INTERNET FOR ALL

BEAD Five-Year
Action Plan

NJ Office of Broadband Connectivity

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1 Executive Summary

The Broadband Equity, Access, and Deployment (BEAD) program is a watershed moment for the State of New Jersey. As described in this Five-Year Action Plan, with ~$263M in BEAD funding – alongside another ~$53M from the Capital Projects Fund – New Jersey's Office of Broadband Connectivity (OBC) is optimistic about its initial assessment to facilitate construction of 100/20 Mbps service, prioritizing fiber, to every unserved and underserved location (72,536 locations across the State). With BEAD funding, the State expects it may also have federal funds remaining to leverage for critical digital equity and economic development programs.

To meet this moment, New Jersey has created OBC within the Board of Public Utilities (BPU). OBC is conducting substantial planning for this winter's submission of the Initial Proposal to NTIA and anticipated implementation of the program in 2024-2029, as well as for submission of the state's Digital Equity Plan and later application to the State Digital Equity Capacity Grant Program. As detailed in this Plan, these efforts include: identifying the current state of broadband availability, adoption, and affordability in New Jersey; engaging with various broadband stakeholders to identify potential barriers to resident and small business adoption and provider deployment; conducting an initial cost assessment to facilitate planning; preparing the State to structure a granting process that ensures efficient use of funds; and determining how the state will use all remaining funding that may be available after connecting unserved and underserved locations (e.g., connecting Community Anchor Institutions, implementing digital equity activities).

We look forward to continued collaboration with NTIA as New Jersey continues our five-year journey to connect every household to high-speed service and make a substantial dent in New Jersey's digital divide.

2 Overview of the Five-Year Action Plan

2.1 Vision

New Jersey's Office of Broadband Connectivity (OBC), located within the State's Board of Public Utilities (BPU), is working to ensure that our residents, businesses, and communities have equitable access to affordable internet service, devices and digital skills. We are poised to meet this goal as the result of more than $315 million dollars in BEAD and CPF federal funding that OBC will soon invest across the state to secure New Jersey's digital future.[1]

To meet this goal, OBC has adopted a three-part vision:

First, our Office will ensure that every serviceable location in the State of New Jersey has access to reliable & high-bandwidth service over 100/20. BEAD provides a historic opportunity for New Jersey to establish a universal norm of digital access, where every household in the State has access to broadband.

Second, our Office will drive meaningful adoption of broadband services by ensuring affordable service, supporting device access, and building digital skills and literacy across the State. Through both BEAD and the Digital Equity Act, New Jersey has an important opportunity both to drive an increase in uptake of high-speed internet services, and to build a supporting infrastructure for groups who are most impacted by the lack of connectivity today and industries that present meaningful economic development opportunities for the State (e.g., AI, health care and biotech).

Last, our Office will leverage this transformational moment in federal funding to deepen the State's relationships with community partners, residents, and industry that will serve as a bedrock for continued collaboration. Broadband needs are not static. As new deployment technologies are introduced, commercial and personal use cases shift, and bandwidth requirements increase, New Jersey aspires to proactively respond.

Broadband connectivity provides high-speed internet necessary for economic growth, innovation, education, emergency services, healthcare, and telecommunications infrastructure. Access to high-speed internet helps to ensure public safety, increase opportunities for our businesses and workforce and provide equal opportunity for students. In realizing our vision, OBC's aim is to build conditions necessary for civic and cultural participation, wellness, employment, lifelong learning, and access to essential services.

2.2 Goals and Objectives

OBC has approached goal setting in a collaborative manner, leading and participating in discussions with broadband stakeholders across the state and beginning to plan and align funding from three broadband programs which will be overseen by the Office – the Capital Projects Fund (CPF), BEAD and the Digital Equity Act.

OBC has outlined the following 5 goals, with objectives and performance measures as part of the Five-Year Action Plan. OBC will further refine and expand Goals 2-4 based on available data and

expected funding levels, as the State completes the Digital Equity Plan and applies for State Digital Equity Capacity Grant Program funding in the coming months.

Goal 1: **Ensure all New Jersey residents have access to affordable, high-capacity broadband**

Objective 1.1 Develop broadband investment and deployment strategies for unserved and underserved areas, including, as a required part of BEAD, development of a low-cost service option and middle-class affordability plan

Performance Measures:

- Serve 100% of unserved locations no later than 2029, prioritizing fiber
- Serve 100% of underserved locations no later than 2029, prioritizing fiber

Goal 2: Increase access to affordable broadband for all New Jersey residents

Objective 2.1: Maximize enrollment in existing low-cost programs for eligible residents

Performance Measures:

- Close gap in ACP uptake relative to other states. New Jersey's ACP uptake is currently at 23% and national ACP uptake is currently 37%. Specific target will be set as part of the state Digital Equity Plan
- Monitor enrollment in the Affordable Connectivity Program (ACP) by New Jersey residents on a quarterly basis, identifying trends or areas of concern
- Meet quarterly with 100% of FCC ACP grantees and other organizations that are explicitly conducting ACP outreach to identify best and emerging practices as well as bottlenecks that OBC can help overcome
- Identify by Q1 2024 if any geographic or demographic groups are not served by current ACP outreach efforts
- Explore prioritizing any additional affordability programs as part of the State Digital Equity Capacity Grant Program Notice of Funding Opportunity (NOFO) response (est. Q1-Q2 2024)

Goal 3: Increase access to affordable devices for all New Jersey residents

Objective 3.1: Maximize use of existing affordable device programs for eligible residents

Performance Measures:

- Building on the Five-Year Action Plan's initial inventory, complete a comprehensive asset inventory of existing programs that provide affordable device access (e.g., 1-1 laptop programs, device loans, discounted purchasing programs) (est. Dec 2023)

- Identify communities or populations that are currently unserved by organizations within the asset inventory as part of the state's application to the State Digital Equity Capacity Grant Program (est. Q1-Q2 2024)

Goal 4: Support New Jersey residents in obtaining the digital skills they need to thrive

Objective 4.1 Maximize enrollment in existing digital skills programs for eligible residents

Performance Measures:

- Building on the Five-Year Action Plan's initial inventory, complete a comprehensive asset inventory of vocational schools, libraries, hospitals, community-based organizations, and other organizations offering training within New Jersey (est. Dec 2023)
- Identify communities or populations that are currently unserved by organizations within the asset inventory as part of the state's application to the State Digital Equity Capacity Grant Program (est. Q1-Q2 2024)

Objective 4.2: Explore the feasibility of a uniform digital literacy credentialing system so learners can move seamlessly between organizations,

Performance Measures:

- In coordination with submitting OBC's application to the State Digital Equity Capacity Grant Program (est. Q1-Q2 2024):
    - Develop a plan to review current literacy assessments from programs already widely used by New Jersey organizations (e.g., NorthStar) as well as standardized approaches to create a uniform credentialing program offered by community organizations in New Jersey
- Identify key Points of Contact and coordinate relevant activities with the New Jersey Department of Education (NJDOE) Information Literacy Committee and Standards, to be created from New Jersey Legislation S-588

Goal 5: Build OBC's capacity to successfully deploy over $315M in federal broadband investments

Objective 5.1: Develop and strengthen partnerships with other state agencies, local governments, and local stakeholders to identify opportunities for coordination

Related Performance Measures:

- Meet with 100% of partner state agencies (*Section 3.2 Partnerships*) at least every six months
- Conduct outreach to local governments (directly or through umbrella organizations such as the New Jersey League of Municipalities) as part of all initiatives (e.g., challenge process, initial proposal, subgrantee selection, digital equity planning and implementation)
- Conduct outreach to local stakeholders that have opted-in to OBC's mailing lists as part of all initiatives (e.g., challenge process, initial proposal, subgrantee selection, digital equity planning and implementation)

Objective 5.2: Recruit, hire and retain an exceptional team *(Table 2)*.

Related Performance Measure:

- Hire 100% of proposed staff by Q3 2024 or develop alternate plans to meet OBC's program capacity needs (e.g., interagency agreements)

3 Current State of Broadband and Digital Inclusion

The State of New Jersey has several programs, funding sources and resources to support and expand broadband access and digital equity. This section is divided into four components:

3.1: Existing Programs, which documents the current programs, employees, contractors, and funding designated by the state to improve broadband access and digital equity

3.2: Partnerships, which outlines the strategic partnerships between the state and other organizations with the goal of improving broadband access and digital equity

3.3: Asset Inventory, which outlines programs which are currently being conducted by community actors, non-profit organizations, and the private sector in New Jersey to expand broadband deployment and adoption

3.4: Needs and Gaps Assessment, which outlines the current needs and gaps which New Jersey may address to achieve its goal of high-speed internet for all and digital skills access across the state

3.1 Existing Programs

To meet its broadband goals, OBC has identified and is building a variety of resources across four main areas: current state activities, current and planned OBC employee support, current and planned contractor support, and federal funding.

3.1.1 Current State Activities

Activities, their descriptions, and their intended outcomes are outlined in *Table 1*.

Table 1: Current Activities

Activity Name	Description	Intended Outcome(s)
Broadband Access Study Commission (BASC; report to be completed at the end of 2023)[2]	The BASC, created through P.L. 2021, Ch. 161, is charged with developing recommendations to help the State achieve affordable and equitable broadband access for all residents and businesses, including physical access, deployment, and affordability of broadband service. The BASC is evaluating the impediments to broadband service within the state and the feasibility of establishing community broadband networks.	– Identify gaps in broadband service, find where affordability is a primary barrier to access, and evaluate the feasibility of community broadband networks
New Jersey State Broadband Survey	OBC launched a broadband survey and speed test application in November 2022, engaging in direct outreach to	– Provide information on broadband access, usage, and equity for individuals

	local government, paid social media, paid radio streaming services, and redirect advertising. [3] As of August 2023, OBC has received nearly 6,000 responses that can be disaggregated by type or respondent (e.g., residential vs business), adoption status, and geography.	– and small businesses in New Jersey – Facilitate real-time reporting on survey responses, including geographic locations – Inform OBC and the BASC about the level of service available to households and non-residential establishments, and differences across counties
Virtual round tables	OBC, in partnership with NTIA, has hosted 7 monthly virtual roundtables with stakeholders to share program updates and learn about challenges related to broadband infrastructure and equity across the state. OBC plans to continue hosting these events at least through 2023 as they are a key pillar of the outreach strategy.	– Identify obstacles faced by residents, business, providers, anchor institutions and other stakeholders relative to broadband deployment and equity
Digital Equity Working Group	OBC and NTIA lead a working group of key digital equity stakeholders who discuss issues and potential opportunities regarding digital equity across the state. The intent of this group is to have a multiplier effect for covered populations.	– Gain a diverse range of perspectives from residents and businesses digital equity across the state – Map different organizations and assets related to broadband equity – Track progress over time on different issues and develop solutions
Workforce Development Working Group	Drawn from DOL and industry (telecommunications and broadband), with invitations made to labor and	– Support OBC's work to address potential

			shortages within the broadband workforce
		worker representatives, this group focuses on both the potential shortage of telecommunications deployment and maintenance roles and the need for occupational digital skills across a variety of non-technical jobs.	– Provide feedback to the State's workforce plan and provide real-world experience from industry and engagement with covered populations – Learn about different resources, opportunities, and challenges in the state related to digital skills and workforce development

3.1.2 Current and Planned Full-Time and Part-Time Employees

OBC is building an office to lead the more than $315 million in programs to be funded by the Capital Projects Fund (CPF) and BEAD. Staff will have shared responsibilities including strategy management, education, outreach, legal advice, GIS and data management, and community outreach across all three programs. At this time, three staff have been hired: the Director of Broadband (FT), Manager of Broadband Access (FT) and a GIS specialist (FT). The job titles, description of the roles and their status (current or planned; part-time or full-time) are outlined in *Table 2*.

Table 2: Current and Planned Full-Time Employees

Current or Planned	Time	Position	Description
Current	FT	Director of Broadband	Responsible for providing oversight and management of the Office's programs and state-wide strategy for broadband deployment. Work includes education, outreach, supporting regional collaborations, fostering relations with partners, and mobilizing resources to improve the access and affordability of high-speed internet. Also assists with policy and legislative development, serves on various broadband boards, and supports the work of the Office.
Current	FT	Manager of Broadband Access	Responsible for overseeing the development of New Jersey's Broadband Access Study Commission's report which evaluates the impediments of access to broadband service for all residents of New Jersey.

			Also responsible for organizing community and stakeholder engagement events.
Current	PT	Policy Analyst/ Legal Advisor	Develops and advocates for necessary regulatory reform. Conducts program research by analyzing policy, regulations, and administrative data sets. Assists local governments, nonprofits and industry stakeholders seeking to implement broadband expansion. Maintains current knowledge of legislation and efforts by federal, state, and local governments related to broadband expansion efforts Drafts and reviews legislation, as requested by management. Makes recommendations to office management. Testifies at hearings and legislative meetings. Drafts fiscal notes and determines administrative costs for pending legislation, as requested by management. Drafts state broadband policy framework.
Current	PT	Grant Manager	Processes payments
Planned	FT	RFP/RFQ/Grant Specialist	Responsible for grant intake including the review and analysis of applications for clarity in preparation for review by the Broadband Deployment Board. Duties include: a quarterly analysis of progress reports, review of reimbursement requests as needed, writing reports for review by senior leadership, and assistance in drafting of grant agreements; all while offering administrative support and recommendations as needed. The specialist will conduct final interviews and final funding reconciliation for the closeout of grant contracts. The role will require technical expertise in broadband speed requirements, along with internet service provider requirements placed in these contracts.
Planned	FT	Senior Infrastructure Project Manager (to be filled	Responsible for implementing the New Jersey Broadband Infrastructure Deployment Equity (NJBIDE) pilot program using the $52M+ in Capital Projects Funds for fiber construction

		through internal transfer)	projects in un/under-served areas across the State. Will be responsible for helping plan and then execute the State's digital connectivity vision in partnership with the Broadband Expansion Manager. The manager also collects accurate broadband data directly from grantees and creates annual reports around broadband data for New Jersey stakeholders.
Planned	FT	Broadband Marketing and Communications Manager	Manages the marketing and communications for the Connect NJ Grant Program, which the OBC will use to deploy federal funding to broadband programs around the state. Ensures stakeholders are well-informed and knowledgeable about all aspects of federal broadband funding opportunities throughout New Jersey and shares the stories of communities, people and projects that are making positive impacts.
Planned	FT	Federal Funding Program Specialist	Responsible for understanding the grant compliance requirements of the U.S. Department of Treasury broadband programs and ensuring that projects funded under the Connect NJ Grant Program are eligible and stay within federal compliance.
Planned	FT	Community Engagement Specialist	Responsible for outreach, stakeholder management, and inter-departmental digital connectivity coordination (e.g., Department of Education, State Library). Will develop the Digital Equity Plan that identifies underserved areas, solicit community/stakeholder feedback, and ensure that all programs/projects implemented comply with the State's overall digital equity objectives.
Planned	FT	Broadband Planning Coordinator	Responsible for the planning and execution of outreach and processing efforts for the New Jersey Office of Broadband Connectivity. Working closely with Community Engagement Specialist to provide creative solutions in supporting OBC's objective to provide a complete and accurate account of broadband service availability in New Jersey. Responsible for all external communications; including management of the monthly newsletter, updates

			to the OBC's website and oversight of the team's social media presence
Planned	FT	Broadband Data Program Manager	Responsible for managing the Broadband Data Program, including development, analysis, and utilization of broadband data. Focus on collecting accurate broadband data directly from internet service providers and developing a robust database of broadband data for New Jersey and providing mapping services and data to state, regional, and local broadband stakeholders and internet service providers.
Planned	FT	Interagency Broadband Manager	Provides support and leadership on digital equity and inclusion initiatives and partnerships by serving as a gateway for interagency working groups partner agencies (DEP, DCA, EDA etc.) on assistance to implement broadband programs/projects.
Planned	FT	IT Project Manager	Assist, drive and coordinate the development of the state's broadband grant programs and initiatives to support the direction of the organization which is to connect 99% of New Jersey to high-speed broadband and help New Jerseyans thrive anywhere in the state of New Jersey.
Current	FT	GIS Specialist (to be filled through internal transfer)	Process provider data into digestible snippets. Maintains broadband data utilized to inform public and private sector users. Additionally, assists in the design and implementation of the analysis of geospatial information to support broadband related goals including data quality assessment, the monitoring and reporting of broadband expansion, and identification of broadband availability and adoption relative to demographics or other information.
Planned	FT	Operations Manager	Provides support and assistance to the Directors and senior leadership team. Manages HR function. Works to keep the team organized and on the same page.

3.1.3 Current and Planned Contractor Support

OBC has hired a contracting firm to support GIS mapping and plans to hire, additional support to achieve the capacity needed for data-building and for writing the Digital Equity Plan. These contractors, their status (current or planned), and descriptions of their roles are outlined in *Table 3*.

Table 3: Current and Planned Contractor Support

Current/ Planned	Time	Position	Description of Role
Current	FT	Mapping Consultants	Assist in building state's address-level map
Planned	FT	Digital Equity Consulting	Guide research and writing of digital equity plan
Current	FT	Consultant	Provides support for the State mapping and challenge process and for development of the BEAD Five-Year Action Plan, Initial Proposal, including assistance on targeted data analyses, stakeholder engagement, and strategic planning for implementation.

3.1.4 Broadband Funding

State and federal investments are funding a variety of deployment and equity efforts in New Jersey. Funding sources, their objectives, and their funding amounts are outlined in **Tables 4 – 6.** OBC has organized funding tables by funding programs which are managed by OBC (*Table 4*), funding sources which are managed by other state and local agencies (*Table 5*), and funding sources which are managed by non-profit organizations or broadband providers (*Table 6*). Expended and available information is noted per information available at time of Five-Year Action Plan submission.

Tables 4 – 6: Broadband Funding
Table 4: Broadband Funding Managed by OBC

Source	Recipient(s)	Purpose	Total / Expended / Available
NTIA, Department of Commerce – Broadband Equity, Access, and Deployment (BEAD) Program[4]	OBC	Nationally, provides $42.45 billion from President Biden's Bipartisan Infrastructure Law to expand high-speed	$263,689,548.65 Expended: $0

		Internet access by funding planning, infrastructure deployment, and adoption programs across the country.	Available: $263,689,548.65
Department of the Treasury – Capital Projects Fund (CPF)[5]	OBC for broadband share of funding	Provides $10 billion from President Biden's American Rescue Plan to states, territories, freely associated states, and Tribal governments across the United States to fund critical capital projects that enable work, education, and health monitoring in response to the public health emergency, including high-speed Internet infrastructure.	$52,768,225 for broadband and digital connectivity[1] Expended: $0 Available: $52,768,225 (for the Broadband Infrastructure Deployment Equity (NJBIDE) pilot program, intended to serve 28,216 locations with 100/100 Mbps service)
Department of the Treasury – Coronavirus State and Local Fiscal Recovery Funds (SLFRF)[6]	OBC for broadband share of funding	Funded by President Biden's American Rescue Plan Act, delivers $350 billion to state, territorial, local, and Tribal governments across the country to support their response to and recovery from the COVID-19 pandemic, including high-speed internet deployment.	$2,768,225 for broadband and digital connectivity[2] Expended: $2,386,205 (for the Broadband Access Study Commission) Available: $382,020 for

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[1] New Jersey received $122,206,702 from the Capital Projects Fund. The share for broadband is $52,768,225.
[2] New Jersey received $52,178,701.32 from the State and Local Fiscal Recovery Funds. The share for broadband is $2,768,225.

			broadband and digital connectivity
NTIA, Department of Commerce – Digital Equity Act (DEA)[7]	OBC	Nationally, provides $2.75 billion to establish three grant programs that promote digital equity and inclusion across the nation.	$1,176,741.00 in State Digital Equity Planning Grant funding Expended: $0 Available: $1,176,741.00

Table 5: Broadband Funding Managed by Other State and Local Agencies

Source	Recipients	Purpose	Total / Expended / Available
NTIA, Department of Commerce – Enabling Middle Mile Broadband Infrastructure Program[8]	Cumberland and Salem County	The Enabling Middle Mile Broadband Infrastructure Program, with $1 billion in funding, will reduce the cost of bringing high-speed internet to unserved and underserved communities.	$24,176,692.13 Expended: $0 Available: $24,176,692.13
Federal Communications Commission – Emergency Connectivity Fund (ECF)[9]	School districts and library systems	Provides $7.171 billion to support Internet services and connected devices for students, school staff, and library patrons in communities across the country.	Committed: $153,785,441 Expended: $88,056,140 Available: $65,729,301
Federal Communications Commission –Universal Service Program for Schools and Libraries (E-Rate)[10]	School districts and library systems	Provides 20 – 90% discounts on internet services to help schools and libraries connect to the internet	Schools and libraries in New Jersey received ~$625M in E-Rate subsidies from 2020 – 2023

NTIA, Department of Commerce –Connecting Minority Communities Pilot Program (CMC)[1]	Funding allocated to two universities in the state – Felician University $2,301,890 Rutgers, The State University of New Jersey, Newark $2,777,052	Provides $268 million to help colleges and institutions that serve minority and Tribal communities.	$5,078,942.00 Expended: $0 Available: $5,078,942.00

Table 6: Broadband Funding Managed by Non-Profits or Providers

Source	Recipients	Purpose	Total / Expended / Available
Federal Communications Commission – the Affordable Connectivity Program (ACP)[11]	Distributes monthly subsidies to eligible households through a broadband provider, and outreach programs through community organizations 259,693 Households Enrolled in the program[12]	Provides $14.2 billion from Bipartisan Infrastructure Law to provide eligible households with a discount of up to $30/month (or $75/ month on qualifying Tribal lands and high-cost areas) for high-speed Internet service, and up to $100 discount toward a desktop, laptop, or tablet computer offered by participating providers	Claimed: $93,222,844 (January 2022 – June 2023)

Federal Communications Commission – Connect America Fund Phase II (CAFII)[13]	Funding distributed directly to service providers Disbursements to providers in New Jersey aim to connect ~2K locations in 2022	A component of the Universal Service High-Cost Program, CAFII provides funding to offset the cost of new or upgraded voice and broadband network construction	$3,594,362 estimated disbursements to Verizon and CenturyLink in 2022
Federal Communications Commission – Affordable Connectivity Program National Competitive Outreach Program (NCOP) Grants[14]	Distributed to organizations across the state, including – Computers For People Inc. - $326,920 Hopes Community Action Partnership, Inc.- $300,000 Newark Community Economic Development Corporation- $400,000 Thomas Edison State University - $400,000	The NCOP provides eligible governmental and non-government entities with the funding and resources needed to increase awareness of and participation in the ACP among those households most in need of affordable connectivity.	Total $1,426,920 (2023)

3.2 Partnerships

OBC has identified a set of partners to help New Jersey leverage its resources against the full opportunity the BEAD program presents *(Table 7)*. OBC has initially prioritized state agencies and partners representing Covered Populations; additional partnerships will be identified and formed in the Digital Equity Plan. The list of partners does not include potential subgrantees (e.g., broadband providers), but the state believes ongoing collaboration with these entities will be crucial for the success of BEAD in New Jersey.

Table 7: Partners

Partners	Description of Current or Planned Role in Broadband Deployment and Adoption
Economic Development Authority (EDA)	EDA is the state entity leading economic development in New Jersey. Given broadband's central role in attraction and retention of talent (e.g., limited broadband speeds reduce the ability for employees to work remotely) and the opportunity that digital skills provide workers to successfully compete for high-quality jobs, EDA will be an important state partnership for OBC.
Department of Community Affairs (DCA)	DCA and OBC are partnering to support OBC in assessing challenges and solutions to permitting and procurement issues related to broadband. DCA also leads a robust grantmaking organization, which is well-situated to provide best practices related to grant selection, award and monitoring. Finally, DCA has access to significant program data that could help OBC further refine its stakeholder outreach efforts and implement an efficient Digital Equity program.
New Jersey Department of Labor and Workforce Development (NJDOL)	DOL will partner with OBC to discuss prevailing wage requirements in the state, especially as it related to broadband job classifications, industry upskilling initiatives, and broader career support for individuals entering broadband deployment roles.
New Jersey Office of Information Technology (NJOIT)	OIT is responsible for providing information technology services, policies, and standards for technology used by New Jersey's state agencies. OBC and OIT have collaborated to identify conduits across the state and will continue to collaborate on information security and privacy standards.
New Jersey Department of Transportation (NJDOT)	The State's DOT is responsible for managing rights-of-way along the state's highway system and has set uniform safety standards for utility workers constructing backbone fiber and main lines.[15] OBC may work with DOT to identify ROW approval processes and potential challenges for deployment.
State Library (NJSL)	NJSL is collaborating with OBC to identify digital equity challenges across the state, and potential strategies where the library could

	support New Jersey residents' digital skills or broadband availability needs.
County workforce development centers and boards	Many county workforce centers across New Jersey already offer employment and training services, including device skills and opportunities to build digital literacy.
Digital Inclusion Practitioners of New Jersey (DIPNJ)	DIPNJ brings together digital inclusion practitioners across the state to learn from each other, share information and build a culture of digital inclusion in New Jersey.
Digital Equity Working Group	Collaboratively run by OBC and NTIA, the Digital Equity Working Group Run hosts recurring meetings to enable New Jersey to track progress on different digital equity issues. Specifically, the working group collects perspective from stakeholders across the state and maps digital equity organizations and assets.

3.3 Asset Inventory

This section focuses on hard assets (e.g., infrastructure to support broadband deployment) and provides a preliminary list of soft assets (e.g., programs, initiatives, and resources to drive meaningful adoption and use of broadband to support digital equity). A comprehensive list of soft assets will be included in the State's Digital Equity Plan.

Many assets outlined in Tables 8–11 are locally-led initiatives in counties with the highest shares of unserved and underserved locations in the state (e.g., Passaic County and Essex County, *Table 2)*. These initiatives may offer learnings for adoption, affordability, and digital equity as OBC continues to develop its State Digital Equity Plan and BEAD Initial Proposal.

3.3.1 Broadband Deployment and Access

Table 8 describes assets that may support broadband deployment in unserved and underserved locations as well as publicly available Wi-Fi.

Table 8: Assets Related to Broadband Deployment and Access

Asset Type	Description
Conduit	– **DOT-owned conduit:** Exists in in 2,081 locations, including 290 currently under construction[16]
Wireless infrastructure	– **Upcoming project between Hopewell Township and Comcast:** Hopewell Township, in Cumberland County, has partnered with Comcast to deploy a fiber network to ~150 unconnected rural homes across the Township. The state-financed share of project will include funds from ARPA and a 2022 bond issue[17]

	– **Public safety infrastructure**: In 2010, approximately $39M in was awarded to NJDOT for the New Jersey Broadband Network Project to connect 71 anchor institutions (primarily public safety) through a Broadband Technology Opportunities Project (BTOP) grant award. Additional funding was awarded to other agencies and organizations for research initiatives on sustainable adoption and digital skills (i.e., New Jersey Office of Information Technology (NJOIT), Thomas Edison State College, One Economy Corporation, Communication Service for the Deaf, Inc., and University Corporate for Advanced Internet Development)[18]
Middle mile networks	– **Upcoming middle mile deployment plans:** Cumberland County and Salem County will receive funding from the BEAD Enabling Middle Mile Broadband Infrastructure program ($24.18M for a middle mile network that will result in 220 miles of new fiber)[19]
Municipal broadband networks	– **Newark Fiber:** A public-private network option for businesses and residential units across Newark, offered by GigXEro and the City of Newark[20] – **Upcoming city-owned fiber in Edison:** in July 2023, Edison secured $2M from the state to build a city-owned fiber network. This initiative was launched after a feasibility study showed that 87% of Edison residents would consider switching to a different network if available[21]
Public wi-fi, networks and access points	– **Comcast Lift Zones:** 30+ zones across New Jersey (located in Atlantic, Camden, Cumberland, Essex, Gloucester, Hudson, Mercer, Middlesex, and Union counties) serve as free Wi-Fi public access points for students, veterans, and other New Jerseyans who may lack reliable connectivity in their homes. These points are located at community centers, Boys and Girls Clubs, and recreation centers[22] – **Wi-Fi with NJ TRANSIT:** Optimum Wi-Fi hotspots are available across NJ TRANSIT stations for Optimum subscribers (free) and non-subscribers (free for up to 5 separate day passes or $5 per day)[23] – **LinkNWK:** In 2018, Newark launched a program to install free phone and high-speed Wi-Fi kiosks citywide. The kiosks run on Newark Fiber, the city's public-private GB network, and were utilized for an average of 2,400 calls/per month and 3,2000 Wi-Fi sessions across 4 kiosks alone[24]

	– **Free Wi-Fi hotspots in Jersey City:** the city government's website offers centralized information about free public Wi-Fi (including whether Wi-Fi is at a kiosk or library)[25] – **Mobile hotspots from public libraries:** Loaner programs for mobile hotspots are offered by many libraries across the state (e.g., Newark Public Library, Burlington County Library System)[26] – **Burlington County Connect Initiative:** The county has announced a new initiative to expand free public Wi-Fi to all county-owned buildings and properties. The network already offers 200+ wireless access points across 20 County-owned buildings and has connected 100K+ users[27]
Fiber connectivity for anchor institutions	– **EdgeNet Network:** Edge serves as a member-owned, nonprofit provider of high performance optical fiber networking and internetworking, Internet2, and a vast array of best-in-class technology solutions for cybersecurity, educational technologies, cloud computing, and professional managed services. Edge provides these solutions to colleges and universities, K-12 school districts, government entities, hospital networks and nonprofit business entities as part of a membership-based consortium. Edge's membership spans New York, New Jersey, Pennsylvania, Delaware and Virginia.[28]

3.3.2 Broadband Adoption and Affordability

Table 9 details programs which support diving meaningful adoption of broadband in residences – including programs focused on affordability, digital capacity of communities, and device access.

Table 9: Assets related to Broadband Adoption

Asset Type	Description
Information sharing and reporting	– **Internet Inequity Research Report:** published by Project Ready in January 2023, this report contains key findings on broadband adoption and affordability challenges[29] – **New Jersey Wi-Fi Locator Map**: published by the New Jersey Library Association as a part of their I Love NJ Libraries initiative, the Wi-Fi Locator Map shows every New Jersey library which offers free public Wi-Fi[30]

	– **Interactive dashboard on the Digital Divide in New Jersey schools:** distilled findings, by school district, from a 2020 school technology survey conducted by NJDOE[31] – **Connect NJ listening tour and community conversations:** state-wide sessions held by OBC to provide information to families, community members, and small businesses about connecting to high-speed internet and accessing grants (detailed further in the *Stakeholder Engagement Process*)[32]
Digital skills and credentialing through community channels	– **Upskilling and digital skills programs at One-Stop Career Centers:** with oversight from Workforce Development Boards, these programs include in-person or virtual industry certifications and digital skills programs (e.g., Passaic County One-Stop Career Center, Greater Raritan Workforce Development Board Literacy Committee)[33] – **Digital skills and credentialing at public libraries:** include personalized workshops, digital credentialing programs, and online courses (e.g., NJHealthConnect @ Your Library at participating libraries, Gloucester County Library System computer classes, Red Bank Library Eisner Opportunity Lab, Ocean County Library Computer Skills Center, Plainfield Library Digital Literacy Courses, Long Branch Library Technology and Career Center, Burlington County Library Device Lending)[34] – **Standardized NorthStar Online Learning training, assessments, and certifications:** offered by 90 libraries in 18 out of 21 New Jersey counties[35] – **Workforce-oriented digital skills programs from public educational institutions:** courses on strengthening computer skills are available through various education channels in New Jersey (e.g., Bergen Community College offers a paid "Computer Skills for the Workplace" program and free technology and business skills classes; Morris County Vocational School District and County College of Morris' are participants in Intel's "AI for Workforce Program")[36] – **Community digital skills programs through higher education institutions:** two universities in New Jersey – Rutgers University and Felician University – are using federal Connecting Minority Communities awards to strengthen digital infrastructure in their surrounding communities (e.g., trainings for city residents in Newark

	and teaching telehealth best practices for students in science fields at Felician)[37]
	– **Digital literacy workshops for low-income households:** AT&T, Digitunity, and Jersey City Housing Authority have partnered to offer ongoing and free digital literacy workshops for low-income households at affordable housing communities throughout the state (e.g., TJ Stewart Apartments in March, JCHA Berry Gardens in February)[38]
Task forces and advocacy groups	– **Digital Inclusion Practitioners of New Jersey:** convenes organizations and individuals interested in digital equity to host workshops and build relationships with stakeholders[39] – **New Jersey Future:** conducts research on broadband and other initiatives related to land use and sustainable growth[40] – **Montclair Gateway to Aging in Place:** advocacy group for the digital inclusion of older New Jersey residents[41] – **Talking Book and Braille Center** the State Library's Braille Center has partnered with the New Jersey Commission on the Blind and Visually Impaired (NJCBVI) to offer home delivery of computers, speech and magnification assistive technology, and technical support to NJCBVI clients. The Center's staff also provide training and technical support through the Library Equal Access Program (LEAP)[42]

Table 10: Assets related to Broadband Affordability

The *Needs and Gaps Assessment* highlights that affordability is a key barrier to adoption for New Jerseyans. *Table 10* is an initial list of current initiatives to increase awareness of and enrollment in the Affordable Connectivity Program. Additional initiatives will be detailed in the State Digital Equity Plan.

Asset Type	Description
Adoption of the Affordable Connectivity Program (ACP)	– **Black Churches 4 Digital Equity:** advocates for digital equity by informing Black church leaders and community members about ACP and other assistance programs[43] – **Non-profit participation in federal funding programs:** Four New Jersey non-profits have received grant funding from the FCC National Competitive Outreach Program (NCOP) to support awareness of and increase enrollment in the Affordable Connectivity Program (ACP) (e.g., Computers 4 People, Newark Community Economic

Asset Type	Description
	Development Corporation, Thomas Edison State University, and Hopes Community Action Partnership, Inc.)[44]

3.3.3 Device Access

Device access is an important component to meaningful adoption of broadband-enabled activities. Table 11 notes programs in New Jersey that work to make devices accessible to residents.

Table 11: Assets related to Device Access

Asset Type	Description
Programs for computer refurbishing	– **Repurpose discarded electronics and distribute to college-bound students:** Computers 4 People donates recycled laptops across New Jersey, hosts PC Building Classes for teenagers to combine digital skills with hardware assembly, and accepts device donations from the public Add Computers 4 People[45] – **Tools 4 School Technology Program:** United Way in Hunterdon County has partnered with ExxonMobil employees to upload new software onto laptops donated by the company, loan laptops to students, and offer 1-1 digital skills and training programs[46]
Programs for loaner computers/hotspot	– **Chromebook distribution for high school students in Camden, New Jersey:** in April 2020, donations from the Campbell Soup Company, Townsend Press, and the Camden Education Fund enabled the distribution of 1,500 Chromebooks to high school students in the city for remote learning[47]
Public computing labs and technical assistance	– **Access to devices and computer-equipped facilities through public libraries:** in addition to offering free Wi-Fi, many of New Jersey's libraries provide computer lab space and device loans (e.g., Long Branch Technology and Career Center, Gloucester County Library System, Burlington County Device Lending program, Sussex County Library Chromebooks program)[48] – **Centralized social services offered through Family Success Centers:** the Department of Children and Families' Family Success Centers are intended to provide wrap-around services for families in New Jersey. Programmatic offerings may include digital literacy classes

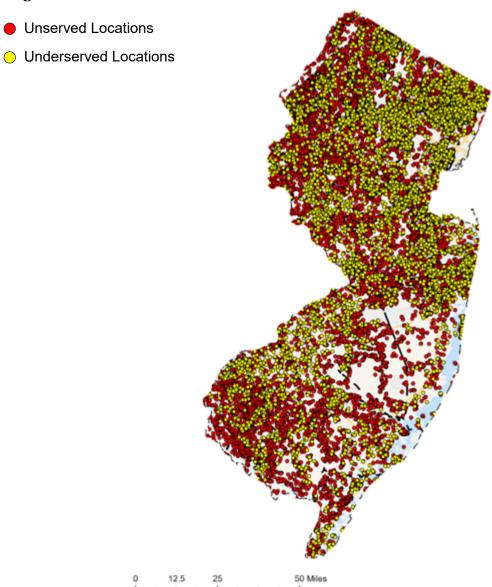|	in parallel to homework help, youth development, healthy living and other support programs (e.g., Highlands Family Success Center)[49]

3.4 Needs and Gaps Assessment

Today, New Jersey is home to a considerable digital divide between the connected and under-connected parts of our state. Across New Jersey:

- **~10%** of households are not subscribed to terrestrial broadband (cable, fiber optic, or DSL)[50]
- **7%** of households do not have access to a device[51]
- **3%** of New Jersey's Broadband Serviceable Locations remain unserved or underserved[52]

Within the state, North Jersey has the largest share of unserved and underserved locations by total count as compared to other counties in the state. The 3 counties with the highest number of unserved locations are Passaic, Sussex, and Essex in North Jersey. Similarly, the top three counties with underserved locations are Sussex, Passaic and Warren, also located in North Jersey. This regional trend exists despite these counties varying heavily in population sizes relative to the rest of the state *(Exhibit 1)*.

Exhibit 1: Map of Unserved and Underserved BSLs in New Jersey[53]

Legend

🔴 Unserved Locations

🟡 Underserved Locations

After normalizing for population, counties in South Jersey also surface higher levels of unserved and underserved locations per capita *(Table 12)*. The top three counties with unserved locations per capita are Sussex, Warren, and Salem. Table 12 shows data for unserved and underserved location counts and per capita percentages for each county in New Jersey. The table is arranged by county population, in descending order.

Table 12: Service availability by county, total and per capita[54,3]

Note: Service availability downloaded from FCC National Broadband Map on June 30, 2023.

		Unserved and underserved locations (unweighted)			Weighted unserved and unserved locations (per capita)		
County	Region	Population	# of Unserved BSLs	#Under-served BSLs	% Unserved.	% Under-served	% Unserved and underserved total
Bergen	N	952,997	2,126	2,466	**0.22**	**0.26**	**0.48**
Middlesex	C	861,418	3,486	1,275	**0.4**	**0.15**	**0.55**
Essex	N	849,477	4,079	3,699	**0.48**	**0.44**	**0.92**
Ocean	C	655,735	2,304	834	**0.35**	**0.13**	**0.48**
Monmouth	C	644,098	2,737	1,628	**0.42**	**0.25**	**0.68**
Union	C	569,815	2,086	1,899	**0.37**	**0.33**	**0.7**
Camden	S	524,907	271	157	**0.05**	**0.03**	**0.08**
Passaic	N	513,936	4,732	8,254	**0.92**	**1.61**	**2.53**
Morris	N	511,151	2,648	2,049	**0.52**	**0.4**	**0.92**
Burlington	S	466,103	1,326	321	**0.28**	**0.07**	**0.35**
Mercer	C	380,688	772	271	**0.2**	**0.07**	**0.27**
Somerset	C	346,875	1,785	533	**0.51**	**0.15**	**0.67**
Gloucester	S	306,601	666	244	**0.22**	**0.08**	**0.3**
Atlantic	S	275,638	1,041	265	**0.38**	**0.1**	**0.47**
Cumberland	S	151,356	1,193	226	**0.79**	**0.15**	**0.94**
Sussex	N	146,084	5,477	3,177	**3.75**	**2.17**	**5.92**
Hunterdon	C	129,777	1,138	425	**0.88**	**0.33**	**1.2**
Warren	N	110,926	2,654	969	**2.39**	**0.87**	**3.27**
Cape May	S	95,634	1,596	181	**1.67**	**0.19**	**1.86**
Salem	S	65,117	1,207	339	**1.85**	**0.52**	**2.37**
Grand total	-	**8,558,333**	**43,324**	**29,212**	-	-	-
Average	-	-	-	-	**0.83**	**0.42**	**1.25**

Perhaps the most powerful articulation of the digital divide in New Jersey is that poor New Jerseyans are substantially less likely to have access to broadband, to subscribe to available broadband service, to have access to devices, and to have the digital skills to utilize high-speed internet service than wealthier households across our State.

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[3] Values in red are above average for New Jersey. Region represents North (N), Central (C), or South (S) New Jersey. Exhibit 3 excludes Hudson County as this is the only county in New Jersey with no unserved or underserved locations, per the FCC National Broadband Map (June 30, 2023).

A 2023 research study found that in New Jersey's five largest cities, the strongest two predictors of average download speeds were (1) the zip code's household poverty rate, and (2) household median income.[55] Beyond access, New Jersey households below the poverty level are substantially less likely to subscribe to high-speed internet (*Table 13*), and to own the devices needed to provide meaningful connectivity (*Exhibit 2*).
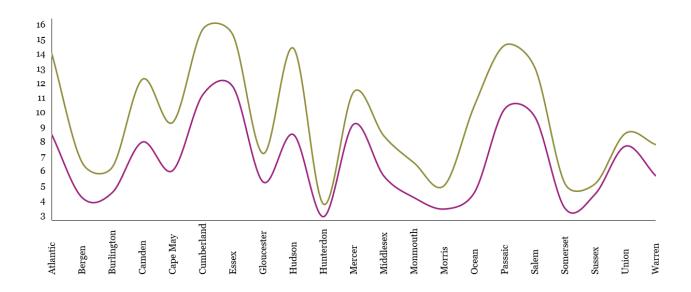
Table 13: Broadband Subscription by Household Income in New Jersey[56]

Ranges of Household Income	% of households in range with no broadband subscription
<$20K	34%
$20K-75K	15%
$75K+	4%

Exhibit 2: Share of Residents Below the Poverty Level and Households with Smartphones Only by County[57]

Legend

— % Residents Experiencing Poverty
— % Households with Smartphone Only

Challenges in affordability are met with a low uptake of the Affordable Connectivity Program (ACP) subsidies. – a program which is a critical lever to bridge the affordability challenge for New Jersey residents. Only 23.2% of eligible households in New Jersey are enrolled in the

program, compared to a nationwide average of 38.3% and "surrounding state" average of ~30-40% (MD, CT, DE, PA, NY).[58] OBC will continue to understand barriers to uptake and potential initiatives to increase awareness of and enrollment in the program for the State's Initial Proposal and State Digital Equity Plan.

In preparation of submission of the Digital Equity Plan, OBC has conducted an initial assessment of needs and gaps for Covered Populations which shows that Native American / Alaska Native, Black, Hispanic, and multi-racial residents, veterans, residents experiencing poverty, and people with hearing and vision disabilities have lower rates of subscribership than their counterparts (*Exhibit 3*). There are also clear gradations in broadband access by English language ability (i.e., 21.3% of residents who do not speak English lack broadband versus 9.2% of those who speak English at least "very well"). In terms of education, those without a high school degree are 3x less likely to have a broadband subscription as compared to those with a master's degree or higher. New Jersey is a heavily urbanized state; only eight Census Tracts are designated as rural.[59] Across predominantly urban and suburban areas, broadband subscription rates are lower in urban and mixed residential communities than in suburban areas (13.4% and 12.6%, respectively, versus 9.9%).

OBC also recognizes that residents may be members of multiple Covered Populations, and that status in one group (e.g., poverty) may have a greater relationship to broadband adoption than others.

Exhibit 3: Share of New Jersey's Population Without Broadband Subscriptions (2021)[60]

State Total		10.1	delta
Race	American Indian or Alaska Native	22.2	+12
	One other race	17.5	+7.4
	Black/African American	11.3	+1.2
	Two or more races	10.2	+0.1
	White	8.8	-1.3
	Asian or Pacific Islander	7.2	-2.9
Hispanic	Hispanic	13.9	+3.8
	Not Hispanic	9.0	-1.1
English Language	Does not speak English	21.3	+11.2
	Speaks English less than very well	15.6	+5.5
	Only English or speaks English very well	9.2	-0.9
Age	60 year or older	12.8	+2.7
	Less than 60 years	9.2	-0.9

Poverty Status	In poverty	16.5	+6.4
	Not in poverty	9.4	-0.7
Veteran Status	Veteran	12.9	+2.8
	Not a veteran	10.3	+0.2
Disability Status	Has vision or hearing difficulty	12.4	+2.3
	No vision or hearing difficulty	9.9	-0.2
Metro Area	In central/principal city	13.4	+3.3
	Central/principal city status indeterminable (mixed)	12.6	+2.5
	Not in central/principal city (suburban)	9.3	-0.8
Education	Less than high school diploma	17.7	+7.6
	High school diploma or GED	13.1	+3
	Some college, no degree	10.5	+0.4
	Associate's degree, type not specified	9.8	-0.3
	Bachelor's degree	7.3	-2.8
	Master's degree or higher	6.8	-3.3

As New Jersey continues to build out a needs assessment in partnership with the Digital Equity Planning process, OBC is working to further document broadband needs across the State using three efforts:

> A. **Existing Rutgers University research**
> B. **State administered survey on broadband usage in households**
> C. **Community conversations**

A. Rutgers University study

A recent study conducted by researchers at Rutgers, The State University of New Jersey, examined barriers to digital inclusion among members of underserved and marginalized populations in the state. Data collection occurred between February and mid-March of 2020 (pre-COVID) and November 2020 to March 2021 (after declaration of the Federal Public Health Emergency). Methods of data collection included surveys completed by staff members of community-based organizations and surveys and focus groups with residents of Atlantic County and the city of Newark. The study identified several common barriers to digital inclusion.[61]

Staff perceptions:

Staff members of participating agencies noted a general lack of investment in digital infrastructure. While most agencies had moved to some form of electronic record keeping, there was limited use of technology to engage clients in services. Staff reported that their clients lack access to the necessary technology to justify such investment. In some settings, staff members themselves lack the necessary experience to make effective use of technology. Without the resources to invest in system upgrades and lack of technical support and training, the perception was that reliance on digital technology in service provision would only worsen inequities.

Resident Perceptions

Due to the demographic characteristics of study participants (e.g., 41% disabled, 29.2% with less than a high school degree, and 30.6% with monthly incomes less than $500), 52.8% of study participants reported a lack of any broadband access (either at home or elsewhere). Between 35.8% and 59.3% did not have access to common digital devices (i.e., tablet, laptop, or desktop computers; smart TVs; or fitness trackers). However, 80.6% of respondents stated that they owned a smartphone with internet access.

Besides inadequate access to broadband services and devices, other commonly cited barriers to digital equity included lack of confidence using technology, distrust of the security of online transactions, and the cost of data plans. Between 14% and 32% of respondents expressed discomfort with basic computer functions (e.g., powering on a computer, adjusting volume and video, and troubleshooting). Although confidence using technology increased significantly after COVID, around 30% of respondents said they lacked confidence using the internet and judging whether online content is trustworthy.

A specific focus of the study was on attitudes towards telehealth. Due to the rapid uptake of telehealth following the declaration of the Public Health Emergency and mandates for social distancing, use of telehealth increased significantly between the two periods of data collection. However, there was not a similar increase in respondents' sense of comfort using technology to manage their healthcare needs. The primary reason for this finding was the lack of confidence in the security of information shared online.

B. State administered survey on broadband usage in households

Since 2022, New Jersey has conducted a survey for households and businesses across each of its counties, with a total of 5,963 responses. The survey asks questions on topics of broadband access, usage, and equity, including the affordability of broadband plans in the area. Of respondents thus far, 77% of respondents have a local cable company as their current internet service provider, compared to 11% local phone companies, with the other 12% consisting of fixed wireless satellites, cellular telephone companies, and others. Of those using local phone companies, 43% have DSL compared to 46% fiber. Additionally, most respondents (64%) have only one provider of internet in their homes, including cellular. Among respondents, 97.8% of respondents consider access to the Internet as essential, yet not all of those people have adequate access to affordable broadband, or high-quality internet to suit their many needs in the

digital age.

Broadband affordability

One key insight which can be drawn from the survey is that affordability of plans remains a top challenge for residents in New Jersey. Across price points, only 59% of respondents recorded being able to purchase the speed of internet service that they need, with 15% of those respondents following up to qualify their answers or demonstrate difficulties in paying for their internet services, and the majority of respondents being unwilling to pay more for significantly improved service (*Exhibit 4*). The survey also found that 32% of survey respondents stated they do not have internet access because it is too expensive *(Exhibit 5)*.

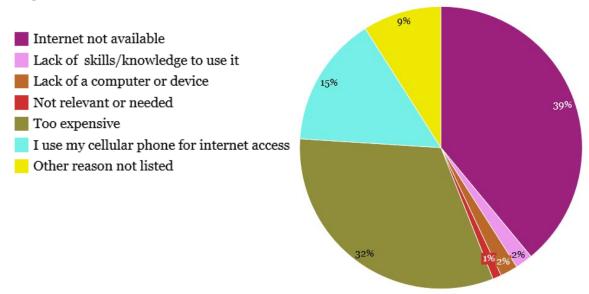**Exhibit 4: NJ Survey Results for Question: "How much are you paying per month for internet access?"[62]**

Legend

- ◼ $25-$50/month
- ◼ $51-$75/month
- ◼ $76-$99/month
- ◼ $100/month or more
- ◼ I don't know
- ◼ Less than $25/month

Exhibit 5: NJ Survey Results for Question: "What is the main reason you do not have internet access at your address in your community?"[63]

Broadband quality

As well as indicating the subscription rates and pricing of broadband access, the survey has insights into the quality of broadband and the ease of internet usage across the state. Despite most households having an internet subscription, survey results show that many residents in New Jersey still struggle with the quality of their internet service for a variety of uses. A total of 9% of respondents subscribe to a service of less than 25Mbps, and a total of 16% to a service of less than 100Mbps, while 35% are unsure of their service level. Furthermore, most respondents have someone in their household who struggles to complete work associated with their job or schoolwork due to a lack of internet access. 54% of respondents would describe the quality of support they receive from their primary provider as less than 'excellent' or 'good'. Data also shows that inadequate broadband quality often causes businesses to redirect business from their primary locations to public locations like libraries and cafes, or redirecting people to work from their mobile phones, which causes inconvenience and poses a financial cost, causing a barrier to business growth.

Broadband usage

Additionally, the NJ Survey provides insight into uptake across broadband use cases in the State. As of 2022 when the survey was conducted, 67% of respondents had a household member use their internet service for a virtual doctor's visit in the past 24 months, while 45% had participated in virtual school. Work from home is evidently an important need for access to quality internet services, with 56% of respondents having a household member work from home for more than 20 hours per week in the past 24 months.

C. Community conversations

In community conversations with OBC, residents cited the lack of access to, and familiarity with, technology as the major barriers to digital equity. Community conversations took place at

locations across the state, prioritizing areas accessible to Covered Populations (e.g., senior centers). Many communities expressed their top priority was for community leaders to prioritize free or affordable, high speed Internet access/Wi-Fi and devices. Recommendations for increasing broadband adoption also included providing ongoing training and support to teach people how to use technology and keep their systems up to date to ensure data security. Participants noted the difficulties that service providers faced in using technology during the COVID crisis. As such, these recommendations for training and support applied as much to community-based service providers as to individual residents.

Participants expressed the need for greater investment in technologies that can overcome language barriers in both in-person and remote visits. Some participants suggested offering technology classes to patients at clinics and hospitals. Several noted the need to make applications and programs more user-friendly. Although these comments were made specifically in reference to telehealth visits, there was consensus that these types of investments are needed more broadly to improve digital equity for people with limited English proficiency and low literacy levels.[64]

Exhibit 6: ConnectNJ Listening Tour: Sovereign Avenue School Atlantic City

Exhibit 7: ConnectNJ Listening Tour: Camden Mastery High School

Exhibit 8: ConnectNJ Listening Tour: Reva Foster Senior Center (Willingboro, NJ)

4 Obstacles and Barriers

Although New Jersey expects to be well-equipped to ensure the success of the BEAD program, there are important considerations that may impede timely deployment of infrastructure and increase the subsidy required to incentivize deployment. The following sections are informed by stakeholder engagement and interagency conversations, and detail anticipated challenges as they relate to broadband deployment and other non-deployment factors.

4.1 Obstacles and Barriers for Broadband Deployment

Permitting

BEAD represents an unprecedented public sector investment in broadband infrastructure, and state and local governments may need to prepare for significantly higher rates of permitting requests in the implementation phase of deployment. BEAD is also taking place in the midst of an historic investment across multiple types of infrastructure (e.g., water, roads, sewers), which may create more pressure on local and state permitting offices. Concurrently, NJDOT is deploying a new Electronic Permit Processing Review System (NJ ePermits). The online portal is now accepting permits for wireless communications, and additional industry permits are forthcoming.[65] While this will create significant efficiencies once enabled (e.g., electronic submission of all forms, documents, and plans), statewide adoption is occurring incrementally, and some localities and providers may experience financial or other challenges in implementation. Additionally, broadband providers[66] have expressed concerns about the investment in time and number of required permits, which can cause unanticipated delays in projects. Additionally, broadband providers have expressed concerns about the investment in time and number of required permits, which can cause unanticipated delays in projects.

Mitigation

Local strategy focus Utilities- PSE&G- Understand better their permitting requirements. Registered CLEC- Obtain requirements for charging carriers for fair pricing and access to poles. Potential for improvements and expedition. Make entry level easier to becoming a CLEC or outreach / encouragement for more competition and diversity in this space.

Labor and Workforce Staffing

Based on research compiled by the NTIA, New Jersey is projected to experience a telecommunications worker shortage of up to 55,000 cross-industry jobs by 2026.[67] As indicated by this analysis, the largest proportional gaps may be observed in these following occupational groups: (1) trenchers with a -12.8% percent deficit, (2) laborers and material movers with -10.0%, and (3) software engineers with 7.8%. This potential gap in the telecommunications workforce may have implications for timely broadband deployment.

Mitigation:

Coordinate with Labor's Apprentice Office (Laborers Office) to establish pre apprenticeship and apprenticeship programs in coordination with BPU. Organize with local workforce offices- to mix and match resources to fill pre apprenticeship and apprenticeship needs. Collaboration efforts amongst local firms in identifying workforce needs to fill available roles more quickly and establish an efficient route to employment pipeline. Consider a consortia model here and its goals (both build out and training).

Supply chain, material delays, access to capital

OBC realizes inflation and supply chain issues amplified by the pandemic have continued to create delays in equipment delivery and material availability for broadband infrastructure and deployment. The Build America Buy America Act (BABA) may present additional, new requirements in procuring materials for timely broadband development. Further, for smaller providers, limited access to capital can present a challenge to accelerating deployment.[68]

Mitigation

Encouragement to place orders (mostly infrastructure fiber focus) earlier rather than later to avoid delays. Challenge is how to do this without knowing who is doing work and network design requirements. Role for state to procure this, store it, pass along cost as deployment (purchasing cooperative model). Note: Any warehousing includes an asset protection plan and the costs associated with protecting it.

4.2 Obstacles and Barriers for Non-Deployment Efforts

Affordability

Section 3.4 *(Needs and Gaps Assessment)* describes analyses conducted within New Jersey that highlight the extent to which affordability is a key driver (or barrier) for broadband adoption and device access in the state. OBC will continue to assess the scale of affordability challenges across the state to identify potential mitigation strategies.

Lack of broadband funding sources for urbanized areas

A high degree of urbanization may limit the scale to which New Jersey can participate in the federal funding programs outside of BEAD (e.g., Rural Digital Opportunity Fund (RDOF) and other programs which are designed to serve rural areas). If OBC determines a need for additional sources of funding, the Office may need to identify additional sources of federal or state funding which may advance broadband deployment goals.

5 Implementation Plan

5.1 *Stakeholder Engagement Process*

Over the past year, OBC has developed a stakeholder engagement program to learn from community and partner organizations regarding how New Jersey can best work towards achieving the goal of internet for all.

Current stakeholder engagement initiatives enable collaboration with and feedback from the local community to understand the experiences New Jerseyans, maintain and build partnerships with community organizations, and spread awareness about broadband programs (Exhibits 6 – 8). This section covers the types of stakeholder engagement, reach, and plans for future engagement in New Jersey.

There are three primary **channels of engagement** underway in New Jersey: meetings, publications and communications, and surveys.

Meetings: OBC has led multiple types of in-person and virtual meetings with different stakeholder groups during this planning process and **310 unique organizations** (listed in Appendix B) have attended at least one outreach meeting. These have included ongoing working group meetings, including the workforce development working group, the digital equity working group, and NTIA-led information sessions for the public. The **workforce development working group** explores standardized working practices and barriers to workplace development, including digital skills. It is attended **monthly** by 9 organizations, including NJDOL and community partners like Rutgers University. The **digital equity working group** aims to discuss and find solutions to challenges facing different covered populations in New Jersey, and is attended **weekly** by 12 organizations, including non-profit organizations like Black Churches for Digital Equity and Montclair Aging in Place, as well as state organizations like the New Jersey State Library. Finally, **Internet for All Community Outreach Meetings** are public monthly meetings for OBC andNTIA to present information on digital equity and explain different broadband-related issues, contextualizing them to New Jersey and having opportunities for questions and answers from members of the public. These meetings are recorded, and the Office is in the process of posting them online to enable broader access to the information. Across these meetings, OBC has sought engagement across stakeholder groups to ensure New Jersey receives comprehensive and balanced insight. A summary is in Table 14 below and the complete list of organizations is included in Appendix 2.

Table 14: Summary of attendees by stakeholder type

Organization Type	Count	Examples
Broadband Providers & Trade Associations	24	- AT&T - Planet Network
Educational Entities	22	- Essex County College - New Jersey Principals and Supervisors Association
Labor Organizations & Unions	2	- IBEW Local 827 - National Electric Contractors Association
Local Government	91	- West Windsor Township - Newark Housing Authority
Nonprofit Organizations	70	- NJ Consortium for Immigrant Children - Black Churches 4 Digital Equity

Private Sector Organizations	70	- New Jersey Business and Industry Association - Hackensack Meridien Health
State and Federal Government	29	- New Jersey Department of Labor - Office of Senator Cory Booker
Total	**308**	

Publications and Communication: To raise awareness about this work, including meeting times and locations, OBC has released ongoing communications and publications to inform organizational stakeholders and community members about existing broadband efforts. These communications contain updates on issues of broadband access and equity in the state. Public outreach includes monthly email updates through different state departments' distribution lists and press releases on the Office's website.

Surveys: As described in Section 3.4 *Needs and Gaps Assessment*, New Jersey is also conducting an ongoing broadband survey. Started in November 2022, the survey has received responses from a total of 5,963 individuals and local businesses (as of August 2023) on questions about the current state of broadband and device access, affordability and usage, and to learn of potential areas of improvement in broadband access. Details and results from this survey are outlined in the Needs and Gaps Assessment.

Looking ahead to the Digital Equity Plan and Initial Proposal, OBC plans to continue programming to maintain stakeholder engagement. The Office has developed valuable observations over the last year that it will use to strengthen its engagement process moving forward. As the team expands, OBC will continue its engagement process with a focus on BEAD deployment and connecting with state and local non-profits that may be engaged with local digital equity organizations.

Future activities will include:

Expansion of existing stakeholder outreach programs: New Jersey will continue its efforts to engage stakeholders, continuing to conduct outreach in ways that have shown to be impactful, and will learn how to improve all areas of outreach. The IFA outreach meetings will continue, as will the Digital Equity working group and the Workforce Development working group, and the State will continue to deepen community partnerships and relationships.

Planned future stakeholder outreach: New Jersey plans to hire a community outreach coordinator and an IGA, who will help to streamline communications, and identify areas of opportunity for more effective outreach in the future. Additionally, OBC plans to formalize public communications, moving from an email-blast model to formalized, regularly distributed newsletters. The Office will connect with other state agencies that run federally funded programs and could enable collaboration on future engagement efforts to maximize the reach of engagements, such as surveys.

Lessons learned from current and past outreach: A key area of opportunity for achieving broadband goals is having more effective and standardized communications with other state agencies and aligning on initiatives. This would help OBC leverage the size, resources and reach of other state agencies, and spread awareness of broadband goals within state agencies. This would be mutually beneficial across agencies, given that many goals between

broadband and other agencies already overlap, and outcomes could be maximized with further collaboration.

5.2 Priorities

Table 15: Priorities for Broadband Deployment and Digital Inclusion

Priority	Description
Promoting public private partnerships	Public private partnerships are fundamental to the success of OBC's programs. Partnerships help both small and large providers successfully compete for deployment awards, supporting a fair and transparent grant process and level playing field. Post award, partnerships support project execution, facilitating communication and quick resolution among stakeholders when roadblocks, such as permitting or siting challenges, arise. Collaboration among state and local government, the private sector, and nonprofit organizations can strengthen existing adoption, device access and digital skills programs, increasing their ability to serve New Jersey residents. OBC's stakeholder engagement plan is built to foster both communication and collaboration across all sectors. As OBC expands its staff, it will continue to prioritize stakeholder engagement and public private partnerships.
Streamlining permitting processes	OBC views permitting needs for both of its infrastructure programs – CPF and BEAD – within the lens of the historic infrastructure investments taking place across New Jersey. As of July 2023, $6B in Bipartisan Infrastructure Law funding had been announced for New Jersey.[69] Infrastructure projects across multiple domains (e.g., transportation, water, broadband) may be able to decrease costs and complete projects faster by coordinating the timing of digs and rights-of-way, pole and tower access. A key part of OBC's stakeholder engagement activity will be to support permitting coordination. Additionally, OBC will evaluate how it can support streamlined permitting processes through its grant programs.
Increasing community organization capacity	Community-based organizations may have the opportunity to compete for grants through Digital Equity Act funding and potentially through BEAD, should funding be available after meeting statutory obligations. To expand the ecosystem of potential applications, OBC will explore outreach and capacity-building strategies. It will be important to consider how

	information is publicized, making sure that funding opportunity announcements are inclusive of the broad range of potential applicants. Similarly, understanding that executing a federal subaward often requires significant administrative capacity, OBC will consider ways to balance the sometimes limited administrative capacity of smaller organizations with the level of oversight and monitoring required (e.g., technical assistance).
Recruiting minority-owned businesses, women-owned business enterprises, and labor surplus firms.	Expanding the base of competitive contractors will result in a vendor pool that reflects the diversity of New Jersey, while also increasing the resiliency of the supplier network. OBC is committed to both of these priorities. Similar to the strategies to be employed for the community organization capacity priority, OBC will direct outreach towards this effort and consider both appropriate administrative capacity and opportunities for technical assistance.
Reducing cost and barriers to deployment through grantee selection	As OBC plans for BEAD, the upcoming Initial Proposal process provides the opportunity to strategically address ways to reduce the cost of deployment, as well as potential barriers, through the design of the challenge and subgrantee selection processes. For example, OBC may consider: • How project area design and program rules might create a more competitive environment • What tools it may prioritize to support the BEAD scoring requirement regarding least subsidy outlay per application • The impact stakeholder support at the time of application
Increasing affordability of high-capacity broadband connections	Both BEAD and Digital Equity Act funds support increased affordability of broadband connections. For example, BEAD requires OBC to define, and subrecipients to adopt, a Low-Cost Service Option. OBC must also develop a Middle-Class Affordability Plan. BEAD provides options for further consideration, including supporting Wi-Fi connections in multi-family residential buildings. The Digital Equity Act supports funding for a variety of affordability related activities, including adoption of low-cost plans and sign-up support for the Affordable Connectivity Program (ACP). These program design options may be important to expanding adoption as affordability is one of the key barriers to broadband subscribership in New Jersey (Section 3.4 *Needs and Gaps Assessment*). Further, while ACP provides a subsidy of up to $30/month, the remaining portion of the bill may still be unaffordable for some. For example, 54% of households

| | that have not adopted broadband because of price also indicated that they could not afford to pay any amount for the service.[70] |
| | Initial Proposal development requires consideration of these important factors related to affordability. OBC will assess the levers and challenges relative to different strategies. |

5.3 Planned Activities

OBC will plan and implement at least three distinct grant programs (i.e., CPF, BEAD, DEA). At $263.7M, the BEAD program is the largest of the three and likely the most complex to administer. To successfully execute the program, OBC will use BEAD funds to design and implement a:

- **Challenge process**, the result of which will be the final list of eligible unserved and underserved locations, and Community Anchor Institutions (CAIs) which will be eligible for BEAD funding
    - o The challenge process will also serve as an opportunity to identify CAIs that may not be considered Broadband Serviceable Locations on the FCC's map because they are unlikely to purchase mass market broadband or have at least 100 Mbps, but less than 1 Gbps.
- **Competitive grantee selection process**, which will include a determination of how project areas will be defined and by what entities, scoring criteria, timelines, and evaluation processes, all focused on a goal of deploying as much fiber as feasible to as many locations as possible.
- **Robust monitoring and oversight program** for BEAD recipients, including a transparency website to make it easy for stakeholders to identify current activities and spending.

In preparation for these two activities, OBC will complete the Initial Proposal, which includes the plan for both the challenge and selection processes. As part of this work, OBC will further explore the potential cost to deploy broadband to all unserved and underserved locations in the state, particularly in light of the impact of CPF and middle-mile investments. If it appears there may be additional funding available after connecting these locations, OBC will prioritize potential investments at that time, reflecting the outcome of ongoing assessment efforts throughout the state.

In addition, OBC will use the Initial Proposal requirements to plan for other key issues and challenges:

Low-cost service plan option and middle-class affordability strategy: Evaluate the example low-cost service plan option provided in NTIA's Initial Proposal to determine whether it is feasible to adopt it as the New Jersey BEAD program's low-cost service plan option.

Additionally, review the example middle-class strategies to determine applicability for New Jersey.

Climate mitigation strategy: Assess the potential impacts of significant climate on New Jersey's deployment strategy (e.g., hardening of assets, use of alternative materials, implications for aerial vs buried fiber)

Workforce readiness strategy: Work with key stakeholders, including the Department of Labor, unions and worker organizations, broadband providers, and community-based organizations to develop a strategy that ensures an available, diverse, and highly-skilled workforce.

Finally, OBC will continue stakeholder outreach as a key part of all planned activities, including continuing the ongoing listening tour that is currently taking place across the state.

5.4 Key Strategies

To successfully execute BEAD, OBC must develop a plan that ensures all unserved locations will be served within the requirements of the program's rules. Additionally, OBC seeks to upgrade all underserved locations, and if funding is still available, connect Community Anchor Institutions and support non-deployment activities, as detailed by program guidelines. Below is a summary of the key strategies that OBC will prioritize to successfully execute BEAD:

- **Grantee selection**: OBC will define and develop, using successful models from other states and federal agencies, a competitive grant process that prioritizes creating meaningful competition at local levels, which would complete all *Planned Activities*.
- **Stakeholder engagement:** OBC will continue stakeholder engagement through in-person and virtual events tailored to the needs of specific groups. For example, as the Office moves toward the Initial Proposal, broadband providers may have different viewpoints, interests and priorities than local governments do.
- **Affordability:** This is a key issue for both BEAD and digital equity stakeholders. During this period of focus on BEAD, it will be important to identify as many options as possible (e.g., low-cost service option, ACP adoption programs, coordination with other programs serving similar populations) to make broadband affordable for as many as possible. Once OBC has identified these options, OBC will engage stakeholders to assess feedback from those who may use the service.
- **Workforce Development**:
  - NJDOL Business Engagement & Sector Strategies unit will provide job posting and recruitment services to vendors selected for participation in projects related to BEAD.
  - This will include assisting employers in creating accounts to list various job openings related to the project.
  - Performing skills matches of the posted job leads against the customer base registered with the State of New Jersey One-Stop Career Center system.

- o In addition, the Business Engagement team will use their network of resources to outreach to potential job seekers through alternate community connection points.
- o The Business Services team will also ensure connection to the larger public workforce system for selected candidates to maximize opportunities for wrap around services such as additional job skill development, childcare, and transportation opportunities.
- o Engagement team will use their network of resources to outreach to potential job seekers through alternate community connection points.

5.5 Estimated Timeline for Universal Service

In concert with federal statute and subsequent NTIA guidance, the State of New Jersey describes the term "Universal Service" as providing economical and equitable access to high-speed internet, reaching minimum speeds of 100/20Mbps or higher for all households and in all regions across the State. It is anticipated that New Jersey's BEAD program will be launched by Q3 in 2025, after review of New Jersey's Final Proposal in Q1 – Q2 of 2025. With an anticipated maximum build timeline of 4 years, we expect all currently unserved locations will have access to speeds in excess of 100/20Mbps by the end of 2029 – both connecting all unserved and upgrading all underserved locations.

To reach this goal, OBC will leverage the following three sources of funds for broadband deployment (*Table 4)*.

1. **Capital Projects Funds** – $50M, likely focused on last mile deployment in Atlantic, Burlington, Cumberland, Essex, Salem, and Warren counties as detailed in Section 5.6 *(Estimated Cost for Universal Service)*
2. **BEAD Funds** – $263M, comprehensive focus to connect every unserved location in the State (<25/3), and leverage additional funds to upgrade underserved locations (<100/20)
3. **Digital Equity** – Not yet awarded, deployed through coordinated Office effort with BEAD and CPF programs, ensuring integration of deployment and digital equity strategy

Exhibit 9 provides the tentative timeline for CPF, BEAD, and DEA programs after which the State of New Jersey expects to have broadband access available to all state residents. For each of these programs, the state has also identified priority counties for broadband deployment (*Table 16)*.
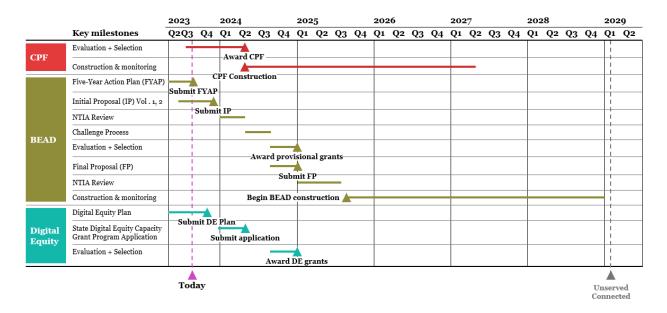
Exhibit 9: Estimated Timeline for Universal Service

Table 16: Priority counties for upcoming programs (CPF, Middle Mile, ReConnect)

Program	Total funding avail.	Status	Atlantic	Burlington	Cumberland	Essex	Salem	Warren
CPF	$50M	Planning	☑	☑	☑	☑	☑	☑
Middle Mile	$24M	Pending			☑		☑	
ReConnect	$46M	Pending						☑

As noted in Section 4 *(Obstacles and Barriers)*, there are key drivers which could influence timeline and will be important for New Jersey to establish mitigating strategies around, including: uptake of digitized services, labor and workforce shortage issues, industry participation challenges, broadband affordability, and sources of non-rural funds.

5.6 Estimated Cost for Universal Service

The BEAD program requires each eligible entity to develop a plan to connect all unserved locations, with a priority for fiber. OBC's initial costing estimates provide us with confidence that New Jersey can meet this requirement, leveraging both the State's allocation of $263M, additional funding from other federal programs (e.g., Capital Projects Fund, Enabling Middle Mile Broadband Infrastructure grants), and private sector investment. New Jersey anticipates it may have remaining BEAD funds available after connecting unserved locations; with this

funding New Jersey will plan to upgrade all underserved locations, and fund additional programs that serve to close the digital divide in our State in coordination with the State's Digital Equity Plan.

As described below, New Jersey also recognizes that the introduction of external factors could increase the cost to connect these unserved locations (e.g., workforce and material shortages), and that these factors could decrease the number of locations ultimately connected with fiber.

A. Baseline cost estimate

According to the FCC's National Broadband Map, New Jersey has 43,324 unserved serviceable locations and 29,212 underserved locations for a combined total of 72,536 unserved and underserved locations.[71]

OBC has run an initial capital expense estimate for these unserved and underserved locations and anticipates that before accounting for additional sources of investment and provider match, total capital expense to connect all 43,324 unserved locations could be ~$151M, and total capital expense to upgrade all 29,212 underserved locations could be an additional ~$44M, for a total of ~$195M (*Table 17*).

This estimate is based on a historical cost to serve similar locations in neighboring states. It assumes that locations within 300 feet of the current network (i.e., for these purposes, within 300 feet of a served location) will require a nominal capital expense of ~$1000 Cost Per Passing (CPP). In New Jersey, 64% of unserved locations and 82% of underserved locations fall into this category *(Table 18)*.

For these locations, cost per pass could increase or decrease depending on how much existing infrastructure is leveraged for network expansion (e.g., greenfield vs. brownfield build). For remaining locations, OBC incorporated costs based on benchmarked data in other similar states where broadband projects have taken place in the last 3-5 years.

All cost estimates assume a starting point of 72,536 eligible BEAD locations, though capital expense could vary based on results of New Jersey's State-run challenge process, required to identify the final list of locations eligible for BEAD funding.

B. Federal funding commitments

Capital expense estimates associated with BEAD deployment decrease after accounting for additional sources of funds (e.g., CPF, SLFRF, RDOF, Reconnect, Enabling Middle Mile Broadband Infrastructure Program).[72]After accounting for serviceable locations connected through these programs, New Jersey expects total capital expense to connect all unserved locations could be ~$96M, and total capital expense to upgrade all underserved locations could be an additional ~$32M, for a total of ~$128M *(Table 17)*. Estimates assume that all unserved and underserved locations in counties supported by Capital Projects Funds, Reconnect, and the

Enabling Middle Mile Broadband Infrastructure Program are connected through these additional funding sources *(Table 16)*.

Awards for these programs have not been finalized – if service availability gaps remain post-award, New Jersey would prioritize connecting associated unserved locations in these counties with BEAD funds.

C. Match

New Jersey's estimated "post award capital expense" for unserved locations of ~$96M is less than the State's BEAD allocation of $263M. After accounting for potential subgrantee match, New Jersey expects the all-in subsidy required by the State to connect all unserved locations to be substantively lower than $96M.

BEAD subrecipients are required to provide at least 25% project match, except for locations NTIA has determined as high-cost.[73] In New Jersey, only three Census Block Groups, covering seven locations, are considered high-cost, leaving 72,529 locations without a high-cost match waiver.[74]

As described in the BEAD NOFO, New Jersey will "rigorously explore ways to cover a project's cost with contributions outside of the BEAD program funding" and work to maximize potential subrecipient matching funds while meeting the State's strategic goals (e.g., affordability, workforce). Level of match will be realized through New Jersey's competitive grant process, outlined as part of the New Jersey's Initial Proposal.

D. Cost Pressures
Without additional project cost increases, New Jersey expects funding available for other broadband uses after connecting unserved and upgrading underserved locations. However, the state does expect that if projected workforce and/or material shortages come to fruition, projects costs could escalate. Three potential scenarios that could increase initial costing estimates include (1) Increase to labor cost, (2) Increase to material cost, and (3) Increase in realized subsidy for locations within 300 ft of an existing location.

1. **Increase in labor cost:** If total labor costs were to double from the current estimates, total capital expense to connect unserved locations could increase from ~$151M to ~$242M, and total capital expense to both connect unserved and upgrade all underserved locations could increase from ~$195M to ~$312M.[75]

   In this pre-match scenario, BEAD funding may still be sufficient to connect all unserved locations, but may be insufficient to upgrade all underserved locations and/or leverage BEAD funding for additional use cases.

2. **Increased material cost:** If total material costs were to double from the current estimates, total capital expense to connect unserved locations could increase from ~$151M to ~$211M, and total capital expense both connect unserved and upgrade all underserved locations could increase from ~$195M to ~$273M.[76]

   In this pre-match scenario, BEAD funding may still be sufficient to connect all unserved locations, but may be insufficient to upgrade all underserved locations and/or leverage BEAD funding for additional use cases.

3. **Increase in realized subsidy for locations within 300 ft of an existing location:** As described, for purposed of the 5-Year Action Plan, New Jersey has utilized a $1000 CPP capital expense for all un and underserved locations within 300 ft of an existing served location. If total capital expense were to double from the current estimates for these serviceable locations, total capital expense to connect unserved locations could increase from ~$151M to ~$178M, and total capital expense to both connect unserved and upgrade all underserved locations could increase from $195M to $246M.

In this pre-match scenario, BEAD funding may still be sufficient to connect all unserved and upgrade all underserved locations, but may be insufficient to leverage BEAD funding for additional use cases.

Table 17: Estimated Capital Expense after prior awards and deployment of CPF, Middle Mile, and ReConnect

Metric	Unserved Locations	Est. Unserved Cap-Ex	Under-served Locations	Est. Under-served Cap-Ex	Total Un/ Underserved BSLs	Total est. Cap-Ex
Pre-award capital expense	43,324	~$151M	29,212	~$44M	72,536	~$195M
Locations potentially connected through RDOF & CAFII programs	872	~$2+M	121	~<$1M	993	~$3M
Capital Projects Fund, Middle Mile Grant, and ReConnect programs	~11,500	~$53M	~5,819	~$11M	~17,319	~$64M
Post-award capital expense	~30,952	~$96M	~23,272	~$32M	~54,224	~$128M

Table 18: Count and share of unserved and underserved locations by distance from an existing served location[77]

Current State	Total unserved locations	Total underserved locations
Anticipated locations with higher potential ISP match (within 300 ft of a served location)	27,727 (64% of total)	23,954 (82% of total)
Additional locations in State (300 ft+ from a served location)	15,597 (36% of total)	5,258 (18% of total)

5.7 Alignment

This section details how the work of OBC and the vision for broadband in New Jersey is aligned to other state priorities and other existing or planned efforts. There is significant and intentional overlap with Section 3.2 *(Partnerships)* as many of the entities driving the state priorities below are also active partners of OBC.

Department of Community Affairs (DCA)

DCA manages a significant number of activities that have synergies with the BEAD program. These include topics such as permitting, grants managements, centralized enrollment platform for public assistance programs within DCA's scope (e.g., Low-Income Home Energy Assistance Program, Weatherization Assistance Program, and housing assistance), and the data that underlies these priorities.

New Jersey Economic Development Authority (NJEDA)

 NJEDA has outlined five goals to accomplish by 2025 which are closely tied to BEAD and Digital Equity goals (detailed below):[78]

1. Drive faster job growth than all Northeast peer states by fostering a better, more supportive business climate
2. Achieve faster median wage growth than all Northeast peer states
3. Create the most diverse innovation ecosystem in the nation and double venture capital investment in the state
4. Close the racial and gender wage and employment gaps
5. Encourage thriving and inclusive New Jersey urban centers and downtowns, with a focus on reducing poverty

EDA and OBC will work together to understand how broadband deployment can advance these goals, and how EDA and Department of Labor workforce goals and protections may be integrated into OBC's BEAD workforce strategy.

New Jersey Department of Education (NJDOE)

DOE has invested significantly to provide the technology and training students need to succeed. From 1-1 laptop programs to skill building, K12 students in New Jersey have access to important broadband-related resources for them and their families. Partnering with NJDOE may help OBC understand which barriers to broadband and device access are most salient to students and educators across the state. Additionally, DOE has published a Federal Education Funding Dashboard which summarizes utilization of funds received by New Jersey school districts (including non-broadband programs like the Elementary and Secondary School Emergency Relief Fund (ESSER).[79] OBC and DOE may be able to collaborate to identify areas of highest need by ESSER, E-Rate, CMC, and ECF allocation amounts.

New Jersey Department of Health (NJDOH)

One of DOH's priorities is to address health disparities and promote health equity. Telehealth can have an important role and access to broadband is necessary not just for telehealth but for a broader range of health information. In particular, DOH expressed its intent to understand access to telehealth care and how services may impact underserved populations. In addition, NJDOH is partnering with NJSL to launch the ACP Connect NJ program to increase enrollment in the ACP program.[80]

New Jersey Department of Labor and Workforce Development (NJDOL)

DOL leads workforce development activities for the state, including one-stop career centers, vocational services, and veteran's services. DOL offers free, online training courses and job seekers can also work career counselors at one-stop centers. DOL also conducts economic, labor market, and demographic research. These activities will be important as OBC considers the potential labor gap in telecommunications related roles relative to BEAD and in digital equity activities supporting training in digital skills. DOL also helps demonstrate the value of increasing the ease with which residents can access government services. In 2022, DOL implemented various organizational changes that have streamlined the process for receiving unemployment insurance. Among other changes, residents can now apply for UI through their phone. These changes reduced the average application completion time by 47 minutes.[81]

New Jersey Office of Information Technology (NJOIT)

The core mission of OIT is to provide the technology infrastructure for all State agencies in the Executive Branch and in this sense works across multiple sectors that OBC may prioritize (e.g., telehealth, small business connectivity, regional economic development, municipal outreach). Additionally, OIT is increasingly using data and analytics to provide better digital government and an improved resident experience.   Improved broadband can enable all of this. For example, a GIS (geospatial) team member may be tasked to develop accurate maps of broadband coverage and gaps to better understand which areas need attention and resources and these maps can also be used to observe and measure the degree of residents' use of online services. Additionally, OIT is also charged with establishing the technology standards and policies to be followed when procuring or developing business applications that provide government services to state residents. As OIT adopts and shifts to these standards in the areas of Web Presence Guidelines, Web Application accessibility, and device independence, it is establishing a better posture in

New Jersey's ability to support an increasing "Digital Government" capability for our residents - including a more common look and feel. Additionally, with OBC's accessibility efforts, a greater percentage of the public that OIT serves can use these services equitably over time.

New Jersey State Library (NJSL)

The New Jersey State Library (NJSL) will be an important partner to OBC as the Office prepares for BEAD and Digital Equity programs. Libraries across New Jersey already offer Access Navigator programs, Digital Literacy certifications, and free computer training.[82] Affordability is also a key priority for libraries, which will soon launch the ACP Connect NJ program with NJDOH to increase enrollment in the ACP program.[83]

Additional Administration priorities

In early 2021, Governor Murphy signed the New Jersey Economic Recovery Act of 2020 (ERA). The Act was launched as a post-COVID economic reinvigoration effort, but its goals remain relevant for OBC today. The package prioritized job creation, financial resources for small businesses, and tax credits for film and digital media. The expansion of broadband and digital skills may support New Jersey in continuing to advance on these development goals.[84]

5.8 Technical Assistance

New Jersey looks forward to continued collaboration with the NTIA, including with our Federal Program Officer (FPO) to improve deployment of BEAD funding. Potential areas where technical assistance may benefit the OBC as part of the State's Initial and Final proposal processes could include:

Ensuring New Jersey is able to learn from best practices across other States

Continued opportunities for webinars and conferences to learn cross-jurisdictional approaches could prove to be valuable forums. This may be especially true as it relates to structuring the core components of New Jersey's initial and final proposal where proposals may vary state to state (e.g., competitive granting processes, methodologies to pressure test scoring criteria).

Providing additional location-level broadband datasets

Continued and expanded support from NTIA to provide New Jersey and States across the country with location-level datasets including (1) federal perspective on location-level cost modeling, (2) potential business case assessments to anticipate "match" for each un and underserved location, and (3) outside-in perspective on community anchor institutions and associated service availability in the State. These and other location level assessments could serve both to improve New Jersey's Initial Proposal, and to speed review processes of New Jersey's Initial and Final Proposal by moving data validation processes upstream as part of NTIA review.

Clarification on estimated timelines for NTIA review

As described in Section 5.6 *(Estimated Cost for Universal Service)*, New Jersey anticipates that executing its State-led challenge process, running grant evaluation process, and submitting its final proposal could take ~9 months. Clarification from the NTIA regarding the estimated timeline for reviewing the Initial Proposal and deadlines for submitting Final Proposal

documentation after conclusion of NTIA review could support New Jersey with planning for the timely deployment of the BEAD program and ensure readiness to begin implementing the BEAD program in 2024.

New Jersey is grateful for NTIA's support and investment in OBC during the BEAD planning process and looks forward to continued partnership.

6 Conclusion

In its 1998 Falling Through the Net report, NTIA used the term "digital divide" for the first time.[85] In the 25 years since, New Jersey has accomplished a great deal to narrow the gap. As this planning process highlights, however, we still have work to do. This Five-Year Action Plan sets out a course to make internet access possible for every New Jerseyan, and also to improve affordability, expand access to devices, and increase digital skills. The next phase of this work will be to complete the state's Digital Equity Plan and develop the BEAD Initial Proposal. OBC will continue to undertake this work in partnership with the many stakeholders in the state, including those residents most affected by digital inequity today. Through this collaboration, the end result of these programs will demonstrate a successful balance between the requirements of the programs and the needs of the people, businesses and organizations they were designed to serve. Together, we will make the most of all available funding as we seek to draw ever closer to eliminating the digital divide.

7 Appendices

7.1 Appendix A: Crosswalk to NOFO Requirements

#	NOFO Requirement	Location in New Jersey's Five-Year Action Plan
1	Provide details of the existing broadband program or office within the Eligible Entity, including any activities that the program or office currently conducts, any previous entity-wide plans or goals for availability of broadband, and any prior experience awarding broadband deployment grants.	*Current State* – Section 3.1: Existing Programs – Table 1: Current Activities – Table 2: Current and Planned Employees – Table 3: Current and Planned Contractors
2	Identify the funding that the Eligible Entity currently has available for broadband deployment and other broadband-related activities, including data collection and local planning, and the sources of that funding, including whether the funds are from the Eligible Entity or from the federal government.	*Current State* – Section 3.1: Existing Programs – Tables 4.1 - 4.3: Broadband Funding
3	Identify existing efforts funded by the federal government, including the Universal Service Fund, or an Eligible Entity to deploy broadband and close the digital divide.	*Current State* – Section 3.1: Existing Programs – Tables 4.1 - 4.3: Broadband Funding *Implementation* – Section 5.5: Estimated Timeline for Universal Service – Table 13: County view of CPF, Middle Mile, and ReConnect
4	Identify the current full-time and part-time employees of the Eligible Entity who will assist in implementing and administering the BEAD Program and the duties assigned to those employees, as well as any existing contracted support, and any planned expansion of employees or contractors.	*Current State* – Section 3.1: Existing Programs – Table 2: Current and Planned Employees – Table 3: Current and Planned Contractors
5	Identify known or potential obstacles or barriers to the successful implementation of the BEAD Program and the Eligible Entity's corresponding plans to address them.	*Obstacles and Barriers* (Section 4)

6	Include an asset inventory that catalogues broadband adoption, affordability, equity, access, and deployment activities occurring within the Eligible Entity and identifies and provides details regarding any relevant partners, such as community-based organizations and CAIs that may inform broadband deployment and adoption planning.	*Current State* – Section 3.2: Partnerships – Section 3.3: Asset Inventory
7	Include a description of the Eligible Entity's external engagement process, demonstrating collaboration with local, regional, and Tribal (as applicable) entities (governmental and non-governmental) and reflective of the local coordination requirements outlined herein, including outreach to underrepresented communities and unions and worker organizations. The engagement required must be undertaken both during the development of the Five-Year Action Plan itself and following submission of the plan, reflecting ongoing collaboration throughout the BEAD Program.	*Current State* – Section 3.2: Partnerships *Implementation* – Section 5.1: Stakeholder Engagement Process
8	Incorporate available federal, Eligible Entity, or local broadband availability and adoption data, including but not limited to Affordable Connectivity Program enrollment data. Other federal broadband data sources include the NTIA Internet Use Survey, the NTIA Indicators of Broadband Need Map, and the American Community Survey.	*Current State* – Section 3.4: Needs and Gaps Assessment
9	Identify local and regional broadband service needs and gaps within the Eligible Entity's boundaries, including unserved or underserved locations and CAIs without gigabit service, and/or any plans to make these determinations where service availability is unclear.	*Current State* – Section 3.4: Needs and Gaps Assessment

10	Provide a comprehensive, high-level plan for providing reliable, affordable, high-speed internet service throughout the Eligible Entity, including:
	  a. The estimated timeline and cost for universal service,
	  b. The planned utilization of federal, Eligible Entity, and local funding sources,
	  c. Prioritization of areas for federal support,
	  d. Any consideration afforded to the use of public-private partnerships or cooperatives in addressing the needs of the Eligible Entity's residents,
	  e. Strategies to address affordability issues, including but not limited to strategies to increase enrollment in the Affordable Connectivity Program by eligible households; and
		Implementation
		– Section 5.2: Priorities
		– Section 5.3: Planned Activities
		– Section 5.4: Key Strategies
		– Section 5.5: Estimated Timeline for Universal Service
		– Section 5.6: Estimated Cost for Universal Service

	f. Strategies to ensure an available and highly skilled workforce (including by subgrantees, contractors, and subcontractors) to minimize project disruptions, including any plans to ensure strong labor standards and protections, such as those listed in Section IV.C.1.e; and plans to attract, retain, or transition the skilled workforce needed to achieve the plan's goals, including describing the involvement and partnerships of sub-grantees, contractors, and sub-contractors with existing in-house skills training programs, unions and worker organizations; community colleges and public school districts; supportive services providers; Registered Apprenticeship programs and other labor-management training programs, or other quality workforce training providers.	
11	Identify digital equity and inclusion needs, goals, and implementation strategies, including ways in which the Eligible Entity plans to utilize BEAD funding, Digital Equity Act funding and/or other funding streams in concert to remedy inequities and barriers to inclusion. Accordingly, the Five-Year Action Plan should set forth a vision for digital equity, include the results of a needs assessment for underrepresented communities and an asset inventory of ongoing digital equity activities, and detail holistic strategies around affordability, devices, digital skills, technical support, and digital navigation. This requirement may be satisfied by the completion of a State Digital Equity Plan under the Digital Equity Act. Please refer to the Digital Equity Act State Planning Grant Program NOFO for the requirements and deadlines applicable to that program.	*Current State* – Section 3.3: Asset Inventory – Section 3.4: Needs and Gaps Assessment *Implementation* – Section 5.1: Stakeholder Engagement Process
12	Detail alignment of the Five-Year Action Plan with other existing and planned economic development, telehealth, workforce development, related connectivity efforts, and other Eligible Entity priorities.	*Implementation* – Section 5.7: Alignment
13	Describe technical assistance and additional capacity needed for successful implementation of the BEAD Program.	*Implementation* – Section 5.8: Technical Assistance

7.2 Appendix B: Organizations that attended 1+ stakeholder event

Broadband Providers & Trade Associations		
	1	Altice USA
	2	Andrena Internet
	3	AT&T
	4	AvaTarius
	5	Bandwidth Logic
	6	Brightspeed
	7	Charter Communications
	8	Comcast NBCUniversal
	9	DZS Inc.
	10	Edge Wireless
	11	Electromagnetic Technologies Industries, Inc.
	12	Last Mile Broadband
	13	New Jersey Cable Telecommunications Association
	14	Planet Networks
	15	SECTV
	16	Skywire/Xchange
	17	SmartWave Technologies
	18	TeknoGRID LLC
	19	Telecommunications Industry Association (TIA)
	20	T-Mobile
	21	USTelecom
	22	Verizon
	23	Wireless Infrastructure Association
	24	Xchange Telecom / Skywire
Educational Entities	25	Association of School Librarians
	26	Bergen Community College
	27	Delaware Valley Regional High School (DVRHS)
	28	Essex County College
	29	Felician University
	30	Hudson County Community College
	31	Kean University
	32	Middlesex College
	33	New Jersey Institute of Technology
	34	New Jersey Principals and Supervisors Association

	35	New Jersey State Policy Lab (Rutgers University)
	36	NJ Community College Consortium for Workforce and Economic Development
	37	NJ-STEP
	38	Ocean County College
	39	Office of University-Community Partnerships, Rutgers University-Newark
	40	Rosa International Middle School-Cherry Hill Public Schools
	41	Rutgers Business School
	42	Rutgers Center for Minority Serving Institutions
	43	Rutgers RE-OPEN project
	44	Rutgers University
	45	Rutgers University - Newark
	46	Union College of Union County, NJ
Labor Organizations & Unions	47	International Brotherhood of Electrical Workers 827
	48	National Electrical Contractors Association (NECA)
Local Government	49	Atlantic City Free Public Library
	50	Atlantic City Municipal Utilities Authority
	51	Atlantic County Government
	52	Atlantic County Workforce Development Board
	53	Bayonne Housing Authority
	54	Bergen County Division of Senior Services
	55	Bergen Family Center
	56	Bloustein Local Government Research Center
	57	Borough of Dunellen
	58	Borough of Newfield
	59	Borough of Old Tappan
	60	Borough of Palmyra
	61	Borough of Prospect Park
	62	Borough of Roselle
	63	Borough of Tinton Falls
	64	Borough of Woodbine
	65	Brick Housing Authority
	66	Brigantine Public School District
	67	Burlington County Library System
	68	Carneys Point Twp

	69	Charleston Place
	70	Chatham Township Committee
	71	City of Atlantic City
	72	City of Camden
	73	City of Jersey City
	74	City of New Brunswick
	75	City of Orange Township
	76	City of Paterson
	77	City of Quincy / Office of the Mayor
	78	City of Trenton
	79	City Of Vineland
	80	County Clerk
	81	County Of Burlington
	82	County of Hunterdon
	83	County of Monmouth
	84	County of Union
	85	County of Warren
	86	Cumberland County Improvement Authority
	87	Elk Township
	88	Gloucester County
	89	Greater Bergen Community Action
	90	Holly City Development Corporation
	91	Hope Twp Environmental Commission
	92	Housing Authority City of Perth Amboy
	93	Housing Authority of Bergen County
	94	Housing Authority of Elizabeth
	95	Housing Authority of Hoboken
	96	Housing Authority of the City of Long Branch
	97	Hunterdon County Economic Development & Tourism
	98	Invest Newark
	99	Jersey City Board of Education
	100	Jersey City Free Public Library
	101	Jersey City Housing Authority
	102	Knowlton Township
	103	Lincoln Park Coast Cultural District
	104	Mendham Borough
	105	Mercer County Library System
	106	Mercer Street Friends
	107	Montclair Township

	108	Morris County Office on Aging
	109	Newark Public Library
	110	Newark Trust for Education
	111	Newark Workforce Development Board
	112	NJASA/Hamilton Township School District
	113	Passaic County Department of Human Services
	114	Phillipsburg Housing Authority
	115	Piscataway Public Library
	116	Piscataway Township
	117	Plainsboro Public Library
	118	Princeton Community Housing
	119	Princeton Public Library
	120	Quinton Township School District
	121	Red Bank Public Library
	122	Salem County
	123	Somerville Public Schools
	124	South Brunswick Community Development Corp.
	125	Tech Tuesday
	126	The City of Paterson, NJ
	127	Topeka Housing Authority
	128	Town of Phillipsburg Housing Authority
	129	Township of Byram
	130	Township of Nutley
	131	Township of Stafford
	132	Township of West Orange
	133	Trenton Housing Authority
	134	Union City Public Library
	135	Union County Workforce Development Board
	136	Upper Saddle River Public Library
	137	West Amwell Township
	138	West Windsor Township
	139	Workforce Development Board of Northwest New Jersey
Nonprofit Organizations	140	AAPI Montclair
	141	AARP New Jersey
	142	Affordable Housing Alliance
	143	Apex Solutions Foundation
	144	Backpacks For Life
	145	Bancroft Neurohealth

	146	Beyond Literacy
	147	BlackTechFutures Research Institute
	148	Boys & Girls Clubs of Union County
	149	Butler Senior Community
	150	Camden Dream Center
	151	Center for United Methodist Aid to the Community (CUMAC)
	152	Citizen Warrior Foundation, Inc.
	153	Communication Service for the Deaf
	154	Community Options, Inc.
	155	Computers 4 People
	156	Connect Humanity
	157	Council of New Jersey Grantmakers
	158	Elements of the Community, Inc.
	159	Erase The Divide LLC
	160	Essential Families
	161	Fair Share Housing Center
	162	First Responder Network Authority
	163	Gateway Community Action Partnership
	164	Girls Who Code
	165	Greater Raritan Workforce Development Board
	166	GreenLight Fund
	167	Grotta Fund for Older Adults
	168	Healthcare Information and Management Systems Society (HIMSS)
	169	Hearing Loss Assn of America - NJ State Assn
	170	Hearing Loss Association of New Jersey
	171	HOPES CAP, Inc.
	172	Isles
	173	Jersey Access Group
	174	Latino Action Network Foundation
	175	LeadingAge NJ & DE
	176	League of Conservation Voters
	177	Literacy New Jersey
	178	Margo for Animals
	179	Montclair Gateway to Aging in Place
	180	Nan Newark Tech World
	181	New Jersey Youth Corps
	182	New United Neighbors Development Corporation
	183	NJ Center for Non-Profits

	184	NJ Energy Coalition
	185	NJ League of Municipalities
	186	NJEdge, Inc.
	187	NPower Inc.
	188	Parker Health Group, Inc.
	189	Peak Data Net
	190	Per Scholas
	191	Rise and Share
	192	SPAN Parent Advocacy Network
	193	Springpoint
	194	Stafford by the Bay
	195	The Family Resource Network/Epilepsy Services of NJ
	196	The Henry and Marilyn Taub Foundation
	197	The Hispanic Family Center of Southern NJ
	198	The Hyde and Watson Foundation
	199	The Oaks at Toms River
	200	The Richard West Assistive Technology Advocacy Center at Disability Rights New Jersey
	201	The Wei LLC
	202	Trenton Digital Initiative Connect
	203	United Methodist Communities
	204	Unlimited Potential UP
	205	Urban League of Essex County
	206	Urban League of Union County, Inc.
	207	Volunteers of America National Services
	208	Westfield Senior Citizens Housing
	209	Woodmere Senior Citizens Housing
Private Sector Organizations	210	Association for Corporate Growth
	211	Avatar Tech
	212	Azimuth Engineering Group
	213	Business Karma
	214	CAMcare Health Corporation
	215	CGI
	216	Chameleon Consulting
	217	CLB Partners
	218	CMIT Solutions
	219	Cocco Associates
	220	Crosstar
	221	Crown Castle

	222	CrystalReef LLC
	223	CTC Technology & Energy
	224	Dathil
	225	DGX Security LLC
	226	DMR Architects
	227	DV RESOLUTIONS
	228	DYNAMIC DIGITAL AIR
	229	ECC Technologies
	230	ERG EE Infrastructure
	231	ESD Global LLC
	232	ET Industries, Inc.
	233	Expect Moore Consulting LLC
	234	ExteNet Systems, LLC
	235	EY
	236	FACEBOOK INC.
	237	Fayson Lake Community INC
	238	Fortinet
	239	Genova Burns LLC
	240	Gibbons P.C.
	241	Giordano Halleran & Ciesla PC
	242	Graybar Electric Company, Inc.
	243	Hackensack Meridian Health (HMHN)
	244	HDR
	245	Icare Telehealth and Tele-Behavioral Health Inc.
	246	Idenhaus Consulting
	247	IEM
	248	iLEAP GROUP LLC
	249	Indelible Solutions
	250	inRange Solutions
	251	Insight
	252	Inspira Health
	253	J&L
	254	Kajeet. Inc.
	255	KPMG
	256	Law Offices Of Patel & Cardenas
	257	McCarter & English
	258	MelBro Research and Consulting
	259	Mercury Access Group, LLC
	260	Millennium Communications Group Inc.
	261	Millennium Strategies
	262	NetTarius

	263	New Jersey Business & Industry Association
	264	NJALLL
	265	Ozkar Services
	266	PlanITROI
	267	Price Meese P.C.
	268	Prudential Financial
	269	PSE&G
	270	Region Authority Corporation
	271	Rising Tide Capital
	272	Rutala Associates
	273	Salesforce
	274	Salmon Ventures
	275	ShoreSite Web Designs, LLC
	276	Solix Inc
	277	Vignetic
	278	Virtual Global Consultant Group LLC
	279	Zufall Health
State and Federal Government	280	Association of Counties
	281	Casino Control Commission
	282	Committee on Energy and Commerce
	283	Council on Developmental Disabilities
	284	Department of Corrections
	285	Department of Education
	286	Department of Housing and Urban Development
	287	Department Of Labor
	288	Department of Labor and Workforce Development
	289	Department of State, Office of Planning Advocacy
	290	Division of Aging Services
	291	Division of Rate Counsel
	292	House of Representatives
	293	New Jersey Manufacturing Voucher Program
	294	Office of Congressman Andy Kim
	295	Office of Congressman Frank Pallone
	296	Office of NJ Governor Phil Murphy
	297	Office of Representative Mikie Sherrill
	298	Office of Senator Cory Booker
	299	Office of Senator Gopal
	300	Office of Senator James Beach

	301	Office of Senator Robert Menendez
	302	Office of Volunteerism/Commission on American Indian Affairs
	303	Office Senate Majority Leader
	304	State Commission
	305	State Employment and Training Commission
	306	State Library
	307	US Senate
	308	Western Governors University

Endnotes

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