Commonwealth Connect
Broadband Equity, Access and Deployment Program

Five - Year Plan

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COVER PAGE PHOTO CREDIT: Kendall Warner, *The News & Advance*

Pictured here is a telecommunications lineman employed by S&N Communications, Inc. who is lashing fiber as a part of a broadband deployment project in Amherst County. As in many rural locations in Virginia, this area is not accessible by bucket truck and the lineman must climb poles – one by one - in order to complete this step of construction. After climbing the pole, he uses a hand rope to hoist up the 50+ pound lasher and pulls it across the length of the span to attach the fiber to metal strand. This project was funded using CARES funds in 2020 and is a part of Firefly Fiber Broadband's larger broadband expansion effort in partnership with Central Virginia localities. In total, Firefly's build across 13 counties will provide broadband access to over 40,000 previously unserved homes, businesses, and community anchor institutions. The estimated $310,000,000 project cost is supported by private sector funding, as well as local, state, and federal funds.

Commonwealth Connect Plan

1 Executive Summary

Virginia began work in targeted broadband deployment in 2017 with the creation of the Virginia Telecommunication Initiative (VATI). Since then, Virginia has invested targeted state funding to support the connection of homes, businesses and community anchor institutions to affordable, reliable, high-speed internet. Virginia's approach to universal broadband access is a model for other states, and BEAD funding will complement these efforts to support Governor Youngkin's vision to make Virginia the best state to live, work and raise a family.

The Commonwealth of Virginia is well positioned to continues to lead in closing all facets of the digital divide through the state-funded Virginia Telecommunication Initiative. With the infusion of Broadband Equity, Access, and Deployment Program (BEAD) funding and continued investment in state general funds, Virginia will be on target to reach statewide, functional universal coverage. This success will be compounded through investments in continued last-mile broadband deployments through line extensions, as well as through programs to address broadband affordability and adoption identified through Virginia's Digital Equity Act Planning Grant award. As these programs under BEAD and the Digital Equity Act are designed and launched, stakeholder communities will continue to be involved in the formation and implementation of these plans and programs.

Focus Areas

The top priority for broadband in the Commonwealth is to provide all Virginia homes, businesses, and community anchor institutions with an option for broadband service that enables full participation in the 21st century and beyond. The other side of the digital divide, that of access to affordable broadband and broadband adoption, is equally important to ensuring all Virginians can fully participate in the 21st century and increasingly digital future.

The Five-Year Action Plan will present Virginia's strategy to be the first state to meaningfully address these three components of the digital divide:

1. *Broadband Access – Locations with no options for broadband service*
   - Virginia's BEAD allocation will enable the Commonwealth to be the first large state to obligate funding to connect every unserved home, business, and community anchor institution to high-speed, reliable, broadband.
2. *Broadband Affordability – Broadband access available, but the service is unaffordable*
   - Full utilization of the Affordable Connectivity Program, as well as other innovative solutions, will focus on affordability of the service once access to broadband is no longer a barrier.
3. *Broadband Adoption – Utilizing services from online job applications to telehealth*
   - The Virginia Digital Opportunity Plan will chart a course to ensure that Virginians have the technological skills and capacities necessary for full participation in the economy, our society, and our democracy.

2   Overview of the Five-Year Action Plan

2.0   Vision

Governor Youngkin's vision of affordable, reliable, high-speed internet access, universally across the Commonwealth of Virginia is paramount to full participation in the 21st century and ensuring Virginia is the best place to live, work, and raise a family. The Commonwealth's work over the past several years is leading to the connection of hundreds of thousands of households, has supported projects that cut the digital divide by more than half, established a nationally recognized state broadband program, and set Virginia on a path to be one of the first large states in the country to achieve universal broadband.

To achieve this goal, the Commonwealth's broadband infrastructure must extend to all Virginians to whom it can practically be extended. Additionally, it will require policy structures and models of service delivery to support affordable access to the internet for those who cannot afford it via that infrastructure.

Building upon this investment in infrastructure, the Commonwealth must also now begin to address the other components of the digital divide – those of affordability and adoption of high-speed internet access. Together, affordable broadband and full broadband adoption will make Virginia a state of digital opportunity – one whose residents have affordable, reliable, and high-speed internet access, and the skills necessary to use it to its full potential. The wide-ranging benefits of connectivity, including smart farming, building a business online, and telehealth, will keep Virginia competitive in a fast-changing, connected world.

2.1   Goals and Objectives

- *Goal: Invest BEAD funding to achieve functionally universal broadband access, by the end of 2024 to all unserved and underserved locations in the Commonwealth that lack a funded solution for broadband access.*
  - o *Objective: Continue to work with local government and internet service providers to plan shovel-ready, universal broadband projects ready for funding*
  - o *Objective: Remove the barrier of special construction costs for broadband access to locations through line extension programs.*
- *Goal: Complete construction of BEAD funded projects by 20272028.*
  - o *Objective: Support development of broadband and other industry -related workforce to meet the ongoing construction and long-term operation and maintenance needs of broadband networks and associated infrastructure.*
- *Goal: To the extent funding is available, promote federal resources for broadband affordability by increasing ACP utilization by more than 5% through existing and future efforts.*
  - o *Objective: Fully utilize the Affordable Connectivity Program to lower the cost of broadband services for those that need it most.*
- *Goal: To the extent funding is available, conduct state-wide needs assessments and develop programs to reach full broadband adoption.*
  - o *Objective: Development and implement programs that support smart farming, building a business online, and telehealth, among others*

- o *Objective: Support sustainable, long-term programs to provide devices, including computers and tablets, to those in need*
- o *Objective: Develop and promote digital literacy and navigator programs in partnership with multiple institutions across the Commonwealth*

3 Current State of Broadband and Digital Inclusion

3.0 Existing Programs

The Virginia Office of Broadband is housed within the Virginia Department of Housing and Community Development. Through its staff of fourteen employees and other contractual support, the Office of Broadband manages broadband and technical assistance programs. These staff, contractual supports, programs, and funding mechanisms are summarized in the tables below.

Table 1: Current Activities that the Broadband Program/Office Conducts

Activity Name	Description	Intended Outcome(s)
Virginia Telecommunication Initiative	The Virginia Telecommunication Initiative (VATI) extends broadband service to currently unserved areas. VATI prepares communities to build, utilize, and capitalize on telecommunications infrastructure with the goal of creating strong, competitive communities.	• Extend broadband infrastructure across Commonwealth. • Connect households, businesses, and community anchor institutions to affordable, reliable internet at speeds greater than 100Mbps/20Mbps. • Empower localities to connect their residents.
Line Extension Customer Assistance Program	The Line Extension Customer Assistance Program is designed to support the extension of existing broadband networks to low-to- moderate income residents.	• Lessen the burden of special construction costs necessary to connect locations near existing broadband infrastructure for low-to-moderate income residents.
Local Broadband Planning	DHCD offers localities assistance coordinating planning funding as needed and providing technical assistance, including the use of geographic information systems, to localities as they go through the planning process to determine how best to bring broadband to their communities.	• Provide technical assistance to counties and a baseline from which to begin a broadband expansion project. • Provide GIS technical assistance when necessary to give localities
Commonwealth Connection: Broadband Availability Map	DHCD operates a public-facing broadband availability map that displays address-level service information, in addition to public assets such as community anchor institutions, hotspots, and cell towers. ISPs operating	• Provide the public a map of statewide broadband assets, state-funded expansion projects, and local internet service providers.

	in Virginia are required to submit their service data annually to DHCD for publication in the Commonwealth Connection map.	
Broadband Project Dashboard	DHCD operates a public-facing VATI Project Dashboard that provides citizens and interested parties with key milestones, updates, and project information on VATI projects in Virginia.	• Provide the public a dashboard, complete with information on VATI projects. • Centralize project information, including milestones, locations connected, and expenditures for internal and external consumption. • Provide the public with information on the internet service providers deploying broadband infrastructure across Virginia, including links to provider sites where users can register, see project progress, and find information on available service plans and available technology.
Utility Leverage Unserved Area Certification Program	The Utility Leverage Program for broadband allows Virginia's investor-owned utilities to partner with localities and internet service providers to leverage utility-owned fiber for network expansion in unserved areas of the Commonwealth.	• Lessen a significant burden inhibitive to broadband expansion projects.
Broadband Advisory Council	The Broadband Advisory Council advises the Governor on policy and funding priorities to expedite deployment and reduce the cost of broadband access in the Commonwealth. The Council is comprised of 17 members; seven legislative members, six non-legislative citizen members, and four ex officio members.	• Provide oversight for the VATI program and the activities of the Office of Broadband. • Involve legislators in broadband expansion efforts. • Create a venue for individuals, organizations, and industry representatives to get involved in the broadband expansion effort.
Commonwealth Connect Coalition	Commonwealth Connect is the Commonwealth of Virginia's comprehensive effort to achieve universal broadband access. The Commonwealth Connect webpage provides an overview of ongoing efforts to expand broadband access and promotes resources that will help local	• Bring together a coalition of groups and individuals interested in the broadband expansion effort. • Create a venue for communicating major updates to industry groups, trade associations, localities, and Virginia residents.

	leaders expand broadband infrastructure in their communities.	
Regional Digital Opportunity Planning Grant Program	DHCD is sub-awarding Digital Equity Act Planning Grant funds to Community Action Agencies in 10 regions across the Commonwealth to develop regional digital opportunity plans to inform the Virginia plan.	• Involve communities in the Digital Equity Act planning process. • Bring lived experts and community organizations to the table to identify solutions, best practices, and a suitable path forward to address the digital divide.
Digital Opportunity Case Study Pilot Program	DHCD is sub-awarding Digital Equity Act Planning Grant funds to organizations currently engaged in broadband affordability and adoption work to write case studies on digital opportunity-related pilot projects for inclusion in the Commonwealth plan.	• Identify successful programs to address the digital divide.
Local and Tribal Government Broadband Affordability and Adoption Planning Grants	DHCD is utilizing BEAD planning funds to provide localities in Virginia the opportunity to conduct broadband affordability and adoption planning processes.	• Provide every locality in Virginia the opportunity to develop a plan to address broadband affordability and adoption.

Table 2: Current and Planned Full-Time and Part-Time Employees

Current/ Planned	Full- Time/ Part-time	Position	Description of Role
Current	FT	Director	Manages the Office of Broadband and works with DHCD leadership to carry out administration priorities related to broadband expansion in Virginia.
Current	FT	Deployment Program Manager	Manages the Virginia Telecommunication Initiative program and the project manager team.
Current	FT	Deployment Project Managers (4)	Project managers (PMs) assist localities through the VATI process, from application technical support to grants management and compliance. PMs conduct site visits, handle reporting, and utilize technical expertise to assist localities with the technical elements of broadband infrastructure projects.
Current	FT	Broadband Planner & GIS Specialist (2)	Conduct outreach to localities, coordinating planning funding when needed, and provide technical assistance to localities as they go through the planning process to determine how best to bring broadband to their communities. Additionally, manage geographic information systems for the Office's public and internal GIS needs and for assisting localities with VATI projects.

Current	FT	Broadband Policy Analyst	Responsible for analyzing current state and federal policies and guidelines to identify opportunities to leverage broadband infrastructure. Leads development of VATI program guidelines and criteria process, as well as recommends policy changes to senior staff. Coordinates data gathering and provide analysis for preparation of Commonwealth Connect plan. Manages the Office's policy team.
Current	FT	Broadband Program Analyst	Manages financial and compliance elements of the Office's programs, including processing subgrantee remittances. Manages reporting requirements and prepares reporting documents.
Current	FT	Administrative Program Support	Provides support to staff and management, performs a variety of administrative and clerical tasks. Manages correspondence, and coordinates travel arrangements. Additionally, assists in ensuring compliance and reporting for VATI awardees.
Current	FT	Broadband Affordability and Adoption Coordinator	Manages the development of the Virginia Digital Opportunity Plan and operates the two subgrant programs under Virginia's Digital Equity Act Planning Grant. Manages the Office's affordability and adoption initiatives.
Current	FT	Line Extension Customer Assistance Program Administrator	Program Administrator for the LECAP program. Manages applications for the program and once applicants are successful, assists them in coordination with the internet service provider through completion of the project.
Planned	FT	Program Specialist	Will assist in implementation of the BEAD program by ensuring requirements of the program are implemented into the subgrantee selection process and maintenance of the grants. Will assist in the development of guidelines for BEAD non-deployment programs.

Table 3: Current and Planned Contractor Support

Current/ Planned	Time	Position	Description of Role
Current	FT	Deployment Program Design Consultant	Assist broadband office in the design and development of a BEAD-compliant subgrantee selection process.
Current	FT	Digital Opportunity Stakeholder Engagement and Needs Assessment Consultant	Assist the office with stakeholder engagement elements of the Digital Equity Act Planning Grant process.
Current	FT	Workforce Development Program Study Consultant	Assist the office with efforts to analyze the status of broadband-related workforce development in Virginia and develop solutions to address identified issues.
Current	FT	Non-Deployment Design Consultant	Assist in the process of developing guidelines for non-deployment programs under Virginia's BEAD allocation.

Table 4: Broadband Funding

The Commonwealth of Virginia has experienced multiple rounds of state and federal investment to address the digital divide. These funding programs to address broadband access, affordability, and adoption are discussed in the table below.

Source	Purpose	Total	Expended (Allocated to Projects)	Available
Virginia Telecommunication Initiative	The Virginia Telecommunication Initiative (VATI) extends broadband service to currently unserved areas. VATI prepares communities to build, utilize, and capitalize on telecommunications infrastructure with the goal of creating strong, competitive communities. This includes $698,812,354 in funds under the American Rescue Plan Act.	$875,546,490	$825,846,490	$49.7million in state general funds in FY24
Line Extension Customer Assistance Program	The Line Extension Customer Assistance Program is designed to support the extension of existing broadband networks to low-to-moderate income residents.	$16,000,000	$987,526.45	$15,012,474
ACAM	Provide financial support to rate-of-return providers for the extension of broadband networks to rural areas.	Unknown	Unknown	$ 0
Connect America Fund II	Provide funding to providers to subsidize extension of broadband networks.	$ 108,923,613	$108,923,613	$ 0
Rural Digital Opportunity Fund	Reverse auction that provides funds to providers to extend broadband networks to specific census blocks.	$ 238,644,934 (Prior to Defaults)	$ 238,644,934 (Prior to Defaults)	$ 0

USDA ReConnect	Program furnishing loans to providers to support the construction, improvement, or acquisition of facilities and equipment to provide service in rural areas.	$42.4 million (Approximation)	$42.4 million (Approximation	$ 0
Coronavirus Aid, Recovery, and Economic Security (CARES) Act	Federal funding for short-term implementation projects around broadband infrastructure.	$30 million	$30 million	$0
Tobacco Region Revitalization Commission	Support for last mile broadband deployment projects within the Tobacco Commission's footprint.	Unknown	Unknown	Unknown
Regional Digital Opportunity Planning Grant Program (Digital Equity Act Planning Grant subgrant program)	Subgrant program enabling Community Action Agencies to undergo planning efforts to study the digital divide in their communities and identify solutions to address it, funded under Virginia's Digital Equity Act Planning Grant.	$500,000	$500,000	$0
Digital Opportunity Case Study Pilot Program (Digital Equity Act Planning Grant subgrant program)	Subgrant program enabling eligible organizations with digital opportunity-related programs to develop case studies for inclusion in the Virginia Digital Opportunity Plan, funded under Virginia's Digital Equity Act Planning Grant.	$100,000	$100,000	$0
Local Government Broadband Affordability and Adoption Planning Grants (Using BEAD Planning Grant funds)	Enable localities to develop plans to utilize federal funding to address the affordability and adoption of broadband.	$3,125,000	$0	$3,125,000
Tribal Broadband Connectivity Program	Program for Tribal governments to support broadband deployment, telehealth, distance learning, affordability programs, and digital literacy initiatives.	$973,349.80	Unknown	Unknown
Connecting Minority Communities Pilot Program	Grant program that awards HBCUs, TCUs, and MSIs funding to support the purchase of broadband service.	$9,685,734	Unknown	Unknown

3.1 Partnerships

The Virginia Office of Broadband is located within the Virginia Department of Housing and Community Development. Through its staff of fourteen employees and other contractual support, the Office of Broadband manages broadband g and technical assistance programs. These staff, contractual supports, programs, and funding mechanisms are summarized in the tables below.

Table 5: Partners

Partners	Description of Current or Planned Role in Broadband Deployment and Adoption
Broadband Advisory Council	The Broadband Advisory Council advises the Governor on policy and funding priorities to expedite deployment and reduce the cost of broadband access in the Commonwealth.
Local Government Advocacy Bodies	DHCD is in regular dialogue with locality advocacy groups, primarily the Virginia Association of Counties (VaCO), and the Virginia Municipal League (VML). Groups such as these maintain an important role in the development of program guidelines by representing the interests of localities in the public input stage. This will be of great value in the various public input opportunities throughout the BEAD process.
Regional Governments	The VATI program partners with localities, who select internet service providers (ISPs) through their procurement process and select a project area with technical assistance from DHCD staff. Local governments will be critical partners through the BEAD process in identifying unserved or underserved areas and working with internet service providers to extend broadband infrastructure to those locations. Local governments will be valuable partners in the process of designing, implementing, and managing non-deployment programs with BEAD and Digital Equity Act funds.
Tribal Governments	DHCD has a longstanding and mutually beneficial relationship with tribal governments across Virginia, including the seven federally recognized tribes in the Commonwealth. Tribal governments will be engaged throughout the BEAD and Digital Equity Act Planning Grant processes to determine how federal broadband dollars can best address the digital needs of tribal communities.
State Government Agencies	Partner state agencies will be engaged where necessary throughout the deployment stages of the BEAD program. State agencies will be particularly important in the design, implementation, and management of any potential non-deployment programs launched under BEAD.
Broadband Industry Associations	DHCD maintains regular dialogue with internet service provider advocacy groups and/or trade associations. These groups routinely provide comment and participate in guideline development processes for programs that that office runs. Additionally, as with local government advocacy groups, their value in public comment opportunities during program development cannot be understated.
Internet Service Providers	ISPs will utilize public funding, and leverage match funding of their own, to extend broadband infrastructure to unserved or underserved locations across the Commonwealth. ISPs will need to comply with the requirements of BEAD and state funding and adhere to contractual expectations for their awards. ISPs will also need to consider broadband adoption in the course of their deployment work, including increasing enrollment in the Affordable Connectivity Program.
Community-Based Organizations	Community-based organizations will play an important role connecting communities to localities, the Commonwealth, and local ISPs to ensure community needs are addressed before, throughout, and after the

	deployment project. DHCD is partnering with Community Action Agencies to develop Regional Digital Opportunity Plans and design programs to address identified community needs.
Nonprofits	Nonprofits should work with DHCD, localities, and local ISPs to involve themselves in the BEAD process, including and especially in the development of guidelines for the subgrantee selection process, where nonprofits will be able to advocate for their priorities in public comment periods. Additionally, non-profits will be valuable partners in the process of designing, implementing, and managing non-deployment programs with BEAD and Digital Equity Act funds.

3.2 Asset Inventory

The Commonwealth of Virginia features a robust list of assets to aid in closing the digital divide. In the tables below, a summary of these assets is provided.

Broadband Deployment

Asset	Description of Asset
Robust state programs existing for deployment	Both the Virginia Telecommunication Initiative and Line Extension Customer Assistance Programs are effective vehicles to extend broadband infrastructure to unserved and underserved areas.
Strong involvement from local governments and diverse array of internet service providers by size, entity type	Two critical stakeholders in broadband deployment are local governments and internet service providers. Both groups are integral to the success of existing state broadband programs.
Existing state rights of way	Internet service providers, during the deployment of broadband infrastructure, may choose to leverage state right of ways, which are along the vast majority of roadways in the Commonwealth.
Virginia's robust middle mile infrastructure	The Commonwealth of Virginia's location along the Mid-Atlantic region has led to the development of a robust middle mile infrastructure network, serving both as an information highway and an economic engine to support the private and governmental sectors.
Partnerships with Investor-Owned Electric Utilities and Electric Membership Cooperatives	Through legislation passed in recent years, investor-owned utilities may install excess broadband capacity in their networks and lease that capacity to last mile internet service providers for the purposes of providing broadband to unserved areas. In a similar fashion, some electric co-ops that do not provide last-mile service install middle mile infrastructure and lease capacity so that other internet service providers can provide broadband access to their members.
Interagency coordination in Virginia	Through a half-decade of operating broadband deployment programs, the Office of Broadband has developed close working relationships with other state entities to assist in the deployment of broadband infrastructure, including the Department of Transportation and Virginia 811.

Broadband Adoption

Asset	Description of Asset
Commonwealth Connection Broadband Availability Map – Community Anchor Institution Locations	The Virginia Department of Housing and Community Development (DHCD) provides a statewide broadband availability map indicating broadband coverage, including maximum broadband speeds available in-service territories in the Commonwealth. This interactive map also features locations of Community Anchors Institutions (CAIs) across the Commonwealth, including libraries, schools, municipal venues, and other CAIs.
Programs that provide digital literacy and digital skills training	Community organizations, along with local libraries and others, provide digital literacy and skills training to perform day-to-day functions like online banking, emails, and word processing, as well as more advanced tasks like applying for a job.
Digital Navigator programs	Officially, or unofficially, countless organizations across the Commonwealth perform digital navigator functions daily. Ranging from schoolteachers helping students and parents access online resources, to civic clubs hosting device usage workshops, Digital navigation is ongoing throughout the Commonwealth.
Existing ISP programs that promote adoption (e.g., adoption campaigns, low-cost plans, digital inclusion initiatives)	Virginia's internet service provider community features numerous programs to promote broadband adoption. Through online platforms, in person events, and interactive rooms, broadband providers lead extensive efforts to ensure individuals are appraised of the value of broadband and understand how to use the service.
Public computing labs	Community organizations, along with local libraries provide public computer labs for those that face challenges with broadband access and affordability to perform necessary functions online.
Loaner hotspot programs	Local library branches, as well as other groups, provide hotspots to individuals to access the internet to do basic functions, like online banking, applying for a job, among others.
Computer refurbishing programs	Several nonprofit organizations across the Commonwealth provide computer refurbishment services for specific populations.

Broadband Affordability

Asset	Description of Asset
The Affordable Connectivity Program (ACP)	The ACP is Virginia's primary broadband affordability asset. DHCD's Office of Broadband estimates that 1,047,005 households in Virginia are eligible for the ACP benefit. There are at least 90 internet service providers in the Commonwealth that participate in the ACP. In addition to the state award, two localities received ACP Outreach Grant awards. Outreach efforts in Virginia are expected to increase awareness of and enrollment in the program.
Discount or subsidized broadband service and equipment programs	Many of Virginia's largest internet service providers have been integral in offering service packages that are fully coverable by the $30/month ACP benefit. Continued partnership to ensure these service offerings remain available, and that more providers offer service at this price point, will be critical to full utilization of ACP.

Broadband Accessibility

Asset	Description of Asset
Commonwealth Connection Map – Public Wi-Fi Hotspots	The Virginia Department of Housing and Community Development (DHCD) provides a statewide broadband availability map indicating broadband coverage, including maximum broadband speeds available in-service territories in the Commonwealth. This interactive map also features locations of Public Wi-Fi Hotspots across the Commonwealth and is the only known database providing the locations of hotspots statewide.
CARES Act Programs to Support Broadband Access	Under the CARES Act, the previous Gubernatorial Administration provided funding to unique solutions across the Commonwealth to ensure access to existing broadband infrastructure or cellular network hotspots. These projects will serve as case studies for the development of plans and programs.

Digital Equity

Asset	Description of Asset
Workforce development training and employment services related to broadband adoption (e.g., computer/digital skills training, apprenticeships)	Local library branches, educational institutions, and several nonprofits across the Commonwealth provide basic to intermediate digital skilling to prepare individuals for 21st century careers.
Local organizations that provide volunteer and advocacy assistance for digital equity programs	Numerous groups, either officially or unofficially provide broadband affordability and adoption services locally across the Commonwealth. As a part of these planning efforts, as well as under the Digital Equity Act State Planning Grant Program, the Commonwealth will be developing a holistic list of these groups and their missions.

3.3 Needs and Gaps Assessment

The digital divide in the Commonwealth comprised of gaps in broadband access, affordability, and adoption. These three components are accentuated in the sections below.

Broadband Access

Access to affordable, reliable high-speed internet access, universally across Virginia is the priority for the BEAD program in the Commonwealth. The Commonwealth, through existing broadband infrastructure deployment programs, has taken strides to deploy broadband infrastructure to unserved areas; however, hundreds of thousands of locations still exist that are not included in a funded solution for broadband access. The scope of these unserved areas, without consideration of state and federal funding allocated for unserved and underserved areas, is summarized below:

- 162,107 locations[1] in the Commonwealth of Virginia lack access to broadband at the level of 100 Megabits per Second (Mbps) Download Speeds and 20 Mbps Upload Speeds and do not have a funded solution to serve the location according to data collected from internet service providers under the Federal Communication Commission's Broadband Availability Map.
    - 134,221 locations are unserved and lack access to broadband at the level of 25 Mbps download and 3 Mbps upload (25/3).
    - 27,806 locations are underserved and have internet access at 25/3 speeds but lack access to broadband at the level of 100 Mbps download and 20 Mbps upload.

Broadband Affordability

While universal access to broadband infrastructure is the priority of the Broadband Equity, Access, and Deployment Program in the Commonwealth of Virginia, that infrastructure being constructed, as well as existing broadband networks, service must be affordable for the residents. The Commonwealth of Virginia recently adopted its Broadband Affordability and Cost Effectiveness Plan, which identified the following areas of needs:

- While there are not official figures on the number of ACP eligible households by state or nationally, the Department estimates that Virginia's total number of eligible households is in the range of 1.047 to 1.1 million households. Recent analysis from enrollment data published by the FCC shows Virginia's estimated ACP enrollment rate among eligible households (using the smaller of the two estimates) is 32.6%, below the national average.
- As of July 2023, 384,475households in Virginia have enrolled in the ACP, meaning Virginians are receiving at least $11.5 million in subsidies monthly towards the cost of their broadband services, not factoring for possible $70 monthly benefits for Tribal beneficiaries. However, with up to 715,525Virginia households not enrolled, Virginia is missing out on over $21 million per month in federal subsidy funds.

DHCD recently launched Virginia's Digital Opportunity Survey to gather data for the Virginia Digital Opportunity Plan, the required output of Virginia's Digital Equity Act Planning Grant. This survey will play a critical role in gathering data on how Virginians use the internet, what barriers to digital opportunity exist, and what affordability/adoption needs are common in Virginia. Virginia's Digital Opportunity plan will offer an analysis of key takeaways from the survey and use insights from the data to propose strategies to address identified needs.

Broadband Adoption

Internet access and device usage underpin challenges to full broadband adoption. The Commonwealth's goal for broadband adoption is that all Virginians have the unfettered opportunity to be equipped with connected devices and understanding on how to take full advantage of connectivity. To that aim, below are statistics that identify the relevant need areas to tackle this challenge. These need areas may be addressed through targeted programs, such as telehealth adoption, building a business online, and smart farming.

- Sourced from the NTIA Internet Use Survey

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[1] This figure is the number of unserved locations without a funded solution for broadband prior to the challenge process under BEAD, which may identify additional locations as served or unserved. This data is based upon internet service provider territory data as of December 30, 2022.

- o Virginians using desktop, laptop, or tablet computers – 66.3% ± 3.6% (Nov 2019), 64.8% ± 3.8% (Nov 2021)
  - Virginians using laptop computers – 51% ± 3.5% (2019), 50.5% ± 3.8% (2021)
  - Virginians using smartphones – 68.2 ± 2.7% (2019), 70.2% ± 3% (2021)
- o Virginians using the internet – 81.7% ± 2.5% (2019), 80.5% ± 2.9% (2021)
- o Virginians with no home internet use – 17% ± 2.5% (2019), 17.6% ± 3% (2021)
- o Virginians' main reason for no home internet use:
  - Not needed or interested – 55.1% ± 8.7% (2019), 55.9% ± 10% (2021)
  - Too expensive – 17.1% ± 6.2% (2019), 14.3% ± 5.5%
  - No computer or inadequate computer – 2.7% ± 2.6% (2019), 1.9% ± 2% (2021)
  - Can use elsewhere – 4.4% ± 3% (2019), 2.9% ± 3.5% (2021)
  - Privacy concerns – 0.8% ± 1.6% (2019), 4.3% ± 2.4% (2021)
  - Not available – 8% ± 5% (2019), 3.3% ± 2.1% (2021)
- o Virginians' online activities:
  - Email - 91.4% ± 2.1% (2019), 92.7% ± 2.8% (2021)
  - Text/instant messaging – 92.2% ± 1.7% (2019), 94.3% ± 1.7% (2021)
  - Social network use - 72.1% ± 3.5% (2019), 72.8% ± 3.7% (2021)
  - Publishing blogs, videos, content, etc. - 12.5% ± 2.4% (2019), 15.0% ± 3.6% (2021)
  - Online video, voice, or conference calls - 52.7% ± 3.7% (2019), 65.7% ± 4.8% (2021)
  - Watching videos online - 73.2% ± 3.3% (2019), 76.9% ± 3.5% (2021)
  - Streaming or downloading music, radio, podcasts, etc. - 55.1% ± 4.0% (2019), 67.5% ± 4.3% (2021)
  - Working remote - 27.9% ± 3.2% (2019), 30.3% ± 3.9% (2021)
  - Searching for a job - 30.3% ± 3.9% (2019), 18.7% ± 3.0% (2021)
  - Taking classes or participating in job training - 23.2% ± 3.6% (2019), 22.8% ± 3.6% (2021)
  - Using online financial services - 73.5% ± 3.5% (2019), 75.9% ± 4.6% (2021)
  - Shopping, travel reservations, other consumer services - 78.0% ± 3.4% (2019), 76.9% ± 3.9% (2021)
  - Selling goods via the internet - 10.2% ± 2.6% (2019), 8.5% ± 2.2% (2021)
  - Requesting services provided by others via the internet - 36.4% ± 4.4% (2019), 44.4% ± 5.9% (2021)
  - Offering services for sale via the internet – 6.7% ± 2.6% (2019), 8.2% ± 2.6% (2021)
  - Interacting with household equipment via the internet – 16.5% ± 2.6% (2019), 18.4% ± 2.8% (2021)

Virginia's Digital Opportunity Survey will provide insights as to the issues Virginians encounter related to broadband adoption. The results of the survey will form the basis of strategies to aid in broadband adoption across the state outlined in the Virginia Digital Opportunity Plan.

3.4 Digital Equity Act State Planning Grant and BEAD

Virginia has received a Digital Equity Act Planning Grant to develop the Virginia Digital Opportunity Plan, and the Department of Housing and Community Development is in the process of fulfilling the requirements of the Notice of Funding Opportunity. These requirements include developing an asset inventory of digital opportunity resources, conducting a needs assessment for the covered populations as defined by the Digital Equity Act, and proposing strategies to address the digital divide beyond broadband infrastructure access in the Commonwealth. This effort represents Virginia's first major initiative to address the digital divide beyond access to broadband infrastructure. As the administering agency for the Planning Grant, DHCD had the responsibility of designing an application for planning funds that ensured the communities for whom the digital divide is a daily burden were involved in the development of the plan. The intent of the Office of Broadband is to develop the plan in accordance with the goals and objectives identified above, listed here:

- ***Goal: To the extent funding is available, address the digital divide components of affordable access to broadband, as well as full broadband adoption.***
  - Objective: Fully utilize the Affordable Connectivity Program to lower the cost of broadband services for those that need it most.
  - Objective: Form programs that support smart farming, building a business online, telehealth, and smart cities among others
  - Objective: Support sustainable, long-term programs to provide devices, including computers and tablets, to those in need
  - Objective: Develop and promote digital literacy and navigator programs in partnership with multiple institutions across the Commonwealth

DHCD's working definition of digital opportunity is informed by the National Digital Inclusion Alliance: The condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy. Digital opportunity is necessary for civic and cultural participation, employment, lifelong learning, and access to essential services.

However, the subgrant programs currently being run by DHCD with Digital Equity Act Planning Grant funds are intended to empower communities to develop their own assessment of how the digital divide manifests itself, and to develop solutions tailored to address their findings. DHCD's intention is for the Digital Opportunity plan to be an opportunity for community representatives in Virginia to identify barriers to broadband affordability and adoption in their communities and design sustainable, holistic solutions that can be funded with Digital Equity Act Capacity Grant and potential BEAD non-deployment program funds.

4 Obstacles or Barriers

The tables below provide a high-level summary of ongoing, as well as anticipated obstacles and barriers for access to affordable, reliable, high-speed internet universally across Virginia. The tables also include obstacles and barriers that will specifically be faced in the realm of broadband affordability and adoption.

Broadband Deployment

Obstacle or Barrier	Description of Obstacle or Barrier
Workforce Shortages	Virginia's internet service providers have cited a shortage of qualified labor to perform all tasks necessary for broadband network construction, as well a shortage of utility locates and flaggers to support broadband deployment The Office of Broadband is working with consultants and institutions of higher education to address these challenges.
Supply Chain Delays	The COVID-19 pandemic, along with the infusion of broadband infrastructure funding through the American Rescue Plan Act, led to supply chain constraints on both supply and demand sides of the industry. These challenges will grow during the implementation of BEAD funding. Virginia's internet service providers have been able to subvert these challenges through pre-orders and pre-project agreements with suppliers to ensure dedicated supply lines during project construction.
Private Easements	Albeit not on a large scale, one barrier to ensuring all Virginians have unfettered access to broadband are instances where broadband infrastructure must be installed along a private easement that does not permit telecommunications infrastructure. In these cases, the landowner through which the easement travels can require any level of payment to install broadband infrastructure in the existing easement.
Partnerships with Incumbent Utilities	Partnerships with incumbent utilities, especially utility pole owners are critical for the success of broadband deployment. Incumbent utilities scaling up their make-ready capacity to prepare poles for broadband infrastructure is critical to meeting the objective of universal broadband access.
Balancing Regulatory Requirements with On-Time Delivery	Ensuring state and federal investments in broadband are delivered to well designed, shovel ready projects is vital for program success. The Virginia Office of Broadband will continue its efforts to streamline these processes and encourage federal entities to streamline processes and effectively implement guidance to ensure timely delivery of broadband access, unabated by unnecessary regulatory delays.

Broadband Affordability and Adoption

Obstacle or Barrier	Description of Obstacle or Barrier
Capacity Building for Local Planning and Programs to Address Affordability and Adoption	Like local broadband infrastructure planning for unserved areas that the Office of Broadband has provided, planning around broadband affordability and adoption will be equally as important to address the full challenges of the digital divide. These local capacity building efforts will support both the groups designing these solutions, as well as the groups that will do the work, prepare for this investment in broadband affordability and adoption.
Investment in Long-Term, Sustainable Solutions	A one-time infusion of funds to support short-term programs is an unwise use of these once-in-a-generation funds. An obstacle to effective use of BEAD funding will be ensuring that

	all funds to go sustainable programs. For example, funding should support the development of computer refurbishment programs for continual supply of devices to those in need, instead of a one-time purchase of computers that may become outdated in upcoming years.
Subprogram Development	Like the previous challenge, designing programs to support this aim will also be critical to success. The program design to support broadband affordability and adoption work must be able to accommodate wide ranging projects from smart farming to telehealth and be able to support projects that are sustainable overtime.

5   Implementation Plan

5.0 Stakeholder Engagement Process

The Commonwealth of Virginia, over the past five years, has developed a robust group of stakeholders for the goal of supporting universal access to broadband and associated broadband deployment programs. This group of stakeholders, the Commonwealth Connect Coalition, has been instrumental in supporting these efforts and will continue to be engaged to achieve the goals of universal broadband access under the BEAD program.

In addition to these efforts, to ensure full geographic representation and to reach diverse populations, the Office of Broadband conducting listening sessions, both in person and virtual, for specific stakeholder groups to better understand how to support deployment efforts, as well as the need areas of broadband affordability and adoption. In May 2023, the Office of Broadband hosted Tribal Government leaders, local government representatives, internet service providers, and community organizations and non-profits across four listening sessions related to the BEAD and Digital Equity Act programs. The Office of Broadband will also be conducting regional listening sessions through its efforts under the Digital Equity Act State Planning Grant Program, to ensure that the individuals that will benefit from these efforts are appraised of this opportunity and are thoroughly involved in the goals of these programs. Each of the nine regions under the Virginia Regional Digital Opportunity Plan program will have at least one regional community input session. This will involve all Covered Populations as identified under the Digital Equity Act, as well as other groups that may benefit from activities under the BEAD program. These engagement practices will be ongoing throughout the planning and implementation of BEAD.

In addition to these targeted stakeholder engagement practices, stakeholder engagement will also be systemic to the programs established under BEAD. The Commonwealth's largest existing broadband deployment initiative, the Virginia Telecommunication Initiative (VATI), is built on strong local and regional engagement. To that aim, units of local government must serve as the primary applicant to VATI and partner with the internet service provider of their choosing to fill in unserved gaps in their jurisdictions. This structure ensures that those in best position to hear from their populations – local governments – drive project development and implementation. The VATI program also ensures all stakeholders and residents in project areas understand the status of the deployment project in their area. Through the VATI project dashboard, individuals can look up the project in their area and see how it is performing in terms of locations passed in construction and the stage of development the project is in.

5.1 Priorities

Table 6: Priorities for Broadband Deployment and Digital Inclusion

Priority	Description
Provide universal broadband access across the Commonwealth of Virginia	The Commonwealth of Virginia will allocate funding through broadband deployment grants to reach all unserved areas of the Commonwealth.
Reducing costs and barriers to deployment	The Commonwealth of Virginia will assist in the streamlining of broadband deployment for internet service providers in the legislative and executive administration arenas by promoting streamlined permitting processes and cost-effective access to poles, conduits, easements, and rights of way, including the imposition of reasonable access requirements
Engagement with relevant stakeholders to inform selection of activities to receive federal funding beyond broadband deployment to unserved areas	The Commonwealth of Virginia will continue to work with stakeholders, including local and tribal governments, internet service providers, and others to develop plans and programs, as well as to promote transparency in selection of broadband deployment grants.
Reducing the cost of broadband service for consumers	Through promoting full utilization of existing federal subsidy programs, like the Affordable Connectivity Program, the Commonwealth of Virginia will reduce the cost of broadband services for Virginians, while also ensuring service options provided by internet service provider's account for middle class affordability.
Increasing opportunities for community-based organizations and other stakeholders to support broadband adoption and digital inclusion	Building capacity statewide and locally to tackle broadband affordability and adoption will be critical to tackling these challenges. The Commonwealth of Virginia will continue to utilize existing and begin new communication with these groups to prepare them for this investment.
Develop and implement sustainable programs to support broadband affordability and adoption.	The Commonwealth will continue to work with local partners to understand the specific needs in the areas of broadband affordability and adoption and work with these partners to develop and implement programs to address these challenges.

5.2 Planned Activities

Local Broadband Planning Efforts

The Office of Broadband must continue to work with local and regional governments to understand where gaps in broadband infrastructure exist and develop solutions to reach those areas. In addition to these ongoing efforts, through the BEAD planning grant funded Broadband Affordability and Adoption Planning Grant Program, the Office of Broadband will work with local and tribal governments to understand the challenges faced in broadband affordability and adoption, and how to address these components of the digital divide. These efforts will be supported by existing state general funds dedicated to administrative needs, as well as BEAD funding for both administrative needs and planning grants.

Broadband Deployment Programs

The Virginia Telecommunication Initiative (VATI) will continue to be the Commonwealth's engine to deploy broadband infrastructure to unserved areas. With the infusion of BEAD funding, VATI will continue to emphasize local coordination through local governments in

partnership with internet service providers working together to reach the unserved. This program will be supported by existing and potentially future allocations of state general funds, as well as BEAD funding. These two unique sources of funding will be managed separately, with each governed by unique rules. .

The Line Extension Customer Assistance Program (LECAP) addresses a gap at the crux of broadband access and broadband affordability, extending broadband networks to locations with far-setbacks from existing infrastructure where the cost to construct the line extension is too great for the homeowner to bear. This program will be supported by existing allocations of State Fiscal Recovery Funds under the American Rescue Plan Act, as well as funding from BEAD.

As specific needs arise through additional stakeholder engagement and needs assessment work, the Commonwealth of Virginia may develop additional programs to address gaps in broadband availability. These efforts will be funded with BEAD funding to meet both the administrative and programmatic needs of these efforts.

Broadband Non-Deployment Programs, Broadband Affordability and Adoption

The Commonwealth is committed to ensuring that every Virginian has access to affordable, reliable high-speed internet. As the designated administering entity for the Digital Equity Act and the Broadband Equity, Access and Deployment (BEAD) programs established by the Infrastructure Investment and Jobs Act, DHCD shall leverage the State Digital Equity planning grants funds awarded to the Commonwealth on October 1, 2022 by NTIA to develop the Commonwealth's Digital Opportunity Plan to include a detailed assessment of the availability of and the affordability of broadband access and provide findings and recommendations to the Broadband Advisory Council on utilizing the forthcoming BEAD funding to address affordability. Per the Digital Equity Act Planning Grant Notice of Funding Opportunity (NOFO), it is required that eligible entities examine affordability as an element of the development of a statewide plan. DHCD's activities under the Digital Equity Act Planning Grant are intended to inform the development of non-deployment programs for funding with BEAD and Digital Equity Act Capacity and Competitive Grant Program funds. Regional Digital Opportunity Plans, aided by the Digital Opportunity survey, will propose data-driven implementations strategies to address identified community adoption and affordability needs, while Case Study Pilot Program grantees will provide existing examples of innovative non-deployment programs to replicate. Localities will likewise propose non-deployment programs identified through BEAD Planning Grant-funded local planning grants.

Additionally, DHCD was successful in its application for the FCC's ACP Outreach Grant and is conducting an outreach campaign to increase enrollment in the program. DHCD is targeting likely-eligible households in Low Income Housing Tax Credit (LIHTC) and public housing authority properties, as well as student households who struggle with broadband affordability. DHCD will also conduct a social media campaign in localities where broadband availability is high but enrollment in ACP is comparatively low.

The BEAD and Digital Equity Act Planning Grant processes are enabling DHCD to explore opportunities for non-deployment programs that address digital literacy, and advance broadband affordability and adoption in the Commonwealth. The Regional Digital Opportunity planning process will enable communities to identify gaps in affordability, adoption, and digital literacy in their communities, while the Digital Opportunity Pilot Project Case Study program will identify best practices for non-deployment programs that address the digital divide.

Broadband Workforce Development Programs

Ensuring an adequate and reliable workforce for both the construction and maintenance of broadband networks, as well as other related industries such utility locates are paramount to the long-term successfulness of the Commonwealth's efforts to deploy broadband infrastructure. A handful of workforce development programs are in development across the Commonwealth, including both those led by institutions of higher education and those coordinated by the private sector. BEAD funds will support the coordination of these efforts, as well as identify and fill gaps where existing programs may be inadequate.

DHCD has partnered with a Workforce Development Program Study Consultant to assess the status of Virginia's workforce needs relative to broadband, as well as to offer data-based recommendations for how to address workforce needs in the BEAD program. The results of this consultant's work will inform DHCD's activities related to workforce development in Virginia.

5.3   Key Execution Strategies

The Virginia Office of Broadband's current activities align well with the goals and objectives of the BEAD program. Through robust stakeholder engagement, broadband planning efforts, deployment programs, and project monitoring, the Office of Broadband stands ready to implement BEAD funding for both deployment and non-deployment projects. Below is an outline of activities of the Office of Broadband and associated key execution strategies.

Administers the Virginia Telecommunication Initiative (VATI)

Administered by the Virginia Department of Housing and Community Development (DHCD), VATI enhances the sustainability and growth of communities throughout the Commonwealth by preparing those communities to build, utilize, and capitalize on telecommunications infrastructure. The primary objective of VATI is to provide financial assistance to supplement construction costs by private sector broadband service providers to extend service to areas that presently are unserved by any broadband provider. To date, VATI has invested over $935M to connect over 388,000 homes, businesses and community anchor institutions in the Commonwealth. These investments have leveraged an additional $1.2 billion in funds from units of local government and private sector broadband providers, producing a total investment in the Commonwealth of $1.9 billion. These investments are helping 80 counties and cities reach functionally universal broadband access.

Assists communities with broadband planning

The Office of Broadband offers broadband planning support to all Virginia localities. Beginning in 2016, the Office of Broadband launched a planning grant program for localities to develop broadband plans. This has evolved into the Office of Broadband actively working with localities to develop applications to the Virginia Telecommunication Initiative through technical assistance. The Office of Broadband also offers broadband planning resources to urban localities focused on addressing the issues of broadband affordability and adoption.

Develops and maintains the Commonwealth Connection: Virginia Broadband Availability Map

The Virginia Department of Housing and Community Development (DHCD) has launched a statewide broadband availability map indicating broadband coverage, including maximum broadband speeds available in-service territories in the Commonwealth. Broadband service providers are required to submit updated service territory data to the Department annually. The map, Commonwealth Connection, also provides information on active broadband deployment projects, public Wi-Fi hotspots, community anchor institutions, and provides profiles for all cities and counties in the Commonwealth.

Develops and manages the Broadband Project Dashboard

DHCD has develop a public facing dashboard that contains key performance information by grant recipient and year for VATI projects announced since January 2021. These performance metrics include the number of passings, grant dollars expended by fund source, contract performance period and on-time progress towards project delivery, maximum advertised project speeds available, and achievement of key project milestones.

Administers the Utility Leverage Unserved Area Certification Program

The Utility Leverage Program (§ 56-585.1:9), operated by the State Corporation Commission (SCC), is an avenue in which investor-owned utilities (IOU) (Dominion Energy and Appalachian Power) can petition the SCC to provide or make available broadband capacity available to internet service providers (ISP) in areas of the Commonwealth unserved by broadband. Through the program, IOUs may recover costs of, and revenue generated from providing broadband capacity that serves as an electric grid transformation project. To streamline the petition process of determining whether an area is unserved, in 2021, DHCD was directed by the General Assembly to establish an unserved certification program, where petitioners may submit proposed project areas to DHCD to be designated as unserved by broadband. The Office of Broadband operates the Utility Leverage Program – Unserved Certification process to fulfill these requirements.

Administers the Line Extension Customer Assistance Program (LECAP)

The Line Extension Customer Assistance Program (LECAP), established in the 2021 General Assembly Session II through the allocation of American Rescue Plan Act of 2021 (ARPA) funds, will support the extension of existing broadband networks to low- to moderate-income households. The program will provide funding to internet service providers directly to cover the special construction cost associated with extending the broadband infrastructure to the home, from existing easements. Qualifying households are those that exist beyond the service provider's standard connection drop length to connect the location at no additional charge.

Assists stakeholders with accessing tribal and federal broadband programs

To achieve functionally universal broadband access in the Commonwealth, engaging all groups and utilizing multiple funding sources is critical. The Office of Broadband works with local governments, including tribal governments, and internet service providers to provide technical

assistance in accessing tribal and federal broadband programs.

Staffs the Broadband Advisory Council

The Broadband Advisory Council advises the Governor on policy and funding priorities to expedite deployment and reduce the cost of broadband access in the Commonwealth. The Council is comprised of 17 members; seven legislative members, six non-legislative citizen members, and four ex officio members. The advisory council plays an integral role in the formation of the Virginia Telecommunication Initiative Guidelines and Criteria, which are updated annually.

Staffs the Commonwealth Connect Coalition

The Commonwealth Connect Coalition believes that every Virginian deserves access to quality broadband and the opportunity to fully participate in American life. From economic development to telemedicine to education, the internet touches nearly every aspect of modern life, and every corner of Virginia needs to have access to a reliable, high-speed connection. Now is the time to bridge this digital divide; failing to invest in broadband would leave hundreds of thousands of Virginians disconnected from the modern economy. Recognizing the importance of broadband access for all Virginians, the undersigned organizations wholeheartedly support meaningful funding for the Virginia Telecommunication Initiative (VATI) and the goal of universal broadband coverage across Virginia.

Furthering broadband affordability

The Office of Broadband has been actively engaged in efforts to address broadband affordability in Virginia for several years. The affordability of internet service provider's service plans is included in VATI application guidelines and is evaluated in the scoring process. Additionally, the Office is conducting outreach to increase enrollment in the Affordable Connectivity Program, the primary effort at the federal level to reduce the cost burden of internet service. The Office has a full-time staffer, the Broadband Affordability and Adoption Coordinator, whose responsibilities include working with internet service providers to increase options for affordable internet service plans in the Commonwealth, as well as manage broadband affordability programs.

Ensuring an available and highly skilled workforce

The Office of Broadband works with workforce development groups, industry associations, and other stakeholders to understand gaps in an available and highly skilled workforce to support broadband expansion and network operations. With available BEAD funding, the Office of Broadband has partnered with a group to study the existing landscape of broadband workforce development programs in Virginia's Community College System and other institutions of higher education to develop recommendations on how to coordinate across these systems. The Office of Broadband has partnered with a Workforce Development Program Study Consultant to assess the status of Virginia's workforce needs relative to broadband, as well as to offer data-based recommendations for how to address workforce needs in the BEAD program. The results of this consultant's work will inform DHCD's activities related to workforce development in Virginia.

Collectively, these activities will assist the Commonwealth in meeting our goals and objectives, in alignment and compliance with the statutory requirements of the BEAD program.

5.4 Estimated Timeline for Universal Service

Virginia, aided by upcoming BEAD funds, remains on track to obligate funding for functionally universal broadband access by the end of 2024 to all unserved and underserved locations in the Commonwealth that lack a funded solution for broadband access.

This means, every Virginia home, business, and community anchor institution that can be reached through a cost-effective solution will be included in a project for expansion of broadband infrastructure to their location.

Broadband infrastructure deployment projects under the Virginia Telecommunication Initiative allow construction timelines to range up to 3 years from contract execution. The timelines of these projects may increase, depending on the regulatory burden of federal funding through BEAD supporting these projects. The BEAD program allows project timelines up to four years following approval of funding. Based on these windows, while all projects for deployment may be announced by the end of 2024, the construction of these projects will complete in 2027, into 2028.

5.5 Estimated Cost for Universal Service

Several waves of investment have yielded a massive influx of capital into the telecommunications industry. Internet service providers (ISP) in Virginia continually share their experiences with the increased demand of materials and inability to secure labor within their organization, as well as the inability to secure contract labor to fulfil their broadband expansion obligations though state and federal grants. Overall, the impacts of these accelerated investments are raising costs for broadband infrastructure deployment to currently unserved areas. Provided below is a summary of those factors which will call for an increase in state investment per location to obtain universal coverage in Virginia. The required 'state investment per location' is a combination of state general funding, as well as funding Virginia will receive through the Infrastructure Investments and Jobs Act Broadband Equity, Access, and Deployment Program.

Factors which will increase deployment costs:

- The areas left behind are in the highest cost, hardest to reach corners of the Commonwealth. Those areas remaining without state investment to provide broadband access have struggled to be competitive in prior VATI rounds due to the cost efficiency of the proposal, as well as the lack of local government's ability to develop a universal-service proposals.
- As the supply side continues to become more constrained through the influx of government funding for broadband deployment, the price of labor and telecommunications materials are increasing. In conversations with ISPs building wireline networks, they are already experiencing a 20% increase in costs, and it is anticipated that costs will rise an additional 20-30% over the next 6-12 months.
- During the last funding cycle of VATI, local governments were awash with SLFRF-ARPA funding. These funds will be generally less available during future rounds, which will increase the necessary state investment per location.

- While state general funds managed through the VATI program are subject to budget language and programmatic guidelines, BEAD funds directed to Virginia are subject to another subset of rules which will drive up state investment needed per location. Some of these BEAD requirements include, letters of credit, prevailing wages, environmental and historical reviews, Buy America provisions, and that BEAD funds are currently considered taxable income for internet service providers. The BEAD program's stated preference to fiber to the home expansion projects will also marginally increase costs.

Scope of the Remaining Unserved

162,107 homes, businesses and community anchor institutions in the Commonwealth of Virginia lack access to broadband at the level of 100 Megabits per Second (Mbps) Download Speeds and 20 Mbps Upload Speeds and do not have a funded solution project to serve the location according to data collected from internet service providers in the state broadband mapping process in December 2022 and March 2023, compared against data from under the Federal Communication Commission's Broadband Availability Map.

Cost Projections to Reach Universal Coverage in the Commonwealth

The cost projections below take into consideration the factors previously outlined and use a base rate of the FY2022 VATI state investment per location of $2,586.79 for multi-location deployments. It is estimated that the average state investment per location in these areas will rise 50% above the FY2022 rate of state investment through inflation and infusion of federal requirements which will raise costs. The cost projection for line extension was derived through an anticipated increase in the costs of line extensions through LECAP, as the BEAD program does not include the low-income requirement for participation in the program. Similar factors which raise the costs of deployment will also increase the average line extension state cost through LECAP, which currently stands at $6,141.99.

Cost Projections for Multi-Location Deployments

> $2,586.79 (VATI FY22 state cost per pass) * 1.37 (Expected increase of state share of project cost) = 3,543.9 * 1.5 (remaining factors expected to increase costs) = **$5,315.85** state investment needed per location, on average

> An estimated 137,027 unserved and underserved locations fall within this category, requiring an anticipated investment of $728.4 million in BEAD funding.

Cost Projections for Line Extensions

> $6,141.99 * 1.5 = $9,212.99 in state investment needed per location, on average.

> An estimated 25,000 locations fall within this category, requiring an anticipated investment of $230.3 million in BEAD funding.

Investment Required for Universal Coverage in Virginia

The Office of Broadband projects a total investment of over $958.7M in BEAD funding to achieve universal service in Virginia. This investment, however, requires a combination of state general funding and funding from the Infrastructure Investments and Jobs Act Broadband Equity, Access, and Deployment Program.

State General Fund Investment Required

Governor Youngkin has reiterated his support for the technology neutrality of the VATI program, permitting investment in all broadband technologies to expand high speed internet access. This technology neutrality; however, is not similarly reflected in the Infrastructure Investments and Jobs Act's Broadband Equity, Access, and Deployment Program, the rules of which clearly designate fiber-to-the-home networks as the priority investment of these funds. With some connectivity solutions inevitably requiring investment in non-fiber expansion projects, additional state investment will be required to fund these non-fiber solutions, including fixed wireless and hybrid fiber-coaxial cable networks. Additionally, BEAD investment is prohibited in existing federally funded project areas. The Virginia Telecommunication Initiative, through state general funding, has played a critical role in ensuring the timely delivery of federal investments by accelerating their delivery through adjacent investments and incentivizing acceleration of federal project buildouts. The prohibition of BEAD funding to be utilized in these areas calls for state general funds to serve as a backstop to existing federal awards that fail to meet their deployment obligations.

5.6 Alignment

Governor Youngkin's priorities revolve around making sure Virginia is the best state to live, work, and raise a family. These priorities span over three overarching objectives: increasing economic competitiveness, bolstering Virginia's education system, and boosting Virginians' quality of live through safeguarding communities from recurrent environmental challenges, as well as crime. To accomplish these aims, Governor Youngkin's goal is to accelerate the transformation of government, leading it to be more efficient for the citizens it serves.

Full broadband access, affordability, and adoption will only enhance the ability to accomplish these priorities. By each of these three areas, below is a synopsis of how bridging the digital divide is interwoven with these priorities.

Increasing Economic Competitiveness

To ensure that Virginia is the best state to start and locate a business, regardless of its size, access to broadband infrastructure for the business, as well as its employees, is paramount. Corporate leaders are focused on ensuring telecommunication capabilities at sites, but equally focused on ensuring that employees, regardless of where they choose to live, have access to high-speed internet. Universal broadband access will be key to Virginia's competitiveness to attracting and retaining businesses of all sizes.

Bolstering Virginia's Education System

Like economic competitiveness, connectivity is also critical to reinventing a strong education system. Learning in the 21st century goes beyond the physical classroom and eliminating the barriers of lack of access, affordability, and adoption of broadband will be key to ensuring all students in Virginia, regardless of age or location, have equal opportunity for a strong education from pre-school through high school, and beyond in post-secondary education.

Safeguarding Virginia from Recurrent Environmental Challenges and Crime

Safeguarding Virginia from recurrent environmental challenges also calls for ensuring that when broadband networks are built, they are built in a way that is resilient to the climate challenges that Virginia faces today and will face in the coming decades.

Reducing crime in the Commonwealth can be addressed by making sure those recently released from incarceration are digitally literate and understand how to navigate the online world through areas like online communications, applying for a job, and online banking. Making sure broadband is accessible through affordability, combined with adoption and digital literacy programs will meet these goals.

5.7   Technical Assistance

The Virginia Office of Broadband will work closely with the National Telecommunication and Information Association for the successful implementation of both BEAD and Digital Equity Act funding. With the assistance of the Federal Program Officer in Virginia, the Office of Broadband incorporate the FPO into all internal activities, from subgrantee selection to project closeout. This incorporation of the FPO into all Office of Broadband activities will ensure both the initial and final proposals fully meet the requirements of the Infrastructure Investments and Jobs Act, and the BEAD program.

Specifically, the Office of Broadband will require assistance from NTIA in subgrantee program design for both deployment and non-deployment programs to ensure compliance with applicable rules and regulations. To this aim, the Office of Broadband's goal is to retain as much of the existing structure and nature of current programs, such as VATI. The infusion of BEAD funding into these programs with minimal changes to ensure continuity in broadband deployment across the Commonwealth is paramount to the successfulness of programs.

6   Conclusion

The Commonwealth of Virginia stands ready for the successful implementation of funding under the Infrastructure Investments and Jobs Act, especially the Broadband, Equity, Access and Deployment Program. Through the infusion of these funds into existing broadband deployment programs, such as the Virginia Telecommunication Initiative and Line Extension Customer Assistance Program, the goal of affordable, reliable, high-speed internet access universally across the Commonwealth is obtainable. These investments will be bolstered by an enhanced focus on addressing the affordability of new and existing broadband infrastructure, as well as moving to the goal of full-broadband adoption. These goals will continue to enhance the Commonwealth as the best place to live, work, and raise a family.