF THE TOTAL VOICE SUBSCRIPTIONS IN THIS  
21 COMMONWEALTH BUT ARE STILL REQUIRED TO MAINTAIN A NETWORK THAT  
22 CAN PROVIDE VOICE SERVICE TO EVERY CUSTOMER IN THE PROVIDER'S  
23 SERVICE TERRITORY; AND

24 WHEREAS, WHILE REGULATION OF TRADITIONAL LANDLINE VOICE  
25 SERVICES HAS REMAINED RELATIVELY UNCHANGED IN THIS COMMONWEALTH  
26 DESPITE THESE DRAMATIC CHANGES IN THE INDUSTRY, THE TECHNOLOGIES  
27 THAT CONSUMERS USE TO COMMUNICATE HAVE FUNDAMENTALLY ALTERED THE  
28 MARKETPLACE AND CONTINUE TO DO SO; AND

29 WHEREAS, MODERNIZATION OF REGULATIONS AND STATUTES HAS  
30 ALREADY BEEN UNDERTAKEN IN MANY STATES AS CONSUMERS HAVE

1 TRANSITIONED FROM LANDLINE VOICE SERVICES TO PRODUCTS OFFERED BY  
2 UNREGULATED OR LIGHTLY REGULATED ENTITIES; AND

3 WHEREAS, THE PROVISION OF BROADBAND SERVICE ACROSS THIS  
4 COMMONWEALTH MUST RECOGNIZE THAT BECAUSE OF TECHNOLOGICAL AND  
5 COMPETITIVE DEVELOPMENTS, THE APPROPRIATE METHOD TO SUPPORT AND  
6 INCENTIVIZE FURTHER EXPANSION OF BROADBAND SHOULD BE TECHNOLOGY  
7 AND POLICY NEUTRAL; AND

8 WHEREAS, Eliminating unserved areas and underserved areas in  
9 this Commonwealth will provide educational, economic, health,  
10 governance and public safety benefits to all residents; and

11 WHEREAS, The basic requirements for successfully expanding  
12 the benefits of high-speed broadband to all residents of this  
13 Commonwealth are:

14 (1) access to computers, whether privately owned or  
15 leased or provided at public locations as a public benefit;

16 (2) access to reliable broadband services at affordable  
17 prices and at speeds required for current and future  
18 applications; and

19 (3) knowledge to effectively use those computers and the  
20 Internet;

21 and

22 WHEREAS, High-speed broadband infrastructure:

23 (1) allows communities to engage the world with their  
24 goods and services;

25 (2) allows industries which are reliant upon traditional  
26 manufacturing to use the Internet to expand their markets and  
27 make their operations even more efficient;

28 (3) promotes the use of agricultural technology to help  
29 farmers:

30 (i) maintain online field, mapping, water

1 management, livestock and accounting records; and  
2 (ii) develop machinery that can operate virtually on  
3 its own; and  
4 (4) allows professionals in rural communities to work or  
5 run businesses from their homes;

6 and

7 WHEREAS, High-speed broadband brings educational  
8 opportunities, improved health care, more effective government  
9 services and a better quality of life to all residents of this  
10 Commonwealth; and

11 WHEREAS, Companies selling technology-intensive products and  
12 services, or companies with technologically advanced operations,  
13 generally provide faster growth in employment and income than  
14 companies without such capabilities; and

15 WHEREAS, Studies show that as much as 85% of the growth in  
16 per capita income over the past 150 years has resulted from  
17 technological change; and

18 WHEREAS, Technology-intensive private sector jobs on average  
19 pay wages which are 85% to 95% higher than wages paid for  
20 private sector jobs that are not technology-intensive; and

21 WHEREAS, The President and Congress, in the effort to make  
22 broadband or high-speed access to the Internet available to all  
23 Americans, based on the belief that every American needs to have  
24 access to broadband to have the doors of economic and social  
25 opportunity open to them, required the Federal Communications  
26 Commission to:

27 (1) develop a forward-looking national broadband plan to  
28 ensure that all Americans have access to broadband  
29 capability;

30 (2) contribute to efforts of the United States

20190SR0047PN0951

- 4 -



1 Department of Commerce and the United States Department of  
2 Agriculture to award \$7.2 billion in grants, loans and loan  
3 guarantees to hasten the introduction of the facilities  
4 needed to provide broadband and educate consumers to use this  
5 infrastructure; and

6 (3) collect and report far more detailed and  
7 comprehensive information on the status of broadband  
8 deployment, adoption and use, including how broadband service  
9 in the United States compares to broadband service in other  
10 countries;

11 and

12 WHEREAS, The Commonwealth's efforts to secure the  
13 availability of high-speed broadband throughout urban, suburban  
14 and rural areas of this Commonwealth has been fragmented,  
15 resulting in a lack of coordination among multiple State  
16 agencies and commissions overseeing various broadband-related  
17 programs, projects and Federal and State funding; therefore be  
18 it

19 RESOLVED, That the Senate establish a legislative task force  
20 on the delivery of high-speed broadband services; and be it  
21 further

22 RESOLVED, That the task force be comprised of the chairperson  
23 and minority chairperson of the Communications and Technology  
24 Committee of the Senate or a designee of the chairperson or  
25 minority chairperson; and be it further

26 RESOLVED, That the Senate direct the Joint State Government  
27 Commission to assist the task force and conduct a study on the  
28 delivery of high-speed broadband services in unserved areas and  
29 underserved areas of this Commonwealth; and be it further

30 RESOLVED, That the Joint State Government Commission, as part

1 of its study, establish an advisory committee consisting of  
2 approximately 25 members from across this Commonwealth,  
3 including:

- 4 (1) the Secretary of Agriculture or a designee;
- 5 (2) the Secretary of Community and Economic Development  
6 or a designee;
- 7 (3) the Deputy Secretary for Technology and Innovation  
8 in the Department of Community and Economic Development or a  
9 designee;
- 10 (4) the Secretary of Education or a designee;
- 11 (5) the Secretary of Health or a designee;
- 12 (6) the Secretary of Labor and Industry or a designee;
- 13 (7) the Secretary of Policy and Planning or a designee;
- 14 (8) the executive director of the Pennsylvania Office of  
15 Broadband Initiatives or a designee;
- 16 (9) the executive director of the Governor's Center for  
17 Local Government Services of the Pennsylvania Municipal  
18 League or a designee;
- 19 (10) the chairperson of the Pennsylvania Public Utility  
20 Commission or a designee;
- 21 (11) the vice chairperson of the Pennsylvania Public  
22 Utility Commission or a designee;
- 23 (12) the Small Business Advocate or a designee;
- 24 (13) the Consumer Advocate or a designee;
- 25 (14) the director of the Center for Rural Pennsylvania  
26 or a designee;
- 27 (15) representatives of broadband service providers and  
28 any related cable, wireless or other technology industries or  
29 associations within this Commonwealth; and
- 30 (16) representatives of other departments, agencies,

1 boards, commissions or entities that the Joint State  
2 Government Commission deems appropriate in conducting the  
3 study under this resolution;

4 and be it further

5 RESOLVED, That the Joint State Government Commission develop  
6 reports in collaboration with the advisory committee which, at a  
7 minimum, include the following:

8 (1) background information which addresses the matters  
9 set forth in this resolution;

10 (2) recommendations to: <--

11 (i) TO improve the delivery of high-speed broadband <--  
12 services to unserved areas and underserved areas of this  
13 Commonwealth; and <--

14 (ii) TO extend the benefits of advanced high-speed <--  
15 broadband technology to every community in this  
16 Commonwealth through collaborative partnerships with <--  
17 governmental and private sector stakeholders; and  
18 COMMONWEALTH THROUGH: <--

19 (A) COLLABORATIVE PARTNERSHIPS WITH  
20 GOVERNMENTAL AND PRIVATE SECTOR STAKEHOLDERS; AND

21 (B) OTHER MEANS OF EXTENDING THE BENEFITS OF  
22 ADVANCED HIGH-SPEED BROADBAND TECHNOLOGY IN THIS  
23 COMMONWEALTH; AND

24 (III) FOR MECHANISMS AND POSSIBLE PROGRAMS FOR  
25 FUNDING THE EXPANSION OF BROADBAND AVAILABILITY,  
26 INCLUDING HARMONIZATION OF FUNDING OPTIONS WITH ANY  
27 EXISTING FEDERAL OR OTHER STATE PROGRAMS; AND

28 (3) proposed legislation which relates to the proposed  
29 recommendations and specifically addresses the delivery of  
30 high-speed broadband services to rural high-cost areas of

1 this Commonwealth\* INCLUDING: ←--

2 (I) MODERNIZING TELECOMMUNICATIONS POLICIES,  
3 REGULATIONS AND STATUTES REGARDLESS OF TECHNOLOGY AND THE  
4 ELIMINATION OF OUTDATED AND UNNECESSARY REGULATIONS; AND

5 (II) ELIMINATING BARRIERS TO THE EXPANSION OF  
6 BROADBAND AVAILABILITY;

7 and be it further

8 RESOLVED, That the Joint State Government Commission may, as  
9 it deems necessary, hold informational meetings to receive  
10 testimony from professionals or consumers with expertise or  
11 knowledge in the matters described in this resolution; and be it  
12 further

13 RESOLVED, That the Joint State Government Commission issue an  
14 initial report of its findings and recommendations to the Senate  
15 no later than one year after the adoption of this resolution;  
16 and be it further

17 RESOLVED, That the Joint State Government Commission issue  
18 four additional annual reports of its findings and  
19 recommendations to the Senate, each of which shall be issued no  
20 later than one year after the issuance of the immediately prior  
21 report.