



ConnectALL

A Division of Empire State Development

Five-Year Action Plan

Broadband Equity, Access, and Deployment (BEAD) Program

September 2023



ConnectALL Office
Empire State Development
State of New York

Cover image courtesy of the New York Power Authority. Photographer: Phil Kamrass.

Table of Contents

1	Executive Summary	1
1.1	Vision and Objectives	1
1.2	Current State of Broadband and Digital Inclusion.....	1
1.3	Obstacles or Barriers.....	2
1.4	Implementation Plan.....	4
1.4.1	Priorities	4
1.4.2	Estimated Timeline and Cost for Universal Service	4
1.5	Confirmation That This Five-Year Action Plan Meets Minimum Requirements	6
2	Overview of the Five-Year Action Plan	7
2.1	Vision	7
2.2	ConnectALL Initiative.....	7
2.3	Digital Equity Principles.....	8
2.4	Goals and Objectives.....	9
3	Current State of Broadband and Digital Inclusion	10
3.1	Existing Programs.....	13
3.2	Partnerships.....	30
3.3	Asset Inventory	38
3.3.1	Broadband Deployment	38
3.3.2	Broadband Adoption.....	40
3.3.3	Broadband Affordability	49
3.3.4	Broadband Access	54
3.3.5	Digital Equity	57
3.4	Needs and Gaps Assessment	57
3.4.1	Gaps in Broadband Deployment Measures.....	58
3.4.2	Broadband Adoption.....	59
3.4.3	Broadband Affordability	61
3.4.4	Broadband Access	62
3.4.5	Digital Equity	62
4	Obstacles or Barriers	68
4.1	BEAD Policy Decisions	68

4.2 Legislative and Regulatory Matters Affecting Deployment.....	69
4.3 Employment Opportunities	71
4.4 Supply Chain Issues and Materials Availability	72
4.5 Industry Participation.....	73
4.6 Topography and Project Areas.....	75
5 Implementation Plan	76
5.1 Stakeholder Engagement.....	76
5.1.1 Summary of Engagement to Date.....	76
5.1.2 Confirmation of Alignment with NTIA Local Coordination Criteria	80
5.2 Priorities	81
5.3 Planned Activities.....	82
5.4 Key Strategies	83
5.5 Estimated Timeline for BEAD Implementation	85
5.6 Estimated Cost for Universal Service	85
5.7 Alignment	88
5.8 Technical Assistance.....	99
6 Conclusion	100
Appendix A: Additional Affordability Assets.....	101
Appendix B: Survey Instruments.....	110
Survey Instrument 1: New York State Internet Access Survey.....	110
Survey Instrument 2: Internet Service Provider Survey	122
Survey Instrument 3: New York Community Anchor Institution Survey.....	134
Appendix C: Local Coordination.....	154
C.1 Digital Equity Task Force Meetings	154
C.2 Digital Equity Task Force Town Halls	159
C.3 Housing-focused Engagement	161
C.4 Interviews: Counties and Municipalities.....	162
C.5 Interviews: Industry Market Sounding	166
C.6 Interviews: Workforce Development.....	173
C.7 Meetings: Industry	176
C.8 Meetings: Regional Economic Development and Planning Entities.....	180

C.9 Meetings: Tribal Government	183
C.10 Office Hours.....	184
C.11 Regional Focus Groups.....	184
C.12 Regional Listening Sessions	192
C.13 Site Visits	197
C.14 Stakeholder Forums.....	199
C.15 Webinars.....	201
C.16 Select ConnectALL External Presentations	202

Acronym Guide

Acronyms referenced more than once in this Plan are defined below.

ACP: The FCC's Affordable Connectivity Program, which provides subsidies for low-income and Tribal households to access home broadband subscriptions and/or internet-enabled devices.

ARPA: The federal American Rescue Plan Act of 2021.

BAP: DPS's Broadband Assessment Program for broadband data collection and analysis, which resulted in the creation of the State's interactive broadband map and publication of annual reports on broadband availability and affordability in New York.

BEAD: NTIA's Broadband Equity, Access, and Deployment Program, which will provide \$42.45B nationally for broadband infrastructure planning and implementation.

BPO: The Broadband Program Office, housed within ESD and the predecessor to CAO; all responsibilities and authorities of the BPO were transferred to CAO in 2022.

CAI: Community Anchor Institution, defined by NTIA in the BEAD NOFO "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."

CAO: The ConnectALL Office, a division of ESD, and the State's designated entity for receiving and administering BEAD Program funds.

DETF: The Digital Equity Task Force, an interagency group co-convened by the ConnectALL Office and NYSL, with subcommittees focused on key outcome areas: education, health, workforce development, civic and social engagement, and accessibility of government services.

DEWG: The Digital Equity Working Group, an interagency group co-convened by the ConnectALL Office and NYSL; the less formal and structured predecessor to the DETF.

DPS: New York State Department of Public Service, responsible for leading ACP outreach, maintaining the State broadband map, and regulating pole attachments in the state, among other responsibilities.

ESD: Empire State Development, New York State's economic development agency and parent agency of CAO.

FCC: The Federal Communications Commission, administrator of the ACP and developer of the National Broadband Map.

FTTP: Fiber-to-the-premises.

ISP: Internet Service Provider.

NOFO: Notice of Funding Opportunity; specifically, NTIA's Notices of Funding Opportunity for the BEAD and State Digital Equity Planning Grant Programs.

NTIA: The National Telecommunications and Information Administration, administrator of the BEAD Program and State Digital Equity Planning Grant Program.

NYSDOT: New York State Department of Transportation, responsible for regulating access to State rights-of-way.

NYSL: New York State Library, a division of New York State Education Department; co-convenor of the DEWG and DETF.

PSC: The New York State Public Service Commission, a division of DPS, which regulates and oversees electric, gas, water, and telecommunication industries in the state.

RDOF: The Rural Digital Opportunity Fund Program, administered by the FCC.

1 Executive Summary

The ConnectALL Office (CAO), the Eligible Entity for the State of New York, is pleased to present this Broadband Equity, Access, and Deployment (BEAD) Program Five-Year Action Plan. This Plan establishes New York’s goals and priorities and serves as comprehensive needs assessment to inform the State’s Initial Proposal for BEAD implementation.

1.1 Vision and Objectives

Governor Kathy Hochul established ConnectALL in 2022 to transform New York State’s digital infrastructure so all residents and businesses have access to high-speed, reliable, and affordable broadband for education, economic growth, and full participation in civic life.

This vision is pursuant to the principles also articulated by the New York State Legislature in the 2022 Working to Implement Reliable and Equitable Deployment of Broadband Act (WIRED Broadband Act), which “declares that:

- Access to high-speed, reliable, and affordable broadband is essential for education, economic growth, and full participation in civic life;
- The persistence of the digital divide is a key barrier to improving the general welfare;
- The digital divide disproportionately affects communities of color, lower-income areas, rural areas, and other vulnerable populations, and the benefits of broadband access should be available to all;
- A robust and competitive internet marketplace in New York supports general economic development and benefits New Yorkers with improved internet service and affordability; and
- The State has a responsibility to assist in ending the digital divide, supporting a more robust and competitive internet marketplace, and carrying out other actions to ensure universal access to high-speed, reliable, and affordable broadband.”¹

1.2 Current State of Broadband and Digital Inclusion

97.47% of New York’s population has access to at least two wired or fixed wireless internet service providers (ISPs), at least one of which offers high-speed internet service, according to the New York State Public Service Commission (PSC)’s 2023 Report on the Availability,

¹ The WIRED Broadband Act added a new Section 16-gg to Section 1 of Chapter 174 of the laws of 1968, constituting the New York State Urban Development Corporation Act; see, https://www.nysenate.gov/legislation/laws/UDA/16-GG*2.

Reliability and Cost of High-Speed Broadband Services in New York State.^{2,3} Per the report, 2.46% of locations in the state are unserved, meaning that location has no wired or fixed wireless providers offering download speeds of at least 25 Megabits per second (Mbps); and less than 1% are underserved, having fewer than two providers or service with speeds of at least 25 Mbps download but less than 100 Mbps available. Unserved and underserved locations remaining to be connected within the state are predominantly rural.

Nearly a million New York households, or 13.1%, do not subscribe to fixed broadband service, according to the most current data available from the U.S. Census Bureau (2021). Vulnerable communities, such as low-income households, aging individuals, people with disabilities, people with language barriers, and racial and ethnic minorities are shown to be less likely to subscribe to service.⁴

New York State's ConnectALL initiative represents the largest-ever investment to address New York's broadband infrastructure and digital equity challenges. ConnectALL will catalyze more than \$1 billion in public and private funding to deliver affordable broadband to millions of residents in both rural and urban areas. ConnectALL builds on the foundation of New York State's earlier investments in broadband, which stretch back over a decade and are described further in Chapter 3.

1.3 Obstacles or Barriers

CAO has identified a range of potential obstacles or barriers to successful BEAD implementation that it will seek to mitigate through its programs and initiatives. As discussed in Chapter 4, these include:

- **BEAD policy decisions:** NTIA's process will require CAO to make several key policy decisions, which must be informed by robust data collection and analysis. CAO has built internal capacity to support decision-making and strategic planning for the BEAD Program and effectively navigate these policy choices.
- **Legislative and regulatory matters affecting deployment:** Industry stakeholders have identified that the costs, timelines, and overall uncertainty associated with utility pole make-ready and attachment processes may affect their ability to participate in

² "2023 Report on the Availability, Reliability and Cost of High-Speed Broadband Services in New York State." NYS Public Service Commission, June 2023,

<https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={0083E488-0000-CA13-B21F-DDBF1839B881}>.

³ The PSC defines "unserved" locations as locations which have no fixed wireless or wired service with speeds of at least 25 Mbps download available. The PSC defines "underserved" locations as locations with fewer than two internet service providers, or which have internet speeds of at least 25 Mbps but less than 100 Mbps download available. These definitions differ slightly from the NTIA definitions in that they: 1) do not establish a minimum threshold requirement for upload speeds; and 2) take the number of ISPs into consideration as a determinant of the service status.

⁴ ConnectALL NYS Internet Access Survey, ConnectALL Office, July 2023.

CAO programs. The State has made a proactive effort to create an environment conducive to broadband deployment and digital equity; CAO has noted and is continually tracking potential regulatory issues to identify ways to support deployment.

- **Employment opportunities:** Numerous studies, including those by NTIA, have projected unprecedented national and New York State demand for key jobs related to BEAD deployment in New York. This is likely to be compounded by the level of federal spending across multiple categories of infrastructure, combined with impending retirements across critical occupations. CAO has also identified that needs will vary across the state, given the regional nature of much of the investment. CAO recognizes that these challenges represent an opportunity to create more equitable job pathways and address historical disparities in hiring.
- **Supply chain issues and materials availability:** Demand for labor and materials has spiked due to the extensive allocations of federal funding for broadband infrastructure, as well as planned projects by state and local governments and ISPs—a market disruption that is highly specific to industry materials. Build America Buy America provisions are critically important, and national suppliers must create the capacity to meet the demands of all 50 states, including New York.
- **Industry participation:** The State has decades of history investing in broadband deployment through collaboration with ISPs; commitments by ISPs to share the cost and risk of last-mile broadband deployment in exchange for partial public funding will continue to be an important factor in closing the state’s digital divide. Designing grant funding areas that are attractive to multiple bidders and connect extremely high-cost unserved locations will be critical. Given the potential high cost of preparing a bid, handling required environmental and historical permitting, and complying with NTIA grant requirements including Build America Buy America provisions and the letter of credit, the State recognizes it will need to thoughtfully craft its eligibility and selection criteria to ensure small bidders are able to apply. The State will also need to provide technical assistance to subgrantees to support meeting supplier and contractor diversity goals, as well as other Empire State Development (ESD) granting requirements.
- **Topography:** New York is regionally diverse with varying topography that can result in underground construction being prohibitively expensive. The remaining underserved locations in the state are distinctly difficult and expensive to connect. BEAD funding will be critical to achieving New York’s universal service goal, as New York’s topographical challenges will require significant capital investment. CAO’s definition of the Extremely High-Cost locations will be directly related to successfully overcoming the topography challenges of the state.

1.4 Implementation Plan

This Plan presents the State's estimated costs, timeline, and strategies for achieving universal service, along with strategies related to remedying inequities in digital inclusion (see Chapter 5).

1.4.1 Priorities

The BEAD Program prioritizes deployment in the following order:⁵

1. Connecting all unserved locations in the state.
2. Connecting all underserved locations in the state.
3. Delivering symmetrical gigabit connections to certain Community Anchor Institutions that do not currently have that level of service.

In selecting priority areas for federal support, CAO will prioritize Unserved Service Projects first⁶, as required by NTIA. Within this category, CAO may incorporate additional factors in how it defines project areas, evaluates proposals, or implements complementary activities, in alignment with the framework of the BEAD Program, as further detailed in Chapter 5.2.

1.4.2 Estimated Timeline and Cost for Universal Service

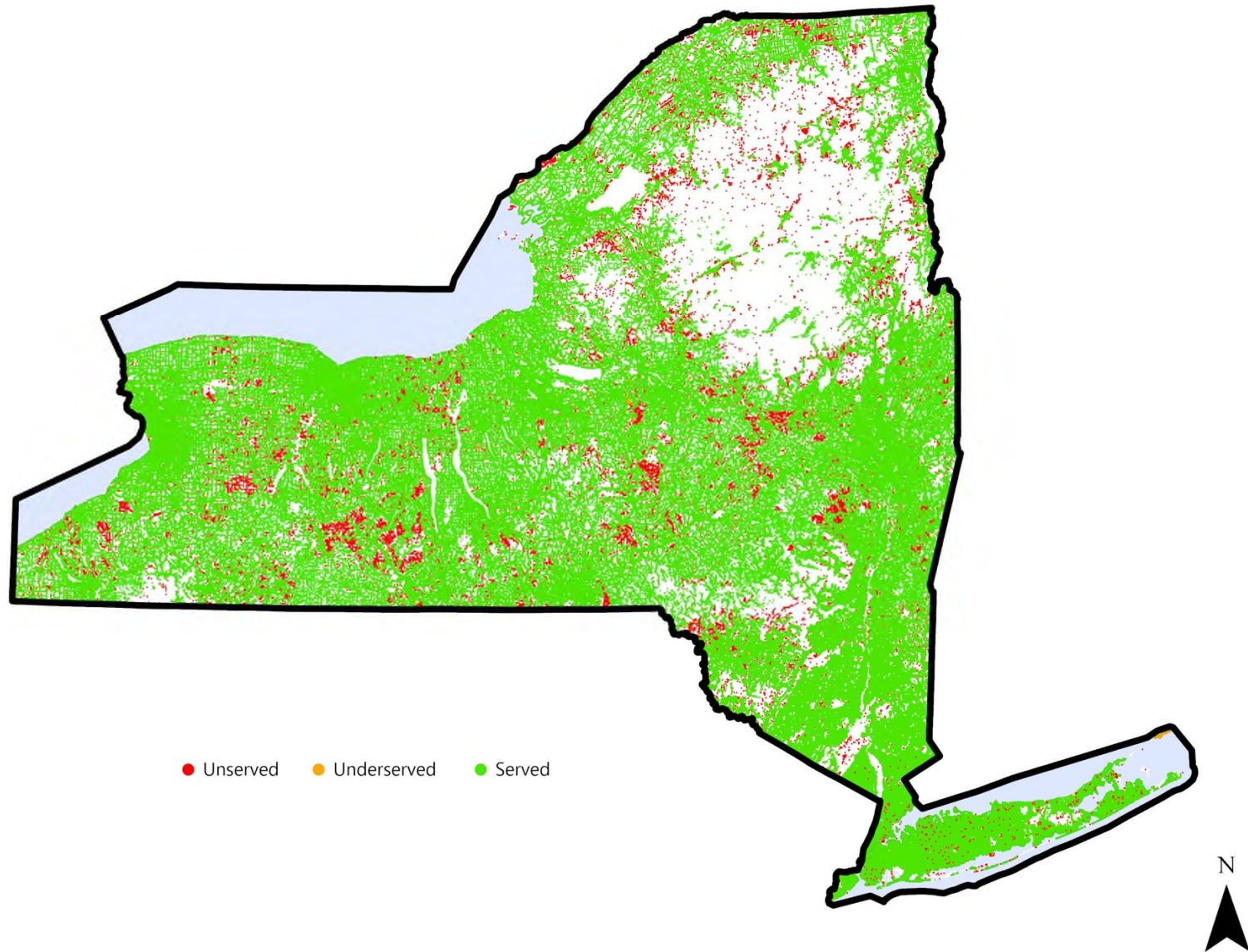
CAO expects that the majority, if not all, of the subgrant awards will be fully implemented within the four-year buildout period prescribed by NTIA. CAO expects to submit its Initial Proposal to NTIA in December 2023. The subgrantee selection process is estimated to begin in mid-2024, with the Final Proposal submission to NTIA by the second quarter of 2025. Implementation, including the design, permitting, and construction processes of the subgrantees, is expected to begin in 2025.

CAO estimates a total deployment cost of fiber optic infrastructure to the estimated 114,377 unserved addresses (from the FCC address fabric version 2 and the FCC Broadband Data Collection (BDC) as of May 24, 2023) that are not covered by existing, enforceable deployment commitments to be \$1.947 billion. In addition to the unserved locations, there are 35,012 underserved locations identified in the May 24, 2023 FCC dataset that are not covered under existing, enforceable commitments. CAO estimates the cost of construction to reach 149,389 total of unserved and underserved addresses to be \$2.291 billion.

⁵ "NOFO: BEAD Program." NTIA, 2022, <https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf>, at p. 41.

⁶ *Id.*, at p. 17.

Figure 1: Unserved, Underserved, and Served Locations in New York State (SOURCE: FCC Fabric Version 2, BDC December 31, 2022 (updated August 9, 2023))



New York’s estimates are higher than NTIA’s allocation of \$664,618,251.49 from the BEAD Program. The estimates cited above focus solely on fiber optic technology and therefore do not reflect CAO’s final estimate for its implementation of the BEAD Program. CAO will conduct further analysis and refinements of the location and availability data during the Initial Proposal process and will assess the use of multiple technologies to lower construction costs and maximize Program reach, consistent with BEAD requirements. In addition, CAO anticipates that its cost and location estimates will change as a result of future changes in the FCC’s fabric and serviceable location data. In its Initial Proposal, CAO will provide an updated total cost estimate for universal service.

1.5 Confirmation That This Five-Year Action Plan Meets Minimum Requirements

This Five-Year Action Plan meets minimum requirements as outlined in the BEAD Notice of Funding Opportunity (NOFO) and summarized in Section 7.1 of the NTIA’s “Five-Year Action Plan: Guidance” document:

Table 1: Alignment of New York State Five-Year Action Plan Against NTIA Requirements

Requirement	Chapter in this Plan
1. Details of existing broadband program of office within the Eligible Entity	Chapter 3
2. Funding the Eligible Entity has available	Chapter 3
3. Existing efforts funded by the federal government	Chapter 3
4. Employees and contract support	Chapter 3
5. Obstacles or barriers	Chapter 4
6. Asset inventories	Chapter 3 Appendices
7. Description of external engagement process	Chapter 3 Chapter 5 Appendices
8. Broadband availability and adoption data	Chapter 3 Chapter 5
9. Broadband service needs and gaps	Chapter 3 Chapter 5
10. Comprehensive, high-level plan, including timeline and cost for universal service	Chapter 5
11. Digital equity and inclusion needs, goals, and implementation strategies	Chapter 2 Chapter 3 Chapter 5 Appendices
12. Alignment of the Plan with other efforts and priorities	Chapter 5
13. Technical assistance and capacity needed for successful implementation	Chapter 5

2 Overview of the Five-Year Action Plan

This Five-Year Action Plan establishes New York’s broadband goals and priorities—and presents a comprehensive needs assessment that will inform the State’s Initial Proposal.

2.1 Vision

The State’s vision for the ConnectALL initiative is as follows:

ConnectALL will transform New York's digital infrastructure so all residents and businesses have access to high-speed, reliable, and affordable broadband for education, economic growth, and full participation in civic life. ConnectALL invests in a robust and competitive internet marketplace to support economic development and benefit New Yorkers with consumer choice. ConnectALL leads a statewide mobilization to end the digital divide with partners in State, regional, county, local, and Tribal governments, and in the private, nonprofit, and academic sectors.

2.2 ConnectALL Initiative

Through ConnectALL, the State of New York will mobilize more than \$1 billion in public investments to connect New Yorkers in rural and underserved areas statewide to broadband. Governor Hochul announced five new grant programs as a framework for ConnectALL’s public investments:⁷

- **Statewide Digital Equity Plan and grant program** to support New Yorkers’ use of the internet to participate in our society, democracy, and economy.
- **Rural Broadband Grant Program** for areas that lack broadband infrastructure (“ConnectALL Deployment Program”).
- **Local Connectivity Planning and 21st Century Municipal Infrastructure Grant Program** for municipalities, nonprofits, and other entities to construct open and accessible public broadband infrastructure (“Municipal Infrastructure Program”).
- **Affordable Housing Connectivity Program**, a partnership with New York Homes and Community Renewal to retrofit affordable housing with broadband installations as part of the agency's overall housing plan.
- **Connectivity Innovation Grant Program** to develop creative broadband solutions and ensure New York is a global leader in pioneering future breakthroughs.

⁷ “Governor Hochul Announces New \$1 Billion 'ConnectALL' Initiative to Bring Affordable Broadband to Millions of New Yorkers.” New York State, January 5, 2022, <https://www.governor.ny.gov/news/governor-hochul-announces-new-1-billion-connectall-initiative-bring-affordable-broadband>.

In April 2022, the New York State Legislature passed legislation providing authority to Empire State Development (ESD) to establish the ConnectALL Office (CAO) based on the following statement of legislative findings and purpose:

“The legislature hereby finds and declares that: access to high-speed, reliable, and affordable broadband is essential for education, economic growth, and full participation in civic life; the persistence of the digital divide is a key barrier to improving the general welfare; the digital divide disproportionately affects communities of color, lower-income areas, rural areas, and other vulnerable populations, and the benefits of broadband access should be available to all; a robust and competitive internet marketplace in New York supports general economic development and benefits New Yorkers with improved internet service and affordability; the state has a responsibility to assist in ending the digital divide, supporting a more robust and competitive internet marketplace, and carrying out other actions to ensure universal access to high-speed, reliable, and affordable broadband.”⁸

The ConnectALL initiative includes additional support for New York’s broadband vision that aligns closely to its BEAD goals, including enhancing investment through comprehensive mapping, streamlining permitting by removing outdated regulatory hurdles and fees and leveraging State assets, and promoting the federal Affordable Connectivity Program (ACP) for low-income households. This work enhances New York’s preparation for NTIA’s BEAD and Digital Equity investments.

BEAD funds will support the implementation of the ConnectALL Deployment Program⁹; BEAD planning and data collection work will support and inform CAO’s comprehensive approach to addressing the digital divide through all of the programs in the ConnectALL portfolio.

2.3 Digital Equity Principles

CAO has adopted five digital equity principles to guide the implementation of its mandate:

- **Equity:** All residents and businesses should have the internet, digital skills, and devices to participate fully in our society, democracy, and economy.
- **Performance:** All internet service should be reliable and of high-quality, delivered with excellent customer service and providing safe, rewarding quality jobs.
- **Choice:** All residents and businesses should be able to determine their service provider, service plans, and modes of digital engagement.
- **Affordability:** No one should be denied internet service because of an inability to pay.

⁸ WIRED Broadband Act, *supra*, at §2.

⁹ The “ConnectALL deployment program,” defined in the WIRED Broadband Act, *id.*, at §7, was also referred to as the “Rural Broadband Grant Program” in Governor Hochul’s ConnectALL announcement.

- **Safety:** All residents should have privacy, security, and dignity online, and our use of the internet should enhance our well-being.

These principles have informed CAO's BEAD planning work, as well as its parallel work to develop the State Digital Equity Plan.

2.4 Goals and Objectives

The State of New York has the following broadband deployment and digital equity goals and objectives, which the BEAD Program will support:

Goal 1: New York's digital infrastructure will connect all residents and businesses to high-speed, reliable, and affordable broadband.

- Objective 1: All households and businesses in New York have access to broadband infrastructure by 2030.
- Objective 2: Rural cellular coverage will expand every year from 2025 to 2030.

Goal 2: New York will have a robust and competitive internet marketplace to support economic development and benefit New Yorkers with consumer choice.

- Objective 1: At least 100,000 households in affordable and public housing have access to improved broadband quality, affordability, and choice by 2030.
- Objective 2: At least 20,000 households will have new open-access municipal infrastructure to improve local broadband quality, affordability, and choice by 2030.
- Objective 3: Un/underemployed and historically marginalized New Yorkers will have improved access to at least 2,000 quality jobs created through new investment by 2030.¹⁰

Goal 3: A statewide mobilization with partners in State, regional, county, local, and Tribal governments, and in the private, nonprofit, and academic sectors will end the digital divide.¹¹

- Objective 1: Produce New York's first ever State Digital Equity Plan with engagement from every region of the state.
- Objective 2: Invest at least \$50 million to implement the State Digital Equity Plan.
- Objective 3: Identify at least five connectivity innovations to improve internet service and affordability for rural and/or low-income areas and support economic development.

¹⁰ CAO's initial labor analysis estimates that planned federal and State broadband investment will create 1,650+ one-time (construction-related) jobs at peak investment and 730+ new permanent operations jobs. These estimates will be refined through engagement with industry and State partners.

¹¹ This goal and its objectives are designed to align with the forthcoming State Digital Equity Plan. In support of this goal and also in support of the State Digital Equity Plan, the State recently launched a Digital Equity Task Force with five subcommittees aligned with the Digital Equity Planning Grant NOFO. For the Task Force, see <https://nyslibrary.libguides.com/c.php?g=1190632&p=9716718>.

3 Current State of Broadband and Digital Inclusion

This chapter describes the current state of broadband and digital inclusion in New York, as documented through rigorous data collection and stakeholder outreach efforts. It begins with an overview of the State's past and current efforts to promote broadband deployment and digital equity; describes the resources and relationships available to CAO; presents detailed asset inventories related to broadband deployment, adoption, affordability, access, and digital equity; and presents a needs and gaps assessment.

97.47% of New York's population has access to at least two wired or fixed wireless ISPs, at least one of which offers high-speed internet service, according to the New York State Public Service Commission (PSC)'s 2023 Report on the Availability, Reliability and Cost of High-Speed Broadband Services in New York State.^{12,13} Per the report, 2.46% of locations in the state are unserved, meaning that location has no wired or fixed wireless providers offering download speeds of at least 25 Megabits per second (Mbps); and less than 1% are underserved, having fewer than two providers or service with speeds of at least 25 Mbps download but less than 100 Mbps available. Unserved and underserved locations remaining to be connected within the state are predominantly rural.

Nearly a million New York households, or 13.1%, do not subscribe to fixed broadband service, according to the most current data available from the U.S. Census Bureau (2021). Vulnerable communities, such as low-income households, aging individuals, people with disabilities, people with language barriers, and racial and ethnic minorities are shown to be less likely to subscribe to service.¹⁴

New York State's ConnectALL initiative represents the largest-ever investment to address New York's broadband infrastructure and digital equity challenges. ConnectALL will catalyze more than \$1 billion in public and private funding to deliver affordable broadband to millions of residents in both rural and urban areas.

The ConnectALL Office (CAO), a division of Empire State Development (ESD), the State's economic development agency,¹⁵ leads the ConnectALL initiative through several programs

¹² 2023 PSC Report, supra.

¹³ The PSC defines "unserved" locations as locations which have no fixed wireless or wired service with speeds of at least 25 Mbps download available. The PSC defines "underserved" locations as locations with fewer than two internet service providers, or which have internet speeds of at least 25 Mbps but less than 100 Mbps download available. These definitions differ slightly from the NTIA definitions in that they: 1) do not establish a minimum threshold requirement for upload speeds; and 2) take the number of ISPs into consideration as a determinant of the service status.

¹⁴ ConnectALL NYS Internet Access Survey, supra.

¹⁵ Empire State Development is the umbrella organization for New York's two principal economic development financing entities: The New York State Urban Development Corporation and the New York Job Development Authority.

across three key areas of focus—capital investments, affordability and equity, and leveraging State assets.

ConnectALL builds on the foundation of New York State’s earlier investments in broadband with new investments that ensure every household and business in the state has reliable, fast, and affordable internet service and that all New Yorkers have the skills necessary to participate in the digital economy. Those earlier investments stretch back over a decade. The Broadband Program Office (BPO)—the predecessor to CAO—was established within ESD in 2008 with the primary function of implementing the State’s universal broadband initiatives. The BPO initially distributed investments made available to New York through the 2009 federal American Recovery and Reinvestment Act (ARRA) to expand availability and adoption of broadband service statewide. Through that process, the BPO facilitated the submission of 263 statewide grant applications which resulted in \$160 million awarded directly to New York State project sponsors.¹⁶

The State provided grant funding for broadband expansion projects through the ConnectNY Broadband Grant Program, which awarded approximately \$24 million.¹⁷ New York State also took critical steps to tackle the digital divide in schools with the 2014 Smart Schools Bond Act,¹⁸ which made \$2 billion available to school districts across the state for devices and classroom enhancements to improve school connectivity.

In 2015, ESD established the New NY Broadband Program, the most recent precursor to ConnectALL and the largest state broadband investment in the nation at the time. The State allocated \$500 million to this grant program, which generated matching funds from ISPs and a federal investment of \$170.4 million through the Connect America Fund Phase II Program. In total, New NY provided new internet access to approximately 256,000 homes and businesses.¹⁹ Of these, 177,040 were fiber or other terrestrial connections and 78,960 were connected by satellite. In conjunction with the program, the New York State Public Service Commission secured 145,000 locations for new service as a condition of Charter Communications’ acquisition of Time Warner Cable.²⁰

¹⁶ The Broadband Program Office 2011-12 Annual Report, p. 33.

¹⁷ “New NY Broadband Program.” ConnectALL Office, <https://broadband.ny.gov/new-ny-broadband-program>.

¹⁸ “Smart Schools Bond Act.” New York State Education Department, <https://www.nysed.gov/edtech/smart-schools-bond-act>.

¹⁹ “New NY Broadband Program,” *supra*.

²⁰ “2022 Report on the Availability, Reliability and Cost of High-Speed Broadband Services in New York State.” New York State Public Service Commission, June 2022, <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={94520887-43D6-45D4-B140-A5CF72CBF708}>.

Implemented in three phases, the New NY Broadband Program provided grants to qualified ISPs to deliver service of at least 100 Mbps download through an innovative “reverse auction” method. Ultimately, the New NY Broadband Program supported 126 individual projects led by 32 different companies. Approximately 90% of program funds addressed areas without any existing terrestrial high-speed broadband option, connecting these locations for the first time.

The State’s investment in broadband to date has also been complemented by federal funding. In addition to the Connect America Fund Phase II funding allocated to the New NY Broadband Program, the FCC awarded ten ISPs in the state a total of \$99,891,715 through the Rural Digital Opportunity Fund (RDOF) to serve 46,647 locations. The FCC also awarded New York State \$505,143,214 through the Emergency Connectivity Fund to help schools and libraries provide students with broadband connections and equipment to support remote learning during the COVID-19 pandemic. In 2021, the U.S. Department of Agriculture (USDA) announced a \$21 million investment to provide broadband service in rural areas of the state that did not have sufficient access as part of the second round of funding of the ReConnect Program.²¹

In 2023, the Development Authority of the North Country (DANC) was awarded a \$14.5 million grant from NTIA’s Enabling Middle Mile Broadband Infrastructure Program as part of a joint public-private partnership proposal with National Grid.²² The project will extend middle-mile fiber optic infrastructure to bring broadband access to unserved and underserved locations in Onondaga, Oswego, Oneida, Fulton, Montgomery, Herkimer, Hamilton, Jefferson, Lewis, St. Lawrence, Franklin, and Essex Counties.

Four Tribal Broadband Connectivity Program grant awards were awarded by NTIA within New York State. The Seneca Nation was awarded \$500,000 to develop Wi-Fi infrastructure to utilize FCC 2.5 GHz licensed spectrum. The grant funds connectivity to 1,904 households, 36% of which are at or below 150% of the federal poverty level. Mohawk Networks, LLC was awarded \$499,999.22 by NTIA to address first responder connectivity needs via 2.5 GHz licensed spectrum. The Haudenosaunee Environmental Task Force was awarded \$1,500,000.00 by NTIA for fiber to the premises to connect 440 households and two Community Anchor Institutions (CAIs). Finally, the Shinnecock Indian Nation was awarded \$8,197,449.36 to connect 301 unserved Native American households and 60 near-territory households, government buildings, and CAIs to fiber.²³

²¹ “USDA Invests \$21 Million in High-Speed Broadband in Rural New York.” USDA, July 6, 2021, <https://www.usda.gov/media/press-releases/2021/07/06/usda-invests-21-million-high-speed-broadband-rural-new-york>.

²² “Enabling Middle Mile Broadband Infrastructure Program: Funding Recipients.” NTIA, <https://broadbandusa.ntia.gov/funding-programs/enabling-middle-mile-broadband-infrastructure-program/funding-recipients>.

²³ “Round One Award Recipients.” NTIA, <https://broadbandusa.ntia.doc.gov/funding-programs/tribal-broadband-connectivity/award-recipients>.

3.1 Existing Programs

The table below identifies New York State’s current and recent activities, programs, and experience awarding broadband deployment grants.

Table 2: Current and Recent New York State Broadband Activities

Activity name	Description	Intended outcome(s)
Affordable Connectivity Program (ACP) Public Awareness	The Department of Public Service (DPS) leads an interagency promotional effort to increase awareness of, and enrollment in, the federal Affordable Connectivity Program (ACP).	Eligible New York households subscribe to the ACP at rates as high as any state in the country.
ConnectALL Affordable Housing Connectivity Program	Funding to deploy high-speed broadband infrastructure to affordable housing properties, as well as to upgrade in-building wiring and equipment to support high-speed service to individual residential units.	Residents in affordable and public housing have access to affordable, reliable, high-speed internet.
ConnectALL Connectivity Innovation Grant Program	Grants, seed funding, and matching funds to develop, pilot, and deploy innovative models and technologies for the delivery of broadband service to meet the needs of rural, low-income, and other areas that would otherwise not see investment.	Deployment of innovative and new broadband solutions, business models, and technologies; increased private sector investment and entrepreneurship to drive equity and innovation in the broadband marketplace; a thriving research, development, and manufacturing ecosystem to support connectivity innovation in New York.

Activity name	Description	Intended outcome(s)
ConnectALL Local Connectivity Planning and 21 st Century Municipal Infrastructure Program (“Municipal Infrastructure Program”)	Grant funding for municipalities, State and local authorities, and other entities to plan and construct infrastructure necessary to provide broadband services, support the adoption of broadband services, or other purposes for maximizing the effectiveness of municipal broadband programs. The Program launched in May 2022 with a series of four pilot projects that are leveraging fiber optic infrastructure on the New York Power Authority’s existing transmission line system to provide affordable high-speed internet access to rural communities.	Municipalities and other levels of government have public infrastructure to improve the equity, affordability, performance, consumer choice, and safety of broadband service for their residents.
ConnectALL Rural Broadband Grant Program (“ConnectALL Deployment Program”) ²⁴	Grant funding to construct infrastructure necessary to provide broadband services to unserved and underserved locations in the state.	Broadband service is available at every location in the state.

²⁴ Referred to as the “ConnectALL deployment program” in the WIRED Broadband Act; see WIRED Broadband Act, *supra*, at §7.

Activity name	Description	Intended outcome(s)
ConnectALL statewide Digital Equity Plan and Grant Program	Development of the State Digital Equity Plan through a statewide data collection and community engagement process; implementation of a statewide grant program to fund programs that will support individuals to have the information technology capacity needed for full participation in society and the economy.	New York State’s Digital Equity Plan reflects the needs and priorities of diverse communities across the state; all residents benefit from funded programs and can use the internet to participate in society, democracy, and the economy.
New NY Broadband Program	Established in 2015, this precursor program to ConnectALL (administered by the BPO) provided New York State grant funding to support projects that deliver high-speed internet access to unserved and underserved areas of the state.	Approximately 90% of program funds addressed areas without any terrestrial high-speed broadband option, connecting these locations for the first time. New NY resulted in the deployment of over 21,000 miles of fiber optic cable and supported over 120 individual projects with 32 different companies, the majority (56%) of which were either family-owned or nonprofit cooperatives.

Activity name	Description	Intended outcome(s)
<p>New York State Broadband Assessment Program (BAP) and interactive map</p>	<p>The New York State Public Service Commission (PSC) maintains an annually updated map of broadband availability at the address level and produces an annual report on the availability, affordability and reliability of high-speed internet and broadband services in New York State. The PSC issued the first iteration of the map and report in June 2022, and issued updates to both in 2023.^{25,26} To collect accurate data for the initial version of the map, the PSC collaborated with 60 ISPs, surveyed tens of thousands of New York consumers, and conducted field assessments in the state’s most remote areas, covering more than 80,000 miles.</p>	<p>New York maintains an accurate and detailed understanding of broadband availability statewide, a useful tool for targeting where investment in broadband connectivity is needed; consumers are able to search the map by address location to see if the location is served, underserved, or unserved and which providers are available at the location.</p>

²⁵ “Governor Hochul Announces Release of Statewide Address-Level Broadband Map.” Office of the Governor, June 16, 2022, <https://www.governor.ny.gov/news/governor-hochul-announces-release-statewide-address-level-broadband-map>.

²⁶ 2023 PSC Report, *supra*.

Activity name	Description	Intended outcome(s)
New York State Department of Transportation (NYSDOT) Regulatory Activities	<p>NYSDOT established the Utility and Energy Management Bureau in 2022 to focus on managing the permit process to secure access to State rights-of-way. NYSDOT initiated a pilot program in 2023 eliminating the requirement for a Licensed Land Surveyor stamp on applications for aerial pole installations. NYSDOT has also launched a new online system to streamline application and review processes.</p>	<p>Costs and timelines for key construction requirements decrease. A new permitting system provides more transparency to applicants to view application progress and streamlines review within the agency.</p>

Activity name	Description	Intended outcome(s)
<p>New York State Public Service Commission (PSC) Regulatory Activities</p>	<p>In conducting its statewide telecommunications reviews, oversight of transactions involving regulated cable and telecommunications providers, enforcement of service quality standards, and promoting measures to improve broadband affordability, the PSC has secured ISP commitments for significant broadband expansions, including with Empire Telephone Company, Margaretville Telephone Company, and Atlas Connectivity. The PSC has additionally heard and ruled on petitions from service providers denied access to multi-dwelling units which have authorized the installation of cable facilities capable of delivering high-speed broadband service in multi-dwelling units. Finally, the PSC has an ongoing proceeding to consider changes to its existing pole attachment rules.</p>	<p>Service providers operating in New York fully comply with all relevant rules and regulations for deployment and operation; costs and timelines for key construction requirements decrease.</p>

Activity name	Description	Intended outcome(s)
Streamlining Broadband Construction	<p>The Governor identified three initiatives to streamline broadband construction:</p> <p>A Build-Free Initiative for Rural Broadband Deployment: Direct NYS DOT to exempt ConnectALL projects from certain fees, reducing costs for program participants.</p> <p>Streamline Make-Ready Processes: Direct DPS to streamline the current make-ready process.</p> <p>Standardize Right-of-Way Access for Cellular and Fiber Deployments and Establish Clear Timelines: Establish clear permitting timelines for cellular and fiber deployments on State land and rights-of-way with simple and standardized forms and processes.</p>	Private investment in broadband infrastructure increases, while costs and timelines for key construction requirements decrease; private-sector participation in ConnectALL programs is maximized.

Counties, multi-county partnerships, and local governments have also made or plan to make investments to expand broadband service, in some cases with funding from federal programs such as the Rural Digital Opportunity Fund (RDOF); Coronavirus Aid, Relief, and Economic Security Act (CARES Act); and the American Rescue Plan Act (ARPA). A sample of these initiatives is shown in Table 3. Additional grants made within the state through NTIA’s Middle Mile Broadband Infrastructure Grant and Tribal Broadband Connectivity Programs are described in the introduction to Chapter 3.

Table 3: Sample of Local, County, and Regional Broadband Investments

Project	Description
Central New York Regional Broadband Telecommunications Broadband Infrastructure Inventory and Community Survey Report ²⁷	The Central New York Regional Planning and Development Board led an effort in 2021 to conduct a multi-county study to assess broadband needs and gaps in the Central New York region. The study included a comprehensive infrastructure report, an inventory of service providers in the region, and consumer survey. The Board is using the results of the report to inform State officials and community leaders about the need and potential for additional broadband investments in Cayuga, Cortland, Madison, Onondaga, and Oswego Counties.
City of Jamestown Municipal Broadband Feasibility Study ²⁸	The City of Jamestown completed a Broadband Feasibility Study to determine the potential for a municipally-owned, open-access broadband network through the Jamestown Board of Public Utilities, with the intention to provide low-cost, high-speed internet to all Jamestown households through a public-private partnership.
City of Syracuse Community Broadband Program ²⁹	The City of Syracuse is partnering with Community Broadband Networks to install and operate a fixed wireless network that will serve a minimum of 2,500 households. Funded through ARPA, implementation is expected to begin in Fall 2023.

²⁷ “Central New York Regional Telecommunications Broadband Infrastructure Inventory and Community Survey Report.” Central New York Regional Planning and Development Board, December 2021, https://www.cnyrpd.org/docs/reports/CNY_Regional_Broadband_Infrastructure_Inventory_and_Community_Survey_Report_2021-12.pdf.

²⁸ Phillips, Dennis. “City Presents Broadband Feasibility Study.” The Post-Journal, April 22, 2022, <https://www.post-journal.com/news/top-stories/2022/04/city-presents-broadband-feasibility-study/>.

²⁹ “City of Syracuse Moves Forward with Community Broadband Program.” City of Syracuse, March 29, 2023, <https://www.syr.gov/News/2023/City-News/2023-03-29-Mayors-Office-News>.

Project	Description
Lewis County Fixed Wireless Projects ³⁰	In 2021, Lewis County received CARES Act Community Development Block Grant funding to deploy several fixed wireless projects in the Town of Lyonsdale, Town of Diana, and Village of Port Leyden. The projects connected approximately 600 unserved households and were completed under budget; the balance of funds was repurposed to cover the costs of broadband installations for ACP-eligible households and to creatively market the new service to Lewis County residents.
Madison County ReConnect Broadband Project ³¹	In July 2021, Madison County was awarded \$10.1 million in ReConnect funds to construct fiber to an initial 1,087 households, 50 farms, and 30 businesses. The County was recently awarded \$2.6 million in supplemental funding for the project. The County is currently in the process of completing field engineering and securing agreements for hut placements and pole attachments.
Oneida County Broadband Expansion ³²	In partnership with Adirondack Techs and Charter Communications, Oneida County is using ARPA funding to expand broadband service to nearly 1,000 underserved homes across ten project areas. The project was announced in June 2023.
Onondaga County High-Speed Broadband ³³	Onondaga County announced in November 2022 that it would be partnering with Verizon to deploy high-speed broadband to more than 1,500 locations, supported by \$11.1 million in ARPA funding.

³⁰ “Broadband Expansion Initiative.” Lewis County, <https://lewiscountyny.gov/departments/planning-and-community-development/broadband/>.

³¹ “Madison County ReConnect Broadband Project.” Madison County, <https://www.madisoncounty.ny.gov/2765/Madison-County-ReConnect-Broadband-Proje>.

³² “Picente Announces \$2 Million in Broadband Expansion Projects.” Oneida County, July 10, 2023, <https://ocgov.net/news/picente-announces-2-million-in-broadband-expansion-projects/>.

³³ “Verizon to deploy high-speed broadband to rural households in Central New York.” Verizon, November 15, 2022, <https://www.verizon.com/about/news/verizon-high-speed-broadband-central-new-york>.

Project	Description
St. Lawrence County Broadband Development and Installation ³⁴	In March 2023, St. Lawrence County allocated \$3 million in ARPA Funding for 16 projects in partnership with SLIC Fiber and Adirondack Techs. The projects are expected to connect approximately 610 unserved residences across 14 towns.
Tompkins County Broadband Expansion ³⁵	In 2021, Tompkins County awarded \$70,000 to Point Broadband to expand broadband service to 180 unserved homes in the Town of Newfield. Locations were selected after the County performed a middle-mile broadband study.
Tupper Lake Fiber Buildout ³⁶	The Town of Tupper Lake and the Development Authority of the North Country (DANC) received a \$200,000 grant from the Northern Border Regional Commission in 2020 to construct 5.5 miles of publicly-owned fiber to bring broadband access to 450 underserved homes and fixed wireless to 125 locations. DANC partnered with SLIC Fiber to provide the last mile fiber internet service and Adirondack Techs for the fixed wireless service.

³⁴ “St. Lawrence County Board of Legislators Finance Committee Resolution No. 145-2023.” St. Lawrence County, April 1, 2023,

<https://stlawco.gov/sites/default/files/BoardofLegislators/ARPA%20Center/Broadband%20145-2023.pdf>.

³⁵ Butler, Matt. “County approves \$70K for broadband internet to 180 unserved Newfield homes.” The Ithaca Voice, <https://ithacavoice.org/2021/09/county-approves-70k-for-broadband-internet-to-180-unserved-newfield-homes/>.

³⁶ Cerbone, Aaron. “Tupper Lake gets fiber-optic grant.” Adirondack Daily Enterprise, September 10, 2020, <https://www.adirondackdailyenterprise.com/news/local-news/2020/09/tupper-lake-gets-fiber-optic-grant/>.

Project	Description
Wayne County Broadband Expansion ³⁷	In August 2023, Wayne County announced a partnership with Charter Communications to bring high-speed broadband service to approximately 1,400 unserved homes and businesses, at a cost of \$14 million. The County has allocated \$8 million in ARPA funding and \$500,000 from its General Fund toward the project. Charter investment will cover the remainder of the project, which is expected to be completed in 2025.

CAO has added new positions to support its efficient and compliant administration of its signature programs and support complementary policy and legislative efforts. The tables below identify the current and planned full- and part-time employees and contractors who will assist in implementing and administering BEAD-funded activities and programs to achieve CAO's goals and objectives.

Table 4: Current and Planned Full-time and Part-time Employees

Current/ planned	Full-time/ part-time	Position	Description of role
Current	FT	Senior Vice President of ConnectALL	Direct all NY broadband programs and lead all CAO staff.
Current	FT	Assistant Vice President of Broadband Deployment	Direct broadband deployment, including mobile and fixed service and related policies and technical validation.
Current	FT	Assistant Vice President of Grant and Program Management	Direct grant administration, compliance, and reporting. Conduct financial feasibility analysis of subgrantee applications.

³⁷ Buchiere, Steve. "Charter Communications, Wayne County celebrate broadband project." Finger Lakes Times, https://www.fltimes.com/news/charter-communications-wayne-county-celebrate-broadband-project/article_49f28a44-3aac-11ee-a595-4fc3973de57d.html.

Current/ planned	Full-time/ part-time	Position	Description of role
Current	FT	Senior Director of Digital Equity	Direct digital equity planning, including outreach, research, and data analysis; direct digital equity grant program.
Current	FT	Senior Director of Operations	Direct internal operations, process development, and capacity-building to deliver on all CAO programs.
Planned	FT	Senior Advisor	Drive ConnectALL's participation on interagency committees and task forces, or in collaborations with other levels of government, ensuring that the State's resources, policies, and programs are effectively coordinated; advise on strategic planning.
Planned	FT	Senior Policy Advisor	Principal subject matter expert on broadband policy, responsible for reviewing and developing State and federal legislation to advance the ConnectALL mission.
Planned	FT	Director of Connectivity Innovation	Lead the development, management, and day-to-day operations of ConnectALL's Connectivity Innovation Program.
Current	FT	Director of Field Inspection	Monitor project implementation and completion for compliance and reporting. Direct field inspection operations.

Current/ planned	Full-time/ part-time	Position	Description of role
Current	FT	Director of Outreach	Lead outreach and stakeholder engagement.
Current	FT	Director of Research and Data Analysis	Lead research and data collection/analysis to inform program design/strategy and evaluate program success and impact. Support implementation of research and data collection subgrants. Lead coordination process to determine challenge process for FCC maps.
Planned	FT	Director of Wireless Planning and Cellular Coverage	Coordinate implementation of the State's Upstate Cellular Coverage Task Force's recommendations and facilitate the deployment of cellular service throughout the state.
Planned	FT	Senior Compliance Manager	Develop procedures and templates for implementing federal reporting and monitoring requirements to ensure that all CAO grant programs are in full compliance with federal and State funding regulations.
Planned	FT	Program Manager Affordable Housing Connectivity Program	Lead the development, management, and day-to-day operations of ConnectALL's Affordable Housing Connectivity Program.

Current/ planned	Full-time/ part-time	Position	Description of role
Planned	FT	Program Manager Municipal Infrastructure Program	Lead the development, management, and day-to-day operations of ConnectALL's Municipal Infrastructure Program.
Planned	FT	Program Manager Rural Broadband Program	Lead the development, management, and day-to-day operations of ConnectALL's Rural Broadband Grant Program ("ConnectALL Deployment Program").
Current	FT	Digital Equity Program Manager	Manage all digital equity initiatives.
Current	FT	Outreach Program Manager	Support outreach and stakeholder engagement for all grant programs.
Current	FT	Research and Data Analysis Program Manager	Support research and data collection/analysis to inform program design/strategy and evaluate program success and impact. Support implementation of research and data collection subgrants. Support coordination process to determine challenge process for FCC maps.
Planned	FT	Compliance Manager	Support administrative and financial review of ConnectALL grants; support disbursement of funding to grantees and reporting on ConnectALL programs.

Current/ planned	Full-time/ part-time	Position	Description of role
Planned	FT	Operations Manager	Support operational infrastructure for an expanding team, including technology, business process design and implementation, hiring and onboarding, and coordination between ConnectALL and other departments within ESD.
Planned	FT	Broadband Planning and Mapping Analyst	Support mapping, research, and data collection for grant compliance and impact reporting.
Current	PT	Deployment Associate	Support contract and program administration across all grant programs.
Current	FT	Outreach and Administrative Associate	Support outreach and stakeholder engagement; provide administrative support for CAO.
Planned	FT	Executive Assistant	Support the CAO executive calendar and administrative functions.

Table 5: Current and Planned Contractor Support

Current/ planned	Firm	Number of Staff Assigned	Description of Services
Current	HR&A Advisors	10	Support CAO in staffing strategy, internal process development, stakeholder engagement strategy and execution, data collection and analysis, asset mapping and interagency coordination, grant program design and administration, subgrantee selection, program evaluation and monitoring, reporting and compliance, and the development of further submissions to NTIA.
Current	CTC Technolog & Energy	10	Subcontractor to HR&A providing subject matter expertise to support BEAD 5-Year Action Plan development.
Planned	TBD	TBD	Field Inspection, Mobile, and Fixed Broadband Assessment. A contract with one or more vendors (not yet identified) to provide inspection, planning, and assessment services for mobile and fixed broadband projects funded by ConnectALL programs.

The table below identifies CAO’s currently available funding for broadband deployment and other broadband-related activities as of the submission of this Five-Year Action Plan.

Table 6: Broadband Funding

Source	Purpose	Total	Expended	Available
New York State Fiscal Year Starting 2022 Enacted Budget	ConnectALL programs	\$300,000,000	\$0	\$300,000,000
Digital Equity Act / NTIA	State Digital Equity Plan	\$2,178,646.00	\$1,385,705.93	\$792,940.07

Source	Purpose	Total	Expended	Available
Digital Equity Act / NTIA	State Digital Equity Capacity Grant	\$40-80M (est.)	\$0	\$40-80M (est.)
Infrastructure Investment and Jobs Act / Broadband Equity, Access, and Deployment Program / NTIA	BEAD Planning Grant	\$5,000,000	\$1,275,197.87	\$3,724,802.13
Infrastructure Investment and Jobs Act / Broadband Equity, Access, and Deployment / Commerce Department, NTIA	BEAD Allocation	\$664,618,251.49	\$0	\$664,618,251.49
American Rescue Plan Act / Treasury Department	Coronavirus Capital Projects Fund	\$345,548,881	\$2,169,347.23	\$343,379,533.77
New York State Fiscal Year Starting 2015 Enacted Budget	New NY Broadband Program	\$500,000,000	\$481,566,176.00	\$18,433,824.00
New York State Public Service Commission Settlement Agreement with Charter Communications	Broadband network deployment in areas to be identified by the ConnectALL Office	\$6,000,000	\$0	\$6,000,000

Source	Purpose	Total	Expended	Available
New York State Public Service Commission Settlement Agreement with Frontier Communications	Broadband network deployment in areas to be identified by the ConnectALL Office	\$5,000,000	\$0	\$5,000,000
New York State Public Service Commission Settlement Agreement with Rochester Gas and Electric Corporation	Broadband network deployment in areas to be identified by the ConnectALL Office	\$2,500,000	\$0	\$2,500,000
New York State Public Service Commission Settlement Agreement with Greenlight Networks LLC	Broadband network deployment in areas to be identified by the ConnectALL Office	\$2,500,000	\$0	\$2,500,000

3.2 Partnerships

The table below identifies CAO’s current partners in the development and implementation of this Plan.

Table 7: Partners

Partners	Description of current or planned role in broadband deployment and adoption
Association on Aging in New York	Co-Chair of Digital Equity Task Force Health Subcommittee.

Partners	Description of current or planned role in broadband deployment and adoption
Bronx Community Foundation	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
CanCode Communities	Co-chair of Digital Equity Task Force Workforce Development Subcommittee; Co-Host of Workforce Development town hall.
Capital District Regional Planning Commission	Regional planning entity; supporting CAO stakeholder engagement and data-gathering efforts, especially engagement with Albany, Columbia, Greene, Rensselaer, Saratoga, and Schenectady Counties.
Capital Region Digital Equity Coalition	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Capital Region Regional Economic Development Council	Empire State Development regional office; regional partner supporting stakeholder engagement and data-gathering efforts.
Cell-Ed	Co-Chair of Digital Equity Task Force Civic Engagement Subcommittee; Co-Host of Civic Engagement town hall.
Central New York Digital Inclusion Coalition	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Central New York Regional Economic Development Council	Empire State Development regional office; regional partner supporting stakeholder engagement and data-gathering efforts.
Central New York Regional Planning and Development Board	Regional planning entity; supporting assessment of broadband needs in Central New York; supporting CAO stakeholder engagement and data-gathering efforts; and facilitating additional broadband infrastructure deployment in Cayuga, Cortland, Madison, Onondaga, and Oswego Counties.
Community Tech NY	Co-Chair of Digital Equity Task Force Education Subcommittee; Host of Education town hall.

Partners	Description of current or planned role in broadband deployment and adoption
Development Authority of the North Country (DANC)	DANC, a public benefit corporation, operates an Open Access Telecom Network (OATN) that provides middle-mile transport services for multiple providers and connects many of the North Country's anchor institutions. Deployment partner for ConnectALL fiber pilots. Regional planning entity supporting engagement with Franklin, Jefferson, Lewis, and St. Lawrence Counties.
Digital Equity Task Force (DETF)	A task force consisting of public, private, and non-profit entities, with five subcommittees focused on key outcome areas: education, health, workforce development, civic and social engagement, and accessibility of government services. Each subcommittee is co-chaired by a State agency representative (and member of the Digital Equity Working Group, see below) and an external expert in the outcome area.
Digital Equity Working Group (DEWG)	An interagency working group established by the New York State Library and CAO to support the development of the State's Digital Equity Plan, with input from community members and stakeholders. Agencies with representation include the Council on Children and Families, Department of Civil Service, Department of Financial Services, Department of Health, Department of Labor, Department of Public Service, Department of State, Developmental Disabilities Planning Council, Education Department, Homes and Community Renewal, Office for the Aging, Office for People with Developmental Disabilities, Office of Children and Family Services, and Office of Temporary and Disability Assistance.
El Puente	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Far Rockaway Arverne Nonprofit Coalition (FRANC)	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.

Partners	Description of current or planned role in broadband deployment and adoption
Finger Lakes Digital Inclusion Coalition (FDLIC)	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Finger Lakes Regional Economic Development Council	Empire State Development regional office; regional partner supporting stakeholder engagement and data-gathering efforts.
Franklin-Essex-Hamilton BOCES	Co-Chair of Digital Equity Task Force Education Subcommittee; Host of Education town hall.
Genesee/Finger Lakes Regional Planning Council	Regional planning entity; supporting CAO stakeholder engagement and data-gathering efforts, especially engagement with Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Wayne, Wyoming, and Yates Counties. While Erie and Niagara Counties are not members of the Council, they are offered Council support.
Healthcare Association of New York State	Co-Chair of Digital Equity Task Force Health Subcommittee.
Hispanic Federation	Co-Chair of Digital Equity Task Force Workforce Development Subcommittee.
Hudson Valley Regional Council	Regional planning entity; supporting CAO stakeholder engagement and data-gathering efforts, especially engagement with Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties.
La Colmena	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Lake Champlain-Lake George Regional Planning Board	Regional planning entity; supporting CAO stakeholder engagement and data-gathering efforts, especially engagement with Clinton, Essex, Hamilton, Warren, and Washington Counties.
Long Island Digital Inclusion Coalition	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.

Partners	Description of current or planned role in broadband deployment and adoption
Long Island Regional Economic Development Council	Empire State Development regional office; regional partner supporting stakeholder engagement and data-gathering efforts.
Mid-Hudson Regional Economic Development Council	Empire State Development regional office; regional partner supporting stakeholder engagement and data-gathering efforts.
Mohawk Valley Community College	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Mohawk Valley Economic Development District	Regional planning entity; supporting CAO stakeholder engagement and data-gathering efforts, especially engagement with Fulton, Herkimer, Montgomery, and Oneida Counties.
Mohawk Valley Regional Economic Development Council	Empire State Development regional office; regional partner supporting stakeholder engagement and data-gathering efforts.
My Brother’s Keeper	Co-Chair of Digital Equity Task Force Civic and Social Engagement Subcommittee.
New York Academy of Medicine	Co-Chair of Digital Equity Task Force Health Subcommittee; Co-Host of Health town hall.
New York City Department of Youth and Community Development (DYCD)	Regional partner supporting stakeholder engagement and data-gathering efforts to support BEAD and Digital Equity planning.
New York City Regional Economic Development Council	Empire State Development regional office; regional partner supporting stakeholder engagement and data-gathering efforts.
New York Developmental Disabilities Planning Council	Co-Chair of Digital Equity Task Force Accessibility of Government Services Subcommittee.

Partners	Description of current or planned role in broadband deployment and adoption
New York Power Authority (NYPA)	NYPA is using its transmission infrastructure to assist the Village of Sherburne and three other municipalities through a NYPA pilot program as part of the governor’s \$1 billion ConnectALL initiative that aims to deliver affordable broadband internet access to more New Yorkers living in rural areas.
New York State Department of Health	Co-Chair of Digital Equity Task Force Health Subcommittee.
New York State Department of Labor	Co-Chair of Digital Equity Task Force Workforce Development Subcommittee.
New York State Department of Public Service	Maps broadband availability and facilitates expansion of broadband services.
New York State Department of State Office for New Americans	Co-Chair of Digital Equity Task Force Civic and Social Engagement Subcommittee.
New York State Department of Transportation (NYSDOT)	Manages access to State rights-of-way.
New York State Department of Veterans’ Services	Co-Chair of Digital Equity Task Force Accessibility of Government Services Subcommittee.
New York State Education Department	Co-Chair of Digital Equity Task Force Education Subcommittee.
New York State Library (NYSL, housed within the Department of Education)	NYSL co-convenes the Digital Equity Working Group with CAO, which coordinates digital equity activities, planning, and feedback across over a dozen State agencies. NYSL has most recently partnered with CAO on the execution of Digital Equity Task Force town halls to coordinate feedback on the State Digital Equity Plan as it relates to health, education, workforce development, civic and social engagement, and the accessibility of government services.

Partners	Description of current or planned role in broadband deployment and adoption
New York State Office for the Aging	Co-Chair of Digital Equity Task Force Health Subcommittee.
North Country Digital Inclusion Coalition	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
North Country Regional Economic Development Council	Empire State Development regional office; regional partner supporting stakeholder engagement and data-gathering efforts.
OASIS Rochester	Co-Chair of Digital Equity Task Force Health Subcommittee.
Office of the Queens Borough President	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Older Adults Technology Services from AARP (OATS)	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Phipps Neighborhoods	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Public Utility Law Project	Co-Chair of Digital Equity Task Force Government Services Subcommittee; Co-Host of Government Services town hall.
Ramapo Catskill Library	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Rockaway Development & Revitalization Corporation	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Self-Advocacy Association of New York State	Co-Chair of Digital Equity Task Force Government Services Subcommittee; Co-Host of Government Services town hall.
Sherburne Municipal Electric	Municipal utility in the Village of Sherburne; deployment partner for ConnectALL fiber pilots.

Partners	Description of current or planned role in broadband deployment and adoption
Silicon Harlem	Regional partner supporting stakeholder engagement and data-gathering efforts to support BEAD and Digital Equity planning.
Southeastern New York Library Resources Council	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Southern Tier 8 Regional Board	Regional planning entity; supporting CAO stakeholder engagement and data-gathering efforts, especially engagement with Broome, Chenango, Delaware, Otsego, Schoharie, Tioga, and Tompkins Counties.
Southern Tier Central Regional Planning and Development Board	Regional planning entity; supporting CAO stakeholder engagement and data-gathering efforts, especially engagement with Chemung, Schuyler, and Steuben Counties.
Southern Tier Digital Equity Coalition	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Southern Tier Network (STN)	An open access fiber network in the Southern Tier region, owned by a nonprofit organization formed by a public-private partnership between Southern Tier Central Regional Planning and Development Board, Corning Incorporated, and eight counties. Deployment partner for ConnectALL fiber pilots.
Southern Tier Regional Economic Development Council	Empire State Development regional office; regional partner supporting stakeholder engagement and data-gathering efforts.
Southern Tier West Regional Planning and Development Board	Regional planning entity; supporting CAO stakeholder engagement and Allegany, Cattaraugus, and Chautauqua Counties.
The Fortune Society	Partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.

Partners	Description of current or planned role in broadband deployment and adoption
The Knowledge House	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
The STEM Alliance	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Westchester County Association	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Western New York Digital Equity Coalition	Regional partner conducting stakeholder engagement and data-gathering activities to support BEAD and Digital Equity planning.
Western New York Regional Economic Development Council	Empire State Development regional office; regional partner supporting stakeholder engagement and data-gathering efforts.

3.3 Asset Inventory

This section catalogs and describes a sample of broadband deployment, adoption, affordability, access, and digital equity assets across the State of New York. These inventories comprise physical assets, such as utility poles and land, as well as programs and activities that aim to close the digital divide. These lists are not exhaustive; they represent a sample of the potential opportunities for broadband deployment and digital equity currently available in the state.

3.3.1 Broadband Deployment

The table below lists examples of State-owned structures, land, rights-of-way, utility poles, conduit, fiber, and other assets that might be leveraged to implement the BEAD Program.

Table 8: Sample Broadband Deployment Assets

Asset name	Description
Development Authority of the North Country (DANC) Open Access Telecom Network	DANC operates an Open Access Telecom Network that provides transport services for multiple providers and connects many of the North Country’s anchor institutions, including roughly 70 schools and 40 libraries. ³⁸ DANC is a current deployment partner for the ConnectALL fiber pilots.
New York Power Authority (NYPA) fiber network	NYPA, the State-owned power utility, has a fiber network that runs along its transmission lines and includes utility poles. The State’s enacted budget for FY 2023 authorizes NYPA to make excess capacity in its network available to support the deployment of affordable broadband in unserved and underserved communities in the state. ³⁹ CAO’s ConnectALL pilot initiative leverages this existing infrastructure as the middle mile for four last-mile fiber deployments in rural communities.
New York State Street and Address Maintenance (SAM) Program	The New York State GIS Program Office’s SAM Program maintains a regularly updated statewide street and address point database, which the Broadband Assessment Program (BAP) utilized as a location fabric to populate address locations on the New York State Broadband Map. ⁴⁰
New York State Public Service Commission (PSC) Broadband Assessment Program (BAP)	Comprised of data collected through consumer surveys, ISP data collection, and field inspections of New York’s existing broadband infrastructure, conducted by the PSC. These data were overlaid to refine the New York State Broadband Map.
Rights-of-way	Rights-of-way controlled by the New York State Department of Transportation, county and municipal governments, or other public entities may be available for placement of fiber, huts, or other broadband infrastructure.

³⁸ “Telecommunications.” Development Authority of the North Country, <https://www.danc.org/departments/Telecommunications>.

³⁹ “Governor Hochul Announces FY 2023 Investments to Expand Economic Opportunity.” Office of the Governor, April 9, 2022, <https://www.governor.ny.gov/news/governor-hochul-announces-fy-2023-investments-expand-economic-opportunity>.

⁴⁰ The SAM Program database does not delineate address points as residential or commercial, nor does it fully distinguish address points as single-family homes or multi-dwelling units across the state.

Asset name	Description
Southern Tier Network (STN)	An open access fiber network in the Southern Tier region, owned by a nonprofit organization formed by a public-private partnership between Southern Tier Central Regional Planning and Development Board, Corning Incorporated, and eight counties. STN’s goal is to “promote economic development, provide critical health, public-safety, and emergency management (NG 911) infrastructure and facilitate access to affordable broadband services particularly in unserved and underserved areas in the region.” ⁴¹ STN is a current deployment partner for the ConnectALL fiber pilots.
Publicly-owned assets	Publicly-owned fiber, fiber pathways, fiber distribution facilities or other buildings, radio communications towers, and land may be available for use under ConnectALL programs.

3.3.2 Broadband Adoption

86.9% of households in the state have a broadband internet subscription, according to the most recent data available from the U.S. Census Bureau. 13.1% of New York households do not subscribe, which equates to approximately 1 million households without a fixed broadband subscription.⁴² Non-subscribers disproportionately belong to population groups that have historically lagged in internet adoption and use, especially low-income households, older adults, communities of color, rural inhabitants, veterans, people living with disabilities, those with limited English language ability, and incarcerated and formerly incarcerated adults.

The table below lists example programs in every region of the state that promote broadband adoption among these groups and the general public—especially through digital literacy and digital skills training, public computing labs, device and hotspot loans, K-12 schools with one-to-one computer programs, computer refurbishing efforts, and other broadband awareness and outreach efforts.

⁴¹ “About Us.” Southern Tier Network, <https://southerntiernetwork.org/about-stn-fiber-network/>.

⁴² “QuickFacts: New York.” U.S. Census Bureau American Community Survey Five-Year Estimates, 2017-2021, <https://www.census.gov/quickfacts/fact/table/NY,US/PST045222>.

Table 9: Sample Broadband Adoption Assets

Asset name	Region	Description
Action for a Better Community ⁴³	Finger Lakes	Action for a Better Community provides classes focused on removing barriers and providing the tools and skills needed for long-term, sustainable self-sufficiency. Participants learn about resumes and cover letters, job search techniques, interviewing, and other employment skills. As of 2021, Action for a Better Community has distributed over 700 tablets and Chromebooks and provides Wi-Fi connectivity services to one-third of their clients, along with digital literacy training.
Albany Public Library ⁴⁴	Capital Region	Albany Public Library was awarded a grant from Schmidt Futures to fund an innovative internet access project for Albany Housing Authority residents. APL partners with the Albany Housing Authority to provide laptops and Wi-Fi to Housing Authority residents.
Brooklyn Public Library Home Internet Access Program ⁴⁵	New York City	Brooklyn Public Library's Home Internet Access Program offers one-on-one digital navigator support to help residents understand their eligibility for the ACP, complete applications for subsidized service from participating ISPs, and troubleshoot issues with their service providers. In addition to on-demand support (which patrons can schedule via email or phone hotline), Brooklyn Public Library also conducts regular live ACP awareness events at branches across the borough.

⁴³ "Action for a Better Community." Action for a Better Community, <https://www.abcinfo.org/>.

⁴⁴ "Albany Public Library." Albany Public Library, <https://www.albanypubliclibrary.org/>.

⁴⁵ "Home Internet Access Program." Brooklyn Public Library, <https://www.bklynlibrary.org/use-the-library/home-internet-access>.

Asset name	Region	Description
Candor Free Library ⁴⁶	Southern Tier	Candor Free Library provides free internet access on premises, assistance with sign-up for free/low-cost internet service, free access to online subscription services, assistance with use of online public resources & services, individual digital skills support, access to devices on premises, loan of devices, and free device troubleshooting.
CORE Learning Center ⁴⁷	Western NY	CORE has programs to support community members who want to enhance their reading and math skills, change careers, or get help meeting basic needs. CORE has Learning Centers in six counties: Allegany, Cattaraugus, Genesee, Livingston, Orleans, and Wyoming. They provide training on how to use computers, along with resume, career planning, and job searching assistance. In four school districts in Allegany County, CORE offers a wide variety of school-based programs and family services including: STEAM (science, technology, engineering, arts, and math), bullying and suicide prevention, career exploration, links to community resources, college preparation, and mindfulness skills for youth.
EPIC (Every Person Influences Children) ⁴⁸	Western NY	EPIC hosts Tech Savvy: Online Safety, a discussion-based workshop designed to offer both adults and youth the opportunity to explore the positive and negative sides of technology and social media. The workshop discusses a variety of social media platforms and tech devices, gaming, online predators, and behaviors like cyberbullying, sexting, sharing too much information, catfishing, and the consequences of misusing technology. The program has two versions, one specifically designed for kids and another for adults.

⁴⁶ "Candor Free Library." Candor Free Library, <https://candorfreelibrary.org/>.

⁴⁷ "Welcome to CORE - The Learning Center." CORE The Learning Center, <https://core2learn.org/>.

⁴⁸ "TECH SAVVY." EPIC, <https://www.epicforchildren.org/tech-savvy>.

Asset name	Region	Description
Finger Lakes Community Health ⁴⁹	Finger Lakes	Finger Lakes Community Health provides telehealth training and assistance for patients and professionals. They also provide in-house training for staff, along with the development of redefined policies and procedures that support digital equity. Finger Lakes Community Health also provides real-time assistance for clients who are unfamiliar with telehealth.
Lifting Up Westchester ⁵⁰	Mid-Hudson	Lifting Up Westchester is collaborating with the STEM Alliance to offer digital equity programs for individuals experiencing homelessness and other low-income individuals in Westchester County. The program includes 15 hours of computer skills training. If participants complete the entire program (over 5 days), they are able to keep a Chromebook and Wi-Fi hotspot.
Literacy of Northern New York ⁵¹	North Country	Literacy of Northern New York is a volunteer-driven agency providing free tutoring services in Jefferson and Lewis Counties, empowering adults toward employment, independence, and opportunity.
Long Beach Adult Learning Center ⁵²	Long Island	Long Beach Adult Learning Center provides computer instruction and online job assistance as part of their adult education program.

⁴⁹ "Finger Lakes Community Health." Finger Lakes Community Health, <https://www.localcommunityhealth.com/>.

⁵⁰ "Lifting Up Westchester." Lifting Up Westchester, <https://www.liftingupwestchester.org/>.

⁵¹ "Literacy of Northern NY." Literacy of Northern NY, <https://www.literacynny.org/>.

⁵² "Long Beach Adult Learning Center." Long Beach Adult Learning Center, http://www.lbeach.org/departments/the_adult_learning_center.

Asset name	Region	Description
Mohawk Valley Community College (MVCC) ⁵³	Mohawk Valley	Part of the State university system, MVCC is a public community college serving residents of Oneida and surrounding counties with residential halls for several hundred students. The College provides Wi-Fi, loaner laptops, software upgrades, and wireless hotspot devices for students as needed and teaches digital literacy within credit and non-credit courses to students who are low-income and from other underrepresented groups in post-secondary education. The College also houses the Mohawk Valley Institute for Learning in Retirement, which provides digital literacy courses for seniors.
New York Public Library ⁵⁴	New York City	The New York Public Library's free TechConnect Program helps adults develop confidence in their computer skills and grow more comfortable in today's digital world. They offer more than 100 technology classes both online and in person, at libraries throughout the Bronx, Manhattan, and Staten Island. Programs are available in multiple languages.
Northern New York Library Network (NNYLN) ⁵⁵	North Country	NNYLN is a support organization with a membership that includes libraries and other cultural organizations throughout the North Country. They serve the staff of many organizations that serve the public and can orchestrate collaborations and resource-sharing among them. Specific digital inclusion initiatives include digital literacy trainings at local libraries.

⁵³ "MVCC." Mohawk Valley Community College, <https://www.mvcc.edu/>.

⁵⁴ "NYPL TechConnect Classes." New York Public Library, <https://www.nypl.org/techconnect>.

⁵⁵ "Northern New York Library Network." Northern New York Library Network, <https://nnyln.org/>.

Asset name	Region	Description
On Point for College ⁵⁶	Mohawk Valley	On Point for College provides comprehensive support services including laptop computers to help students forward their educational and career dreams, wherever they want to go. Foster youth, single parents, lower income, first-generation, urban and rural residents, refugees, immigrants, those with criminal justice history, homeless, and others are welcome to seek help.
Open Doors English ⁵⁷	Southern Tier	Open Doors English empowers adult English language learners in Ithaca, Tompkins, and surrounding counties to live fuller lives through affordable, comprehensive English (ESL) classes, both in-person and online. They have a small collection of computers and hotspots available to loan to students so they can take advantage of online courses and enrichment. This organization provides free internet access on premises, access to devices on premises, assistance with sign-up for free/low-cost internet service, loan of hotspots and internet-enabled devices, free access to online subscription services, and assistance with use of online public resources and services.
OpenHub Project ⁵⁸	Mid-Hudson	OpenHub Project provides skills advancement for underserved populations, including digital literacy trainings and professional reskilling and upskilling.

⁵⁶ "On Point for College." On Point for College, <https://www.onpointforcollege.org/about-us/>.

⁵⁷ "Open Doors English." Open Doors English, <https://sites.google.com/view/open-doors-english/home>.

⁵⁸ "Open Hub Project." Open Hub Project, <https://openhubproject.com/>.

Asset name	Region	Description
Queens Public Library Technology Reentry Program ⁵⁹	New York City	Queens Public Library's Technology Reentry Program seeks to prepare people within prison and recently released with the critical digital skills and resources they will need for successful reentry. Participants receive a smartphone, data plan, technology assistance, and job training.
Rockaway Development & Revitalization Corporation (RDRC) ⁶⁰	New York City	RDRC offers a number of programs addressing digital inequity, including the RDRC Cisco Networking Academy to provide introductory IT Essentials Networking training; RDRC Youth Media Arts Center; a Digital Steward Program to train people on how to build, install, and maintain small network systems; and RDRC Youth Tech Buddies, a project that trains youth to teach seniors how to safely use smartphones, social apps, and identify scams targeting the elderly.
RSVP Suffolk ⁶¹	Long Island	Under a Microsoft license, RSVP Suffolk refurbishes donated computers, adds software, and delivers and installs these internet-ready computers free of charge to low-income people and veterans on Long Island. This organization is a member of the Long Island Digital Inclusion Coalition.

⁵⁹ "Correctional Outreach." Queens Public Library, <https://www.queenslibrary.org/programs-activities/community-outreach/correctional-outreach>.

⁶⁰ "Rockaway Development & Revitalization Corporation." Rockaway Development & Revitalization Corporation, <https://www.rdrc.org/syep-2019-project-base-learning-technology/>.

⁶¹ "Welcome to RSVP Suffolk!" RSVP Suffolk, <https://www.rsvpsuffolk.org/>.

Asset name	Region	Description
Schoharie Economic Enterprise Corp (SEEC) ⁶²	Capital Region	Through collaboration with Schoharie County, a Community Development Block Grant CARES Act grant of \$741,000 assisted 26 businesses (majority low- to middle-income, female-owned) improve their use of digital tools and skills. SEEC also coordinated Village Wi-Fi installation in a low/middle-income community. SEEC sponsors an ongoing Digital Marketing Series for small business owners to build skills and expand their reach, driving more revenue through social media and e-commerce platforms.
South Bronx Rising Together (SBRT) ⁶³	New York City	SBRT is a community-wide effort with a network of neighborhood residents and program providers to build pathways of success for children and youth “from cradle through college and career.” SBRT hosts digital equity work group meetings, maps school digital resources, and promotes the expansion of access to free and low-cost digital devices and internet.

⁶² “Schoharie Economic Enterprise Corp (SEEC).” Schoharie Economic Enterprise Corp (SEEC), <https://seecny.org/>.

⁶³ “South Bronx Rising Together.” South Bronx Rising Together, <https://www.risingtogether.org/>.

Asset name	Region	Description
Syracuse Northeast Community Center ⁶⁴	Central New York	Syracuse Northeast Community Center runs the Central New York Digital Empowerment Program, which provides Digital Navigator support, device access, and digital skills training for participants. The program was created with a goal of serving 300 individuals in its first year of operation (2023); in half that time, the program has served more than 300 unique participants and is continuing to develop capacity, source additional funding, and conduct outreach to meet the community’s needs in Syracuse and Central New York. In addition to digital equity services, the program connects individuals with other wraparound services including pantry, supported employment, senior services, and community health workers.
The Fortune Society ⁶⁵	New York City	The Fortune Society’s Digital Equity Initiative provides support for participants (primarily formerly incarcerated individuals and their families) looking to gain knowledge of technology and prepares them for a world where it has become a part of everyday life. To address these needs, the Digital Equity Initiative offers numerous IT services to participants. The effort includes the distribution of devices for qualified individuals, digital literacy workshops, and other certification and career opportunities.
Utica Public Library ⁶⁶	Central New York	The Utica Public Library serves a diverse population and visitors from surrounding communities. It offers a range of digital services including public access to computers and free Wi-Fi, training programs to enhance residents’ digital literacy, and trained staff who can assist patrons with accessing public services.

⁶⁴ "CNY Digital Empowerment." Syracuse Northeast Community Center, <https://www.snccsy.org/programs/cnyde>.

⁶⁵ "The Fortune Society." The Fortune Society, <https://fortunesociety.org/>.

⁶⁶ "The Library." Utica Public Library, <https://www.uticapubliclibrary.org/>.

3.3.3 Broadband Affordability

As of August 2023, 1,487,789 households in New York are enrolled in the FCC's Affordable Connectivity Program (ACP).⁶⁷ This total represents nearly 50% of the estimated 3 million eligible households in the state.⁶⁸

In 2022, Governor Kathy Hochul launched a multi-agency outreach initiative as part of ConnectALL, led by the New York State Department of Public Service (DPS) and Empire State Development (ESD), to build awareness of the ACP and encourage eligible households to enroll. In October of that year, Governor Hochul announced that one million qualifying New York households had enrolled in the program.⁶⁹ With this milestone, New York became one of the leading states in the nation for ACP enrollment.

The outreach initiative includes the following efforts:

- **The Office of Temporary and Disability Assistance** directs social service agencies to share outreach materials with clients and contracted service providers and has conducted outreach through its social media channels.
- **The Office of Children and Family Services** includes ACP information in newsletters and promotes the broadband subsidy through social media and local departments of social services, childcare providers and licensors, foster care and voluntary agencies, community multi-services offices, the statewide partnership for households of juvenile-justice-involved youth, runaway and homeless youth shelter operators, and domestic violence shelter operators.
- **The Department of Motor Vehicles** broadcasts information about the ACP on monitors in State-operated DMV offices in New York City, Long Island, and Albany, Westchester, Rockland, and Onondaga Counties, and has mailed out approximately five million informational inserts throughout the year along with drivers' licenses.
- **The Office for the Aging** partnered with DPS to provide materials to 59 county offices for use at meetings, picnics, health fairs, senior centers, social adult day

⁶⁷ "ACP Enrollment and Claims Tracker." Universal Service Administrative Co., <https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/#enrollment-by-state>. Accessed August 20, 2023.

⁶⁸ "New York Bipartisan Infrastructure Law Fact Sheet." White House Briefing Room, July 2022, <https://www.whitehouse.gov/wp-content/uploads/2022/08/New-York-BIL-Fact-Sheet.pdf>.

⁶⁹ "Governor Hochul Announces More Than 1 Million Households Enrolled in Federal Affordable Connectivity Program." Office of the Governor, October 5, 2022, <https://www.governor.ny.gov/news/governor-hochul-announces-more-1-million-households-enrolled-federal-affordable-connectivity>.

sites, and naturally occurring retirement communities. They have also distributed a training recording to more than 1,200 community-based organizations and have created and released a public service announcement, e-newsletter, and social media assets.

- **The Digital Equity Working Group (DEWG)**, co-led by CAO and the New York State Library, brings together representatives from several State agencies who have helped to disseminate information about the ACP to their constituents via email, newsletters, social media, and other channels.
- **Empire State Development** shares information on the ACP through the Regional Economic Development Councils, the New York State Association of Counties, the Association of Towns, local Digital Equity Coalitions, and ConnectALL’s roster of ISPs.

The table below identifies a sampling of ISPs’ discounted service and device programs for low-income subscribers and related broadband affordability assets in the state. These assets are available to all covered populations. A full list of ISPs in the state who participate in the ACP is included in Appendix A (Additional Affordability Assets).

Table 10: Sample Broadband Affordability Assets

Asset name	Description
Albany County Opportunity, Inc.	FCC’s ACP Outreach Grant Program award facilitates the promotion, awareness and participation of the ACP among eligible households in Albany County, NY. ⁷⁰
Big Apple Connect	New York City’s Office of Technology and Innovation launched an initiative in September 2022 to provide residents in several New York City Housing Authority (NYCHA) developments with free broadband service. ⁷¹ Since the launch of the initiative, more than 330,000 New Yorkers across 220 NYCHA sites have received access to free internet services at 300 Mbps download speeds from Optimum or Spectrum.

⁷⁰“Consumer and Governmental Affairs Bureau Announces ACP Outreach Grant Program Target Funding.” Federal Communications Commission, March 10, 2023, <https://docs.fcc.gov/public/attachments/DA-23-194A1.pdf>.

⁷¹ “Big Apple Connect.” City of New York, <https://www.nyc.gov/assets/bigappleconnect/>.

Asset name	Description
Black Churches 4 Digital Equity	The Multicultural Media and Telecom Internet Council, working with faith and civil rights leaders, created a coalition that educates community members about broadband internet assistance programs, especially the ACP. ⁷²
Brooklyn Public Library	The Brooklyn Public Library received an ACP Navigator Pilot Program award to provide access to the National Verifier to help low-income households complete and submit ACP applications. ⁷³
City of Jamestown	FCC’s ACP Outreach Grant Program award facilitates the promotion, awareness and participation of the ACP among eligible households in Jamestown, NY. ⁷⁴
ConnectALL affordable internet options database ⁷⁵	CAO maintains an online database of internet providers that offer low-cost plans, searchable by county.
Connect Orleans	A collaboration between Orleans County and United Way of Orleans County, this initiative helps low-income households prequalify for a grant to cover the cost of equipment and installation for wireless internet service from Ambient Broadband (a \$650 benefit). 10/3 Mbps service is offered at \$29.99 per month, or no cost with the ACP subsidy. ⁷⁶

⁷² “About the ACP.” Black Churches 4 Digital Equity,

<https://www.blackchurches4digitalequity.com/affordable-connectivity-program>.

⁷³ “Wireline Competition Bureau Announces Final List of Entities Selected for the Affordable Connectivity Pilot Programs.” Federal Communications Commission, April 6, 2023,

<https://www.fcc.gov/document/wcb-announces-final-list-entities-selected-acp-pilot-programs>.

⁷⁴ Consumer and Governmental Affairs Bureau announcement, *supra*.

⁷⁵ “Search Affordable Internet Options.” ConnectALL Office, <https://broadband.ny.gov/find-affordable-internet-options-nys>.

⁷⁶ Kropf, Virginia. “Connect Orleans facilitating low-cost broadband access.” Lockport Union-Sun & Journal, June 5, 2023, https://www.lockportjournal.com/community/connect-orleans-facilitating-low-cost-broadband-access/article_3abee65a-0404-11ee-9f6a-6f5bafb68afd.html.

Asset name	Description
Hudson Valley Wireless — Lewis County	As part of a broadband expansion initiative in partnership with Lewis County, Hudson Valley Wireless (a local fixed wireless service provider) will offer free monthly service, installation, and routers to ACP-qualifying households in the County, funded through the Community Development Block Grant CARES Act Program. The ISP has also partnered with PCs for People and Microsoft to offer qualifying residents low-cost computers. ⁷⁷
Iris House	FCC’s ACP Outreach Grant Program award facilitates the promotion, awareness and participation of the ACP among eligible households in New York. ⁷⁸
Journey's End Refugee Services	FCC’s ACP Outreach Grant Program award facilitates the promotion, awareness and participation of the ACP among eligible households in Buffalo, NY. ⁷⁹
Livingston County, NY	FCC’s ACP Outreach Grant Program award facilitates the promotion, awareness and participation of the ACP among eligible households in Livingston County, NY. ⁸⁰
Maxsip Telecom	The ISP offers service free service to subscribers who qualify for the ACP. Customers can also receive a low-cost tablet. ⁸¹
Mission: Ignite Powered by Computers for Children, Inc.	FCC’s ACP Outreach Grant Program award facilitates the promotion, awareness and participation of the ACP among eligible households in Buffalo, NY. ⁸²
National Urban League	FCC’s ACP Outreach Grant Program award facilitates the promotion, awareness and participation of the ACP among eligible households in New York City. ⁸³

⁷⁷ “Lewis County – Internet Available.” Hudson Valley Wireless, <https://www.hvwisp.com/lewis-county-2/>.

⁷⁸ Consumer and Governmental Affairs Bureau announcement, *supra*.

⁷⁹ *Id.*

⁸⁰ *Id.*

⁸¹ “Get Free Internet.” MaxSip Telecom, <https://maxsipconnects.com/acp/>.

⁸² Consumer and Governmental Affairs Bureau announcement, *supra*.

⁸³ *Id.*

Asset name	Description
NYC Mesh	This community mesh network in New York City operates on member donations and does not require a monthly fee. ⁸⁴
New York State Community Action Association	FCC’s ACP Outreach Grant Program award facilitates the promotion, awareness and participation of the ACP among eligible households in Guilderland, NY. ⁸⁵ Outreach for ACP will happen in Cortland, Cattaraugus, and Madison Counties led by these counties’ Community Action Agencies.
Optimum Advantage Internet	Optimum Advantage Internet provides 50 Mbps service for \$14.99 per month, effectively at no cost for customers enrolled in the ACP. Subscribers to the plan can also purchase a refurbished Acer Chromebook for \$149.99. ⁸⁶
RCN’s Internet First Program	RCN’s Internet First Program, designed to help families and students in low-income households have reliable access to the internet, provides up to 50 Mbps for \$9.95 per month. ⁸⁷
Rochester Housing Authority	The Resident Services division of the Rochester Housing Authority promotes the ACP to residents and offers assistance with completing ACP applications. ⁸⁸
Spectrum Internet Assist plan	Spectrum Internet Assist offers qualifying low-income customers 30/4 Mbps service for \$19.99 per month, or no cost with the ACP subsidy. ⁸⁹
The International Rescue Committee	FCC’s ACP Outreach Grant Program award facilitates the promotion, awareness and participation of the ACP among eligible households. ⁹⁰

⁸⁴ “Frequently Asked Questions.” NYC Mesh, <https://www.nycmesh.net/faq#why>.

⁸⁵ Consumer and Governmental Affairs Bureau announcement, *supra*.

⁸⁶ “Optimum Advantage Internet.” Optimum, <https://www.optimumadvantageinternet.com/>.

⁸⁷ “Affordable High Speed Internet Plans for Home.” Internet First, <https://www.internetfirst.com/>.

⁸⁸ “\$30 Internet Bill Reduction (Apply!)” Rochester Housing Authority, <https://www.rochesterhousing.org/30-internet-bill-reduction-apply>.

⁸⁹ “Low Income Internet Service | Spectrum Internet Assist Program.” Spectrum, <https://www.spectrum.com/internet/spectrum-internet-assist>.

⁹⁰ Consumer and Governmental Affairs Bureau announcement, *supra*.

Asset name	Description
The New York Public Library, Astor, Lenox and Tilden Foundation	FCC’s ACP Outreach Grant Program award facilitates the promotion, awareness and participation of the ACP among eligible households in New York City. ⁹¹
Verizon Forward Program	The Verizon Forward Program provides an additional discount on Verizon Home Internet plans for customers enrolled in the ACP, offering Verizon’s 300/300 Mbps Fios fiber plan at no cost and plans with higher speed tiers at a discounted rate. The program also offers Verizon 5G Home Internet at no cost where available. ⁹²

3.3.4 Broadband Access

The following table identifies a sample of public Wi-Fi networks in the state. These assets are available to all covered populations.

Table 11: Sample Broadband Access Assets

Asset name	Description
Albany Parks Wi-Fi	Public parks in the City of Albany offer 24/7 free outdoor Wi-Fi service via a partnership with FirstLight Fiber.
Albany Public Library Free Wi-Fi	Six Albany Public Library branches offer free access to Wi-Fi outside their facilities. ⁹³
Bklyn Reach	52 branches of the Brooklyn Public Library extend free Wi-Fi service up to approximately 300 feet in all directions beyond the library facility, allowing patrons in the area as well as nearby homes and businesses to access the service 24 hours a day. Brooklyn Public Library also lends out hotspots and Chromebooks to patrons in 12 high-needs communities as part of adult basic education programming. ⁹⁴

⁹¹ Id.

⁹² “Free Internet with the Verizon Forward Program and ACP.” Verizon, <https://www.verizon.com/home/free-verizon-internet/>.

⁹³ “Programs.” Friends and Foundation of APL, <https://ffapl.org/programs/>.

⁹⁴ “Bklyn Reach.” Brooklyn Public Library, <https://www.bklynlibrary.org/use-the-library/reach>.

Asset name	Description
Cayuga County Library Wi-Fi	Public libraries in Cayuga County offer free Wi-Fi to patrons during operating hours.
Central Library of Rochester & Monroe County	The Central Library of Rochester & Monroe County offers free loans of mobile hotspots for three weeks. ⁹⁵
ConnectED NY	In partnership with the Reimagine New York Commission (convened to provide pandemic recovery recommendations), Schmidt Futures and the Ford Foundation launched an emergency fund in March 2021 to provide approximately 50,000 low-income K-12 students with home internet. ⁹⁶
Hunts Point Community Network	A Wi-Fi mesh network provides free access for the Hunts Point neighborhood, owned and managed by community members. ⁹⁷
Ithaca Free Wi-Fi	Free Wi-Fi is available throughout the downtown business district in Ithaca through a partnership with Sky Packets. ⁹⁸
Kingston Public Wi-Fi	Public parks in the City of Kingston offer 24/7 free outdoor Wi-Fi service.
Lewis County Public Wi-Fi	As part of a broadband expansion initiative in partnership with Lewis County, Hudson Valley Wireless (which operates a fixed wireless network in Upstate New York) is providing 27 free Wi-Fi hotspots in the Villages of Port Leyden and Copenhagen, funded through the Community Development Block Grant CARES Act Program. ⁹⁹

⁹⁵ “Borrow the Internet From Your Public Library!” Rochester Public Library, <https://roccitylibrary.org/spotlight/borrow-internet-hotspot/>.

⁹⁶ “Action Plan for a Reimagined New York.” Reimagine New York Commission, March 31, 2021, https://www.governor.ny.gov/sites/default/files/atoms/files/CRNY_Report.pdf.

⁹⁷ “Hunts Point Free Wi-Fi.” Hunts Point, <https://www.huntspoint.nyc/hunts-point-free-wifi>.

⁹⁸ “Community WiFi.” Downtown Ithaca Alliance, <https://www.downtownithaca.com/visit-downtown/the-commons/communitywifi>.

⁹⁹ “Lewis County launches new broadband expansion.” Daily Sentinel, January 18, 2023, <https://romesentinel.com/stories/lewis-county-launches-new-broadband-expansion,159943>.

Asset name	Description
LinkNYC	LinkNYC, a partnership between the City of New York and a NYC-based consortium called CityBridge, has installed more than 2,000 kiosks throughout the five boroughs of New York City that provide free public Wi-Fi; device charging; free phone calls; and access to City services, directions, and maps. ¹⁰⁰
New York City Department of Parks & Recreation Wi-Fi Hotspots	Several hundred free Wi-Fi hotspots are located in select parks across the five boroughs of New York City. ¹⁰¹ Additionally, 34 Media Education Labs housed at NYC Parks & Recreation Centers provide free Wi-Fi, as well as access to devices, software, and educational trainings. ¹⁰²
New York Public Library Wi-Fi	All 92 locations of the New York Public Library offer free Wi-Fi access for patrons in the library. ¹⁰³
New York State Thruway Authority Free Wi-Fi	All 27 service areas along the Thruway (a 570-mile highway that connects the state’s principal cities, rural areas, and tourist destinations) offer free Wi-Fi access. ¹⁰⁴
Niagara Falls Free Public Wi-Fi	The City of Niagara Falls offers free Wi-Fi internet access in the downtown area. This project is run by Niagara Global Tourism Institute, a Niagara University initiative. ¹⁰⁵
Schenectady Free Public Wi-Fi	The City of Schenectady offers free Wi-Fi in all neighborhoods. ¹⁰⁶

¹⁰⁰ “LinkNYC.” LinkNYC, <https://www.link.nyc/>.

¹⁰¹ “Wi-Fi Hot Spots.” New York City Department of Parks & Recreation, <https://www.nycgovparks.org/facilities/wifi>.

¹⁰² “Media Labs.” New York City Department of Parks & Recreation, <https://www.nycgovparks.org/facilities/media-labs>.

¹⁰³ “Wireless Internet Access (Wi-Fi).” New York Public Library, <https://www.nypl.org/help/computers-internet-and-wireless-access/wireless-internet-access>.

¹⁰⁴ “Free Wireless Internet Service (Wi-Fi).” New York State Thruway Authority, <https://www.thruway.ny.gov/travelers/travelplazas/wifi-info.html>.

¹⁰⁵ “Free public Wi-Fi is live in downtown Niagara Falls.” City of Niagara Falls, <https://niagarafallsusa.org/free-public-wi-fi-is-live-in-downtown-niagara-falls/>.

¹⁰⁶ DeMola, Pete. “Schenectady expanding free Wi-Fi network to every neighborhood.” Times Union, September 16, 2021, <https://www.timesunion.com/news/article/Schenectady-to-expand-municipal-Wi-Fi-network-16462689.php>.

Asset name	Description
Schoharie Free Public Wi-Fi	The Village of Schoharie launched a Wi-Fi network to provide free internet access to more than 400 households (800 residents), most of which are low- to moderate-income households. Buildout of the network was funded by the CARES Act. ¹⁰⁷
Syracuse Community Public Wi-Fi	The City offers 24/7 free outdoor Wi-Fi service through a partnership with Spectrum and Cogent.
Tompkins County Public Library	Tompkins County Public Library offers free internet access on library computers and through Wi-Fi. ¹⁰⁸

3.3.5 Digital Equity

CAO has compiled a digital equity asset inventory with data on more than 900 existing programs, organizations, plans, and other assets currently supporting digital equity within the state, through research, stakeholder engagement, and data collection via regional partners. This asset inventory includes more than 350 libraries and library councils, 24 State agencies and initiatives, 120 educational institutions, and others doing work across the state to address the digital divide. The inventory also includes 13 digital equity coalitions across the state who are leading digital equity planning and collaboration efforts at the local and regional levels.

The asset inventory is an evolving database which CAO will continue to refine as it progresses the development of the State Digital Equity Plan and BEAD Initial Proposal. The current asset inventory can be viewed at: http://bit.ly/NYS_DE_Asset_Inventory.

3.4 Needs and Gaps Assessment

This section describes the gaps in the measures needed to deploy and expand broadband in the state; and between the current state of broadband and digital inclusion and the needs of residents and CAIs in New York. High-level findings from CAO’s forthcoming Digital Equity Needs Assessment (to be included in the State Digital Equity Plan) are shared below. These findings diagnose needs and barriers to full adoption experienced by all New Yorkers, and disproportionately by NTIA-defined covered populations, including low-

¹⁰⁷ Mitchell, Ben. “Free WiFi network made available to Schoharie residents.” News10, March 3, 2023, <https://www.news10.com/news/schoharie-county/free-wifi-network-made-available-to-schoharie-residents/>.

¹⁰⁸ “COMPUTERS & WIFI.” Tompkins County Public Library, <https://www.tcpl.org/using-library/computers-wifi>.

income households, older adults, communities of color, rural inhabitants, veterans, people living with disabilities, those with limited English language ability, and incarcerated and formerly incarcerated adults.

3.4.1 Gaps in Broadband Deployment Measures

The PSC, in its 2023 Report on the Availability, Reliability and Cost of High-Speed Broadband Services in New York State, found that 26 of New York’s 62 counties have served percentages less than 95%, and of those 26, 12 have served percentages less than 90%.

To help mitigate these gaps, the ConnectALL initiative includes a series of efforts to support broadband deployment, including by making targeted investments, removing fees and outdated regulatory hurdles, and leveraging State assets. BEAD grant funding will be critical to complement these efforts, addressing remaining market failures to extend network infrastructure. ConnectALL initiatives include:¹⁰⁹

- **A build-free initiative for rural broadband deployment:** Eliminate State use and occupancy fees that hinder rural broadband deployment; specifically, the 2022-2023 State budget included a provision to eliminate these State fees for all fiber applications, effective April 9, 2022.
- **Streamline make-ready processes:** The Department of Public Service is investigating potential policy changes to the pole attachment process and cost allocations.
- **Standardize right-of-way access for cellular and fiber deployments and establish clear timelines:** Establish clear permitting timelines for cellular and fiber deployments on State land and rights-of-way with simple and standardized forms and processes.
- **Leverage existing State fiber assets:** Utilize existing State fiber assets to support broadband deployment, including through the ConnectALL Municipal Infrastructure Program as demonstrated through the pilot project completed in December 2022.¹¹⁰

In addition, the New York State PSC has worked to address broadband deployment process concerns as they emerge. Since 2004, the PSC has had a comprehensive framework for pole attachments.¹¹¹ The PSC’s framework has been updated to reflect technological

¹⁰⁹ ConnectALL Announcement, *supra*.

¹¹⁰ “Governor Hochul Announces Completion of First Phase of \$10 Million ConnectALL Pilot Initiative Bringing Affordable Broadband Internet Access to Rural Communities.” Office of the Governor, December 20, 2022, <https://www.governor.ny.gov/news/governor-hochul-announces-completion-first-phase-10-million-connectall-pilot-initiative>.

¹¹¹ “Case 03-M-0432, Proceeding on Motion of the Commission Concerning Certain Pole Attachment Issues, Order Adopting Policy Statement on Pole Attachments.” New York State Public Service

changes; for example, in 2019, the PSC incorporated wireless attachments into its framework.¹¹²

The State Legislature recently directed the PSC to consider refining its processes and procedures to encourage further broadband deployment and in 2022, the PSC initiated a case to examine methods to streamline the pole attachment process and procedures to facilitate broadband deployment.¹¹³ The PSC has conducted two comment periods and continues to develop its recommendations.

Even with these collective actions, barriers to broadband deployment remain. The cost to construct broadband infrastructure in low-density geographic areas makes it unfeasible for some residents to afford access, which in turn disincentivizes providers from extending their networks to those areas. CAO will use BEAD funding strategically and in carefully-designed grant areas to overcome these existing market gaps.

3.4.2 Broadband Adoption

Nearly a million New York households, or 13.1%, do not subscribe to broadband service, according to the most current data available from the U.S. Census Bureau (2021). This percentage is in line with the national average (13%).¹¹⁴ Lower-income households in the state are significantly more likely to lack broadband access than higher income households. According to U.S. Census data (2021), 29.8% of households earning less than \$35,000 annually do not subscribe—compared to just 4.6% of households earning \$75,000 or more.¹¹⁵ Additionally, aging individuals, people living with disabilities, veterans, rural

Commission, August 6, 2004,

<https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7BC07D0EEF-823F-4EDC-AC53-08EBDD38B6AD%7D>.

¹¹² “Case 16-M-0330, Petition of CTIA - The Wireless Association to Update and Clarify Wireless Pole Attachment Protections, Order Approving Petition in Part and Continuing Proceeding.” New York State Public Service Commission, March 14, 2019,

<https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7BCA3FB8FB-CCCA-4A55-8C9D-57DC4FF4BEE8%7D>.

¹¹³ “Case 22-M-0101, Proceeding to Review Certain Pole Attachment Rules, Notice Seeking Comments.” New York State Public Service Commission, March 1, 2022,

<https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B3960BCF7-D4E6-419B-9FFC-822BD3148F4C%7D>.

¹¹⁴ “S2801—Types Of Computers And Internet Subscriptions.” U.S. Census Bureau American Community Survey Five-Year Estimates, 2017-2021,

<https://data.census.gov/table?t=Computer+and+Internet+Use&g=040XX00US36&tid=ACSST5Y2021.S2801>.

¹¹⁵ “B28004—Household Income in the Last 12 Months (In 2021 Inflation-Adjusted Dollars) by Presence and Type of Internet Subscription in Household.” U.S. Census Bureau American Community Survey Five-Year Estimates, 2017-2021,

<https://data.census.gov/table?q=B28004&tid=ACSST1Y2021.B28004>.

residents, those with limited English ability, incarcerated and recently released individuals, and communities of color disproportionately experience a range of barriers to full broadband adoption.

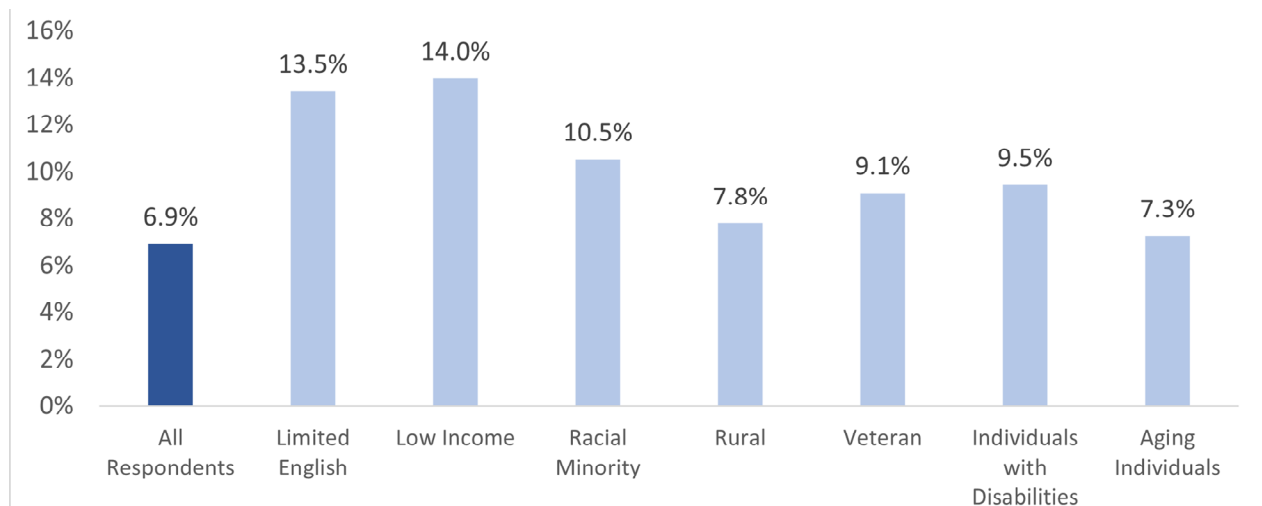
Common adoption-related challenges include not having sufficient or quality internet-enabled devices, a lack of comfort or familiarity with computer and internet activities, not knowing where to turn for help and support, concerns about online safety, and accessibility challenges related to disability or navigability of online services and resources.

CAO conducted a representative survey of New York residents from May-July 2023 to develop an expanded baseline characterizing broadband adoption needs and barriers statewide (the “ConnectALL NYS Internet Access Survey” or “the Survey”). CAO’s Survey focused particularly on needs and barriers experienced by covered populations relative to the state’s population, and on differing experiences among the populations in each region.

Findings from the Survey reveal that nearly 7% of respondents do not have any internet access at home. Lack of home internet is disproportionately prevalent among covered populations.

Figure 2: Percentage of Respondents Who Do Not Have Internet at Home, by Covered Population (SOURCE: NYS Internet Access Survey, 2023)

Note: Individual respondents may belong to one or more covered population groups.



Survey results suggest that New Yorkers without access to internet at home are utilizing public resources such as libraries to connect online. Of Survey respondents who reported using the internet outside of their homes, 21% use the internet at a library or community center, 16% use the internet at a friend or relative’s home, and 13% use the internet at a retail establishment.

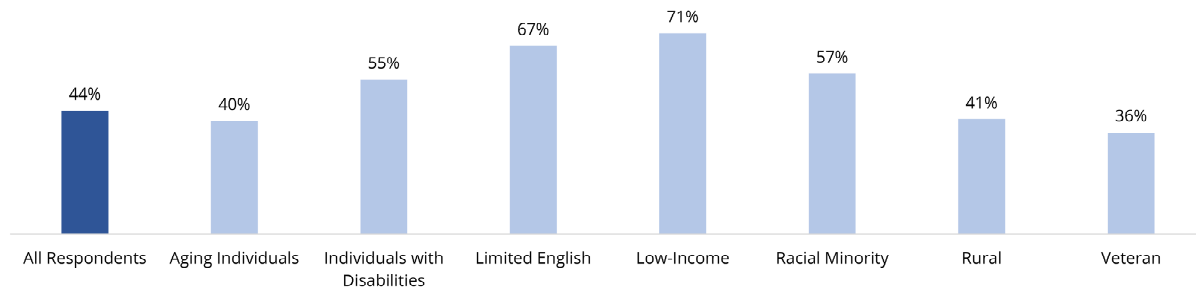
3.4.3 Broadband Affordability

Affordability is a barrier to broadband adoption for many New York households, with low-income residents much more likely to lack access due to cost. While approximately 13.1% of all New York households do not subscribe to broadband as of 2021, about 29.8% of households earning less than \$35,000 per year do not have a broadband subscription.¹¹⁶ In the NTIA Internet Use Survey (2021), almost one-fifth of offline respondents in the state said that the main reason they do not subscribe to service is that the cost is too high. CAO’s Internet Access Survey results confirm this: Over 20% of respondents from households earning below 150% of the federal poverty level (NTIA-defined “Covered Households”) lack access to broadband internet, while only 11% of all respondents lack broadband access.

For respondents that have internet at home, nearly half reported that they have at least some difficulty paying for the internet. Both rural and urban respondents have difficulty paying for the internet each month in addition to their monthly expenses; 44% of urban respondents indicated difficulty paying, and 41% of rural respondents indicated difficulty paying. Members of covered populations were generally more likely to report difficulty paying for internet.

Figure 3: Percentage of Respondents Who Indicated Paying for Internet Is at Least Somewhat Difficult, by Covered Population (SOURCE: NYS Internet Access Survey, 2023).

Note: Individual respondents may belong to one or more covered population groups.



CAO’s Survey findings confirm earlier research efforts. A 2021 report commissioned by the New York State Library showed that equity is a persistent issue: one-third of African American and Latino households do not have wireline broadband at home and similar numbers do not have a desktop or laptop computer.¹¹⁷ Historic disinvestment in communities of color and non-English speaking communities has made affordability a particular barrier to broadband access for individuals in these communities, who have reported high service costs and lack of choice consistently through multiple rounds of State

¹¹⁶ “B28004–Household Income in the Last 12 Months (In 2021 Inflation-Adjusted Dollars) by Presence and Type of Internet Subscription in Household.”

¹¹⁷ Horrigan, John. “New York’s Digital Divide: Examining adoption of internet and computers for the state and its library districts.” New York State Library, 2021, <https://www.nysl.nysed.gov/libdev/documents/HorriganReportNY.pdf>.

surveying, as well as in-person stakeholder engagements conducted by CAO in recent months.

The federal ACP subsidy plays an important role in lowering the cost of broadband subscriptions for eligible low-income households. In part due to a 2022 multi-agency outreach effort as part of the ConnectALL initiative, New York became one of the leading states in the nation for ACP enrollment. 1,487,789 New York State households are enrolled in the ACP as of August,¹¹⁸ representing about 50% of the estimated 3 million eligible households in the state.¹¹⁹

3.4.4 Broadband Access

According to the PSC’s 2023 Report on the Availability, Reliability, and Cost of High-Speed Broadband Services in New York State, 97.47% of New York State address locations are served by high-speed broadband service, 0.07% are underserved, and 2.46% are unserved.^{120,121}

While the majority of the state’s address points are served, gaps exist. For example, while there are 15 counties with 99% broadband coverage, 26 of New York’s 62 counties are less than 95% served—and of those counties, 12 are less than 90% served. High-speed broadband services remain unavailable to many New Yorkers in predominately rural areas, in places like Clinton County and Lewis County, which are 80.1% and 80.2% served, respectively.

Competition between high-speed broadband providers is also limited in many areas. Statewide, approximately 44% of address points are served by only one wired or fixed wireless high-speed provider, while approximately 53% of address points are served by more than one provider.

3.4.5 Digital Equity

Recognizing that access to affordable broadband services remains an obstacle or barrier to digital inclusion for many New Yorkers—especially individuals in covered populations as defined by the NTIA—a primary goal of the ConnectALL initiative is to improve broadband access and affordability for all New Yorkers.

¹¹⁸ “ACP Enrollment and Claims Tracker,” *supra*.

¹¹⁹ “New York Bipartisan Infrastructure Law Fact Sheet,” *supra*.

¹²⁰ 2023 PSC Report, *supra*.

¹²¹ Service thresholds for the State map were defined by the PSC. “Unserved” locations are defined as locations which have no fixed wireless or wired service with speeds of at least 25 Mbps download available. “Underserved” locations are defined as locations with fewer than two internet service providers, or which have internet speeds of at least 25 Mbps but less than 100 Mbps download available. These definitions differ slightly from the NTIA definitions in that they: 1) do not establish a minimum threshold requirement for upload speeds; and 2) take the number of ISPs into consideration as a determinant of the service status.

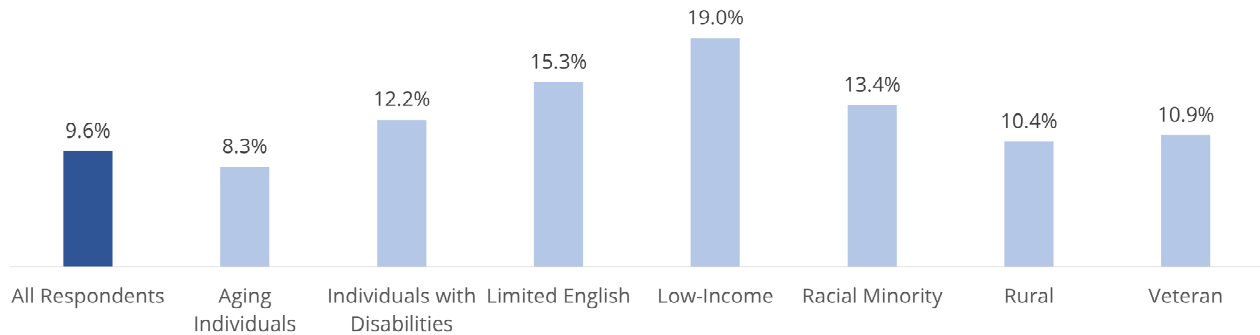
In addition to access and affordability, other variables driving broadband adoption include access to internet-enabled devices, confidence in digital skills, confidence in online safety, and comfort accessing critical public services online. As demonstrated in responses to the NYS Internet Access Survey, in general, covered populations have lower rates of access and confidence in all of these areas when compared to New Yorkers in general.

Access to Devices

Among covered populations, CAO’s survey demonstrated that low-income households, respondents with limited English ability, racial minorities, and individuals with disabilities have significantly lower access to internet-enabled devices—such as laptops, smartphones, and desktop computers.

Figure 4: Percentage of Respondents Whose Households Did Not Have Access to the Internet-Enabled Computer Devices They Need, by Covered Population (SOURCE: New York State Internet Access Survey, 2023)

Note: Individual respondents may belong to one or more covered population groups.



Accessibility of internet-enabled devices is close to equal among respondents from urban and rural geographies; 9.5% of urban respondents and 10.4% of rural respondents said that they did not have access to internet-enabled devices they needed at home.

Digital Skills and Literacy

With respect to digital skills, specific covered populations—aging individuals, individuals with limited English ability, low-income individuals, veterans, and individuals with disabilities—are significantly more likely to find it difficult or very difficult to navigate the internet to do what they need, such as searching for and applying for jobs, researching questions about health or medical issues, taking courses or finding learning materials, online banking, accessing or applying for government services, using social media, and other activities.

In regional listening sessions and focus groups conducted by CAO, participants noted that digital skills and literacy were a specific challenge for aging New Yorkers, who may have difficulty keeping up with evolving technologies and be reluctant to engage with online tools due to concerns about cybersecurity and privacy. Stakeholders also elevated digital

skills challenges facing New Yorkers with limited English and New Yorkers with disabilities. Although these residents could access service, online content might not be accessibly designed in terms of compatibility with tools such as screen readers, navigability, and readability. Stakeholders also reported a lack of digital equity and literacy services with adequate accessibility accommodations (e.g., sign language interpretation, braille materials) for individuals who need additional support.

Figure 5: Percentage of Respondents Who Find It Difficult or Very Difficult to Navigate the Internet to Do What They Need, by Covered Population (SOURCE: New York State Internet Access Survey, 2023)

Note: Individual respondents may belong to one or more covered population groups.

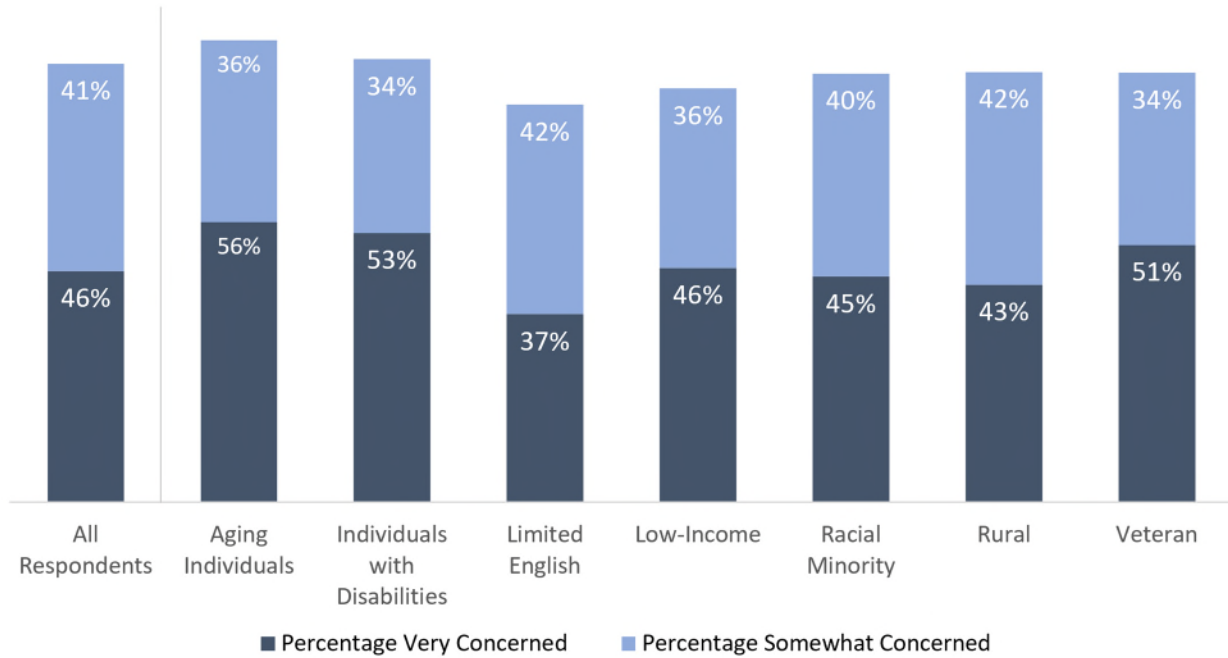


Internet Security and Safety Concerns

Regardless of their background, New Yorkers are concerned about their safety and security online. On average, over 90% of respondents to CAO’s Internet Access Survey reported feeling either somewhat concerned or very concerned about their online safety, which was roughly consistent across all covered populations.

Figure 6: Percentages of Respondents Who Are Somewhat Concerned and Very Concerned About Internet Safety, by Covered Population (SOURCE: New York State Internet Access Survey, 2023)

Note: Individual respondents may belong to one or more covered population groups.



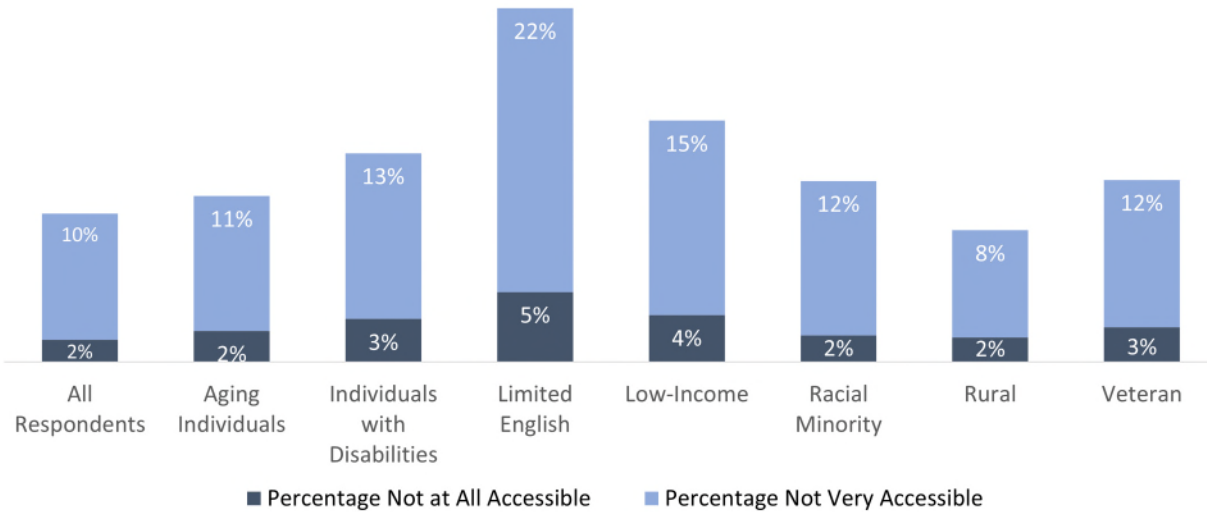
Accessibility of Public Services

Individuals with limited English ability found online public resources least accessible. In CAO’s listening sessions and focus groups, organizations working with individuals who are English learners or have low literacy noted that even when service is available, inaccessibly designed websites and online services (e.g., those that do not have translations available or are difficult to navigate) can prevent residents from accessing content and completing tasks online. Many existing digital literacy and skills programs are only offered in English, and individuals either cannot participate in or are not aware of these programs—as well as other digital equity support programs, such as device lending and the ACP.

Stakeholders also reported concerns among immigrant and refugee communities about making personal information accessible to government agencies; some individuals may not engage with online services and tools due to cybersecurity and privacy concerns.

Figure 7: Percentage of Respondents Who Said Online Public Resources Were Not Very or Not at All Accessible, by Covered Population (SOURCE: New York State Internet Access Survey, 2023)

Note: Individual respondents may belong to one or more covered population groups.



Workforce Development and Digitalization

Nationwide and in New York, access to digital skills for employment is a distinct issue for digital equity. The Brookings Institution calls it “digitalization”—the transformation of employment opportunities to require some level of digital skills and comfort with technology.¹²² Brookings finds that as of 2020, 77% of employment in the United States has either a medium or high digitalization level. Of the occupations in New York State, the average digitalization score is 47.8, in line with the national average in 2020. This has increased as a result of the pandemic, with many jobs now requiring some level of digital skills.¹²³ Brookings also finds that the fastest growing employment sectors have the highest demand for digital skills.

The FCC 2020 Broadband Development Advisory Committee Report also finds growth in professions with high digitalization, finding for example that jobs in cybersecurity have increased by 43% in 2022, compared to just an 18% increase in the general labor market during the same timeframe.¹²⁴ This trend toward requiring increased digital skills even for “low tech” employment opportunities in warehouses, construction sites, and retail further

¹²² Muro, Mark and Sifan Liu. “As the digitalization of work expands, place-based solutions can bridge the gaps.” The Brookings Institution, February 7, 2023, <https://www.brookings.edu/research/as-the-digitalization-of-work-expands-place-based-solutions-can-bridge-the-gaps/>.

¹²³ *Id.*

¹²⁴ “Strengthening and Diversifying the Cybersecurity Workforce.” U.S. Department of Labor Blog, September 19, 2022, <https://blog.dol.gov/2022/09/19/strengthening-and-diversifying-the-cybersecurity-workforce>.

exacerbates the digital divide. Statistics further show that people of color are underrepresented in employment with high levels of digitalization.¹²⁵ Where the digital divide is greatest, the digitalization of employment creates a larger digital divide by leaving those without the opportunity to gain digital skills farther and farther behind.

Increased digitalization also brings with it increased productivity and pay levels. Brookings finds that the “wage premium” for jobs with high digitalization levels as compared to those jobs requiring medium digital skills is 47%. Thus, communities with a concentration of employment opportunities with high demand for digital skills—which tend to be concentrated in urban and metro areas and on the east and west coast—have overall increased pay levels versus those with lower digital skills jobs and more opportunity for workers to develop the necessary digital skills.¹²⁶ Creating a workforce with increased digital skills will not only help to close the digital divide, but create socioeconomic opportunities to support families and communities. The U.S. Department of Agriculture further notes that closing the digital divide is critical to rural workforce development, as well as economic development with telehealth and remote work.¹²⁷

The BEAD Program’s investment in expanding broadband access will lead to significant “indirect” job creation, which will require digital skills for those employees that intend to take advantage of new, digitalized jobs. Estimates from a 2016 Deloitte report suggest that just a 10% penetration in broadband access would create 800,000 jobs over three years.¹²⁸ The Federal Reserve Bank of Philadelphia issued a report finding that providing access to a computer and broadband services could bring 400,000 new job seekers into the market in the top 25 metropolitan areas in the country.¹²⁹

¹²⁵ Muro and Liu, *supra*.

¹²⁶ *Id.*

¹²⁷ “USDA Resource Guide for Rural Workforce Development: Together, America Prospers.” U.S. Department of Agriculture, June 2021, <https://www.rd.usda.gov/sites/default/files/060721-ic-ruralworkforceguide-final508.pdf>.

¹²⁸ Fritz, Jack and Dan Littmann. “Broadband for all: charting a path to economic growth.” Deloitte Consulting LLP, April 2021, <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/process-and-operations/us-charting-a-path-to-economic-growth.pdf>.

¹²⁹ Sanchez, Alvaro and Adam Scavette. “Broadband Subscription, Computer Access, and Labor Market Attachment Across U.S. Metros.” Federal Reserve Bank of Philadelphia, June 2021, <https://www.philadelphiafed.org/-/media/frbp/assets/community-development/reports/broadband-subscription-computer-access-and-labor-market-attachment-across-us-metros.pdf>.

4 Obstacles or Barriers

This chapter describes known or potential obstacles or barriers that might impede the successful implementation of New York's Action Plan, along with CAO's strategy to address these challenges.

This Five-Year Action Plan represents a comprehensive assessment to guide the State's Initial Proposal. Through the process of developing this Plan, CAO has identified potential obstacles that it will need to mitigate, described further in the following pages. The State will work through these barriers to achieve its vision of statewide broadband access and digital equity.

4.1 BEAD Policy Decisions

CAO will need to make several key policy decisions based on NTIA's process, which CAO intends to make based on robust data collection and analysis. However, identifying the list of unserved locations in the state is proving challenging, as the FCC's data currently exhibits several discrepancies and changed dramatically from the first version of the map to the second, beyond the challenges that CAO and its regional and local partners submitted. The FCC's data diverges dramatically from the State's in terms of the overall distribution of unserved locations, with the current version of the FCC map weighted more toward the dense, urbanized areas of the state compared to data from the PSC. CAO expects that it will need to make multiple modifications to the FCC dataset to present an accurate set of unserved locations to potential subgrantees; these modifications will be further detailed in CAO's Initial Proposal, Volume I.

CAO will additionally need to establish its "Extremely High Cost Per Location Threshold." New York's past broadband investment programs addressed many of the unserved locations in the state. The remaining locations are mostly those that are isolated, extremely costly to serve, or greater than 1,000 feet from the nearest public road. CAO is currently conducting geospatial analysis to determine a strategy for serving these Extremely High Cost locations while minimizing the use of satellite technology.

Finally, CAO will need to determine its definition of Community Anchor Institutions (CAIs) and gather data on their current levels of broadband service. Stakeholders have identified a wide range of institutions that serve as community anchors; CAO is currently conducting research and engagement to determine the optimal CAI definition for the state. Once this definition is established, CAO will need to undertake an extensive outreach campaign to gather detail about all qualifying locations and their current broadband service; CAO anticipates relying on State agency, local, and regional partners to support this data-gathering effort.

CAO has built internal capacity to support decision-making and strategic planning for the BEAD Program and effectively navigate these policy choices. Key recent CAO hires will

provide increased capacity for the BEAD process, including the Senior Director of Operations, Assistant Vice President of Grants and Program Management, Assistant Vice President of Broadband Deployment, and Director of Research and Data Analysis.

4.2 Legislative and Regulatory Matters Affecting Deployment

Industry stakeholders have identified that the costs, timelines, and overall uncertainty associated with utility pole make-ready and attachment processes may affect their ability to participate in CAO programs. Costs have increased dramatically over the past few years, in some cases at rates nearing 40% of total project costs, as reported to CAO by numerous ISP stakeholders.

Recognizing these potential challenges, the State has made a proactive effort to create an environment conducive to broadband deployment and digital equity; CAO proactively monitors potential regulatory issues to identify ways to support deployment.

The State's Comprehensive Broadband Connectivity Act (2021) directed the PSC to "assess any state regulatory and statutory barriers related to the delivery of comprehensive statewide access to high-speed internet"¹³⁰ in the process of developing the annually updated statewide Broadband Map. The PSC's 2023 report noted that, pursuant to federal law, the PSC has limited jurisdiction over broadband.¹³¹ The Federal Telecommunications Act of 1934, as amended by the Telecommunications Act of 1996, grants the FCC broad authority to regulate interstate services.¹³² The FCC has classified broadband as an interstate information service. State law that conflicts with the FCC's approach is preempted.¹³³ Therefore, the PSC does not have the same statutory authority over ISPs that it does over regulated telephone, cable, electric, gas, water, and steam corporations.¹³⁴

Turning to State law, the PSC report noted that in public comments, some commenters asserted that the prior New York State Department of Transportation (NYSDOT) fiber optic fee in State-owned rights-of-way acted as an impediment to broadband deployment. Specifically, Highway Law §10(24-e) and Transportation Corporations Law §7 allowed the

¹³⁰ New York State Public Service Law, PSL §224-c(2)(a).

¹³¹ *American Lib. Assoc'n v. F.C.C.*, 406 F.3d 689, 692-93 (D.C. Cir. 2005); see also, *Louisiana Pub. Serv. Comm'n v. F.C.C.*, 476 U.S. 355, 368-69 (1986).

¹³² *In re Restoring Internet Freedom*, 33 FCC Rcd. 311, 318-321 (2018).

¹³³ *Mozilla Corporation v. F.C.C.*, 940 F.3d 1, 80-81 (D.C. Cir. 2019) (rejecting the FCC's claim to expressly preempt all inconsistent State regulation of aspects of broadband service).

¹³⁴ As conflict preemption is a fact-specific inquiry, 940 F.3d at 81-82, the precise bounds of what State laws FCC regulation preempts are still being determined. C.f. *New York State Telecomm. Assoc'n, Inc. v. James*, 544 F.Supp.3d 269, 284-285 (E.D.N.Y. 2021).

NYSDOT to assess a fee for use and occupancy of State-owned rights-of-way.¹³⁵ As proposed by the Governor, the State's 2022-2023 Budget repealed NYSDOT's authority to assess this fee¹³⁶—an example of the State's efforts to mitigate potential obstacles to broadband deployment.

The PSC report also documented public comments asserting that some owners of multiple dwelling units impose access restrictions on providers looking to upgrade their existing copper networks to fiber. Formerly, only cable television companies had a process to prevent unreasonable interference from owners or managers under PSL §228.¹³⁷ With the recently enacted PSL §104, landlords and owners are now prohibited from unreasonably restricting access when an existing telephone line is upgraded to fiber.¹³⁸ At the direction of the Governor and in partnership with the U.S. Treasury Department Coronavirus Capital Projects Fund, CAO has also established the Affordable Housing Connectivity Program to fund the upgrade of broadband service in public and affordable housing.

The PSC continuously refines its processes and procedures for the attachment of telecommunications and cable infrastructure on utility poles. In 1997, the PSC issued a standard rate methodology for pole attachments in Case 95-C-0341.¹³⁹ In 2004, the PSC adopted its Policy Statement on Pole attachments in Case 03-M-0432.¹⁴⁰ The PSC's framework has been updated to reflect technological change; for example, in 2019, the PSC issued an order in Case 16-M-0330 that incorporated wireless attachments into this framework.¹⁴¹ In 2022, the PSC initiated a case to examine methods to streamline the pole attachment process and procedures to facilitate broadband deployment.¹⁴² The PSC has conducted two comment periods and continues to develop its recommendations.

¹³⁵ "NYSDOT PERM 75 Questions and Answers." New York State Department of Transportation, April 26, 2023, [https://www.dot.ny.gov/divisions/engineering/real-estate/repository/PERM75%20FAQs_QA%204-26-23%20\(004\).pdf](https://www.dot.ny.gov/divisions/engineering/real-estate/repository/PERM75%20FAQs_QA%204-26-23%20(004).pdf).

¹³⁶ L. 2022, Ch. 58, Part JJ.

¹³⁷ PSL §228(1)(a) and (b) (limiting when and how a landlord may interfere with installation of cable facilities); 16 N.Y.C.R.R. Part 898 (codifying rules and procedures for the ability of landlords to limit installation of cable facilities).

¹³⁸ PSL §104(2) (directing claims for just compensation to use PSC's procedural rules at 16 N.Y.C.R.R. Part 898).

¹³⁹ "Case 95-C-0341, In the Matter of certain Pole Attachment Issues, which arose in Case 94-C0095, Opinion and Order Setting Pole Attachment Rates." New York State Public Service Commission, June 17, 1997, <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7BC07D0EEF-823F-4EDC-AC53-08EBDD38B6AD%7D>.

¹⁴⁰ "Case 03-M-0432," *supra*.

¹⁴¹ "Case 16-M-0330," *supra*.

¹⁴² "Case 22-M-0101," *supra*.

CAO will work with the PSC, other State agency partners, and pole owners to streamline the make-ready and pole-replacement processes for new attachments for aerial fiber deployment and facilitate underground installation where appropriate.

4.3 Employment Opportunities

Historic federal and State investments in broadband infrastructure will create thousands of jobs across various industries and occupations, driven by the physical buildout of fiber, towers, and other infrastructure; ongoing operations and maintenance of expanded broadband networks; and the facilitation of broadband access and digital inclusion. A preliminary labor market analysis commissioned by CAO estimates that planned investment will create at least 4,000 one-time job-years related to broadband deployment (equivalent to 1,650 full-time construction positions in the peak year of construction) and at least 730 permanent ongoing jobs related to internet service provision. CAO expects spending and job creation to ramp up over multiple years, with investments and construction jobs peaking in 2026 and permanent jobs stabilizing by 2028.

Numerous studies, including those by NTIA, have projected unprecedented national and New York State demand for key jobs related to BEAD deployment, though precise estimates vary. The demand for key roles will likely be amplified by the level of federal spending across multiple categories of infrastructure, combined with impending retirements across critical occupations. CAO expects that one-time and ongoing jobs such as construction laborers, first-line supervisors of construction trades, electricians, and telecommunications installers and repairers will be some of the roles in highest demand. While competition is likely in many of these roles, CAO has also identified that needs will vary across the state, given the regional nature of much of the investment.

Equitable access to broadband-related jobs is also a challenge in New York State. While many of the jobs related to the broadband industry are high-quality, due to myriad social and historical challenges and barriers, the current labor force for many roles is not representative, in terms of race and gender, of New York State's overall labor force. Construction and fiber installation occupations, for example, have either low representation of Black and Latinx workers or declining representation as roles advance in seniority and pay. Women are not well represented across broadband-related occupations and are generally in lower-paying roles. Finally, critical positions related to digital adoption, such as librarians and digital navigators, have high-barrier educational requirements that are misaligned with the skills required for success and can shut out otherwise qualified candidates. These challenges indicate a need to diversify the pipeline of talent into broadband roles, provide pathways to advancement, promote more inclusive workplaces for broadband jobs, and reconsider hiring practices and requirements.

CAO recognizes that these challenges represent an opportunity to create more equitable job pathways and address historical disparities in hiring. CAO is conducting a workforce

development analysis to understand the current landscape of workforce development providers, credentials, and employer-trainer partnerships to build on existing successes and address specific gaps in the system. To date, CAO's initial work has included research and engagement of ecosystem stakeholders (see Appendix C for details on workforce stakeholder interviews), reviewing over 100 workforce development programs cataloging relevant broadband-related programs, and initiating a labor analysis to estimate job growth, labor gaps, and opportunities.

New York State's workforce strategy will emphasize the needs of industry, while also addressing persistent disparities in who has access to family-sustaining jobs across the state, centering equity and economic mobility. To that end, CAO will include workforce development requirements as part of its solicitations, to elevate and expand the creation of an equitable workforce as a critical component of the work. More broadly, CAO recognizes a need to leverage the existing successful models that exist in the state, ensuring employer engagement, promoting wraparound services alongside training programs, emphasizing a train-and-place mode with portable, industry-recognized credentials, and building connections with community-based organizations and worker-engaged organizations that ensure a diverse pipeline of talent.

CAO is supported in its efforts by recent advancement of statewide workforce development strategies through the recently-created Office of Strategic Workforce Development, also housed within ESD. This office will be a key collaborator in the development of CAO's workforce strategies.

4.4 Supply Chain Issues and Materials Availability

Demand for labor and materials has spiked due to the extensive allocations of federal funding for broadband infrastructure, as well as planned projects by state and local governments and ISPs – a market disruption that is highly specific to industry materials.¹⁴³ This increased demand compounds an already disrupted market as COVID-19 and international conflicts have caused factory closures and other issues in the supply chain. According to recent research, delays on orders of new fiber are decreasing, but are still challenging.¹⁴⁴ The increase in demand spurred by BEAD funding availability may exacerbate the situation.

¹⁴³ Goovaerts, Diana. "Editor's Corner: Is the fiber hangover real?" Fierce Telecom, March 15, 2023, <https://www.fiercetelecom.com/broadband/editors-corner-fiber-hangover-real>.

¹⁴⁴ "Fiber Broadband Association Reports Dramatic Improvements to Supply Chain." Fiber Broadband Association, May 2, 2023, <https://fiberbroadband.org/2023/05/02/fiber-broadband-association-reports-dramatic-improvements-to-supply-chain/>.

During 2023, inflation remains another potential barrier. For example, the fiber optic cable producer price index from the Federal Reserve Bank of St. Louis rose more than 20% between January 2020 and April 2023, as shown below.¹⁴⁵

Figure 8: Fiber Optic Cable Producer Price Index, January 2020 to April 2023 (SOURCE: Federal Reserve Economic Data online database)



Build America Buy America provisions are critically important, and national suppliers must create the capacity to meet the demands of all 50 states, including New York.

CAO will continue to monitor these issues and will incorporate the latest data into its grant program design. CAO will also continue to gather information from NTIA and other subject matter experts regarding best practices for dealing with supply chain and materials issues.

4.5 Industry Participation

The State has decades of history investing in broadband deployment through collaboration with ISPs; commitments by ISPs to share the cost and risk of last-mile broadband deployment in exchange for partial public funding will continue to be an important factor in closing the state’s digital divide.

New York has a diverse market of ISPs, in terms of business size, technology, and other factors, and CAO is committed to growing this market further by attracting new market entrants. CAO will need to establish scoring criteria and project areas that encourage participation from the entire pool of potential subgrantees to maximize participation and competition in its programs. Designing grant funding areas that are attractive to multiple

¹⁴⁵ “Producer Price Index by Industry: Fiber Optic Cable Manufacturing: Fiber Optic Cable, Made from Purchased Fiber Optic Strand (PCU3359213359210).” Federal Reserve Bank of St. Louis, for the period January 2020 to April 2023, <https://fred.stlouisfed.org/graph/fredgraph.png?g=14Kos>. Because the URL links to the latest available data, the data accessible via the link may be more recent than the data in the graph above. The series data is available at <https://fred.stlouisfed.org/series/PCU3359213359210>.

bidders and connect Extremely High Cost unserved locations will be critical. Given the potential high cost of preparing a bid, handling required environmental and historical permitting, and complying with NTIA grant requirements including Build America Buy America provisions and the letter of credit, the State recognizes it will need to thoughtfully craft its eligibility and selection criteria to ensure a diverse range of bidders are able to apply. The State will also need to provide technical assistance to subgrantees to support meeting supplier and contractor diversity goals, as well as other ESD granting requirements.

The State's history of investing in broadband deployment through collaboration with ISPs stretches back several years, beginning with the establishment of CAO's predecessor, the Broadband Program Office (BPO), in 2008. The State has provided grant funding for broadband expansion through multiple programs (discussed in Chapter 3), culminating with the New NY Broadband Program in 2015—which represented the largest state broadband investment in the nation at the time, and ultimately supported over 120 individual projects led by 32 different companies.

The State has also worked successfully with ISPs to identify service availability and gaps. During the development of the State Broadband Map (released in 2022), the PSC collaborated with 60 ISPs to collect accurate data—nearly all of the 65 ISPs with internet operations in New York who report having consumer connections.¹⁴⁶

CAO conducted interviews in Spring 2023 with a range of ISPs, broadband infrastructure providers, utilities, and public-private partnership investors to inform the development of its forthcoming grant programs. These conversations focused on past and planned projects, priorities, needs, and barriers. CAO has additionally hosted multiple well-attended Virtual Forum sessions to encourage interactive discussion and feedback from ISPs on a range of topics. These engagements are described further in Chapter 5.

The broadband companies interviewed agreed that the market conditions for infrastructure deployment have become more challenging since the State's previous New NY Broadband Grant Program, with significant cost increases over the past few years related to aerial construction, permitting, equipment, labor, and capital (as a result of higher interest rates).

Incumbent Local Exchange Carriers that serve rural areas were largely positive about their past participation in State grant programs and potential expansion opportunities. However,

¹⁴⁶ "2022 Report on the Availability, Reliability and Cost of High-Speed Broadband Services in New York State." New York State Public Service Commission, June 2022, <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={94520887-43D6-45D4-B140-A5CF72CBF708}>.

they voiced concerns about delays related to permitting and the cost and time involved for make-ready work. Some believe that the State or the PSC should play a role in addressing these challenges, while others were interested in resolving these issues by working directly with utilities or ISPs. As described in Chapter 4.1, the PSC has taken several important steps to date to standardize and streamline the pole attachment process.

CAO believes ISPs and other industry participants will continue to be engaged partners in the State's efforts to bridge the digital divide. CAO's outreach with ISPs confirms they intend to be collaborative partners in future broadband deployment efforts.

4.6 Topography and Project Areas

New York is regionally diverse, encompassing the nation's most populous metropolitan area as well as large expanses of sparsely populated but ecologically and agriculturally important areas—as well as mountains and islands. Hamilton County is New York's least densely populated county, with an estimated population of 4,345 in an area of 1,806 square miles.^{147,148} Rocky terrain in the southeast region of the state, as well as hilly or mountainous areas in northern regions, can result in underground construction being prohibitively expensive. As in almost all states, too, construction methods and planned maintenance will need to consider survivability in terms of extreme weather and natural disasters. Both the State and private deployers are prepared to successfully mitigate these and related issues in New York.

New York's past grants for broadband deployment have addressed most of the large areas that were previously unserved. The remaining unserved locations in the state are distinctly difficult and expensive to connect. They are generally contiguous with only a small number of other unserved locations; for example, a single road a few miles long with fewer than ten homes. In many cases, there are service providers in the area that have made business decisions to bypass these roads in the past due to specific conditions, such as the overall density of homes, the distance to the first home, or the lack of utility poles. These factors impact not only the capital costs that could be addressed through BEAD funds, but also operating costs and the potential rate of return. CAO will be challenged to group these disparate pockets of unserved locations in with other, denser groups of unserved locations to achieve economies of scale or a balanced business case for project areas.

BEAD funding will be critical to achieving New York's universal service goal, as New York's topographical challenges will require significant capital investment. CAO's definition of the Extremely High Cost Location Threshold will be directly related to successfully overcoming the topography challenges of the state.

¹⁴⁷ "Table 2: Population, Land Area, and Population Density by County, New York State – 2020." New York State Department of Health, https://www.health.ny.gov/statistics/vital_statistics/2020/table02.htm.

¹⁴⁸ "Welcome." Hamilton County, New York, <https://www.hamiltoncounty.com/>.

5 Implementation Plan

This chapter describes how CAO will mobilize State, regional, county, and local governments along with private and nonprofit partners to transform New York's digital infrastructure to serve all residents and businesses.

5.1 Stakeholder Engagement

CAO has conducted a statewide stakeholder engagement effort to inform the design of its grant programs and strengthen the ecosystem of partners to deliver those programs. CAO intends to build on this body of work, described below, throughout the BEAD implementation period.

5.1.1 Summary of Engagement to Date

CAO initiated several rounds of meetings with county government and Regional Planning Councils following award of the BEAD Planning Grant in December 2022.¹⁴⁹ CAO and these partners mobilized a statewide effort to submit challenges to the FCC's National Broadband Map with the goal of aligning the federal map with the State's and counties' assessment of local conditions. This collaboration was also a chance to establish points of contact and build capacity among these partners, specifically in their ability to obtain, manage, and analyze essential broadband data to inform regional broadband and economic development plans. CAO has continued to engage with and support these partners as the challenge process has progressed through subsequent phases. These county and Regional Planning Council partners will be critical to BEAD implementation.

CAO partnered with the New York State Library (NYSL, a division of the New York State Education Department) to co-convene an interagency Digital Equity Task Force (DETF). NYSL had established and mobilized a network of State agencies, regional library councils, and community organizations throughout the pandemic. This network and a working group of State agencies served as a key foundation for ConnectALL's stakeholder engagement.

The DETF has met monthly throughout the BEAD and Digital Equity planning processes. In Spring 2023, CAO and NYSL established five DETF subcommittees, each focused on a key outcome area: education, health, workforce development, civic and social engagement, and

¹⁴⁹ There are nine Regional Planning Councils in New York State, which collectively represent 45 of the 62 counties in New York. Articles 12-B and 5-G of the New York State General Municipal Law gave municipalities the legal authority to create regional or metropolitan planning boards and joint-purpose municipal corporations; New York's Regional Planning Councils provide planning for the coordinated growth and development of their regions, including marketing, economic development, land-use, transportation, environment and water resources management, human resources management, regional data services, and technical assistance for communities on grant application, financial planning, and information services.

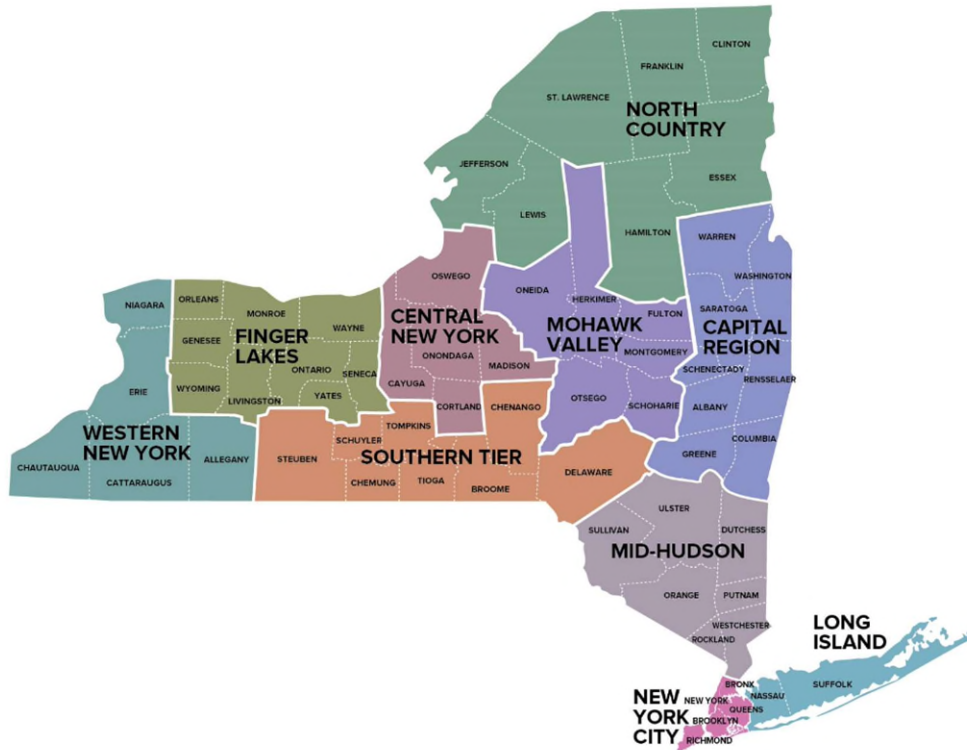
accessibility of government services. Each subcommittee is co-chaired by a State agency representative and an external expert in the outcome area.

CAO has held a virtual town hall with each of the five DETF subcommittees to inform the State Digital Equity Plan, Five-Year Action Plan, and Initial Proposal. The town halls convened key stakeholders, subject-matter experts, and the general public to discuss issues related to each subcommittee outcome area and provide input to the State's Plans. CAO will work with the DETF to solicit public comment on the State Digital Equity Plan and BEAD Initial Proposal and intends to maintain the Task Force through implementation of both Programs.

In parallel to virtual, statewide engagement through the DETF, CAO partnered with Digital Equity Coalitions and other entities ("Regional Partners") in each of New York State's ten regions (shown on the following page) to reach and convene local stakeholders. CAO and Regional Partners co-hosted 15 hybrid (virtual and in-person) listening sessions, convening more than 1,200 New Yorkers in total.¹⁵⁰ Each listening session included an overview of the ConnectALL initiative, CAO's planning principles, and a look ahead at the BEAD and Digital Equity Planning process. Regional Partners were invited to present their perspectives on regional broadband challenges and opportunities, informed by their specific experience within their communities. Participants were then invited to join interactive breakout discussions with facilitated prompts to share their experiences accessing the internet and digital services in their communities and provide local perspectives on the vision for ConnectALL.

¹⁵⁰ Summary notes and presentation slides from all listening sessions are publicly available at <http://broadband.ny.gov>.

Figure 9: New York State Regions (SOURCE: Empire State Development)



CAO’s Regional Partners subsequently conducted more than 40 focus groups for more in-depth discussion of challenges and barriers to broadband access and adoption.¹⁵¹ More than 650 individuals participated in the focus groups with participant recruitment tailored to regional population demographics. CAO intends to continue working with its Regional Partners during the public comment and implementation phases of the BEAD and Digital Equity Programs. CAO will also support peer learning opportunities to strengthen connections across the state.

CAO conducted the NYS Internet Access Survey (see Appendix B) to gather information from the general public about broadband needs, barriers, and opportunities. CAO worked with Regional Partners to surpass a goal of 5,500 responses to the survey with specific distribution goals developed by region and demographic category. As a result of this effort,

¹⁵¹ Partners conducted a minimum of three focus groups per region, with a minimum of ten participants per focus group. Each partner was assigned two specific NTIA-defined covered populations to target for focus group participation. Focus groups were conducted in alignment with ConnectALL’s Digital Equity and BEAD Research Plan, which was reviewed and approved in December 2022 by NTIA and its partners at the National Institute of Standards and Technology.

CAO has a statistical basis to inform its programs.¹⁵² CAO plans to re-administer the survey periodically to assess progress with specific communities over time.

CAO has conducted four virtual roundtables to facilitate stakeholder discussion on specific aspects of the State's Plans (see Appendix C for details on topics, audiences, and attendees for these sessions). CAO will continue to use this format for in-depth review of key issues, policy decisions, and research findings.

CAO contacted all federally recognized Tribal Nations within the state to invite participation in a formal consultation, which was held in April 2023. Representatives of the Seneca Nation and the Saint Regis Mohawk Tribe participated in the consultation. CAO has continued to engage those two Nations, including by attending a Tribal Broadband Bootcamp hosted by Mohawk Networks. CAO has conducted further outreach to the other Nations and has met with State agencies and other organizations that work with Tribal communities to inform the State's Plan. CAO will build on this engagement in coordination with the State's Deputy Secretary for First Nations, a newly-established position within the Governor's Office.

CAO has conducted over 40 interviews and dozens of meetings with potential subgrantees or partners, including ISPs, electric co-ops, middle-mile infrastructure owners, and investors. CAO additionally conducted two focus groups with affordable housing property owners to understand the unique needs of affordable housing residents and the challenges of deploying broadband in multi-dwelling unit environments.

CAO has held several dozen direct meetings with a range of municipal and county governments, Regional Planning Councils, Regional Economic Development Councils, Community Action Agencies, Digital Equity Coalitions, Library Councils, other digital equity organizations, workforce development organizations, educational organizations, institutions of higher learning, and more. In many cases, CAO and the stakeholder have held follow-up sessions to understand the specifics of each community's broadband needs, strengths, challenges, and opportunities.

Finally, CAO conducted numerous site visits to understand the conditions of broadband deployment and adoption across the state, with visits to municipalities including Diana, Nichols, Pitcairn, Sherburne, Syracuse, and Tupper Lake; the INOC data center in Albany, New York; and community organizations including Civic Hall, Literacy of Rochester, the Manhattan Neighborhood Network, Mission: Ignite, and Y-Zone.

Additional details on all engagement activities, including dates, locations, partners involved, and numbers of attendees, are included in Appendix C.

¹⁵² CAO will include a detailed analysis of the results of this survey in the State Digital Equity Plan.

5.1.2 Confirmation of Alignment with NTIA Local Coordination Criteria

The efforts described in Chapter 5.1.1 reflect CAO's dedication to ensuring its engagement model is both inclusive and effective. CAO's engagement process meets NTIA's five local coordination criteria, described below.

Full geographic coverage of the Eligible Entity

CAO has conducted public engagements and targeted stakeholder outreach in all ten geographic regions of the state. By allowing for virtual participation in most engagement events, CAO has minimized geographic travel restrictions, enabling meaningful engagement from a diverse range of stakeholders that may otherwise not have been able to participate in the planning process.

Meaningful engagement and outreach to diverse stakeholder groups

CAO has leveraged its existing relationships with local and State agencies as well as regional partners, private entities, and community-based organizations to develop and expand on its diverse, inclusive outreach list. Within the BEAD planning period, CAO has developed a robust outreach list of approximately 4,500 contacts, including representatives from county, local, and Tribal governments; regional planning and economic development organizations; ISPs; utilities; workforce development and labor organizations; educational institutions; libraries and other CAIs; and more. By developing a multi-pronged engagement strategy with multiple opportunities to participate, CAO has been able to connect with a wide array of stakeholders to bring them into the planning process.

Utilization of multiple awareness and participation mechanisms and different methods to convey information and outreach

CAO's engagement strategy is geographically diverse and includes several avenues for participation: from intimate 1:1 stakeholder interviews to a statewide survey reaching thousands, from high-level webinars to in-depth focus group discussions, and from elected officials to members of historically marginalized communities, CAO has sought a varied approach across several metrics to ensure that all constituents have an opportunity to participate.

Establishment, documentation, and adherence to clear procedures to ensure transparency

CAO has sought to provide as much information as possible to participants to help them understand the purpose of the engagement, how their information will be used, and what they can expect next from CAO. For meetings that are recorded or where notes will be shared after, CAO has always communicated this explicitly to participants ahead of time. CAO continues to post new materials (including event presentation slides, recordings, and notes) and updates to its website on a regular basis.

Outreach and engagement of unserved and underserved communities, including historically underrepresented and marginalized groups and/or communities

CAO has worked to engage representatives and individuals from all covered populations identified in the Digital Equity NOFO and all underrepresented populations and stakeholder groups identified in the BEAD NOFO. CAO's listening sessions, focus groups, and DETF town hall meetings have provided a venue for individuals with lived experiences of the digital divide, as well as stakeholders who work with and represent these individuals, to share their perspectives on the State's Plans, with the focus group methodology in particular designed to target covered populations who were likely to be underrepresented in other methods of engagement. CAO has additionally worked to make its engagement efforts inclusive and accessible to diverse populations, including by providing sign language interpretation at engagement events; providing closed captioning for all virtual events; making the NYS Internet Access Survey available both online and in print, in twelve languages (English, Arabic, Bengali, Chinese, French, Haitian Creole, Italian, Korean, Polish, Russian, Spanish, and Urdu); conducting focus groups and listening sessions in English and Spanish; sharing event slides, recordings, and notes publicly online for those not able to attend live; and ensuring all materials posted publicly online are accessible.

5.2 Priorities

The BEAD Program prioritizes deployment in the following order:¹⁵³

1. Connecting all unserved locations in the state.
2. Connecting all underserved locations in the state.
3. Delivering symmetrical gigabit connections to certain Community Anchor Institutions that do not currently have that level of service.

In selecting priority areas for federal support, CAO will prioritize Unserved Service Projects first¹⁵⁴, as required by NTIA. Within this category, CAO may incorporate additional factors in how it defines project areas (i.e., in determining the locations that are served or underserved that can be included with unserved locations in a project area), evaluates proposals, or implements complementary activities, in alignment with the framework of the BEAD Program. CAO has included a list of potential priorities in Table 12 and will finalize these priorities, along with subgrantee evaluation criteria, in the Initial Proposal.

¹⁵³ "NOFO: BEAD Program," *supra*, at p. 41.

¹⁵⁴ *Id.*, at p. 17.

Table 12: Prioritization of Areas for Federal Support

Priority	Description
Low-Income Communities	CAO may prioritize Unserved Service Projects in high-poverty areas or persistent poverty counties. For the purposes of BEAD, high-poverty areas are areas in which the percentage of individuals with a household income at or below 150% of the federal poverty line is higher than the national percentage of such individuals; persistent poverty counties are those which have had poverty rates of 20% or greater for at least 30 years. ¹⁵⁵
Underserved Locations	CAO may prioritize projects that also include underserved locations.
Community Anchor Institutions	CAO may prioritize projects that include delivering symmetrical gigabit connections to certain Community Anchor Institutions that do not currently have that level of service.
Fiber Optic Technology	CAO may prioritize projects that include connections to locations with fiber optic technology that are currently served with another technology.
Existing Public Assets	CAO may prioritize projects that speed up deployment and reduce costs by using existing open-access fiber optic infrastructure and other public assets.

5.3 Planned Activities

CAO will implement the ConnectALL Deployment Program to select projects to receive BEAD funds. As described in the NYS WIRED Act, "The ConnectALL deployment program is hereby established to provide grant funding to construct infrastructure necessary to provide broadband services to unserved and underserved locations in the state."¹⁵⁶ CAO will further detail its approach to program implementation in its Initial Proposal.

¹⁵⁵ *Id.*, at p. 41.

¹⁵⁶ WIRED Broadband Act, *supra*, at §7.

CAO currently plans to work from the version of the FCC data that will be released in Fall 2023. CAO will remove all locations that are currently unserved, but that are subject to enforceable commitments for future service, such as those awarded under the FCC's Rural Deployment Opportunities Fund. CAO will additionally coordinate with county governments who are administering their own grant programs and local authorities that have enforceable commitments or independent plans. Ultimately, CAO will run a challenge process, to be described in Volume I of the Initial Proposal, to confirm the remaining locations that are eligible for BEAD funding.

CAO will develop Grant Program Guidelines, followed by the release of a Request for Applications for prospective subgrantees to propose and bid on project areas. These components will be described in Volume II of the Initial Proposal. CAO will evaluate applications and award subgrants based on evaluation criteria to be developed in alignment with BEAD and State priorities and requirements, as described in Chapter 5.2. CAO will then submit information on all selected projects and subgrantees in its Final Proposal to NTIA.

CAO anticipates using its entire BEAD allocation to support the ConnectALL Deployment Program. CAO will conduct other programs in parallel, including implementation of the State Digital Equity Plan, the Affordable Housing Connectivity Program, the Municipal Infrastructure Program, and the Connectivity Innovation Program. CAO will continue to coordinate activities across State agencies to streamline deployment and promote the federal Affordable Connectivity Program (see Chapter 3.1, Existing Programs, for more details on the above activities). CAO will align its activities with other State programs and priorities as described in Chapter 5.7, below.

5.4 Key Strategies

CAO will employ the following key strategies to maximize the impact of the BEAD funds for New York, while ensuring full compliance and alignment with statutory requirements:

- **Encourage public-private partnership:** As described in Chapter 4.5, CAO has a successful track record of partnership and collaboration with ISPs and other private entities across the state and anticipates strong participation from the private sector in BEAD-funded projects. CAO will continue to develop government capacity and public assets to support industry in the ConnectALL Deployment Program.
- **Prioritize affordability of service:** CAO is developing, and will include in its Initial and Final Proposals, a middle-class affordability plan to maximize access to affordable high-speed internet for consumers across the state. CAO anticipates incorporating a mix of strategies, including continued promotion of the ACP to residents, promoting ISP competition, and weighting subgrantee evaluation criteria related to affordability, within its plan.

- **Enforce good workforce practices:** CAO will require its BEAD subgrantees to demonstrate a history of compliance with federal and State labor and employment laws. CAO will require subgrantees to submit workforce plans including information on planned subcontracting, plans for local or regional hiring, wage scales and practices, and details on workforce safety standards and training to ensure the work is completed at a high standard. CAO's requirements will be informed by its broader workforce development strategy, described in Chapter 4.3. These requirements will be further detailed in the State's Initial and Final Proposals.
- **Apply a digital equity framework across all programs:** As NTIA has noted, successful BEAD implementation requires that all communities are able to adopt and use high-speed broadband services, especially communities who have historically been excluded from access.¹⁵⁷ CAO is leading the State's planning efforts for both the BEAD and Digital Equity Programs and will ensure alignment between the two. CAO's State Digital Equity Plan will establish a set of principles and metrics to inform long-term evaluation of the impact of all CAO grants and related activities.
- **Sustain stakeholder engagement:** CAO will continue engaging with stakeholders through multiple channels on a frequent and ongoing basis throughout the implementation of the BEAD Program, as described in Chapter 5.1.
- **Coordinate all CAO grantmaking:** CAO will coordinate BEAD planning and implementation efforts with all other CAO grant programs to achieve widespread, equitable economic impact and sustained, meaningful use of broadband by all communities across the state. CAO will ensure no duplication of public funding, maximize private investment, and take advantage of planning and deployment efficiencies wherever possible.
- **Maintain CAO capacity:** CAO will maintain operational capacity for monitoring, inspection, reporting, and evaluation throughout the full lifecycle of the BEAD Program. As a division of ESD, CAO will meet all statutory requirements as an Eligible Entity and ensure the compliance of all of its subgrantees. All subgrantees will have an active partner to support timely project implementation and grant disbursements.
- **Coordinate with State agencies and other partners:** CAO will continue to work with other State agencies; regional, county, Tribal, and local governments; and other planning entities to identify opportunities for collaboration to streamline processes and lower barriers to deployment. CAO will continue to foster coalitions and relationships among public, private, and nonprofit entities to promote the growth of a strong broadband and digital equity ecosystem, both regionally and statewide.

¹⁵⁷ "Bead Five-Year Action Plan-State Digital Equity Plan Alignment Guide." NTIA, https://broadbandusa.ntia.doc.gov/sites/default/files/2022-09/BEAD-Digital_Equity_Alignment_Guide.pdf.

5.5 Estimated Timeline for BEAD Implementation

CAO expects to submit its Initial Proposal to NTIA in December 2023. Upon approval of the Initial Proposal (expected within the first or second quarter of 2024), CAO will begin the public challenge process to confirm the state’s unserved, underserved, and served locations. The challenge process is expected to take approximately 12 to 14 weeks to complete, followed by the issuance of public notice of final classifications.

The subgrantee selection process is estimated to begin in mid-2024, with the Final Proposal submission to NTIA by the second quarter of 2025. Implementation, including the design, permitting, and construction processes of the subgrantees, is expected to begin in 2025.

CAO expects that the majority, if not all, of the subgrant awards will be fully implemented within the four-year buildout period prescribed by NTIA. This assumes the State does not experience barriers it is unable to mitigate, such as a nationwide supply chain disruption or unforeseen environmental factors that could have a material impact.

5.6 Estimated Cost for Universal Service

CAO estimates a total deployment cost of fiber optic infrastructure to the estimated 114,377 unserved addresses (from the FCC address fabric version 2 and the FCC Broadband Data Collection (BDC) as of May 24, 2023) that are not covered by existing, enforceable deployment commitments to be \$1.947 billion (Table 13). This estimate assumes a timeframe of 36-48 months for the buildout of primary fiber-to-the-premises (FTTP) infrastructure passing each unserved home, with deployment activities related to customer activations, including service drop construction and installation of customer premises equipment, continuing throughout the buildout period.

Table 13: Estimated Deployment Costs to Reach All Unserved Addresses (Four-year Buildout Period)

Cost component	Estimated cost (\$millions)
Physical fiber plant construction – FTTP distribution network	\$1,668.7
Core and distribution network electronics	\$57.5
Subscriber drop construction	\$176.6
Customer premises equipment	\$43.9
Total	\$1,947

In addition to the unserved locations, there are 35,012 underserved locations identified in the May 24, 2023 FCC dataset that are not covered under existing, enforceable commitments. CAO estimates the cost of construction to reach 149,389 total unserved and underserved addresses to be \$2.291 billion (Table 14). This estimate includes a total of

18,036 miles of new fiber construction. The new fiber plant construction is estimated to include 64% underground and 36% aerial construction.

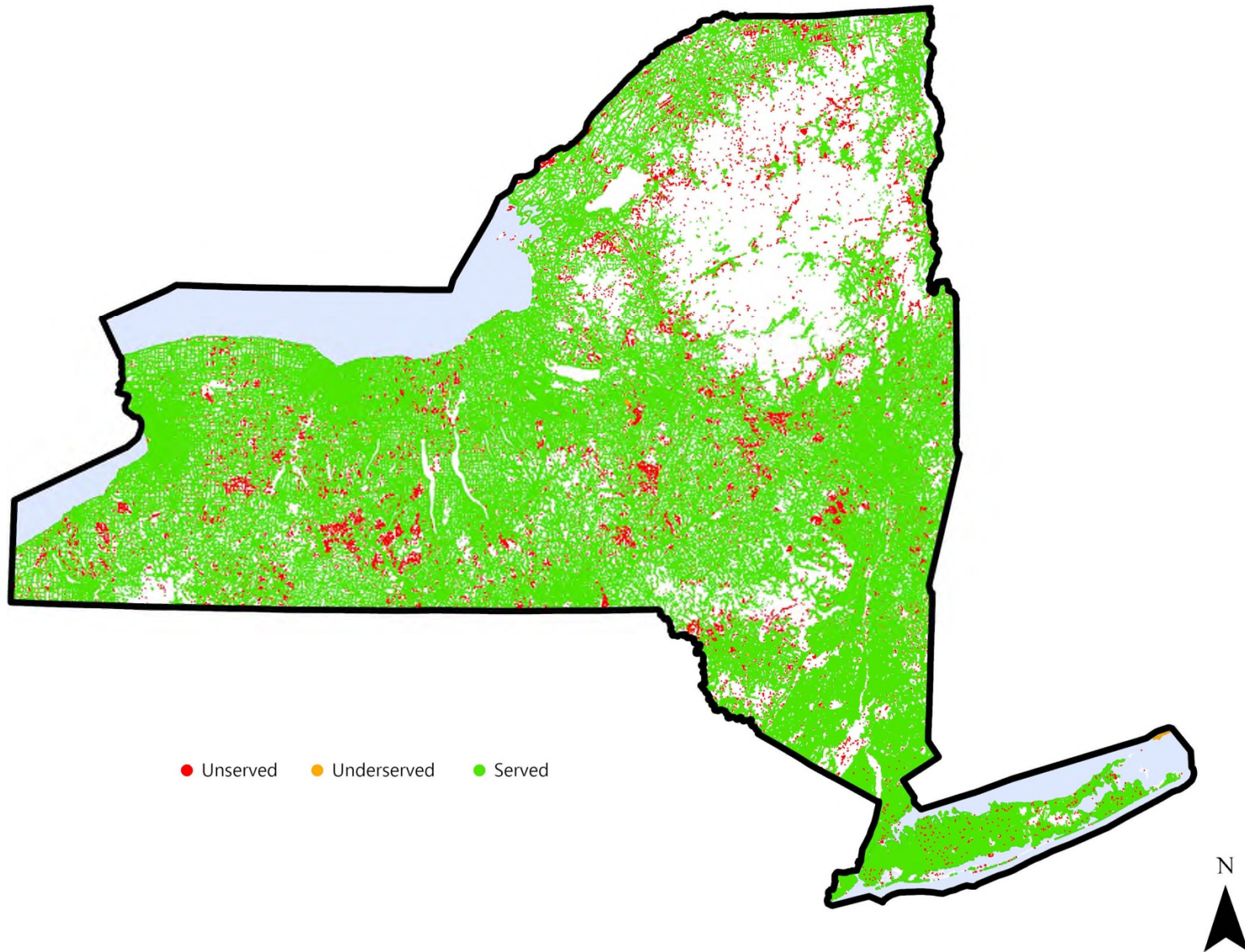
Table 14: Estimated Deployment Costs to Reach All Unserved and Underserved Addresses (Four-year Buildout Period)

Cost component	Estimated cost (\$millions)
Physical fiber plant construction – FTTP distribution network	\$1,913.3
Core and distribution network electronics	\$83.8
Subscriber drop construction	\$229.5
Customer premises equipment	\$64
Total	\$2,291

CAO determined these estimates based on an analytical model that incorporates existing infrastructure that can be used as a starting point for new construction, local labor and material unit costs, costs associated with topographical factors, and variations in physical conditions as determined through surveys of a statistically valid sample of unserved and underserved areas.

New York’s estimates are higher than NTIA’s allocation of \$664,618,251.49 from the BEAD Program. The estimates cited above focus solely on fiber optic technology and therefore do not reflect CAO’s final estimate for its implementation of the BEAD Program. CAO will conduct further analysis and refinements of the location and availability data during the Initial Proposal process and will assess the use of multiple technologies to lower construction costs and maximize Program reach, consistent with BEAD requirements. In addition, CAO anticipates that its cost and location estimates will change as a result of future changes in the FCC’s fabric and serviceable location data. In its Initial Proposal, CAO will provide an updated total cost estimate for universal service.

Figure 10: Unserved, Underserved, and Served Locations in New York State (SOURCE: FCC Fabric Version 2, BDC December 31, 2022 (updated August 9, 2023))



5.7 Alignment

The vision, goals, and proposed supporting actions within this Five-Year Action Plan are fully aligned with the State of New York’s priorities of expanding broadband deployment and adoption to achieve universal service. New York has demonstrated its full commitment towards ensuring that every resident of the state will have an affordable, high-speed broadband connection. This vision is consistent with the goal of the BEAD Program to achieve universal broadband service.

ConnectALL’s Five-Year Action has been developed in parallel with the State’s review of dozens of State, regional, county, and local strategic plans, to ensure alignment and that New York’s investments in broadband help to further State goals in key outcome areas such as workforce development, civic engagement, education, and more. The following table lists a selection of the plans that CAO has gathered and reviewed in the preparation of its Five-Year Action Plan; CAO will continue to work to align its BEAD and Digital Equity planning with broader State efforts moving forward.

Table 15: State and Regional Strategic Plans Reviewed in the Development of the Five-Year Action Plan

Plan Title	Geographic Scope	Key Takeaways
<p>2023 State of State: Achieving the New York Dream¹⁵⁸</p> <p>Governor Kathy Hochul</p>	<p>Statewide</p>	<ul style="list-style-type: none"> • State will invest \$200 million in digital transformation and IT infrastructure across the State university system. • State will provide a one-time investment of \$75 million for transformational initiatives at campuses that support innovation, to help meet the workforce needs of the future and provide needed support to students. • State will transform Department of Labor Career Centers into “Community Training and Career Centers” with additional professional skills trainers that provide unemployed and underemployed New Yorkers with no-cost training in high-need areas such as digital and financial literacy. • State will retool the outdated CareerZone Platform to specifically help youth, young adults, and digital literacy learners explore career paths and develop baseline professional skills required by employers from all sectors.

¹⁵⁸ “Achieving the New York Dream.” Office of the Governor, January 2023, <https://www.governor.ny.gov/sites/default/files/2023-01/2023SOTSBook.pdf>.

Plan Title	Geographic Scope	Key Takeaways
<p>Achieving Digital Equity in New York: An Outline for Collaborative Change¹⁵⁹</p> <p>New York State Education Department</p>	<p>Statewide</p>	<ul style="list-style-type: none"> • Recommends the development of place-based digital equity coalitions and the development of regional/local digital equity plans. • State should shift digital inclusion efforts from building-restricted Wi-Fi and device loaning to household internet and device ownership. • State should develop digital stewardship models to include community members in development of digital equity solutions.
<p>Capital Region Workforce Strategy Report 2022 and 2022 Progress Report¹⁶⁰</p> <p>Capital Region Economic Development Council</p>	<p>Regional</p>	<ul style="list-style-type: none"> • Regional priority sectors include biotech and life sciences; clean and renewable energy; and information technology, software, and electronics. • Report recommends investing in digital solutions to help employers navigate the workforce development system more efficiently.

¹⁵⁹ Moore, Lauren. "Achieving Digital Equity in New York." New York State Education Department, June 2021, <https://nysl.nysed.gov/libdev/DigitalEquityNY.pdf>.

¹⁶⁰ "Capital Region Workforce Development Strategy." Capital Region Regional Economic Development Council, 2022, https://regionalcouncils.ny.gov/sites/default/files/2022-12/Capital_Region_Workforce_Strategy_Report_2022.pdf.

Plan Title	Geographic Scope	Key Takeaways
<p>Central New York Workforce Strategy Report 2022 and 2022 Progress Report¹⁶¹</p> <p>Central New York Regional Economic Development Council</p>	<p>Regional</p>	<ul style="list-style-type: none"> Regional priority sectors include advanced manufacturing and smart systems, including artificial intelligence, software development, telecommunications, and more. Report recommends building awareness of career pathways, increasing training and wraparound services for underserved populations, and enhancing regional coordination and employer support.
<p>Climate Action Council Scoping Plan¹⁶²</p> <p>New York State Climate Action Council</p>		<ul style="list-style-type: none"> Plan includes recommendations to meet the New York State Climate Act’s goals and requirements, including actions to achieve reductions in greenhouse gas emissions. Plan discusses strategies to meet Climate Act directives by economic sector, as well as recommendations for economywide activities the State should undertake. All strategies are guided by pillars of climate justice, just transition, and public health.

¹⁶¹ “Central New York REDC Phase II Regional Sector-Based Strategies.” Central New York Regional Economic Development Council, November 2022, https://regionalcouncils.ny.gov/sites/default/files/2022-12/Central_New_York_Workforce_Strategy_Report_2022.pdf.

¹⁶² New York’s Scoping Plan.” New York State, <https://climate.ny.gov/resources/scoping-plan/>.

Plan Title	Geographic Scope	Key Takeaways
<p>Digital Equity for People with Developmental Disabilities¹⁶³</p> <p>New York State Developmental Disabilities Planning Council</p>	<p>Statewide</p>	<ul style="list-style-type: none"> • People with disabilities experience training and inclusion barriers; the State should support and expand resources to provide digital literacy training for people with developmental disabilities. • People with disabilities in rural and low-income areas lack reliable broadband service; the State should consider their unique needs in its statewide infrastructure planning efforts. • People with disabilities face challenges navigating government services online; the State should support agencies to make government services more accessible.
<p>Finger Lakes Workforce Strategy Report 2022 and 2022 Progress Report¹⁶⁴</p> <p>Finger Lakes Regional Economic Development Council</p>	<p>Regional</p>	<ul style="list-style-type: none"> • Regional priority sectors include advanced manufacturing, agribusiness, and clean and renewable energy. • Report recommends creating individualized support services, expanding K-12 career exploration, infusing employability skills into high school and employer training curriculum, and increasing participation of underserved populations.

¹⁶³ “Digital Equity for People with Developmental Disabilities.” New York State Developmental Disabilities Planning Council, <https://ddpc.ny.gov/system/files/documents/2023/02/digital-equity-policy-paper-final-2.15.23.pdf>.

¹⁶⁴ “Finger Lakes Workforce Development Strategy.” Finger Lakes Regional Economic Development Council, 2022, https://regionalcouncils.ny.gov/sites/default/files/2022-12/Finger_Lakes_Workforce_Strategy_Report_2022.pdf.

Plan Title	Geographic Scope	Key Takeaways
Healthcare Industry Workgroup 2023 Workforce Development Strategy ¹⁶⁵ Capital Region Economic Development Council	Regional	<ul style="list-style-type: none"> Region is working to create career pathways across several in-demand nursing, clinical non-nursing, technical, and social services fields, especially certified nursing assistants and patient care technicians.
Long Island Workforce Strategy Report 2022 and 2022 Progress Report ¹⁶⁶ Long Island Regional Economic Development Council	Regional	<ul style="list-style-type: none"> Regional priority sectors include advanced manufacturing, life sciences, and biotech. Report recommends enhancing regional coordination, expanding training and wraparound services for underserved populations, and establishing pathways to direct employment and growth opportunities.

¹⁶⁵ “Healthcare Industry Workgroup 2023 Workforce Development Strategy.” Capital Region Economic Development Council, 2023, https://regionalcouncils.ny.gov/sites/default/files/2023-05/2023%20CREDC%20Healthcare%20Report_High%20Resolution.pdf.

¹⁶⁶ “Long Island REDC Phase II Regional Sector-Based Strategies.” Long Island Regional Economic Development Council, November 2022, https://regionalcouncils.ny.gov/sites/default/files/2022-12/Long_Island_Workforce_Strategy_Report_2022.pdf.

Plan Title	Geographic Scope	Key Takeaways
<p>Mid-Hudson Workforce Strategy Report 2022 and 2022 Progress Report¹⁶⁷</p> <p>Mid-Hudson Regional Economic Development Council</p>	<p>Regional</p>	<ul style="list-style-type: none"> • Regional priority sectors include advanced manufacturing; transportation and logistics; life sciences; and business and financial services. • Report recommends investing in apprenticeship, technical certification, and paid internship programs, as well as leveraging online portals and hands-on learning opportunities to build awareness of career pathways for youth. • Infrastructure improvements and downtown revitalization are cited as drivers to help stimulate job creation, increase community and regional connectivity, and attract and retain residents.

¹⁶⁷ “Workforce Development Strategy.” Mid-Hudson Regional Economic Development Council, December 2022, [https://regionalcouncils.ny.gov/sites/default/files/2023-03/Mid-Hudson Workforce Strategy Report 2022.pdf](https://regionalcouncils.ny.gov/sites/default/files/2023-03/Mid-Hudson%20Workforce%20Strategy%20Report%202022.pdf).

Plan Title	Geographic Scope	Key Takeaways
<p>Mohawk Valley Workforce Strategy Report 2022 and 2022 Progress Report¹⁶⁸</p> <p>Mohawk Valley Regional Economic Development Council</p>	<p>Regional</p>	<ul style="list-style-type: none"> Regional priority sectors include agribusiness, finance and insurance, and tech-intensive advanced manufacturing. Report recommends developing career readiness programming for all ages, strengthening partnerships between educators and industry, and developing strategies to address the need for wraparound services including childcare and transportation.
<p>New York City Workforce Strategy Report 2022 and 2022 Progress Report¹⁶⁹</p> <p>New York City Regional Economic Development Council</p>	<p>Regional</p>	<ul style="list-style-type: none"> Regional priority sectors include technology, life sciences, and offshore wind. Report recommends fostering the K-12 technology talent pipeline, promoting hands-on learning opportunities for students of all ages, and expanding training and recruitment effort to increase diversity and address underserved communities.

¹⁶⁸ “Workforce Development Strategy.” Mohawk Valley Regional Economic Development Council, 2022, https://regionalcouncils.ny.gov/sites/default/files/2022-12/Mohawk_Valley_Workforce_Strategy_Report_2022.pdf.

¹⁶⁹ “Workforce Development Strategy.” New York City Regional Economic Development Council, December 2022, https://regionalcouncils.ny.gov/sites/default/files/2023-03/New_York_City_Workforce_Strategy_Report_2022.pdf.

Plan Title	Geographic Scope	Key Takeaways
<p>New York’s Digital Divide: Examining Adoption of Internet and Computers for the State Library and its Library Districts¹⁷⁰</p> <p>John B. Horrigan, PhD</p>	<p>Statewide</p>	<ul style="list-style-type: none"> • State can partner with libraries and other trusted community-based institutions to carry out digital inclusion efforts. • Historically underrepresented populations should be included in the development of inclusion programs. • State should explore ways to expand device access and affordability. • Libraries can play a cross-cutting role and help address multiple aspects of digital inequity. • State will play a key leadership role, mapping existing needs/gaps, identifying priorities, and coordinating private-sector partnerships.
<p>New York State Agency Climate Change Vulnerability Assessments and Adaptation Plans¹⁷¹</p> <p>New York State Department of Environmental Conservation (DEC)</p>	<p>Statewide</p>	<p><i>DEC is working in collaboration with other State agencies to develop climate change vulnerability assessments and climate change adaptation plans; these plans are currently in development.</i></p> <ul style="list-style-type: none"> • Plans will help determine climate change impacts on agency operations, mission, and ability to provide public services, then identify and adopt strategies and actions to help agencies adapt and build resilience in the face of climate change.

¹⁷⁰ Horrigan, *supra*.

¹⁷¹ “New York’s Response to Climate Change.” Department of Environmental Conservation, <https://www.dec.ny.gov/energy/100236.html#Climate>.

Plan Title	Geographic Scope	Key Takeaways
<p>New York State Cybersecurity Strategy 2023¹⁷²</p> <p>Governor Kathy Hochul</p>	<p>Statewide</p>	<ul style="list-style-type: none"> • State will work to increase access to cybersecurity information, tools, and services so that the State’s most sophisticated defenses are available to its least-resourced entities. • State will move to expand the scope of cybersecurity regulations, requirements, and recommendations so that New York’s critical infrastructure is better protected. • State will provide advice and guidance to ensure New Yorkers are empowered to take charge of their own cybersecurity.
<p>New York State’s Master Plan on Aging¹⁷³</p> <p>New York State Department of Health and New York State Office for the Aging</p>	<p>Statewide</p>	<p><i>The Governor issued Executive Order 23 on November 4, 2022 to call for the creation of a Master Plan on Aging. It is currently being developed; a preliminary advisory report is expected in Summer 2023. The final version of the report will be completed by 2025.</i></p> <ul style="list-style-type: none"> • Goal is to ensure that older adults and individuals of all ages can live healthy, fulfilling lives while aging with dignity and independence.

¹⁷² “New York State Cybersecurity Strategy.” Office of the Governor, August 2023, <https://www.governor.ny.gov/sites/default/files/2023-08/2023-NewYork-CybersecurityStrategy.pdf>.

¹⁷³ “About the Master Plan for Aging (MPA).” New York State, <https://www.ny.gov/new-york-states-master-plan-aging/about-master-plan-aging-mpa>.

Plan Title	Geographic Scope	Key Takeaways
<p>North Country Workforce Strategy Report 2022 and 2022 Progress Report¹⁷⁴</p> <p>North Country Regional Economic Development Council</p>	<p>Regional</p>	<ul style="list-style-type: none"> Regional priority sectors include manufacturing, agribusiness, and renewable energy. Report recommends improving accessibility of employment via wraparound services, activating underserved populations, creating employment pathways for military families, and investing in effective rural healthcare and education delivery networks.
<p>Preliminary Fall 2020 Digital Equity Survey Results¹⁷⁵</p> <p>New York State Education Department</p>	<p>Statewide</p>	<ul style="list-style-type: none"> 8% of students do not have sufficient access to a device at home and 6.3% do not have sufficient access to internet service at home; the majority of these students are in New York City. Cost is the most reported barrier to students having sufficient access to the internet at home, except in rural schools, where the top barrier is availability.

¹⁷⁴ “Workforce Development Strategy.” North Country Regional Economic Development Council, 2022, https://regionalcouncils.ny.gov/sites/default/files/2022-12/North_Country_Workforce_Strategy_Report_2022.pdf.

¹⁷⁵ “Preliminary Fall 2020 Digital Equity Survey Results.” New York State Education Department, January 2021, <https://www.nysed.gov/sites/default/files/programs/edtech/fall-2020-digital-equity-survey-results.pdf>.

Plan Title	Geographic Scope	Key Takeaways
<p>Southern Tier Workforce Strategy Report 2022 and 2022 Progress Report¹⁷⁶</p> <p>Southern Tier Regional Economic Development Council</p>	<p>Regional</p>	<ul style="list-style-type: none"> Regional priority sectors include advanced manufacturing and agribusiness. Report recommends expanded training and wraparound services for underserved populations, pathways to direct employment and growth opportunities, and enhanced regional coordination.
<p>Western New York Workforce Strategy Report 2022 and 2022 Progress Report¹⁷⁷</p> <p>Western New York Regional Economic Development Council</p>	<p>Regional</p>	<ul style="list-style-type: none"> Regional priority sectors include advanced manufacturing and technology. Report recommends regional outreach to grow supply of entry-level IT workers, increased awareness of career pathways, creating a robust resource support and talent management ecosystem for employers, and enhancing regional collaboration to map and scale employer support services.

5.8 Technical Assistance

Although CAO does not anticipate requiring technical assistance, the office is in regular contact with our Federal Program Officer to ensure that there is an existing channel of communication in case needs arise.

¹⁷⁶ “Southern Tier REDC Phase II Regional Sector-Based Strategies,” Southern Tier Regional Economic Development Council, November 2022, https://regionalcouncils.ny.gov/sites/default/files/2022-12/Southern_Tier_Workforce_Strategy_Report_2022.pdf.

¹⁷⁷ “Western New York REDC Phase II Regional Sector-Based Strategies,” Western New York Regional Economic Development Council, November 2022, https://regionalcouncils.ny.gov/sites/default/files/2022-12/Western_New_York_Workforce_Strategy_Report_2022.pdf.

6 Conclusion

Governor Kathy Hochul established ConnectALL in 2022 to transform New York State's digital infrastructure, connect all New Yorkers through the internet, and position the state to meet the evolving needs of the digital economy. Through this Five-Year Action Plan, CAO has outlined how BEAD funding will play a critical role in advancing the State's goals. On behalf of the State of New York, CAO (the Eligible Entity), submits this Five-Year Action Plan. CAO looks forward to submitting the State's Initial Proposal in the coming months.

Appendix A: Additional Affordability Assets

The following table lists all ISPs in the state (including mobile service providers) that participate in the ACP, as of August 2023.¹⁷⁸ The table also indicates providers that offer a plan that provides service at effectively no cost with the application of the ACP subsidy (“no cost with ACP”), and whether the provider offers eligible customers the option to purchase a device at a discount.¹⁷⁹ CAO has included these ACP-participating providers as a key additional affordability asset available in the state.

Provider name	Service type	No cost with ACP	Device discount
Adams CATV, Inc	Home Internet		
AFNET, LLC	Mobile Internet		Yes
Airtalk Wireless	Mobile Internet		
ALLDATA COMMUNICATIONS CORP.	Mobile Internet		Yes
Ambient Broadband	Home Internet		
American Assistance and Your Call Wireless	Mobile Internet		
Andrena	Home Internet	Yes	
Armstrong Telecommunications, Inc.	Home Internet		
Armstrong Utilities Inc.	Home Internet		
Assurance Wireless	Mobile Internet	Yes	
Astound Broadband powered by RCN	Home Internet	Yes	
AT&T Mobility LLC	Mobile Internet	Yes	
Better Broadband	Home Internet		

¹⁷⁸ Based on data provided to USAC by service providers, available at <https://cnm.universalservice.org/>.

¹⁷⁹ Per USAC, customers must pay more than \$10 but not more than \$50 and must purchase the device through the provider; “Companies Near Me,” USAC, <https://cnm.universalservice.org/>.

Provider name	Service type	No cost with ACP	Device discount
BlueSkies Communications	Mobile Internet		Yes
Boomerang Wireless, LLC	Mobile Internet		Yes
Boost Mobile	Mobile Internet		Yes
Broadway Telecom LLC	Mobile Internet		Yes
Cable Communications of Willsboro, Inc.	Home Internet		
Cassadaga Telephone Corporation	Home Internet		
Cellspan Inc.	Mobile Internet		
Champlain Telephone Company	Home Internet		
Chazy and Westport Telephone Corp.	Home Internet		
Cintex Wireless, LLC	Mobile Internet	Yes	Yes
Citizens Telephone Company of Hammond, New York, Inc.	Home Internet		Yes
Clear Wireless, LLC	Mobile Internet		Yes
Clear Wireless, LLC	Home Internet		Yes
Cogeco US Finance, LLC d/b/a Breezeline	Home Internet	Yes	
Comcast Xfinity	Mobile Internet	Yes	
Comcast Xfinity	Home Internet	Yes	
Comlink Total Solutions Corp	Mobile Internet		
Compass Broadband Network, Inc.	Home Internet		Yes
Consolidated Communications, Inc.	Home Internet		

Provider name	Service type	No cost with ACP	Device discount
Cricket Wireless	Mobile Internet	Yes	
Culture Wireless	Mobile Internet		Yes
Culture Wireless	Home Internet		Yes
Culture Wireless Group, LLC	Mobile Internet		Yes
Delhi Telephone Company	Home Internet		
DFT Local Service Corporation	Home Internet		
Digital Aid, LLC	Mobile Internet		Yes
DTC Cable INC	Home Internet		
Dunkirk and Fredonia Telephone Company	Home Internet		
EagleZip.com	Home Internet		
EARTHLINK, LLC	Home Internet		
Easy Wireless	Mobile Internet	Yes	
ECOMOBILE, INC.	Mobile Internet		Yes
ECOMOBILE, INC.	Home Internet		Yes
Empire Telephone Corporation	Home Internet		
ENC Mobile	Mobile Internet		Yes
Excess Telecom, Inc.	Mobile Internet	Yes	Yes
Fiberspark Internet	Home Internet		
Figgers Communication Inc.	Home Internet		Yes

Provider name	Service type	No cost with ACP	Device discount
Flume Internet, Inc.	Home Internet		
Freemo	Mobile Internet		Yes
Frontier Communications Corporation	Home Internet		
Gen Mobile, Inc	Mobile Internet		Yes
Global Connection Inc. of America	Mobile Internet	Yes	Yes
GO MD USA LLC	Mobile Internet	Yes	Yes
Go Technology Management, LLC	Mobile Internet		Yes
GR8 CONNECT CORP.	Mobile Internet	Yes	Yes
Greenlight Networks	Home Internet		
GTel	Home Internet		
Haefele TV, Inc.	Home Internet		
Hancock Telephone Company, The	Home Internet		
Heart of the Catskills Communications Inc.	Home Internet		Yes
Hello Mobile Telecom LLC	Mobile Internet	Yes	
Honest Networks LLC	Home Internet		
Hoop Wireless, LLC	Mobile Internet		Yes
Hughes Network Systems, LLC	Home Internet		
humanIT	Mobile Internet		Yes
IDT Domestic Telecom, Inc.	Mobile Internet		Yes

Provider name	Service type	No cost with ACP	Device discount
Impact Internet	Home Internet	Yes	
Infiniti Mobile	Mobile Internet	Yes	Yes
Insight Mobile, Inc.	Mobile Internet		Yes
Integrated Path Communications, LLC	Home Internet	Yes	Yes
InterConnection	Mobile Internet		Yes
John R Guzzo, LLC	Home Internet		
K20 Wireless	Mobile Internet	Yes	Yes
Liberty Mobile Wireless	Mobile Internet		Yes
Life Wireless	Mobile Internet		Yes
Lingo	Home Internet		
LTE Wireless	Mobile Internet		Yes
Maxsip Telecom Corporation	Home Internet		Yes
Metro by T-Mobile	Mobile Internet	Yes	
Metro by T-Mobile	Home Internet	Yes	
Mid-Hudson Cablevision, Inc.	Home Internet		
Mid-Hudson Data Corp	Home Internet		
Mohawk Networks LLC	Home Internet		
National Wireless	Mobile Internet		Yes
Natural Wireless	Mobile Internet		

Provider name	Service type	No cost with ACP	Device discount
Natural Wireless	Home Internet		
NewPhone Wireless, LLC	Mobile Internet	Yes	Yes
Newport Telephone Company, Inc.	Home Internet		
Nexus Telecom	Mobile Internet		Yes
Nexus Telecom	Home Internet		Yes
Niacom Wifi	Home Internet		
Nicholville Telco, LLC	Home Internet		
North American Local, LLC	Mobile Internet		Yes
OEConnect, LLC	Home Internet		
Oneida County Rural Telephone Company	Home Internet		
Ontario Telephone Company	Home Internet		
Optimum	Home Internet		
Pattersonville Telephone Company	Home Internet		
PCs for People	Mobile Internet	Yes	Yes
Peeringhub Inc	Home Internet		Yes
People's Choice Communications Inc	Home Internet		Yes
People's Choice Communications Inc	Mobile Internet		Yes
Point Broadband Fiber Holding, LLC	Home Internet		
Prosper Wireless, LLC	Mobile Internet		Yes

Provider name	Service type	No cost with ACP	Device discount
Public Wireless, LLC	Home Internet		Yes
Q Link Wireless LLC	Mobile Internet	Yes	Yes
Ready Wireless	Mobile Internet		Yes
Red Pocket & FreedomPop	Mobile Internet		Yes
ResiBridge, Inc.	Home Internet		
Rogue Mobile Inc.	Mobile Internet	Yes	Yes
Rural4G	Mobile Internet	Yes	Yes
SafetyNet Wireless	Mobile Internet	Yes	Yes
Sage Telecom Communications, LLC	Mobile Internet	Yes	Yes
Sano Health LLC	Mobile Internet	Yes	Yes
Sarver Wireless	Mobile Internet	Yes	Yes
Selectel Wireless	Mobile Internet	Yes	Yes
SLIC Network Solutions, Inc.	Home Internet		
Snapfon	Mobile Internet	Yes	Yes
Spectrum (Charter Communications Operating, LLC)	Home Internet	Yes	
Spot On Networks, LLC	Home Internet		
SprintFone	Home Internet		Yes
Starry, Inc	Home Internet	Yes	
Straight Talk, Total Wireless, Simple Mobile, Walmart Family Mobile, TracFone, Net10, Page Plus & Go Smart	Mobile Internet		Yes

Provider name	Service type	No cost with ACP	Device discount
SWA Connect, LLC	Home Internet		Yes
Tablet Mobile	Mobile Internet		Yes
TDS Telecommunications Corporation	Home Internet		
TEKNOGRID	Home Internet		
Telispire, Affinity Cellular, Club Cellular, Flex Cellular	Home Internet	Yes	Yes
Telnet USA, LLC	Mobile Internet	Yes	Yes
Telzeq Communications Inc.	Mobile Internet		
Telzeq Communications Inc.	Home Internet		
The Middleburgh Telephone Company	Home Internet		
The Smart Community Initiative, Inc.	Home Internet		Yes
Thrive Mobile	Mobile Internet		Yes
Tone Communication Services LLC	Mobile Internet		Yes
Torch Wireless	Mobile Internet		
Trumansburg Telephone Company	Home Internet		
TVI Mobile	Mobile Internet		Yes
Twigby	Mobile Internet		
Unity Wireless Inc.	Mobile Internet	Yes	Yes
Upstate Fiber Networks	Home Internet		
US Connect	Mobile Internet		Yes

Provider name	Service type	No cost with ACP	Device discount
Verizon New York	Home Internet	Yes	
Verizon New York	Mobile Internet		
Verizon Wireless	Home Internet		
Verizon Wireless	Mobile Internet		
Viasat	Home Internet		
VTel Wireless	Mobile Internet		
VTel Wireless	Home Internet		
Werks Mobile, LLC	Mobile Internet		Yes
Whoop Connect Inc.	Mobile Internet		Yes
Windstream Communications, LLC	Home Internet		
Wrizzle, Inc.	Mobile Internet		Yes
Xchange Telecom LLC	Mobile Internet		Yes
Xchange Telecom LLC	Home Internet		Yes
Zito West Holding, LLC	Home Internet		
Ztar Mobile, Inc	Mobile Internet		Yes

Appendix B: Survey Instruments

The State published targeted stakeholder surveys in conjunction with the stakeholder outreach efforts and continued to promote the surveys and encourage stakeholders to submit responses for an extended time period during preparation of this Plan. The surveys aligned with the key categories identified in the Plan.

Survey Instrument 1: New York State Internet Access Survey

This survey was distributed statewide from May 18 to July 5, 2023.

New York State's ConnectALL Office wants to hear from you about your experiences with getting and using internet service. Your input will help the State make sure that everyone can have access to high-quality and affordable internet service, devices, skills training, and digital support.

This survey is available in 11 languages: Arabic, Bengali, Chinese (Simplified), French, Haitian Creole, Italian, Korean, Polish, Russian, Spanish, and Urdu. You can select the language of your choice from the top-right corner of this page.

Important notes about this survey:

- All questions are optional, unless otherwise noted with an asterisk (*). You may skip all optional questions.
- You can exit the survey at any point and return to the same page where you left by coming back to this website.
- The survey is completely anonymous – we collect demographic information (e.g., race/ethnic background, age, household income level) so that we can make sure we are representing all neighborhoods and demographic groups, but we will NOT be collecting any personally identifiable information (e.g., name, email, address).
- Data from this survey will be retained for one year following the approval of the State's Digital Equity Plan, then destroyed.

Time needed: 15 minutes

Who should take the survey: Residents of New York State (1 response per household)

Thank you for your time and participation. Information you share here will help us develop the New York State Digital Equity Plan and ensure equitable internet access for all.

***Q1.** Do you reside in New York and are you 18 or older?

- a. Yes
- b. No

[Skip logic: If "Yes" ask Q2; if "No" display message below:]

Unfortunately, this survey is restricted to New York residents 18 years of age and older. Please visit broadband.ny.gov to learn about other ways to contribute to the planning process.

Part 1: Use of the Internet

***Q2.** What do you use the internet for mostly? (Select all that apply)

- a. To work or make money
- b. To attend school, take classes, or learn
- c. To communicate with doctors and health providers
- d. To be social, or to keep in touch with friends, family, and neighbors
- e. To participate in your local community
- f. To apply for benefits or use government services

Q3. If you are not able to regularly use the internet, what would you use it for if you could? (Select all that apply)

- a. To work or make money
- b. To attend school, take classes, or learn
- c. To communicate with doctors and health providers
- d. To be social, or to keep in touch with friends, family, and neighbors
- e. To participate in your local community
- f. To apply for benefits or use government services
- g. Other (please specify) _____

Part 2: Broadband Availability, Affordability, and Access

***Q4.** Do you have internet service in your home?

- a. Yes
- b. No

[Skip Logic: If "Yes" ask Q5; if "No" ask Q12]

***Q5.** If you have internet service in your home, what kind is it? (Select all that apply)

- a. A data plan for a smartphone, hotspot, or tablet
- b. Cable internet
- c. Fiber optic internet
- d. DSL internet
- e. Fixed wireless internet
- f. Satellite internet
- g. Dial-up internet
- h. Community Wi-Fi (such as free Wi-Fi provided by a community organization)
- i. I don't know

***Q6.** Which of these options best describes your internet service at home in terms of speed and reliability?

- a. Adequate or good enough for my needs and/or my family's needs
- b. Not adequate or good enough for my needs and/or my family's needs
- c. I don't know

Q7. On a rating scale of 1 to 5, how reliable is the customer service from your home's Internet Service Provider (for example, when you contact the company to ask a question about your service)?

- 1. Extremely reliable
- 2. Very reliable
- 3. Reliable
- 4. Slightly reliable
- 5. Not at all reliable

Q8. Who is your internet service provider? *[drop-down of top 20 ISPs in the state]*

- a. None of the above

Q9. Is your home internet service bundled with other services such as telephone or TV?

- a. Yes
- b. No

[Skip Logic: If "Yes" ask Q10a; if "No" ask Q10b]

Q10a. Not counting the costs of other services in your bundle, to the nearest dollar, how much do you pay for internet service every month?

\$_____

Q10b. To the nearest dollar, how much do you pay for internet service every month?

\$_____

***Q11.** How difficult, if at all, is it for you to pay your internet bill every month given other expenses?

- a. Not at all difficult
- b. Not too difficult
- c. Somewhat difficult
- d. Very difficult

***Q12.** If you do not have internet service in your home, what is the main reason why?

- a. Service is not available in my area
- b. Service is too expensive
- c. I am concerned about online privacy or safety
- d. I don't feel confident navigating the internet or using online tools
- e. I can't afford or don't have access to a device to use the internet
- f. Other (please specify) _____

Q13. Are there any other locations outside of your home where you regularly access internet? Please check all that apply.

- a. At work
- b. At a friend or family member's home
- c. At school
- d. At a library or community center
- e. At a business such as a restaurant, cafe, or bookstore (e.g., McDonald's, Taco Bell, Starbucks, etc.)
- f. In a public space such as a park or government building
- g. In a parking lot outside of one of these spaces
- h. On public transit
- i. I do not regularly access internet in these or any other spaces
- j. Other (please specify)

Q14. At what monthly price would a home internet subscription be too expensive for you? We're looking for a price per month in dollars.

\$_____

***Q15.** Have you heard about the Affordable Connectivity Program (ACP) that provides discounted internet service for low-income households?

- a. Yes
- b. No
- c. I don't know

Part 3: Device Availability, Affordability, and Support

***Q16.** Does everyone in your household have access to the computer devices they need (e.g., computers, smartphones, tablets, or other internet enabled devices)?

- a. Yes
- b. No

Q17. Which of the following devices do you use most of the time to connect to the internet?
(Select all that apply)

- a. Cell phone
- b. Desktop computer
- c. Laptop computer
- d. Tablet (or similar device)
- e. I don't know
- f. I don't have a device that can connect to the internet
- g. Other (please specify) _____

Q18. Have any of the following devices failed or stopped working right for you recently?
(Select all that apply)

- a. Cell phone
- b. Desktop computer
- c. Laptop computer
- d. Tablet (or similar device)
- e. Other type of device (please specify)
- f. None of my devices have failed recently

[Skip Logic: If "a"- "e" above ask Q19; if none skip to Q20]

Q19. When that device stopped working right, how did you deal with the problem? (Select all that apply)

- a. I contacted user support for help
- b. I fixed the problem myself
- c. I fixed the problem with help from friends or family
- d. I found help online
- e. I went to a local computer store
- f. I went to a community institution, such as a school, library, or church
- g. I was not able to fix the problem at all

***Q20.** If you were going to buy a desktop or laptop computer, how much would be too much to pay for it?

- a. \$50
- b. \$100
- c. \$150
- d. \$250
- e. \$500
- f. More than \$1,000

Part 4: Digital Skills

Q21. How confident do you feel with doing the following activities online?

(Completely confident / Fairly confident / Slightly confident / Not confident)

- a. Search for and apply for jobs, including creating and submitting a resume
- b. Find trustworthy information about a health or medical question
- c. Take a course or find learning materials
- d. Access online banking or financial services
- e. Access or apply for government services
- f. Use a video chat service, such as Zoom, for work, school, or telehealth
- g. Use a word processing application, such as Google Docs or Microsoft Word, to create a document
- h. Find ways to protect the privacy of your personal data
- i. Use email
- j. Use social media
- k. Online shopping

***Q22.** How easy or difficult is it for you to navigate the internet to do what you need (e.g., to find reliable information, to use bill pay portals, to register for school, to sign up for or cancel streaming services)?

- a. Very easy
- b. Somewhat easy
- c. Somewhat difficult
- d. Very difficult

Part 5: Online Privacy and Internet Safety

***Q23.** How concerned are you about internet safety?

- a. Not at all concerned
- b. Not very concerned
- c. Somewhat concerned
- d. Very concerned

[Skip Logic: If "c" or "d" to any of the options above ask Q24; if "a" or "b" skip to Q25]

Q24. What are you most concerned about?

(Select all that apply)

- a. That my data could get stolen or used without my consent
- b. That I or a loved one could get scammed or tricked
- c. That I could be tracked or surveilled
- d. That I or a loved one could be harassed or abused online
- a. Other (please specify)

- Q25.** Are you aware of tools or resources you can use to stay safe online?
- Yes, I have tools and resources I use to stay safe online
 - No, I don't know of any tools or resources to stay safe online
 - I know of tools or resources to stay safe online, but they don't work for me
 - Other (please specify) _____

Part 6: Online Public Services

- Q26.** In the past year, have you used the internet to do any of the following?
(Select all that apply)
- Find information about government services or resources (e.g., voter registration, DMV, property information/building permits)
 - Search for government statistics or documents
 - Access recreational or tourist information (e.g., information about visiting state parks or cities)
 - Find information about public health issues
 - Apply for or manage government benefits (e.g., SNAP, TANF, Social Security)
 - Enroll in Internet subsidy programs (e.g., Affordable Connectivity Program)

- *Q27.** How accessible are online public resources for you?
- Very accessible
 - Somewhat accessible
 - Not very accessible
 - Not at all accessible

- Q28.** How would you rate your past experiences using online government services like benefits portals, DMV services, or paying for permits or tickets?
- Excellent
 - Good
 - Fair
 - Poor

Part 7: Demographic Questions

- *Q29.** What is your gender identity?
- Female
 - Male
 - Non-binary person
 - Other
 - Prefer not to answer

***Q30.** What is your age?

- a. Under 18
- b. 18 to 24
- c. 25 to 34
- d. 35 to 44
- e. 45 to 59
- f. 60 to 74
- g. 75 or older
- h. Prefer not to answer

***Q31.** How many people, including yourself, currently live in your household?

- a. 1
- b. 2
- c. 3
- d. 4
- e. 5
- f. 6
- g. 7
- h. 8 or more
- i. Prefer not to answer

***Q32.** How many children under age 18 currently live in your household?

- a. 0
- b. 1
- c. 2
- d. 3
- e. 4
- f. 5 or more
- g. Prefer not to answer

***Q33.** Do you or anyone in your household have difficulty with reading, writing, or speaking in English?

- a. Yes
- b. No
- c. Prefer not to answer

***Q34.** What is the highest level of school you have completed or the highest degree you have received?

- a. Less than high school (Grades 1-8 or no formal schooling)
- b. High school incomplete (Grades 9-11 or Grade 12 with NO diploma)
- c. High school graduate (Grade 12 with diploma or GED certificate)
- d. Some college, no degree (could include some community college)
- e. Two-year associate degree from a college or university
- f. Four-year college or university degree/Bachelor's degree (e.g., BS, BA, AB)
- g. Some postgraduate or professional schooling, no postgraduate degree
- h. Postgraduate or professional degree, including master's, doctorate, medical or law degree (e.g., MA, MS, PhD, MD, JD)
- i. Prefer not to answer

***Q35.** Are you of Hispanic, Latino, or Spanish origin, such as Mexican, Puerto Rican, or Cuban?

- a. Yes
- b. No
- c. Prefer not to answer

***Q36.** Which of the following best describes your race? (Select all that apply)

- a. White or Caucasian
- b. Black or African-American
- c. Asian or Asian-American
- d. Native American/American Indian/Alaska Native
- e. Pacific Islander/Native Hawaiian
- f. Other (please specify) _____
- g. Prefer not to answer

***Q37.** Do you belong to a North American Indigenous, Native, or Tribal group?

- a. Yes
- b. No
- c. Prefer not to answer

***Q38.** What is your total annual household income from all sources, and before taxes?

- a. Less than \$15,000
- b. \$15,000 to \$19,999
- c. \$20,000 to \$24,999
- d. \$25,000 to \$29,999
- e. \$30,000 to \$39,999
- f. \$40,000 to \$49,999
- g. \$50,000 to \$74,999
- h. \$75,000 to \$99,999
- i. \$100,000 and over
- j. Prefer not to answer

***Q39.** Do you identify as a person with a disability?

- a. Yes
- b. No
- c. Prefer not to answer

[Skip Logic: If "Yes" ask next question; otherwise ask Q41]

Q40. Do you have difficulty in any of the following areas? (Select all that apply)

- a. Seeing even if wearing glasses
- b. Hearing even if using a hearing aid
- c. Walking or climbing steps
- d. Remembering or concentrating
- e. Self-care
- f. Communicating, for example understanding or being understood
- g. Prefer not to answer

***Q41.** Do you identify as a member of the LGBTQIA+ community?

- a. Yes
- b. No
- c. Prefer not to answer

***Q42.** Did you serve on active duty in the U.S. Armed Forces? (Select all that apply)

- a. Gulf War era II (September 2001–present)
- b. Gulf War era I (August 1990–August 2001)
- c. Vietnam era (August 1964–April 1975)
- d. Korean War (July 1950–January 1955)
- e. World War II (December 1941–December 1946)
- f. Other service periods (all other time periods)
- g. No; I have not served on active duty in the U.S. Armed Forces

***Q43.** Which of the following best describes the place where you now live?

- a. A large city
- b. A suburb near a large city
- c. A small city or a town
- d. A rural area
- e. A Tribal area

***Q44.** Do you live in affordable housing (subsidized by a housing authority, paid for through a voucher, or in a building run by a private developer)?

- a. Yes
- b. No
- c. I don't know
- d. Prefer not to answer

[Skip Logic: If "Yes" ask next question; otherwise ask Q46]

Q45. If yes, what type of affordable housing?

- a. Public housing (my household pays rent to the public housing authority)
- b. Housing that used to be public housing but went through a RAD conversion (my household now pays rent to a private owner and does not use a Section 8 voucher)
- c. Housing managed by a private owner (my household pays rent using a Section 8 voucher)
- d. Housing managed by a private owner that my household qualified for based on household income (my household pays rent directly to a private owner)
- e. I'm not sure what type of affordable housing I live in
- f. Prefer not to answer

***Q46.** What is your zip code? _____

***Q47.** Please select the county where you primarily live. *[drop-down]*

Q48. Where did you hear about this survey? (Select all that apply)

- a. From a government website, email list, flyer, or other outreach
- b. From a friend, colleague, or acquaintance
- c. From a community meeting, community anchor institution such as a library or school, or other local institution
- d. From an organization's website, email list, flyer, or other outreach
- e. Other (Please specify) _____

[Skip Logic: If "c" or "d" above, ask next question; otherwise ask Q50]

Q49. Which local institution or organization did you hear about this survey from? _____

Part 8: Internet Speed Test

***Q50.** Would you like to know how fast your internet connection is? If yes, choose "Take the Internet Speed Test," and click "Next," and the survey will automatically start a test to measure the speed of your internet connection. No personally identifying information (name, address, etc.) will be recorded. The goal of this question is to measure the quality of your home internet service. Please make sure you are at home and connected to your home internet network before starting.

If you are not taking this survey from your home, please choose, "Skip the Internet Speed Test" and click "Next."

If you prefer not to run the Internet Speed Test, please choose "Skip the Internet Speed Test," and click "Next."

- a. Take the Internet Speed Test
- b. Skip the Internet Speed Test

[Skip Logic: If "a" above, ask Q51; otherwise skip to last page]

Q51. The Internet Speed Test has started. Please wait a few seconds for the Internet Speed Test results to appear.

Once a Download and Upload number appears, please enter those values in the corresponding boxes below. Once you have entered your Download and Upload speeds, click on "Next" to proceed. Please note that no personal data will be collected as part of this speed test.

- a. Please enter your download speed (Mbps): _____
- b. Please enter your upload speed (Mbps): _____

Almost Done!

This is the last page of the survey. If you'd like to go back and edit any of your answers, click the "Previous" button below. **Otherwise, click "Next" to submit your responses.**

Make sure to click "Next" otherwise your responses may not be recorded!

End

Thank you for completing the New York State Internet Access Survey!

Your response will help shape New York's policies and investments to close the digital divide for all residents.

Please encourage your friends, colleagues, and community members to take the survey as well: www.bit.ly/connectall-survey.

About ConnectALL

The mission of ConnectALL is to build New York State's digital infrastructure and connect all New Yorkers through the internet. The ConnectALL Office oversees the statewide digital equity plan and administers over \$1 billion in public investments across the state. Learn more at www.broadband.ny.gov.

Survey Instrument 2: Internet Service Provider Survey

This survey was shared as a follow-up to participants in CAO's June 20th Virtual Forum.



New York Internet Service Provider Engagement Survey

New York State's ConnectALL Office (CAO) seeks your input on a range of broadband-related issues. Your responses to this brief survey will be an important part of New York State's work toward achieving statewide universal access to high-speed broadband with federal funding through the Broadband, Equity, Access, and Deployment (BEAD) and Digital Equity Planning programs.

* 1. Organization Information

Organization name	<input type="text"/>
Organization street address	<input type="text"/>
Organization city	<input type="text"/>
Organization zip code	<input type="text"/>
Organization website URL	<input type="text"/>

* 2. Is your organization open to being contacted by the ConnectALL Office to discuss your responses to this survey in more detail?

- Yes
- No



New York Internet Service Provider Engagement Survey

1. Please provide a point of contact who the ConnectALL Office can follow up with.

Name

Title

Email Address

2. How many employees does your organization have?

- Under 5
- 5-24
- 25-49
- 50-99
- 100-499
- 500-1500
- 1500+

3. Where does your organization currently operate?

- National
- Multiple states
- Statewide (across New York)
- Regional (multiple cities or counties within New York)
- County
- Local (city or town)
- Hyperlocal (neighborhood or specific facility)
- Other (please specify)



New York Internet Service Provider Engagement Survey

1. Please provide additional detail on where your organization currently operates.

2. Please choose the option that best describes your organization and the services it offers. Select all that apply.

- | | |
|--|--|
| <input type="checkbox"/> Internet service provider (ISP) | <input type="checkbox"/> Satellite internet provider |
| <input type="checkbox"/> Telephone company or cooperative | <input type="checkbox"/> Middle-mile provider |
| <input type="checkbox"/> Cable company | <input type="checkbox"/> Construction company |
| <input type="checkbox"/> Fiber internet provider | <input type="checkbox"/> Internet equipment provider |
| <input type="checkbox"/> Municipal provider | <input type="checkbox"/> Data center operator |
| <input type="checkbox"/> Electric / utility provider | <input type="checkbox"/> Cloud services provider |
| <input type="checkbox"/> Wireless internet service provider (WISP) /
fixed wireless access provider | <input type="checkbox"/> Engineering and design services |
| <input type="checkbox"/> Mobile internet provider | |



**New York Internet Service Provider
Engagement Survey
Current Operations/Service Offerings**

1. Does your organization currently serve customers or operate infrastructure within New York State?

Yes

No

* 2. Does your organization participate in the Affordable Connectivity Program (ACP)?

Yes

No



New York Internet Service Provider Engagement Survey Current Operations/Service Offerings

1. If yes, what is the monthly post-subsidy price of your lowest-price ACP-eligible tier for participating subscribers?

- \$0
- \$1 - \$10
- \$11 - \$20
- \$21 - \$30
- More than \$30

2. What is the speed of your lowest-price ACP-eligible tier?

- 25/3 Mbps
- Up to 50/5 Mbps
- Up to 100/20 Mbps
- Greater than 100/20 Mbps but less than 100/100 Mbps
- 100/100 Mbps or more

3. How do you advertise or promote your participation in the ACP?

4. What strategies has your organization used to deploy broadband in the areas of New York State that are most expensive to serve?

5. Please discuss your continuity and disaster recovery plans in the event of a natural disaster or human error, such as a fiber cut, and whether any of your plans target specific geographic areas.



New York Internet Service Provider Engagement Survey Recruiting, Hiring, Retaining Employees

The purpose of this section is to understand your hiring needs and process to better inform our workforce development ecosystem. We recognize that your company may not have exact information for each, so please provide estimates when possible.

1. What specific roles do you expect to have a hiring need for in the next three years (either through direct hiring or subcontractors)? Select all that apply.

- | | |
|--|---|
| <input type="checkbox"/> Fiber Technicians | <input type="checkbox"/> Construction Laborers |
| <input type="checkbox"/> Wireless Technicians | <input type="checkbox"/> Construction Equipment Operators |
| <input type="checkbox"/> Customer Installation and Maintenance Technicians | <input type="checkbox"/> Electricians |
| <input type="checkbox"/> Customer Support Representatives | <input type="checkbox"/> Civil Engineers, Surveyors, and Drafters |
| <input type="checkbox"/> Software Engineers | <input type="checkbox"/> Structural Engineers |
| <input type="checkbox"/> Network Planners and Designers | <input type="checkbox"/> Field Engineers |

2. Which of these roles are the most difficult to hire for and why?

3. As New York State invests funding to expand broadband infrastructure and close the digital divide, how does your organization anticipate demand for different roles might change? Please check the box that is most applicable:

	Minor Increase	No Increase	Major Increase	N/A
Fiber Technicians	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wireless Technicians	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Customer Installation and Maintenance Technicians	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Customer Support Representatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Software Engineers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Network Planners and Designers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Construction Laborers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Construction Equipment Operators	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Electricians	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Civil Engineers, Surveyors, and Drafters	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Structural Engineers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Field Engineers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Other (please specify)

4. What is the biggest gap you anticipate in hiring talent in the future?

- Lack of applicants
- Lack of qualified talent
- Competitive job market
- Lack of interest by applicants (i.e., due to nature of work, compensation)
- Other (please specify)

5. Are there specific roles where you continually find a shortage of labor to be a challenge?

- Yes
- No

6. If yes, what are these roles, and do you know why this challenge exists?

7. What recruitment and hiring resources does your organization use to hire technicians, line workers, engineers, construction laborers and managers, and similar positions? Select all that apply.

- Internet-based employment posting sites
- Workforce development and community job placement centers
- Communications industry-specific training classes
- Third-party hiring and recruitment firms
- Advertisements in trade association publications and websites
- Incentivizing employee referrals
- Partnerships with academic institutions (4-year colleges, community colleges, etc.)
- Partnerships with unions
- Other (please specify)

8. Do you provide any in-house skills training, workforce development, upskilling, or apprenticeship/"earn and learn" programs for your employees? Select all that apply.

- Apprenticeships (registered or unregistered)
- Pre-apprenticeships
- Other on-the-job skills training or "earn and learn" model
- Upskilling for employees (new certifications, safety training, etc.)
- Range of customized courses (either created by your company or in partnership with another workforce development organization or school)
- Mentorship
- Career coaching for advancement
- We do not provide any of these programs
- Other (please specify)

9. In addition to any training you provide directly, do you work with any outside organizations to develop and/or hire talent? Select all that apply.

- Standards/certification programs
- Training programs through a K-12 school
- Training programs through a school of higher education
- Trade or vocational programs
- Formal apprenticeship and pre-apprenticeship programs
- Workforce development organization or community-based organization
- Other (please specify)

10. Are there specific programs that you feel have been successful?

Survey Instrument 3: New York Community Anchor Institution Survey

This survey was shared as a follow-up to participants in CAO's June 27th Virtual Forum.



New York Community Anchor Institution (CAI) Broadband Access Survey

Community Anchor Institutions play a critical role in facilitating greater use of broadband by unserved and underserved as well as all Covered Populations as defined in the federal Digital Equity Act. Your responses to this brief survey will help New York State's ConnectALL Office (CAO) identify programs to advance residents' opportunities to use broadband to work, learn, receive health care, and participate in civic events. This information will be an important part of New York State's work toward achieving statewide universal access to high-speed broadband with federal funding through the Broadband, Equity, Access, and Deployment (BEAD) and Digital Equity Planning programs.

* 1. Organization Information

Organization name	<input type="text"/>
Organization street address	<input type="text"/>
Organization city	<input type="text"/>
Organization zip code	<input type="text"/>
Organization website URL	<input type="text"/>

* 2. Is your organization open to being contacted by the ConnectALL Office to discuss your responses to this survey in more detail?

- Yes
- No



New York Community Anchor Institution (CAI) Broadband Access Survey

3. Please provide a point of contact who the ConnectALL Office can follow up with.

Name	<input type="text"/>
Title	<input type="text"/>
Email Address	<input type="text"/>

4. How many employees does your organization have?

- Under 5
- 5-24
- 25-49
- 50-99
- 100-499
- 500-1500
- 1500+

5. Where does your organization currently operate?

- National
- Multiple states
- Statewide (across New York)
- Regional (multiple cities or counties within New York)
- County
- Local (city or town)
- Hyperlocal (neighborhood or specific facility)
- Other (please specify)



New York Community Anchor Institution (CAI) Broadband Access Survey

6. Please provide additional detail on where your organization currently operates.

7. Please choose the option that best describes your organization and the services it offers:

- | | |
|--|-------------------------------------|
| <input type="radio"/> Private (For-Profit) | <input type="radio"/> Philanthropic |
| <input type="radio"/> Private (Nonprofit) | <input type="radio"/> Press |
| <input type="radio"/> Public | <input type="radio"/> Other |
| <input type="radio"/> Academic | |

8. Please choose the options that best describe your organization and the services it offers. Select all that apply.

- | | | |
|--|---|--|
| <input type="checkbox"/> Community-Based Organization | <input type="checkbox"/> Housing Organization | <input type="checkbox"/> P-12 school |
| <input type="checkbox"/> County Government | <input type="checkbox"/> Institution of Higher Education | <input type="checkbox"/> Press/Media |
| <input type="checkbox"/> Digital Equity Coalition | <input type="checkbox"/> Internet Service Provider | <input type="checkbox"/> Public Safety Entity |
| <input type="checkbox"/> Digital Equity Organization | <input type="checkbox"/> Labor Organization | <input type="checkbox"/> Regional Economic Development Council |
| <input type="checkbox"/> Faith-Based Organization | <input type="checkbox"/> Library | <input type="checkbox"/> Regional Planning Council |
| <input type="checkbox"/> Federal Government | <input type="checkbox"/> Local/Municipal Government | <input type="checkbox"/> Tribal Government |
| <input type="checkbox"/> Financial Institution | <input type="checkbox"/> Local or Regional Authority/Council | <input type="checkbox"/> United States Congress |
| <input type="checkbox"/> For-Profit Corporation or Business | <input type="checkbox"/> New York State Government Agency | <input type="checkbox"/> Utility |
| <input type="checkbox"/> Foundation/Philanthropic Organization | <input type="checkbox"/> New York State Legislature: Senate | <input type="checkbox"/> Workforce Development Organization |
| <input type="checkbox"/> Health Clinic/Center | <input type="checkbox"/> New York State Legislature: Assembly | <input type="checkbox"/> Other Education Organization (not a school) |
| <input type="checkbox"/> Hospital or Other Medical Provider | <input type="checkbox"/> Nonprofit Organization | |
| <input type="checkbox"/> Other (please specify) | | |

9. Is your organization located on Tribal Nation land, affiliated with a Tribal Nation or Native entity, or primarily serving Tribal Nation or Native populations?

- Yes
- No



New York Community Anchor Institution (CAI) Broadband Access Survey Programs/Services

10. Which of the following broadband or digital equity-related services does your organization offer? Select all that apply.

- Support for applicants to broadband subsidy programs, such as the Affordable Connectivity Program (ACP)
- Broadband internet access services at community centers or other gathering spaces used by clients and constituents
- Loans or donations of devices (computers, tablets) to access the internet
- Program development and planning of broadband-related services
- Hotspots and free or subsidized internet access
- Advocacy for digital inclusion, affordability, and the broadband-related needs of vulnerable populations
- Cybersecurity, privacy, or online safety training or resources
- Emergency and disaster relief services such as evacuation centers, charging stations, replacement equipment, and information on grants, loans, and services to those impacted by disasters
- Other digital literacy training
- Workforce development training (i.e., job training placement, certifications, training programs, apprenticeships, etc.)
- Training, equipment, subsidized services, or other resources to facilitate access to telehealth and telemedicine services
- Funding of programs that provide any of the above programs, including broadband infrastructure, devices, and subsidies to support affordability
- Training teachers of broadband skills and digital literacy
- Other (please specify)
- Developing and distributing accessible online content or devices designed for use by persons with disabilities
- My organization does not offer programs that facilitate the use of broadband services
- Developing and distributing accessible online content directed at populations with specific needs, such as seniors, low-income residents, people living with disabilities, those with low-literacy, and those whose first language is not English



New York Community Anchor Institution (CAI) Broadband Access Survey

11. Which of the following communities or groups does your organization serve? Select all that apply.

- | | |
|---|---|
| <input type="checkbox"/> Immigrants/refugees | <input type="checkbox"/> Members of religious minority groups |
| <input type="checkbox"/> Incarcerated or formerly incarcerated individuals | <input type="checkbox"/> Residents of affordable or public housing |
| <input type="checkbox"/> Individuals experiencing homelessness | <input type="checkbox"/> Residents of rural areas |
| <input type="checkbox"/> Individuals with disabilities | <input type="checkbox"/> Seniors 60 and older |
| <input type="checkbox"/> Individuals with a language barrier including English learners | <input type="checkbox"/> Veterans or active military personnel |
| <input type="checkbox"/> Individuals with a low level of literacy | <input type="checkbox"/> Women |
| <input type="checkbox"/> LGBTQIA+ individuals | <input type="checkbox"/> Youth |
| <input type="checkbox"/> Low-income households | <input type="checkbox"/> Our programming does not target any of these populations |
| <input type="checkbox"/> Members of racial/ethnic minority groups | |
| <input type="checkbox"/> Other (please specify) | |



New York Community Anchor Institution (CAI) Broadband Access Survey

14. Please provide the addresses of the locations where your organization does NOT have access to at least 1 Gbps symmetrical broadband internet service.

15. If your organization does not have access to, or does not purchase, service with symmetrical speeds of at least 1 Gbps, please describe why. Select all that apply.

- Service is unavailable
- Service is unreliable
- Service is too expensive
- Customer service is inadequate
- Our operations do not require Gigabit-level services
- I do not know if 1 Gbps service is available to my location
- Other (please specify)

16. Does your current internet service meet the needs of your organization to deliver broadband internet service and broadband-related programming to your clients and constituents? Select all that apply.

- Yes
- No, service is too slow
- No, service is unreliable
- No, service is too expensive
- No, customer service is inadequate
- No, service is too complicated to set up and/or maintain
- No, redundant connectivity necessary for our operations is too expensive/unavailable
- Not applicable; we do not provide broadband-related programming
- Other (please specify)

17. Do your locations, offices, or community centers currently subscribe to retail (e.g. mass-market plans that are the same as what you could subscribe to at home) or enterprise (e.g. dedicated for business) internet plans?

- Retail
- Enterprise
- Mixed between our location
- I don't know

18. Does your entity need any of the following middle mile services? Select all that apply.

- Dark fiber
- Lit services
- Internet services (IP)
- Co-location
- None of the Above
- I don't know
- Other (please specify)



**New York Community Anchor Institution
(CAI) Broadband Access Survey
Broadband Service Availability, Affordability,
and Access**

19. If your organization could have access to reliable and affordable 1 Gbps broadband service, in what ways might your programming or services change (e.g., could you offer additional services, offer them in a different way, expand the reach of who you serve, etc.)?

20. Is it critical to your organization’s mission and service delivery to maintain communications with critical facilities such as hospitals, schools, data centers, and public safety agencies during natural disasters and emergencies?

- Yes
- No



New York Community Anchor Institution (CAI) Broadband Access Survey

21. Please briefly describe your organization's need to remain connected to critical facilities and whether you believe your organization's current communications services meet this need.

22. Has your organization been consulted on disaster planning, emergency communications, or disaster recovery by your communications service provider or a local/regional government agency?

Yes

No



**New York Community Anchor Institution
(CAI) Broadband Access Survey**

23. Please briefly describe any plans or reports you think would be useful to the State’s broadband and emergency communications planning efforts.



New York Community Anchor Institution (CAI) Broadband Access Survey Workforce Development

* 24. What types of programs do you operate or sponsor? Select all that apply.

- Certification programs
- Registered apprenticeships
- Unregistered apprenticeships
- Pre-apprenticeships
- Digital literacy trainings
- Job placement and recruitment services
- Sponsorships/scholarships for third-party training and classes
- Other (please specify)

* 25. For what specific occupations and skills are you training?

*** 26. Of your graduates, within one year of training, what percentage are hired into a job relevant to their training?**

- My organization's program does not directly lead to a job
- <25%
- 25-50%
- 51-75%
- 76-90%
- >90%

*** 27. What is the average starting wage for positions that your trainees typically graduate into?**

*** 28. How do employers currently engage with your programs? Select all that apply.**

- Advising on the curriculum or program design
- Providing funding for your program
- Hiring talent from your program
- Providing career exposure, job shadowing, or on-the-job training opportunities
- Upskilling existing workers through your program
- Other (please specify)

*** 29. What are the most effective channels you use to recruit talent to participate in your program? Select up to 3.**

- In-person events (e.g. open houses, job fairs)
- Print marketing
- Social media or web marketing
- Partnerships with employers and/or an industry intermediary
- Partnerships with academic institutions
- Partnerships with community-based organizations
- Referrals
- Partnerships with community-based organizations
- Other (please specify)

*** 30. What wraparound services do you offer for the talent in your program? Select all that apply.**

- Career guidance/coaching (i.e., resume building, career development, interview prep)
- Financial literacy
- General coaching, including case management and mentorship
- Mental health support
- Childcare support
- Tuition/program cost assistance
- Transportation services and/or ride share
- Stipends to cover non-tuition/program costs
- Childcare support
- Referrals to organizations for support
- Other (please specify)

*** 31. What are the top barriers your talent faces in being hired and retained? Select up to 3.**

- Educational requirements
- Job descriptions
- Lack of required skills/competencies
- Access to contacts in the relevant industry
- Unconscious bias
- Poor wages
- Unsafe work conditions
- Need for additional wraparound support
- Other (please specify)

*** 32. What are the top barriers your organization faces to launching and sustaining workforce programs related to telecommunications, construction, or technology? Select up to 3.**

- Staff capacity constraints
- Inadequate funding to design and launch programming
- Inadequate funding to sustain programming / inability of trainees to pay
- Lack of skilled or knowledgeable instructors
- Lack of space
- Unavailability of ready-made curricula, training materials, or credentialing standards
- Lack of industry input or partnerships
- Lack of labor union input or partnerships
- Other (please specify)

*** 33. Please share any additional detail or context on the challenges you cited in the prior two questions and any solutions you would recommend the State explore.**



New York Community Anchor Institution (CAI) Broadband Access Survey

Assets

34. Does your organization have access to any physical assets (e.g., rooftops, street furniture, telecommunications infrastructure) that could potentially be leveraged by the State to support broadband deployment?

35. Are you aware of other organizations or programs doing great work to support broadband access and digital equity in your community or elsewhere? Please provide details, including website links/contact information if available.



**New York Community Anchor Institution
(CAI) Broadband Access Survey
Future Opportunities**

* 36. Would your organization offer additional broadband-related services or programs to its constituents or clients if it had additional resources?

Yes

No

Appendix C: Local Coordination

The State’s local coordination efforts included dozens of in-person and virtual meetings, public listening sessions, focus groups, webinars, and other engagements, as detailed below. Engagements are categorized by method, with details on individual engagements in each table, sorted by date.

C.1 Digital Equity Task Force Meetings

ConnectALL and the New York State Library co-convene an interagency Digital Equity Task Force (DETF), leveraging NYSL’s existing expertise and longtime involvement in the digital equity space. The DETF meets roughly monthly and includes representatives of 15+ State agencies working together to promote local and State projects that increase digital inclusion. Through the DETF, ConnectALL has solicited planning feedback, obtained information on existing State programs and resources, and identified partners to support digital equity planning and program implementation.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Digital Equity Task Force Meeting	Council on Children and Families, Department of Civil Service, Department of Family Assistance, Department of Financial Services, Department of Health, Department of Labor, Department of Public Service, Department of State, Developmental Disabilities Planning Council, Education Department, Homes and Community Renewal, Office for People with Developmental Disabilities, Office for the Aging, Office of Children and Family Services, Office of Temporary and Disability Assistance, State Library.	State Agencies	6/15/2022	Virtual	Statewide	30 participants. Task force monthly meeting; features agency updates and calls to action, requests for input, and guest presentations.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Digital Equity Task Force Meeting	Council on Children and Families, Department of Civil Service, Department of Family Assistance, Department of Financial Services, Department of Health, Department of Labor, Department of Public Service, Department of State, Developmental Disabilities Planning Council, Education Department, Homes and Community Renewal, Office for People with Developmental Disabilities, Office for the Aging, Office of Children and Family Services, Office of Temporary and Disability Assistance, State Library.	State Agencies	7/20/2022	Virtual	Statewide	30 participants. Task force monthly meeting; features agency updates and calls to action, requests for input, and guest presentations.
Digital Equity Task Force Meeting	Council on Children and Families, Department of Civil Service, Department of Family Assistance, Department of Financial Services, Department of Health, Department of Labor, Department of Public Service, Department of State, Developmental Disabilities Planning Council, Education Department, Homes and Community Renewal, Office for People with Developmental Disabilities, Office for the Aging, Office of Children and Family Services, Office of Temporary and Disability Assistance, State Library.	State Agencies	9/21/2022	Virtual	Statewide	30 participants. Task force monthly meeting; features agency updates and calls to action, requests for input, and guest presentations.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Digital Equity Task Force Meeting	Council on Children and Families, Department of Civil Service, Department of Family Assistance, Department of Financial Services, Department of Health, Department of Labor, Department of Public Service, Department of State, Developmental Disabilities Planning Council, Education Department, Homes and Community Renewal, Office for People with Developmental Disabilities, Office for the Aging, Office of Children and Family Services, Office of Temporary and Disability Assistance, State Library.	State Agencies	11/16/2022	Virtual	Statewide	30 participants. Task force monthly meeting; features agency updates and calls to action, requests for input, and guest presentations.
Digital Equity Task Force Meeting	Council on Children and Families, Department of Civil Service, Department of Family Assistance, Department of Financial Services, Department of Health, Department of Labor, Department of Public Service, Department of State, Developmental Disabilities Planning Council, Education Department, Homes and Community Renewal, Office for People with Developmental Disabilities, Office for the Aging, Office of Children and Family Services, Office of Temporary and Disability Assistance, State Library.	State Agencies	1/18/2023	Virtual	Statewide	30 participants. Task force monthly meeting; features agency updates and calls to action, requests for input, and guest presentations.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Digital Equity Task Force Meeting	Council on Children and Families, Department of Civil Service, Department of Family Assistance, Department of Financial Services, Department of Health, Department of Labor, Department of Public Service, Department of State, Developmental Disabilities Planning Council, Education Department, Homes and Community Renewal, Office for People with Developmental Disabilities, Office for the Aging, Office of Children and Family Services, Office of Temporary and Disability Assistance, State Library.	State Agencies	2/15/2023	Virtual	Statewide	30 participants. Task force monthly meeting; features agency updates and calls to action, requests for input, and guest presentations.
Digital Equity Task Force Meeting	Council on Children and Families, Department of Civil Service, Department of Family Assistance, Department of Financial Services, Department of Health, Department of Labor, Department of Public Service, Department of State, Developmental Disabilities Planning Council, Education Department, Homes and Community Renewal, Office for People with Developmental Disabilities, Office for the Aging, Office of Children and Family Services, Office of Temporary and Disability Assistance, State Library.	State Agencies	3/15/2023	Virtual	Statewide	30 participants. Task force monthly meeting; features agency updates and calls to action, requests for input, and guest presentations.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Digital Equity Task Force Meeting	Council on Children and Families, Department of Civil Service, Department of Family Assistance, Department of Financial Services, Department of Health, Department of Labor, Department of Public Service, Department of State, Developmental Disabilities Planning Council, Education Department, Homes and Community Renewal, Office for People with Developmental Disabilities, Office for the Aging, Office of Children and Family Services, Office of Temporary and Disability Assistance, State Library.	State Agencies	4/19/2023	Virtual	Statewide	30 participants. Task force monthly meeting; features agency updates and calls to action, requests for input, and guest presentations.
Digital Equity Task Force Meeting	Council on Children and Families, Department of Civil Service, Department of Family Assistance, Department of Financial Services, Department of Health, Department of Labor, Department of Public Service, Department of State, Developmental Disabilities Planning Council, Education Department, Homes and Community Renewal, Office for People with Developmental Disabilities, Office for the Aging, Office of Children and Family Services, Office of Temporary and Disability Assistance, State Library.	State Agencies	5/17/2023	Virtual	Statewide	30 participants. Task force monthly meeting; features agency updates and calls to action, requests for input, and guest presentations.

C.2 Digital Equity Task Force Town Halls

The Digital Equity Task Force (DETF) includes five outcome-area-focused subcommittees, each of which hosted a public Town Hall meeting with participants who were members of or represented organizations who serve members of covered populations.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Digital Equity Task Force Education Town Hall	Community Tech New York, Education Department, Franklin-Essex-Hamilton County Board of Cooperative Educational Services (BOCES), State Library	Education/Workforce/Civil Rights Organizations, General Public, Industry/Advocacy Groups, Libraries and other CAIs, Members of Covered Populations, Policy Experts, Representatives of Covered Populations, State Agencies	5/31/2023	Virtual	Statewide	151 participants. Public Town Hall meeting for Education Subcommittee.
Digital Equity Task Force Workforce Development Town Hall	Can Code Communities, Hispanic Federation, Department of Labor, State Library	Education/Workforce/Civil Rights Organizations, General Public, Industry/Advocacy Groups, Libraries and other CAIs, Members of Covered Populations, Policy Experts, Representatives of Covered Populations, State Agencies	6/29/2023	Virtual	Statewide	111 participants. Public Town Hall meeting for Workforce Development Subcommittee.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Digital Equity Task Force Health Town Hall	Association on Aging in New York, Department of Health, Healthcare Association of New York State, New York Academy of Medicine, OASIS Rochester, Office for the Aging, State Library	Education/Workforce/Civil Rights Organizations, General Public, Industry/Advocacy Groups, Libraries and other CAIs, Members of Covered Populations, Policy Experts, Representatives of Covered Populations, State Agencies	7/12/2023	Virtual	Statewide	52 participants. Public Town Hall meeting for Health Subcommittee.
Digital Equity Task Force Civic and Social Engagement Town Hall	Cell-Ed, Department of State Office for New Americans, My Brother's Keeper, State Library	Education/Workforce/Civil Rights Organizations, General Public, Industry/Advocacy Groups, Libraries and other CAIs, Members of Covered Populations, Policy Experts, Representatives of Covered Populations, State Agencies	7/31/2023	Virtual	Statewide	150 participants. Public Town Hall meeting for Civic and Social Engagement Subcommittee.
Digital Equity Task Force Accessibility of Government Services Town Hall	Department of Veterans' Services, Developmental Disabilities Planning Council, Public Utility Law Project, Self-Advocacy Association of New York State, State Library	Education/Workforce/Civil Rights Organizations, General Public, Industry/Advocacy Groups, Libraries and other CAIs, Members of Covered Populations, Policy Experts, Representatives of Covered Populations, State Agencies	8/3/2023	Virtual	Statewide	120 participants. Public Town Hall meeting for Accessibility of Government Services Subcommittee.

C.3 Housing-focused Engagement

CAO has conducted targeted stakeholder engagement focused on owners and managers of public and affordable housing to support development of its affordable housing broadband program.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
NYSFAFH Listening Session	Civix, Strada	Housing Organizations	4/25/2023	Virtual	Statewide	5 participants. CAO hosted a listening session with members of the New York State Association for Affordable Housing (NYSFAFH) to gather feedback on the development of CAO's grant programs and understand broadband needs specific to affordable housing properties.
Affordable Housing Focus Groups	Albany Housing Authority, DePaul Affordable Housing, Fairstead, L+M Development Partners, MDG Design and Construction, Regan Development, Rochester's Cornerstone Group, St. Nick's Alliance, Wavecrest, Westhab	Housing Organizations	3/28/2023; 3/30/2023	Virtual	Statewide	10 participants. Focus group held in partnership with New York State Homes and Community Renewal to engage developers, owners, and providers of affordable housing to ensure that the Affordable Housing and Connectivity Program is successfully designed to reach the greatest number of low-income New Yorkers.

C.4 Interviews: Counties and Municipalities

Interviews with municipalities and counties across the state were conducted to understand current planning and knowledge around internet accessibility within those localities. The ConnectALL office aimed to understand what projects were underway to expand access in the region and what support those localities would need from the State to realize those projects.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interviews with Livingston County	Livingston County	County Government	7/18/2022; 3/10/2023	Virtual	Livingston County	Interviews to understand broadband challenges and work in progress specific to Livingston County.
Interviews with the City of Buffalo	City of Buffalo	Local Government	8/8/2022; 9/27/2022	Virtual	Buffalo	Interviews to understand broadband challenges and work in progress specific to Buffalo.
Interviews with Monroe County	Monroe County	County Government	9/14/2022; 4/14/2023; 6/2/2023	Virtual	Monroe County	Interviews to understand broadband challenges and work in progress specific to Monroe County.
Interview with the Village of Sherburne	Village of Sherburne	Local Government	9/21/2022	Virtual	Sherburne	Interviews to understand broadband challenges and work in progress specific to Sherburne, especially progress on ConnectALL fiber pilot deployment.
Interview with the Town of Nichols	Town of Nichols	Local Government	9/22/2022	Virtual	Nichols	Interviews to understand broadband challenges and work in progress specific to Nichols, especially progress on ConnectALL fiber pilot deployment.
Interview with Warren County	Warren County	County Government	10/18/2022	Virtual	Warren County	Interviews to understand broadband challenges and work in progress specific to Warren County.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with the City of Albany	City of Albany	Local Government	11/2/2022	Virtual	Albany	Interview to understand broadband challenges and work in progress specific to Albany.
Interviews with Erie County	Erie County	County Government	11/3/2022; 5/25/2023	Virtual	Erie County	Interview to understand broadband challenges and work in progress specific to Erie County.
Interview with the Town of New Paltz	Town of New Paltz	Local Government	11/9/2022	Virtual	New Paltz	Interviews to understand broadband challenges and work in progress specific to New Paltz.
Interview with Ulster County	Ulster County	County Government	11/9/2022	Virtual	Ulster County	Interviews to understand broadband challenges and work in progress specific to Ulster County.
Interview with Tompkins County	Tompkins County	County Government	11/21/2022	Virtual	Tompkins County	Interviews to understand broadband challenges and work in progress specific to Tompkins County.
Interviews with Yates County	Yates County	County Government	12/8/2022; 5/24/2023	Virtual	Yates County	Interviews to understand broadband challenges and work in progress specific to Yates County.
Interviews with Chautauqua County	Chautauqua County	County Government	12/8/2022; 6/14/2023	Virtual	Chautauqua County	Interviews to understand broadband challenges and work in progress specific to Chautauqua County.
Interview with Broome County	Broome County	County Government	12/14/2022	Virtual	Broome County	Interview to understand broadband challenges and work in progress specific to Broome County.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interviews with Wyoming County	Wyoming County	County Government	1/4/2023; 5/9/2023	Virtual	Wyoming County	Interviews to understand broadband challenges and work in progress specific to Wyoming County.
Interview with Herkimer County	Herkimer County	County Government	1/12/2023	Virtual	Herkimer County	Interview to understand broadband challenges and work in progress specific to Herkimer County.
Interview with the Town of Hurley	Town of Hurley	Local Government	1/26/2023	Virtual	Hurley	Interview to understand broadband challenges and work in progress specific to Hurley.
Interviews with the City of Syracuse	City of Syracuse	Local Government	2/27/2023; 6/15/2023	Virtual	Syracuse	Interview to understand broadband challenges and work in progress specific to Syracuse.
Interviews with the Town of Dryden	Town of Dryden	Local Government	3/10/2023; 6/7/2023	Virtual	Town of Dryden	Interviews to understand broadband challenges and work in progress specific to Dryden.
Interviews with Washington County	Washington County	County Government	4/5/2023; 6/21/2023	Virtual	Washington County	Interviews to understand broadband challenges and work in progress specific to Washington County.
Interviews with the City of Jamestown	City of Jamestown	Local Government	4/6/2023; 6/13/2023	Virtual	Jamestown	Interviews to understand broadband challenges and work in progress specific to Jamestown.
Interviews with Lewis County	Lewis County	County Government	4/18/2023; 5/30/2023	Virtual	Lewis County	Interviews to understand broadband challenges and work in progress specific to Lewis County.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with the City of Yonkers	City of Yonkers	Local Government	5/2/2023	Virtual	Yonkers	Interviews to understand broadband challenges and work in progress specific to Yonkers.
Interview with Orange County	Orange County	County Government	5/3/2023	Virtual	Orange County	Interviews to understand broadband challenges and work in progress specific to Orange County.
Interview with Cattaraugus County	Cattaraugus County	County Government	5/19/2023	Virtual	Cattaraugus County	Interview to understand broadband challenges and work in progress specific to Cattaraugus County.
Interview with Steuben County	Steuben County	County Government	5/22/2023	Virtual	Steuben County	Interviews to understand broadband challenges and work in progress specific to Steuben County.
Interview with Columbia County	Columbia County	County Government	5/26/2023	Virtual	Columbia County	Interview to understand broadband challenges and work in progress specific to Columbia County.
Interview with Tioga County	Tioga County	County Government	5/30/2023	Virtual	Tioga County	Interviews to understand broadband challenges and work in progress specific to Tioga County.
Interview with Dutchess County	Dutchess County	County Government	5/31/2023	Virtual	Dutchess County	Interview to understand broadband challenges and work in progress specific to Dutchess County.
Interview with Schoharie County	Schoharie County	County Government	6/1/2023	Virtual	Schoharie County	Interviews to understand broadband challenges and work in progress specific to Schoharie County.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with Chenango County	Chenango County	County Government	6/2/2023	Virtual	Chenango County	Interview to understand broadband challenges and work in progress specific to Chenango County.
Interview with Columbus County	Columbus County	County Government	6/12/2023	Virtual	Columbus County	Interview to understand broadband challenges and work in progress specific to Columbus County.
Interview with the Town of Columbus	Town of Columbus	Local Government	6/13/2023	Virtual	Columbus	Interview to understand broadband challenges and work in progress specific to Columbus.
Interview with Otsego County	Otsego County	County Government	6/24/2022	Virtual	Otsego County	Interviews to understand broadband challenges and work in progress specific to Otsego County.
Interview with Hamilton County	Hamilton County	County Government	7/5/2023	Virtual	Hamilton County	Interview to understand broadband challenges and work in progress specific to Hamilton County.

C.5 Interviews: Industry Market Sounding

CAO conducted market sounding interviews with ISPs, utilities, investors, and infrastructure owners in the state to understand challenges to deployment, past experiences with federal or State grant programs, and feedback on proposed program designs.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with FirstLight	Firstlight	Internet Service Provider	3/7/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with Flume Internet	Flume Internet	Internet Service Provider	3/9/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Archtop Fiber	Archtop Fiber	Internet Service Provider	3/10/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Otsego Electric Cooperative	Otsego Electric Cooperative	Utility	3/15/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Greenlight Networks	Greenlight Networks	Internet Service Provider	3/15/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with National Grid	National Grid	Utility	3/17/2023	Virtual	Statewide	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Frontier	Frontier	Internet Service Provider	3/20/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Point Broadband/Clarity Connect	Point Broadband/Clarity Connect	Internet Service Provider	3/20/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with Westelcom	Westelcom	Internet Service Provider	3/20/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Sherburne Municipal Electric	Sherburne Municipal Electric	Utility	3/22/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Southern Tier Network	Southern Tier Network	Internet Service Provider	3/22/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Plenary Group	Plenary Group	Other Infrastructure Partner	3/23/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Verizon	Verizon	Internet Service Provider	3/29/2023	Virtual	Statewide	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Sidewalk Infrastructure Partners	Sidewalk Infrastructure Partners	Other Infrastructure Partner	3/30/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Honest Networks	Honest Networks	Internet Service Provider	3/31/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with ErieNet	ErieNet	Internet Service Provider	3/31/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Mohawk Networks	Mohawk Networks	Internet Service Provider, Tribal Government	4/5/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Digital Infrastructure Group	Digital Infrastructure Group	Other Infrastructure Partner	4/6/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with WeLink	WeLink	Internet Service Provider	4/6/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Silicon Harlem	Silicon Harlem	Internet Service Provider	4/7/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with SiFi Networks	SiFi Networks	Internet Service Provider	4/7/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Hudson Valley Wireless	Hudson Valley Wireless	Internet Service Provider	4/12/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with Lumen	Lumen	Internet Service Provider	4/14/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Hancock Telephone	Hancock Telephone	Internet Service Provider	4/17/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Gigapower	Gigapower	Internet Service Provider	4/21/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with StateTel	StateTel	Internet Service Provider	4/21/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with New Visions	New Visions	Internet Service Provider	4/24/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Delhi Telephone / DTC Cable	Delhi Telephone / DTC Cable	Internet Service Provider	4/25/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with T-Mobile	T-Mobile	Internet Service Provider	4/26/2023	Virtual	Statewide	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with Empire Access	Empire Access	Internet Service Provider	4/27/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Oneida Rural Telco / Northland Communications	Oneida Rural Telco / Northland Communications	Internet Service Provider	4/27/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Middleburgh Telephone	Middleburgh Telephone	Internet Service Provider	4/28/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Newport Tel	Newport Tel	Internet Service Provider	4/28/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Windstream	Windstream	Internet Service Provider	5/2/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Haefele TV	Haefele TV	Internet Service Provider	5/3/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Margaretville Telephone Company	Margaretville Telephone Company	Internet Service Provider	5/5/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with AustralianSuper	Australian Super	Other Infrastructure Partner	5/5/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Charter Communications	Charter Communications	Internet Service Provider	5/9/2023	Virtual	Statewide	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Cogent Communications	Cogent Communications	Internet Service Provider	5/10/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Manhattan North / Smart Communities Initiative	Manhattan North / Smart Communities Initiative	Internet Service Provider	5/11/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Altice	Altice	Internet Service Provider	5/11/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Mid Hudson Data	Mid Hudson Data	Internet Service Provider	5/16/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.
Interview with Crown Castle	Crown Castle	Internet Service Provider	5/18/2023	Virtual	Regional	Interview to understand current/planned operations, interest in participation in ConnectALL programs, and feedback on program design.

C.6 Interviews: Workforce Development

As part of a workforce development landscape analysis and preliminary labor analysis, CAO conducted interviews with workforce development entities across the state.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with America Achieves	America Achieves	Education/Workforce/ Civil Rights Organization	5/11/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with Wireless Infrastructure Association	Wireless Infrastructure Association	Industry/Advocacy Group	5/11/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with Civic Hall	Civic Hall	Education/Workforce/ Civil Rights Organization	5/19/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with Hispanic Federation	Hispanic Federation	Education/Workforce/ Civil Rights Organization	5/25/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with National Skills Coalition	National Skills Coalition	Education/Workforce/ Civil Rights Organization	5/30/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with New York Association of Training and Employment Professionals	New York Association of Training and Employment Professionals	Industry/Advocacy Group	5/30/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with Windstream	Windstream	Internet Service Provider	5/31/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interviews with Communications Workers of America	Communications Workers of America (CWA)	Labor Union	6/2/2023; 6/22/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with Flume	Flume Internet	Internet Service Provider	6/2/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with New York State Department of Labor	New York State Department of Labor	State Agency	6/2/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with Per Scholas	Per Scholas	Education/Workforce/ Civil Rights Organization	6/2/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Interview with Mohawk Valley Community College	Mohawk Valley Community College	Educational Institution	6/8/2023	Virtual	Mohawk Valley	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with New York City Employment and Training Coalition	New York City Employment and Training Coalition	Education/Workforce/Civil Rights Organization	6/9/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with Brooklyn Workforce Innovation	Brooklyn Workforce Innovation	Education/Workforce/Civil Rights Organization	6/12/2023	Virtual	Brooklyn	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with Queensborough Community College	Queensborough Community College	Educational Institution	6/21/2023	Virtual	Queens	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.
Interview with Verizon	Verizon	Internet Service Provider	7/13/2023	Virtual	Statewide	Interview to understand projected labor shortages/other challenges that may be barriers to deploying broadband across the state.

C.7 Meetings: Industry

Meetings with major infrastructure owners, service providers, and other industry stakeholders statewide who may be key partners to support CAO infrastructure deployment.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Meetings with Charter Communications	Charter Communications	Internet Service Provider	6/23/2022; 11/3/2022; 2/16/2023	In Person	Statewide	Discussions of Charter's operations and plans in New York; feedback on CAO programs.
Meetings with ECC Technologies	ECC Technologies	Broadband Consultant	6/24/2022; 11/23/2022	Virtual	Statewide	Discussions of ECC's consulting and planning work with numerous counties and municipalities in New York.
Meetings with Granite Telecommunications	Granite Telecommunications	Internet Service Provider	7/8/2022; 8/8/2022	Virtual	Statewide	Discussions of Granite Telecommunications' operations and plans in New York; feedback on CAO programs.
Meeting with Ultimate Solutions	Ultimate Satellite Solutions	Internet Service Provider	7/13/2022	Virtual	Statewide	Discussions of Ultimate Solutions' operations and plans in New York; feedback on CAO programs.
Meeting with Mohawk Networks	Mohawk Networks	Internet Service Provider; Tribal Government	7/20/2022	Virtual	Statewide	Discussions of Mohawk Networks' operations and plans in New York; feedback on CAO programs.
Meeting with Hudson Valley Wireless	Hudson Valley Wireless	Internet Service Provider	7/21/2022	Virtual	Statewide	Discussions of Hudson Valley Wireless's operations and plans in New York; feedback on CAO programs.
Meetings with FirstLight	FirstLight	Internet Service Provider	8/8/2022; 11/22/2022	Virtual	Statewide	Discussions of FirstLight's operations and plans in New York; feedback on CAO programs.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Meeting with Met Tel	Met Tel	Internet Service Provider	8/8/2022	Virtual	Statewide	Discussions of Met Tel's operations and plans in New York; feedback on CAO programs.
Meetings with TransitWireless	TransitWireless	Internet Service Provider	8/9/2022; 11/1/2022	Virtual	Statewide	Discussions of TransitWireless's operations and plans in New York; feedback on CAO programs.
Meetings with Flume Internet	Flume Internet	Internet Service Provider	9/20/2022; 1/11/2023	Virtual	Statewide	Discussions of Flume's operations and plans in New York; feedback on CAO programs.
Meeting with Starry	Starry	Internet Service Provider	9/26/2022	Virtual	Statewide	Discussions of Starry's operations and plans in New York; feedback on CAO programs.
Meetings with Verizon	Verizon	Internet Service Provider	10/9/2022; 11/9/2022; 7/19/2023; 8/10/2023	In-Person	Statewide	Discussions of Verizon's operations and plans in New York; feedback on CAO programs.
Meeting with Greenlight Networks	Greenlight Networks	Internet Service Provider	11/1/2022	Virtual	Statewide	Discussions of Greenlight Networks' operations and plans in New York; feedback on CAO programs.
Meeting with ErieNet	Erie County	Internet Service Provider; County Government	11/3/2022	Virtual	Statewide	Discussions of progress in developing municipal ErieNet project.
Meetings with Southern Tier Network	Southern Tier Network	Internet Service Provider	12/1/2022; 6/29/2023	Virtual	Statewide	Discussions of Southern Tier Networks' progress on ConnectALL fiber pilot deployment and potential scaling of pilot model.
Meeting with Windstream	Windstream	Internet Service Provider	12/20/2022	Virtual	Statewide	Discussions of Windstream's operations and plans in New York; feedback on CAO programs.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Meeting with AT&T Labs Wireless Technology	AT&T Labs Wireless Technology	Internet Service Provider	1/18/2023	Virtual	Statewide	Discussions of AT&T Labs' operations and plans in New York; feedback on CAO programs.
Meetings with Altice	Altice	Internet Service Provider	2/16/2023; 2/21/2023; 3/21/2023; 4/21/2023; 6/29/2023; 7/10/2023	Virtual	Statewide	Discussions of Altice's operations and plans in New York; feedback on CAO programs.
Meetings with T-Mobile	T-Mobile	Internet Service Provider	3/13/2023; 7/18/2023	Virtual	Statewide	Discussions of T-Mobile's operations and plans in New York; feedback on CAO programs.
Meetings with NYSERNet	NYSERNet	Internet Service Provider	4/7/2023; 7/18/2023	Virtual	Statewide	Discussions of NYSERNet's infrastructure and operations in New York; potential to support ConnectALL deployments.
Meetings with New York State Thruway Authority	New York State Thruway Authority	State Agency	4/8/2023; 7/6/2023	Virtual	Statewide	Discussions of Thruway infrastructure and operations in New York; potential to support ConnectALL deployments.
Meeting with People's Choice Communications	People's Choice Communications	Internet Service Provider	4/13/2023	Virtual	Statewide	Discussions of People's Choice operations and plans in New York; feedback on CAO programs.
Meeting with Nokia	Nokia	Internet Service Provider	4/14/2023	Virtual	Statewide	Discussions of Nokia's operations and plans in New York; feedback on CAO programs.
Meeting with JMA Wireless	JMA Wireless	Internet Service Provider	5/3/2023	Virtual	Statewide	Discussions of JMA Wireless's operations and plans in New York; feedback on CAO programs.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Meeting with Xchange Telecom LLC	Xchange Telecom LLC	Internet Service Provider	5/8/2023	Virtual	Statewide	Discussions of Xchange's operations and plans in New York; feedback on CAO programs.
Meetings with Brooklyn Fiber	Brooklyn Fiber	Internet Service Provider	5/12/2023; 7/26/2023	Virtual	Statewide	Discussions of Brooklyn Fiber's operations and plans in New York; feedback on CAO programs.
Meeting with Lumen	Lumen	Internet Service Provider	5/16/2023	Virtual	Statewide	Discussions of Lumen's operations and plans in New York; feedback on CAO programs.
Meeting with ZenFi	ZenFi	Internet Service Provider	6/4/2023	Virtual	Statewide	Discussions of ZenFi's operations and plans in New York; feedback on CAO programs.
Meeting with New York Power Authority	New York Power Authority	Utility	6/29/2023	Virtual	Statewide	Discussions of New York Power Authority's progress on ConnectALL fiber pilot deployment and potential scaling of pilot model.
Meeting with Ready.net	Ready.net	Internet Service Provider	7/12/2023	Virtual	Statewide	Discussions of Ready.net's operations and plans in New York; feedback on CAO programs.
Meeting with Frontier	Frontier	Internet Service Provider	7/26/2023	Virtual	Statewide	Discussions of Frontier's operations and plans in New York; feedback on CAO programs.

C.8 Meetings: Regional Economic Development and Planning Entities

CAO met with Regional Planning Councils and Empire State Development regional offices (Regional Economic Development Councils) to understand existing broadband efforts in all regions of the state, as well as other efforts or priorities relevant for alignment with BEAD planning.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
FCC Map Challenge Planning Meeting	All Regional Planning Councils	Regional Planning Council, County Governments	12/8/2022	Virtual	Statewide	Meeting to share guidance on FCC map challenge process and prepare RPCs to participate.
Meeting with Empire State Development Regional Offices	All Empire State Development Regional Offices	Regional Economic Development Entities	1/20/2023	Virtual	Statewide	Meeting with all ten Empire State Development regional office representatives to understand existing broadband planning efforts and regional perspectives on deployment challenges and needs.
Finger Lakes Planning Meetings	Genesee/Finger Lakes Regional Planning Council, Livingston County, Ontario County, Seneca County, Yates County	Regional Planning Council, County Governments	2/2/2023; 2/22/2023	Virtual	Finger Lakes	5 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.
North Country Planning Meetings	Essex County, Hamilton County, Lake Champlain-Lake George Regional Planning Board, Warren County	Regional Planning Council, County Governments	2/7/2023; 2/17/2023	Virtual	North Country	4 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Finger Lakes Planning Meetings	Genesee County, Genesee/Finger Lakes Regional Planning Council, Monroe County, Wyoming County	Regional Planning Council, County Governments	2/7/2023; 2/21/2023	Virtual	Finger Lakes	8 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.
Southern Tier Planning Meetings	Chemung County, Schuyler County, Southern Tier Central Regional Planning and Development Board, Steuben County	Regional Planning Council, County Governments	2/7/2023; 2/23/2023	Virtual	Southern Tier	5 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.
North Country Planning Meetings	Development Authority of The North Country (DANC), Franklin County, Jefferson County, Lewis County, St. Lawrence County	Regional Planning Council, County Governments	2/7/2023; 2/24/2023	Virtual	North Country	9 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.
Capital Region Planning Meetings	Albany County, Capital District Regional Planning Commission, Columbia County, Rensselaer County, Saratoga County, Schenectady County	Regional Planning Council, County Governments	2/7/2023; 2/24/2023	Virtual	Capital Region	9 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Southern Tier Planning Meetings	Broome County, Broome Industrial Development Agency, Chenango County, Cortland County, Delaware County, Otsego County, Schoharie County, Southern Tier 8 Regional Board, Tioga County, Tompkins County	Regional Planning Council, County Governments	2/8/2023; 2/14/2023	Virtual	Southern Tier	18 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.
Mohawk Valley Planning Meetings	Fulton County, Herkimer County, Herkimer-Oneida Counties Comprehensive Planning Program, HUNT Engineers, Mohawk Valley Economic Development District, Montgomery County, Oneida County	Regional Planning Council, County Governments	2/8/2023; 2/21/2023	Virtual	Mohawk Valley	8 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.
Western New York Planning Meetings	Allegany County, Cattaraugus County, Chautauqua County, Southern Tier West Regional Planning and Development Board	Regional Planning Council, County Governments	2/9/2023; 2/23/2023	Virtual	Western New York	5 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.
Central New York Planning Meetings	Cayuga County, Central New York Regional Planning and Development Board, Madison County, New York State Tug Hill Commission, Onondaga County, Oswego County	Regional Planning Council, County Governments	2/10/2023; 2/22/2023	Virtual	Central New York	12 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Mid-Hudson Planning Meetings	Dutchess County, Hudson Valley Regional Council, Orange County, Putnam County, Rockland County, Westchester County	Regional Planning Council, County Governments	2/14/2023; 3/3/2023	Virtual	Mid-Hudson	7 participants. Meeting with Regional Planning Council and representatives of member counties to discuss findings from FCC map challenge process and each county's emerging understanding of their local broadband and digital equity needs.

C.9 Meetings: Tribal Government

CAO conducted outreach to all federally-recognized Tribal governments in the state; events included a formal consultation and CAO participation in a Tribal Broadband Bootcamp training.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Tribal Government Consultation	Saint Regis Mohawk Tribe, Seneca Nation	Tribal Governments	4/20/2023	In-Person	Seneca Nation, Saint Regis Mohawk Tribe	Formal consultation to share CAO timelines for BEAD and Digital Equity Plan development and learn about existing and planned efforts to foster digital equity and inclusion in Tribal communities.
Tribal Broadband Bootcamp	Connect Humanity, Mohawk Networks, Seneca Nation	Tribal Governments, Members of Covered Populations	7/31/2023 - 8/2/2023	In-Person	Statewide	Multi-day workshop to train Indigenous community members on how to build and operate their own broadband networks. Topics covered included internet infrastructure, digital equity, wireless networks, fiber deployment, customer service, and more.

C.10 Office Hours

CAO has hosted office hours sessions on various topics to offer technical assistance and other support to regional partners.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
CAO Office Hours for RPCs: FCC Availability Challenge	All Regional Planning Councils	Regional Planning Councils	1/5/2023; 1/11/2023	Virtual	Statewide	40 participants over two sessions. Office hours to answer questions and support local preparation of challenges to the FCC map.
ConnectALL Regional Partner Office Hours	Digital Equity Coalitions	Digital Equity Coalitions	5/9/2023; 5/18/2023; 5/23/2023; 5/30/2023; 6/6/2023; 6/13/2023; 6/20/2023; 6/27/2023; 7/11/2023	Virtual	Statewide	Average of 15 participants per session. Recurring office hours session for CAO Regional Partners leading engagement work across the state to coordinate efforts and troubleshoot concerns with each other and with CAO.

C.11 Regional Focus Groups

CAO's Regional Partners hosted focus groups with members of specific covered populations within their respective regions to gain a deeper understanding of the challenges and barriers facing each community.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Regional Focus Group	Central New York Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	5/16/2023	In-Person	Central New York	7 participants. Regional partner-led focus group with individuals with disabilities to understand specific experiences and perspectives on broadband and digital equity challenges.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Regional Focus Group	Capital Region Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	5/25/2023	In-Person	Capital Region	14 participants. Regional partner-led focus group with members of racial/ethnic minority populations to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Mohawk Valley Community College	Digital Equity Coalition, Members of Covered Populations	5/30/2023	In-Person	Mohawk Valley	15 participants. Regional partner-led focus group with aging individuals to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Mohawk Valley Community College	Digital Equity Coalition, Members of Covered Populations	5/30/2023	In-Person	Mohawk Valley	42 participants. Regional partner-led focus group with members of low-income households to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	The STEM Alliance	Digital Equity Coalition, Members of Covered Populations	5/31/2023	In-Person	Westchester	10 participants. Regional partner-led focus group with members of low-income households to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Finger Lakes Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/1/2023	In-Person	Finger Lakes	9 participants. Regional partner-led focus group with aging individuals to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Mohawk Valley Community College	Digital Equity Coalition, Members of Covered Populations	6/1/2023	In-Person	Mohawk Valley	4 participants. Regional partner-led focus group with individuals with language barriers to understand specific experiences and perspectives on broadband and digital equity challenges.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Regional Focus Group	North Country Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/5/2023	In-Person	North Country	19 participants. Regional partner-led focus group with aging individuals to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Capital Region Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/5/2023	In-Person	Capital Region	32 participants. Regional partner-led focus group with rural residents to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Western New York Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/6/2023	In-Person	Western New York	16 participants. Regional partner-led focus group with individuals with disabilities to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Finger Lakes Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/6/2023	In-Person	Finger Lakes	7 participants. Regional partner-led focus group with rural residents to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Western New York Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/6/2023	In-Person	Western New York	15 participants. Regional partner-led focus group with individuals with disabilities to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	North Country Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/7/2023	In-Person	North Country	14 participants. Regional partner-led focus group with individuals with disabilities to understand specific experiences and perspectives on broadband and digital equity challenges.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Regional Focus Group	Southeastern NY Library Resources Council	Digital Equity Coalition, Members of Covered Populations	6/7/2023	In-Person	Mid-Hudson	19 participants. Regional partner-led focus group with individuals with language barriers to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Southeastern NY Library Resources Council	Digital Equity Coalition, Members of Covered Populations	6/8/2023	In-Person	Mid-Hudson	10 participants. Regional partner-led focus group with aging individuals to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Central New York Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/8/2023	In-Person	Central New York	12 participants. Regional partner-led focus group with individuals with language barriers to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	The STEM Alliance	Digital Equity Coalition, Members of Covered Populations	6/9/2023	In-Person	Westchester	27 participants. Regional partner-led focus group with members of racial/ethnic minority populations to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Older Adults Technology Services from AARP	Digital Equity Coalition, Members of Covered Populations	6/9/2023	In-Person	New York City	9 participants. Regional partner-led focus group with aging individuals to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	The STEM Alliance	Digital Equity Coalition, Members of Covered Populations	6/10/2023	In-Person	Westchester	10 participants. Regional partner-led focus group with members of racial/ethnic minority populations to understand specific experiences and perspectives on broadband and digital equity challenges.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Regional Focus Group	Western New York Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/12/2023	In-Person	Western New York	7 participants. Regional partner-led focus group with rural residents to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Southeastern NY Library Resources Council	Digital Equity Coalition, Members of Covered Populations	6/14/2023	In-Person	Mid-Hudson	3 participants. Regional partner-led focus group with formerly incarcerated individuals and family members of incarcerated individuals to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Mohawk Valley Community College	Digital Equity Coalition, Members of Covered Populations	6/14/2023	In-Person	Mohawk Valley	27 participants. Regional partner-led focus group with rural residents to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Western New York Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/14/2023	In-Person	Western New York	21 participants. Regional partner-led focus group with members of racial/ethnic minority populations to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Western New York Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/14/2023	In-Person	Western New York	23 participants. Regional partner-led focus group with rural residents to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Finger Lakes Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/15/2023	In-Person	Finger Lakes	9 participants. Regional partner-led focus group with members of low-income households to understand specific experiences and perspectives on broadband and digital equity challenges.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Regional Focus Group	Southern Tier Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/15/2023	In-Person	Southern Tier	8 participants. Regional partner-led focus group with rural residents to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Southern Tier Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/15/2023	In-Person	Southern Tier	6 participants. Regional partner-led focus group with members of racial/ethnic minority populations to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Central New York Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/16/2023	In-Person	Central New York	10 participants. Regional partner-led focus group with aging individuals to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Older Adults Technology Services from AARP	Digital Equity Coalition, Members of Covered Populations	6/19/2023	In-Person	New York City	35 participants. Regional partner-led focus group with individuals with language barriers to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	North Country Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/20/2023	In-Person	North Country	11 participants. Regional partner-led focus group with rural residents to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Long Island Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/21/2023	In-Person	Long Island	18 participants. Regional partner-led focus group with veterans to understand specific experiences and perspectives on broadband and digital equity challenges.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Regional Focus Group	Older Adults Technology Services from AARP	Digital Equity Coalition, Members of Covered Populations	6/26/2023	In-Person	New York City	14 participants. Regional partner-led focus group with aging individuals to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Capital Region Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/26/2023	In-Person	Capital Region	4 participants. Regional partner-led focus group with veterans to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Capital Region Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/27/2023	In-Person	Capital Region	13 participants. Regional partner-led focus group with veterans to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Older Adults Technology Services from AARP	Digital Equity Coalition, Members of Covered Populations	6/29/2023	In-Person	New York City	11 participants. Regional partner-led focus group with veterans to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Southern Tier Digital Equity Coalition	Digital Equity Coalition, Members of Covered Populations	6/29/2023	In-Person	Southern Tier	5 participants. Regional partner-led focus group with individuals with disabilities to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Long Island Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/29/2023	In-Person	Long Island	9 participants. Regional partner-led focus group with members of low-income households to understand specific experiences and perspectives on broadband and digital equity challenges.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Regional Focus Group	Long Island Digital Inclusion Coalition	Digital Equity Coalition, Members of Covered Populations	6/29/2023	In-Person	Long Island	11 participants. Regional partner-led focus group with individuals with language barriers to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Mohawk Valley Community College	Digital Equity Coalition, Members of Covered Populations	6/30/2023	In-Person	Mohawk Valley	92 participants. Regional partner-led focus group with members of low-income households to understand specific experiences and perspectives on broadband and digital equity challenges.
Regional Focus Group	Older Adults Technology Services from AARP	Digital Equity Coalition, Members of Covered Populations	7/3/2023	In-Person	New York City	9 participants. Regional partner-led focus group with individuals with disabilities to understand specific experiences and perspectives on broadband and digital equity challenges.

C.12 Regional Listening Sessions

CAO and its Regional Partners convened hybrid (in-person and virtual) listening sessions to hear directly from regional residents about local challenges to broadband access and digital equity.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Mohawk Valley Regional Listening Session	Mohawk Valley Community College	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	3/15/2023	Hybrid	Mohawk Valley	58 participants. Held at Mohawk Valley Community College in Utica, NY.
Western New York Regional Listening Session	Western New York Digital Equity Coalition	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	3/22/2023	Hybrid	Western New York	123 participants. Held at the Highmark Stadium in Orchard Park, NY.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Mid-Hudson Regional Listening Session	The STEM Alliance	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	3/24/2023	Hybrid	Mid-Hudson	136 participants. Held at SUNY Purchase in Purchase, NY.
North Country Regional Listening Session	North Country Digital Inclusion Coalition	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	3/28/2023	Hybrid	North Country	78 participants. Held at the Wild Center in Tupper Lake, NY.
Capital Region Listening Session	Capital Region Digital Equity Coalition	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	3/30/2023	Hybrid	Capital Region	93 participants. Held at the Blake Annex in Albany, NY.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Finger Lakes Regional Listening Session	Finger Lakes Digital Inclusion Coalition	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	3/31/2023	Hybrid	Finger Lakes	64 participants. Held at the Henrietta Public Library in Rochester, NY.
Central New York Regional Listening Session	Central New York Digital Inclusion Coalition	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	4/4/2023	Hybrid	Central New York	81 participants. Held at the OneGroup building in Syracuse, NY.
Southern Tier Regional Listening Session	Southern Tier Library System	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	4/24/2023	Virtual	Southern Tier	96 participants. Held online via Zoom.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
New York City Regional Listening Session	Brooklyn Public Library, Make the Road, New York Public Library, Older Adults Technology Services, Queens Public Library, Silicon Harlem	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	6/14/2023	Hybrid	New York City	238 participants. Held at the Harlem School of the Arts in Manhattan, New York City.
Bronx Borough Listening Session	Bronx Community Foundation, The Knowledge House	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	8/19/2023	Hybrid	New York City (The Bronx)	42 participants. Held at BronxNet Media + Tech Studios in the Bronx, New York City.
Queens Borough Listening Session	Far Rockaway Arverne Nonprofit Coalition, Rockaway Development & Revitalization Corporation	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	8/24/2023	In-Person	New York City (Queens)	28 participants. Held at Beach Green Dunes Eats & Arts Café in Queens, New York City.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Queens Borough Listening Session	Office of the Queens Borough President	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	8/28/2023	Virtual	New York City (Queens)	45 participants. Held online via Zoom.
Staten Island Listening Session	La Colmena	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	8/30/2023	In-Person	New York City (Staten Island)	29 participants. Held at La Colmena on Staten Island, New York City.
Brooklyn Listening Session	El Puente	County Governments, Internet Service Providers, Libraries and Other CAIs, Local Governments, Members of Covered Populations, Regional Economic Development Entities, Regional Planning Councils, Representatives of Covered Populations, State Agencies	8/31/2023	Virtual	New York City (Brooklyn)	24 participants. Held online via Zoom.

C.13 Site Visits

Members of the ConnectALL team have conducted numerous site visits to understand local broadband and digital equity conditions and learn about deployment projects currently in progress across the state.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Sherburne Pilot Site Visit	Fiberspark, New York Power Authority, Sherburne Municipal Electric, Sherburne Residents, Village of Sherburne	Internet Service Provider, Local Government, Members of Covered Populations, State Agency, Utilities	9/21/2022	In-Person	Sherburne	Meeting with residents and Village officials to learn about ConnectALL fiber pilot progress, hear concerns, answer questions, and encourage sign-up.
Nichols Pilot Site Visit	Fiberspark, Southern Tier Network, Tioga County	County Government, Internet Service Providers, Members of Covered Populations	9/22/2022	In-Person	Nichols	Meeting with residents and Town officials to learn about ConnectALL fiber pilot progress, hear concerns, answer questions, and encourage sign-up.
Mission: Ignite Site Visit	AmeriCorps, Mission: Ignite, Western New York Digital Equity Coalition	Digital Equity Coalition, Education/Workforce /Civil Rights Organizations	3/22/2023	In-Person	Buffalo	Tour of computer refurbishment warehouse and factory to learn about device distribution, digital literacy, and workforce development programs for youth and adults.
Tupper Lake Site Visit	Development Authority of the North Country, SLIC Network Solutions	Internet Service Provider, Regional Economic Development Entity	3/28/2023	In-Person	Tupper Lake	Visit to learn about Tupper Lake Gigabit Passive Optical Network deployment.
Literacy of Rochester Site Visit	Arnett Branch Library, Literacy of Rochester	Libraries and Other CAIs, Education/Workforce /Civil Rights Organization	3/31/2023	In-Person	Rochester	Site visit to Arnett Branch Library, which offers digital navigator support and digital skills development resources.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Manhattan Neighborhood Network Site Visit	Manhattan Neighborhood Network	Education/Workforce /Civil Rights Organization	4/3/2023	In-Person	New York City	Site visit to learn about this Public Access television station's education workshops on editing, podcasting, motion graphics, and other digital skills.
City of Syracuse Site Visit	City of Syracuse, Syracuse Northeast Community Center	Libraries and Other CAIs, Local Government	4/4/2023	In-Person	Syracuse	Visit to Syracuse Northeast Community Center, one of four community centers where the City has placed Digital Navigators through its Digital Empowerment Program. Digital Navigators are working with Syracuse community members to provide digital skills and connect families to free devices and internet service.
Y-Zone Site Visit	The STEM Alliance, Westchester County Association, Y-Zone	Digital Equity Coalition, Education/Workforce /Civil Rights Organizations, Regional Economic Development Entity	5/2/2023	In-Person	Yonkers	Visit to learn about coalition efforts to provide technology skills and trainings, Digital Navigator services, and other digital inclusion resources to residents of Yonkers.
INOC Data Center Site visit	Delhi Telephone Company, Margaretville Telephone Company, Middleburgh Telephone Company, New York State Thruway Authority	Internet Service Providers, State Agency	5/24/2023	In-Person	Capital Region	Visit to the first and most diverse non-carrier ISP network in Upstate New York; discussion on capabilities/interest of incumbent local exchange carriers to participate in ConnectALL programs.
Towns of Diana and Pitcairn Site Visit	Development Authority of the North Country	Regional Economic Development Entity	8/2/2023	In-Person	Diana, Pitcairn	Visits to view construction in progress for ConnectALL fiber pilots; discussion of challenges experienced and lessons learned.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
Civic Hall Site Visit	Civic Hall	Education/Workforce /Civil Rights Organization	8/2/2023	In-Person	New York City	Visit to learn about workforce development and training opportunities offered at Civic Hall to prepare New Yorkers seeking to obtain jobs in technology.

C.14 Stakeholder Forums

CAO hosted virtual stakeholder forums focused on different topics for various targeted audiences.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
ISP Forum: Federal Broadband Funding Opportunities for ISPs	Internet Service Providers	Internet Service Providers	6/20/2023	Virtual	Statewide	65 participants. ConnectALL, NTIA, and U.S. Department of Treasury representatives provided an overview of federal broadband grant programs and related requirements. CAO solicited feedback from attendees on key policy decisions CAO will need to make in its implementation of the programs.
Stakeholder Forum: ConnectALL & Community Anchor Institutions: Understanding the Broadband Funding Process	Community Anchor Institutions	Libraries and Other CAIs	6/27/2023	Virtual	Statewide	109 participants. ConnectALL, NTIA, and U.S. Department of Treasury representatives provided an overview of federal broadband grant programs and related requirements relevant to Community Anchor Institutions. CAO solicited feedback from attendees on key policy decisions CAO will need to make in its implementation of the programs.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
ISP Forum: Working with New York State	Internet Service Providers	Internet Service Providers	7/12/2023	Virtual	Statewide	64 participants. Representatives from Empire State Development provided an overview of ESD supplier diversity and granting requirements, as well as capital assistance and other small business support resources available through ESD.
Stakeholder Forum: ConnectALL Updates for Counties and Regional Planning Councils	All Regional Planning Councils and representatives of member counties, large municipalities	County Governments, Local Governments, Regional Planning Councils	7/19/2023	Virtual	Statewide	78 participants. CAO provided updates on grant program development relevant to municipalities and counties. CAO solicited input from attendees following the session on existing broadband plans, studies, and RFPs; enforceable commitments for broadband deployment; and broadband adoption assets, for inclusion in BEAD planning efforts.

C.15 Webinars

The ConnectALL team hosted webinars for representatives from county governments, regional planning entities, libraries, and other digital equity organizations to get familiar with the challenge process for the FCC map. CAO walked participants through the process of submitting consumer challenges, as well as the process of gathering and analyzing geospatial data to compile bulk challenges.

Engagement Title	Partners Engaged	Participant Type	Date	Format	Coverage Area	Summary/Description
FCC Map Challenge Webinar for RPCs and Counties	All Regional Planning Councils and representatives of member counties	County Governments, Regional Planning Councils	12/15/2022	Virtual	Statewide	92 participants. Review of FCC map challenge process for county planners, county GIS analysts, and representatives from regional planning councils, including technical assistance on how to access the FCC map fabric, download NYS broadband data, compare and analyze the datasets, and compile and submit challenges. A recording of the session was shared with several dozen stakeholders via email following the event.
FCC Map Challenge Webinar for Libraries and Digital Equity Organizations	Libraries, digital equity organizations	Digital Equity Coalitions, Libraries and Other CAIs, Representatives of Covered Populations	12/15/2022	Virtual	Statewide	20 participants. Review of FCC map challenge process for librarians and other digital equity practitioners, including how to guide patrons and community members through the process of submitting a consumer challenge to the map. CAO provided promotional materials to assist in raising awareness of the challenge effort. A recording of the session was shared with several hundred stakeholders via email following the event. Participants represented several covered populations, including veterans, people with disabilities and language barriers, racial and ethnic minorities, as well as rural, low-income, and aging New Yorkers.

C.16 Select ConnectALL External Presentations

CAO has engaged stakeholders through dozens of presentations at external events, meetings, and conferences; a sample of these engagements appears below.

Engagement Title	Date
MWBE Forum: Mid-Hudson/Capital Region	6/16/2022
MWBE Forum: Western NY & Finger Lakes Region	6/23/2022
Southern Tier 8: Upstate Rural Broadband Conference	6/28/2022
NYS Wireless Association: Wireless Forum 2022	9/16/2022
NYS Association of Counties Annual Conference	9/19/2022
Upstate New York Affordable Housing Conference	9/22/2022
MWBE Annual Conference	10/7/2022
Finger Lakes Digital Inclusion Coalition Meeting	10/21/2022
Silicon Harlem Panel: The Digital Divide is Acknowledged and Funds are Available: Now What?	10/21/2022
NYS Association of Counties: County Planners Monthly Meeting	12/16/2022
NYS Digital Equity Network Meeting	1/27/2023
Fiber Broadband Association: Monthly Public Officials Committee Meeting	3/2/2023
NYS Community Action Association Regional Meeting: NYC and Long Island	5/4/2023
Local Infrastructure Hub Webinar	5/10/2023

Engagement Title	Date
NYS Community Action Association Regional Meeting: North Central Region	5/11/2023
NYS Community Action Association Regional Meeting: Capital District	5/24/2023
AARP Telephone Town Hall	7/14/2023