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ACLP - Comments re NYS BEAD Initial Proposal Volume 2 - December 2023

New York Law School

December 6, 2023

Mr. Joshua Breitbart
Senior Vice President, ConnectALL
Empire State Development
633 Third Avenue 33rd Floor
New York, NY 10017

RE: Comments Regarding New York State's BEAD Initial Proposal Volume 2

Dear Mr. Breitbart,

The Advanced Communications Law & Policy Institute (ACLP) at New York Law School respectfully submits the following comments regarding the state's BEAD Initial Proposal Volume 2. In support of these comments, the ACLP has also attached two resources that we urge your office to review when finalizing the proposal:

- **Attachment #1**: *New York State Broadband Profile* (October 2023)[1]
- **Attachment #2**: *Navigating the BEAD Weeds: Project Areas* (November 2023)[2]

As your office moves forward with BEAD and the myriad other broadband programs that ConnectALL has been charged with implementing, please do not hesitate to engage the ACLP in support of your work.

Kind regards,

/s/
Michael J. Santorelli, Director

[1] Available at https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1016&context=reports_resources

[2] Available at https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1017&context=reports_resources

These comments address the following aspects of New York's BEAD Initial Proposal Volume 2:

1. Project Areas [Section 4; Requirement 8]
2. Open Access Scoring [Section 4; Requirement 8]
3. Affordability Pricing and Scoring [Section 4; Requirement 8]
4. Subgrantee Qualifications [Section 4; Requirement 8]

Each issue is discussed in turn below.

1. PROJECT AREAS

In November 2023, the ACLP released an analysis of how different states are proposing to define their BEAD project areas (PAs). The analysis, which is included as Attachment #2, identified a wide range of approaches being taken by the states. These approaches are summarized in Table 1 below.

Table 1 - State Approaches to Defining BEAD Project Areas

Approach	States
Let Applicants Define their Own PA	IA, MN, MO, ND, SD, TX
State to Define Using Established Geographic Units (e.g., CBGs, county or municipal boundaries, etc.)	AK, AL, AR, CO, CT, DE, GA, HI, IN, KY, MA, MT, NC, NH, OH, PA, RI, SC, UT, WY
State to Define by Using Alternative Approach (e.g., school districts, a bespoke design)	AZ, IL, KS, LA, MI, NE, NJ, NM, NV, NY, OK, OR, TN, VA, VT, WI, WV
TBD (state has yet to pick its approach)	CA, FL, ID, MD, ME, MS, WA

After evaluating the myriad of proposed approaches – an analysis that used Seneca County to illustrate the impacts of different approaches to sizing PAs – the ACLP recommended that states select the most granular system that is administratively feasible. Higher levels of granularity – i.e., PAs that are as small as a single location – provide greater opportunity for efficient, targeted buildouts and give the most flexibility to applicants both large and small. While states may believe that PAs that are very large, like those set at the county level, might be easier to administer, in practice, large PAs might be too expansive – and therefore too expensive – for most applicants to serve.

New York's proposed approach to defining PAs – i.e., a bespoke amalgam of locations that might reflect county boundaries – suggests that the state has the technical capacity to permit applicants to recommend their own PAs.[3] Accordingly, the state should give serious consideration to permitting applicants to propose their own PAs. Texas, which will receive the largest BEAD allocation ($3B+) as it seeks to address six times the number of unserved and underserved locations as New York, will allow applicants to design their own PAs. It has chosen to do so because "eligible applicants themselves have the best knowledge of how far and where they have the most ability and willingness to expand and the task of defining and proposing expansion plans can be left, at least initially, to eligible applicants themselves."[4] This logic reflects the fact that BEAD applicants, not the state, are the expert entities vis-à-vis broadband deployment. To the greatest extent possible, the state should defer to the substantial expertise of prospective subgrantees and allow them to propose their own PAs. Short of that, the state should seek to build its PAs around Census Blocks, the smallest "off the shelf" geographical unit available.

If the state chooses to move forward with the PA approach detailed in the current draft of Volume 2, then the ACLP recommends that ConnectALL make public all data, models, and other inputs used to create its bespoke project areas. Doing this will enhance accountability and inform applications and related research by stakeholders seeking to ensure that the state maximizes the use of its BEAD funds.

2. OPEN ACCESS SCORING

New York describes open access as a "core value" and "public policy goal."[5] Further, the state notes that "dark fiber open access also represents a desirable outcome for New York in that it can enable mobile and other providers to access remote, rural markets where deployment of their service has been challenging in the past."[6] In furtherance of this vision, the state has proposed awarding a significant portion of available points to BEAD applicants that adequately embrace open access.

As depicted in Table 2 below, New York has proposed going far beyond any other state with respect to scoring open access proposals. On average, states other than New York that have included open access in their BEAD scoring have assigned 4% of available points to this category. New York proposes to assign more than triple that percentage – 14% – to applications that embrace this business model.

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[3] New York BEAD Initial Proposal Volume 2 at p. 53.

[4] *Draft: Initial Proposal Volume II,* at p. 34, Texas Broadband, Office of the State Comptroller (Nov. 2023), https://broadbandexpanded.com/files/iija_plans/TX%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[5] New York BEAD Initial Proposal Volume 2 at p. 48.

[6] Id.

Table 2 - Proposed Open Access BEAD Scoring

State	Total Points (Priority Projects)	Open Access Points Possible	% Points Allocated to Open Access
Arizona	500	10	2%
Colorado	664	4*	0.6%
Florida	400	20*	5%
Hawaii	120	10	8.3%
Idaho	100	7.5	7.5%
Illinois	100	6	6%
Massachusetts	100	5*	5%
Maine	100	1	1%
Michigan	100	2	2%
Nebraska	400	5	1.25%
New York	100	14	14%
Pennsylvania	100	5	5%
Rhode Island	100	6	6%
Utah	100	3	3%
Washington	100	9	9%
*Additional points for identifying partner ISPs			**Overall Average: 5%** **Average Excluding NY: 4%**

For the following reasons, New York should rethink the weighting it has assigned to open access projects.

First, assigning by far the highest percentage of points of any state in the country to a very specific business model makes it appear that New York is placing its thumb on the scale vis-à-vis open access. BEAD funds have been made available to help the country and each state realize a singular policy goal: closing the digital divide once and for all. Achieving other policy goals, like open access, must be subordinated to this overarching national policy objective. Accordingly, the state should assign equal weight to all viable business models.

Second, failure to adjust the open access scoring could discourage established ISPs from bidding on projects in certain areas. Few, if any, established ISPs operating in New York or those evaluating whether to expand into New York are likely to build open access networks. These entities typically build and operate networks that support only their services. Failure to recognize and adjust the scoring rubric to reflect this dynamic could deprive certain PAs of robust bids for broadband expansion by expert ISPs.

In addition, ISPs might interpret the state's proposed approach to open access scoring as an attempt to exclude or discourage certain entities from participating. This would be

contrary to the text of the Bipartisan Infrastructure Law, which makes clear that states may not exclude any entity from participating in BEAD.[7]

Third, the state has alternative routes to achieve its open access goals. Foremost among these are the NYPA fiber pilots that the state has supported. Rather than gamble once-in-a-lifetime BEAD funds on open access projects, the state should explore other means of realizing its vision for open access.

Fourth, even though the state is supportive of open access networks, this approach to enhancing broadband connectivity remains unproven. In a recent profile of broadband in New York, the ACLP examined several open access projects underway in the state, including the NYPA fiber pilots; the Southern Tier Network; and the emerging open access network in Saratoga Springs.[8] In each case, key questions about the long-term sustainability and scalability of open access networks remained unanswered. ConnectALL should review the ACLP analysis and study the dynamics of open access more closely before going "all in" on this business model.

The viability of open access is especially tenuous in rural markets, the areas where the state may allocate millions in BEAD funds for open access systems. The attached ACLP profile of broadband in New York includes several relevant examples of open access systems that have failed to address broadband connectivity issues in unserved rural areas. The examples include large-scale open access middle-mile networks in Colorado, Connecticut, Florida, and Kentucky.[9] ConnectALL should study these examples, as well as the failure of Axcess Ontario, an open access middle-mile fiber network built by Ontario County that was eventually sold to a private entity, and use the lessons learned from these projects to recalibrate New York's approach to open access.[10]

To adequately address these concerns, the state should, at a minimum:

- Consider reducing the number of points allocated to open access by at least half. Doing so would align New York's open access scoring with other states and make clear that the state encourages providers of all ilk to apply for funding.

- Require applicants that propose open access networks to identify and lock in multiple ISPs that will provide retail broadband service over the network to customers. The theoretical value of an open access network derives from its

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[7] IIJA § 60102(h)(1)(A)(iii).

[8] Attachment #1 at p. 13-18.

[9] Attachment #1 at p. 29-32.

[10] *See, e.g.,* Julie Sherwood, *Deal Struck to Sell Ontario Fiber Ring,* Nov. 6, 2017, Daily Messenger, https://www.mpnnow.com/story/news/politics/county/2017/11/06/deal-struck-to-sell-ontario/17242227007/.

> ability to support multiple ISPs. Few open access networks, however, have been able to attract more than 1 or 2 ISPs, likely because of the difficult economics associated with offering last-mile retail service over these networks.[11] Indeed, some ISPs have called for caps on the number of service providers that can lease access on open access networks to prevent a "race to the bottom" that could make it difficult, if not impossible, for these entities to self-sustain.[12] The state should closely study the economics of the open access business model and adjust its programmatic support for open access proposals accordingly.

3. AFFORDABILITY PRICING AND SCORING

New York will award 15 points (out of 100 total points) to the "affordability" of the broadband services delivered over BEAD-funded networks.[13] These points revolve around an all-or-nothing embrace of a broadband price cap set by the state:

> "Applications will be scored based on applicants' commitments to offer a symmetrical 1 Gbps service to BEAD-funded locations that does not exceed the cost of the same service in any other location in New York or other states in which the applicant offers service. Full points will be awarded to applications that make this commitment in clear and unambiguous terms, without caveats that compromise the commitment. Applications that do not make a clear commitment will receive zero points."[14]

The state should rethink this approach to scoring for the following reasons.

First, it strays from NTIA guidance. In its NOFO, NTIA stated that, with respect to scoring the affordability of proposed projects, states should assign points based on a "prospective subgrantee's commitment to provide the most affordable total price to the customer for 1 Gbps/1 Gbps service in the project area."[15] This does not include a geographic component or a cap on how much a subgrantee can offer broadband for in the project area. New York, on the other hand, proposes to adopt a hard price cap for broadband in an apparent attempt to eliminate geographic price discrimination. Applicants can decline to adopt the cap, but this does not remedy the issue because these applicants will be penalized in the form of receiving zero affordability points regardless of what prices they currently offer or propose to offer in the PA.

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[11] *See, e.g.,* Attachment #1 at p. 32.

[12] Id.

[13] New York BEAD Initial Proposal Volume 2 at p. 46.

[14] Id.

[15] NTIA BEAD NOFO at p. 43.

Second, implementing a price cap is contrary to the economics of broadband connectivity in rural areas. Broadband prices may vary based on where a network is built.[16] This occurs when entities price their services to reflect the costs of building, operating, and maintaining a network and delivering services over it to customers. Networks in rural areas tend to be more expensive to build and operate than those in urban and suburban areas because of the many challenges associated with deploying infrastructure in sparsely populated and/or geographically challenging areas. The FCC has long recognized this dynamic and incorporated this fundamental principle in its recently adopted digital discrimination rules.[17]

Prohibiting subgrantees from charging more for broadband service in areas where it is incredibly expensive to maintain a network could undermine the long-term financial viability of BEAD-funded networks. BEAD funds will be helpful in reducing the capital costs of rural networks, but those funds are one-time in nature and cannot be used for operating the network.[18] Without the ability to appropriately price broadband, a subgrantee may be unable to generate enough revenue to cover operating expenses, which would undermine its ability to maintain and upgrade the network.

For these reasons, the prevailing approach to addressing geographic price discrimination in the telecommunications space has been "reasonable comparability" – i.e., ISPs that accept federal subsidies for network expansion must make every effort to ensure that the price of communications services in rural areas is reasonably comparable to the price in urban areas. This notion underlies the FCC's Urban Rate Benchmark, which other states (e.g., Virginia) have used as the basis for assigning points based on the proposed price of service offerings by applicants – e.g., an applicant receives full points if the proposed price is at or below the benchmark; a sliding scale is used for proposed prices above the benchmark.[19] New York should consider adjusting its affordability scoring to reflect these principles.

Third, the state's proposed affordability scoring appears to provide new entrants with a major advantage over applicants with established track-records. Applicants that offer services elsewhere will have to choose whether to agree to the state's proposed price cap or risk losing 15 points during the scoring process. A new entrant, however, will presumably

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[16] This is typically due to higher costs and lower demand for broadband in rural areas, not a lack of competition. *Cf.* Brian Whitacre, *Rural Internet Subscribers Pay More, New Data Confirms,* Nov. 28, 2023, The Daily Yonder, https://dailyyonder.com/research-and-analysis-rural-internet-subscribers-pay-more-new-data-confirms/2023/11/28/.

[17] See, e.g., *Implementing the Infrastructure Investment and Jobs Act: Prevention and Elimination of Digital Discrimination*, Report and Order and Further Notice of Proposed Rulemaking, at ¶¶ 164-166. GN Docket No. 22-69, FCC (Nov. 15, 2023), https://docs.fcc.gov/public/attachments/FCC-23-100A1.pdf.

[18] See, e.g., BEAD NOFO at p. 39.

[19] See *NTIA Curing Edits to Virginia's BEAD Initial Proposal Volume 2 Draft,* at p. 13, Virginia, https://www.dhcd.virginia.gov/sites/default/files/DocX/vati/ntiacuring-virginiabeadvolume2.pdf.

receive all 15 points because it does not offer services anywhere else. This is an inequitable and potentially exclusionary approach that, coupled with the open access scoring proposal, could result in expert ISPs being penalized upwards of 29 points during the scoring round.

During previous grant programs, New York developed rules that addressed some of these concerns. For example, during Phase 3 of the New NY program, the state required grantees to offer a specific broadband tier at a set cost.[20] However, the state also provided exemptions to ISPs that already offered broadband service in the areas surrounding the proposed grant area, reflecting recognition by the state that micromanaging the pricing of broadband services is unsustainable and could backfire. The state should explore using a similar approach in the BEAD context.

Fourth, the proposed price cap requirement appears to be an attempt by the state to regulate broadband rates. A previous attempt by New York to regulate broadband rates was found to be illegal by a federal court because the prevailing regulatory framework for broadband prohibits rate regulation by any entity, including states.[21] Moreover, the Bipartisan Infrastructure Law (BIL) expressly prohibits NTIA from engaging in rate regulation, which it would do by extension if it approves New York's proposed price cap requirement in its BEAD scoring rubric.[22] Indeed, in NTIA's view, states may only propose prices for the required low-cost option that subgrantees must make available per the BIL; other actions to influence the price of non-low-cost broadband would likely be seen as rate regulation.[23]

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[20] New NY Broadband Program: Phase 3 Request for Proposal Guidelines, at p. 26-28, ConnectALL, https://broadband.ny.gov/system/files/documents/2022/04/broadband_-_phase_3_rfp_guidelines-final.pdf.

[21] N.Y. State Telecom. Ass'n v. James, 544 F. Supp. 3d 269 (E.D.N.Y. 2021) (currently on appeal to the Second Circuit).

[22] IIJA § 60201(h)(D). Arguments could also be made that NTIA has coerced states into proposing affordability scoring approaches like the one in New York's Volume 2. This is evident in the fact that, according to the ACLP's research, some 47 states have proposed affordability scoring approaches like the one included in New York's Volume 2. Further, almost every state has adhered to NTIA's BEAD templates and guidance, with most states' Initial Proposals including boilerplate devised by NTIA. The speed with which states have had to move to establish broadband offices, hire staff, and develop their Initial Proposals within the allotted timeframe has left little time for critical engagement with NTIA's materials, which lack clear definitions for key terms like "affordability" and lack advice or direction regarding the extent to which a state might engage in behavior that is prohibited or illegal when developing their approaches to addressing broadband affordability. As such, core elements of NTIA's BEAD program could be vulnerable to legal challenge under the anti-coercion principle, which is undergirded by a long line of Supreme Court cases addressing the extent to which federal agencies can compel states to engage in certain behavior within the context of receiving and administering federal grant funds.

[23] See, e.g., BEAD FAQ v.5, at p. 44 (Qs 8.12 & 8.13), NTIA (Nov. 2023) https://broadbandusa.ntia.doc.gov/sites/default/files/2023-11/Broadband_Equity_Access_Deployment_Program_Frequently_Asked_Questions_Version_5.0.pdf.

BEAD is a voluntary grant program, which means, in theory, entities that do not wish to commit to a price cap can choose not to participate, or they can participate, not commit to the price cap, and lose out on 15 points. However, because broadband rate regulation of any kind is illegal, it is unclear whether the state would be able to enforce the price cap as a basis for awarding points or as a condition of receipt of BEAD funds. Here, a BEAD contract that implicitly sets the price for broadband (i.e., the price of services offered over the BEAD-funded network can be no higher than the price of broadband offered by the subgrantee in non-BEAD areas) and includes remedies for breach of that provision (e.g., funds will be clawed back) would operate as classic rate regulation on the part of the state and could be vulnerable to legal challenge.

Given this uncertainty, the state should consider adjusting its scoring to allow applicants to propose their most affordable price for broadband service in a project area. The proposed price should be accompanied by detailed supporting documents, including pro forma demonstrating that the subgrantee would price its services such that they (1) are reasonably comparable to the prices charged in urban parts of the state and (2) reasonably reflect the costs incurred to build, operate, maintain, and upgrade the proposed system.

4. SUBGRANTEE QUALIFICATIONS

A core requirement of BEAD is that states may not exclude any entity from applying for grant funding. As a result, it is likely that a variety of entities ranging in experience from established ISPs to new entrants without any experience in the broadband space (e.g., municipalities, electric utilities, etc.) may compete head-on for funds. To assure a level playing field during the review of applications submitted by firms of every type, NTIA will permit states to accept less robust documentation from new entrants regarding their technical, operational, managerial, and financial capabilities.

Like most other states, New York has embraced this dual-track approach to evaluating prospective subgrantees. However, unlike most other states, New York has developed a scoring rubric that appears to create significant advantages for new firms (especially with respect to points available for affordability commitments and open access projects, as discussed above), thereby increasing the likelihood that new firms will receive at least some share of BEAD funding in the state.

If New York wishes to maximize the number of new entrants receiving BEAD funding, which appears to be the case given its proposed scoring rubric, then the state should seek to bolster the screening process for these firms. Otherwise, the state risks subsidizing the entry of untested firms with little track-record in offering secure and reliable broadband services to customers. This is especially critical given (1) the poor track-record of municipal

broadband projects (see Attachment #1 for further discussion) and (2) the rapidly increasing threat of cyber-attacks on critical infrastructure.[24]

To address these concerns, the state should, at a minimum, consider the following proposals:

- To the greatest extent possible, the state should raise the "floor" of minimum subgrantee qualifications as high as possible so that prospective new entrants and other firms with little or no track-record in the broadband market are held to similarly robust standards for technical, operational, management, and financial capability as established ISPs.

- Reallocate points from the open access category to a newly created category that reflects applicants' track-record in the broadband space. Several states have proposed similar approaches in their BEAD proposals. For example:

  - Delaware will award 5 points if an applicant demonstrates "exceptional past performance" in leveraging state or federal grant funding for broadband projects.[25] Florida has proposed a similar approach.[26]

  - Several states have proposed awarding points to firms that have operated in the state for a minimum number of years. Georgia, for example, will award 2 points to applicants with operations in the state for at least the last three years.[27] Michigan has proposed a similar approach.[28]

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[24] See, e.g., Sam Sabin, *Disruptive New Wave of Ransomware Hits Critical Infrastructure,* Dec. 1, 2023, Axios, https://www.axios.com/2023/12/01/ransomware-wave-hospitals-schools-mortgages.

[25] *Draft: BEAD Initial Proposal Volume 2,* at p. 22, Delaware (Nov. 2023), https://broadbandexpanded.com/files/iija_plans/DE%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[26] *Draft: BEAD Initial Proposal Volume 2,* at p. 24, Florida (Nov. 2023), https://broadbandexpanded.com/files/iija_plans/FL%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[27] *Draft: BEAD Initial Proposal Volume 2,* at p. 38, Georgia(Nov. 2023), https://broadbandexpanded.com/files/iija_plans/GA%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[28] *Draft: BEAD Initial Proposal Volume 2,* at p. 19, Michigan (Nov. 2023), https://broadbandexpanded.com/files/iija_plans/MI%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

- Montana will award 5 points to applicants that apply for funding in PAs that are immediately adjacent to existing broadband network infrastructure.[29] This approach recognizes that, in many cases, established ISPs will be able to expand into unserved areas more efficiently by edging out existing networks. North Dakota has proposed a similar approach wherein it will award 10 points to applicants with a history of successful deployment in the state.[30]

- Ohio's proposed scoring rubric reflects several of these approaches. It will award 38 points to applicants with demonstrated experience in the broadband space and 37 points to applicants with 10+ years of experience operating in Ohio.[31]

If the state elects to move forward with its dual-track approach to vetting subgrantees – i.e., a robust vetting process for established ISPs and a much less robust vetting process for entities without a track-record in the broadband space – then the state might explore ways of minimizing the risks stemming from networks built by untested firms. For example, the state could strongly encourage or require new entrants to provide a much higher match (e.g., 50%+) for BEAD-funded projects to maximize the new entrant's "buy in." Similarly, the state could subject new entrants and other subgrantees with little or no experience in the broadband space to more stringent reporting requirements, especially with respect to the implementation of robust cybersecurity protocols.

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[29] *Draft: BEAD Initial Proposal Volume 2,* at p. 30, Montana (Nov. 2023), https://broadbandexpanded.com/files/iija_plans/MT%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[30] *Draft: BEAD Initial Proposal Volume 2,* at p. 22, North Dakota (Nov. 2023), https://broadbandexpanded.com/files/iija_plans/ND%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[31] *Draft: BEAD Initial Proposal Volume 2,* at p. 70-71, Ohio (Nov. 2023), https://broadbandexpanded.com/files/iija_plans/OH%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

Attachment #1

New York State Broadband Profile

(October 2023)

State Broadband Profile

NEW YORK

October 2023

ACLP
ADVANCED COMMUNICATIONS LAW & POLICY INSTITUTE
at New York Law School

NEW YORK LAW SCHOOL

The Advanced Communications Law and Policy Institute (ACLP) at New York Law School is an interdisciplinary law and public policy program focused on identifying and examining the key legal, regulatory, and public policy issues impacting – and impacted by – more robust broadband connectivity across the United States. The ACLP pursues and promotes a holistic approach to the study of broadband. Its focus includes the examination of: supply-side issues like infrastructure availability; demand-side issues like the myriad barriers hindering greater, more meaningful, and more equitable adoption and utilization of broadband across key demographics and sectors; state, local, and federal funding of broadband initiatives; and the intersectionality of broadband and other key public policy goals and objectives. The ACLP's research and writing is grounded in data relating to broadband connectivity and focuses on the development of practical, solution-oriented recommendations for policymakers at all levels of government and other stakeholders across the broadband ecosystem.

New York Law School (NYLS) has always been an institution shaped by the values of New York City: diversity, opportunity, professionalism, integrity, empathy, service to others, leadership, innovation, and—of course—the drive and ambition to be the very best.

NYLS was founded in 1891 by faculty, students, and alumni who broke away from Columbia Law School. The School soon became known for its innovative educational methods, launching one of the nation's first J.D. evening programs in 1894.

The law school's mission is to:

- Provide an extraordinary and innovative educational experience that embodies the fundamental values of the legal system and creates a bridge from scholarship and service to leadership and practice;
- Offer a vibrant, diverse, and forward-thinking center of legal studies where students develop the knowledge, skills, and professional values to serve their clients and have successful careers advancing justice, building the economy, and serving the various needs of modern society; and,
- Serve as an incubator of ideas and actions to be emulated throughout New York City, the nation, and the world.

For more information, please contact: ACLP@nyls.edu

State Broadband Profile

NEW YORK

October 2023

Michael J. Santorelli, Director
Alexander Karras, Senior Fellow

The Advanced Communications Law & Policy Institute
New York Law School

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EXECUTIVE SUMMARY

Broadband in New York is thriving. Two decades of supportive policymaking and tailored responses to clear connectivity challenges have yielded:

- **Robust Availability**. According to the FCC, by December 2022, nearly 97% of locations in the state could access a broadband connection of at least 25/3 Mbps.
- **Strong Adoption**. According to the U.S. Census, over 90% of households in the state had adopted broadband by 2022, up from 81.7% in 2016.
- **Sustained Investment**. In response to laws and regulations that have largely allowed the broadband market to evolve without undue interference by policymakers, wireline and wireless ISPs have invested billions of dollars of risk capital to expand and upgrade their networks across the state.
- **Allocation of Significant Grant Funding**. The state successfully deployed $530M+ in grant funding to support public-private partnerships aimed at closing remaining digital divides.

By building on successful legal, regulatory, and public policy approaches of the past, and avoiding unnecessary government interventions into this healthy marketplace, a strategy that has helped bring broadband to nearly every location in the state, New York will be well positioned to leverage the $1.2 billion in federal and state funding to address remaining connectivity challenges. These challenges include:

- **Eliminating the Availability Gap.** Despite the best efforts of ISPs and other stakeholders, about 149,000 locations in the state remain without access to a 25/3 Mbps broadband connection.
- **Closing the Digital Divide.** Approximately 10% of households in the state have opted not to adopt broadband despite it being readily available. Under-adoption remains prevalent among low-income households and senior citizens, among other groups.
- **Enhancing Digital Literacy.** Until recently, the state focused available resources almost exclusively on broadband supply issues, ignoring key demand-side issues like digital literacy skills development.

To address lingering supply-side challenges, this Profile offers the following recommendations:

- **Prioritize Funding for Grant Projects in 100% Unserved Areas.** The $1.2B in available funding should be enough to bring broadband to the state's remaining unserved locations. Applicants seeking funding for projects that will only serve unserved locations and that will not engage in wasteful overbuilding should be prioritized.
- **Avoid Subsidizing the Overbuilding of Middle-Mile Networks.** There is little evidence that additional middle-mile infrastructure is needed to support last-mile networks in unserved areas. In the absence of compelling data to the contrary, state grant funding should not go to projects that would overbuild middle-mile infrastructure.

- **Deploy a Robust & Inclusive Challenge Process.** In theory, the BEAD challenge process will prevent funds from being wasted on projects in served areas. New York should ensure that its challenge process is as inclusive as possible so that local knowledge of existing and emerging broadband networks inform grant allocations.
- **Engage in Additional Forward-Looking Policy Reforms.** During the BEAD application process, the state will be required to identify how it plans to remove barriers to broadband deployment. Legislative and regulatory reforms aimed at rationalizing fee structures for local rights-of-way and streamlining local permitting and approval processes should be explored during this process.
- **Update Policies Impacting the Use of Utility Poles for Broadband Deployment.** Major issues that require immediate action include adopting a proportional cost-sharing approach to pole replacements and addressing make-ready costs. Action is needed so that excessive pole costs do not negatively impact how ISPs deploy grant funding for broadband expansion.
- **Strictly Define the Parameters of Municipal Broadband Activities.** New York has enacted policies that are supportive of municipal broadband, including the allocation funding to support government-led projects. In the absence of clearly defined parameters to guide these efforts, the state will encourage pursuit of risky and unnecessary municipal broadband projects.

To address lingering demand-side challenges, this Profile offers the following recommendations:

- **Assure Robust, Inclusive, and Comprehensive Planning.** BEAD planning requires close consultation with local counterparts, as well as stakeholders in the private and nonprofit sectors. This Profile articulates a framework for maximizing this collaboration and ensuring that these interactions produce fruitful input.
- **Promote the Availability of Subsidies.** Subsidies offset or eliminate entirely the monthly cost of a broadband subscription. Unfortunately, current subsidy programs are significantly under-subscribed. More needs to be done to raise awareness.
- **Leverage Available Digital Equity Funds to Scale Proven Programs**. New York will receive about $65M in grant funding for digital equity initiatives. To ensure that these funds are wisely invested, the state should seek to scale proven initiatives.
- **Digital Equity Planning Should Also Focus on Sustainability.** To ensure that digital equity programs that receive grants are not forced to close once funding is depleted, the state must focus on the long-term sustainability of these initiatives.
- **Implement Safeguards When Administering Digital Equity Grants to Reduce Waste, Fraud, and Abuse.** Unlike the BEAD program, the digital equity grant programs lack strong safeguards to protect against wasteful spending. This Profile highlights the importance of leveraging known entities to reduce opportunities for abuse.

1. INTRODUCTION

Broadband connectivity in New York is thriving. Nearly 97% of locations in the state have ready access to a broadband connection of at least 25/3 Mbps,[1] leaving approximately 149,000 without service.[2] That so much of the state has ready access to high-speed internet is attributable to sustained investment of billions of dollars in risk capital by private ISPs in their networks; action by policymakers to adjust regulatory frameworks in response to market developments and consumer demand; and the ability of the state to make available over $530 million in grant funding to assist in extending networks into previously unserved and underserved areas.

New York prioritized broadband expansion at the expense of a comprehensive focus on key demand-side issues like adoption and digital literacy. Even so, broadband adoption rates have risen consistently over the last two decades, with significant gains evident across every demographic group. That these gains were made in the absence of meaningful support from the state – and most localities – reflects the robustness of New York's broadband market, which continues to make available better, faster, and more affordable service over a range of wireline and wireless platforms.

Viewed in this light, New York would appear well positioned to harness the $1.2 billion in federal and state funding that will be available to it for broadband expansion. However, as discussed in this Profile, without further policy reforms and continued adherence to a solution-focused strategy for improving broadband connectivity, there is a risk that some of this funding might be squandered. This risk arises primarily from the growing tension between those who wish to expand upon the policy framework that has yielded such impressive broadband connectivity gains to date and those who are ready to replace that framework with policies that do not reflect the realities of the state's broadband market.

The continued success of broadband in New York hinges on the ability of those overseeing broadband efforts in the state to focus on the mission at hand, which is to leverage available grant funding to connect the unconnected and create sustainable pathways to bring more people online and equip them with requisite digital literacy skills. Seeking to regulate aspects of broadband service, like how it is priced, or encouraging risky municipal broadband projects should be avoided because they distract from the clear connectivity challenges facing the state and its many diverse communities.

This Profile underscores that New York has gotten many things right on the broadband front. Officials in the state's ConnectALL office, which is overseeing implementation of the Broadband Equity, Access & Deployment (BEAD) program and related funding programs, have a strong foundation upon which to build new initiatives aimed at further enhancing connectivity across the state. This Profile also discusses the myriad downsides of undoing what has largely been a successful approach to broadband by embracing policies that

[1] *National Broadband Map,* FCC (as of Dec. 2022).

[2] *Five-Year Action Plan*, NY ConnectAll Office, September 2023, https://broadband.ny.gov/system/files/documents/2023/09/nys-bead-5-year-action-plan.pdf at p. 85.

would result in unnecessary attempts by government to repair a marketplace that is not broken.

1.1. PROFILE OVERVIEW

The Profile proceeds as follows.

Section 2 examines the legislative, regulatory, and policy environment in which broadband connectivity has evolved in New York over the past few decades. Regulators established a generally light-touch approach to broadband in the early 2000s, helping the state emerge as a leader in broadband availability and adoption. In response, ISPs invested significant sums to modernize and expand their networks across much of the state. In the 2010s, the state addressed supply-side shortcomings by making available hundreds of millions of dollars in grant funding to support network expansion. In recent years, there have been attempts to enact policies that have sought to repudiate core tenets of the prevailing policy approach to broadband. Fortunately, these policies did not unduly disrupt organic broadband gains. Further pursuit of these kinds of policies, however, could undermine continued progress towards closing the state's lingering digital divide by encouraging or requiring inefficient uses of available grant funding.

Section 3 provides a data-driven overview of the state of broadband availability and adoption across New York. As noted, broadband is almost universally available and being adopted at high rates. Even so, well-defined challenges remain on both the supply-side and demand-side.

Section 4 articulates recommendations for addressing lingering connectivity challenges. On the supply-side, the recommendations offer detailed suggestions for effectively structuring and administering forthcoming grant programs; adjusting policy frameworks to support continued investment, especially those impacting utility pole access; and embracing a practical approach to municipal broadband lest the state encourage inefficient overbuilding in places where broadband is already available. On the demand-side, the recommendations highlight the importance of careful and inclusive planning and ensuring that digital equity grants help established expert entities, of which there are many in New York, scale their efforts across the state.

2. LEGISLATIVE, REGULATORY & POLICY ENVIRONMENT

For much of the last two decades, decisionmakers in New York have demonstrated an ability to adjust policy frameworks in response to broadband market conditions and consumer demand. This approach created a favorable environment in which broadband connectivity thrived. Sections 2.1 and 2.2 examine key elements of this approach as it evolved between the early 2000s and 2020.

In recent years, however, some have sought to unwind this responsive consumer-centric approach by positioning government as the primary regulator and, in some cases, supplier of broadband services. Section 2.3 assesses some of these efforts and their impacts on broadband connectivity activities in the state. Section 2.4 evaluates attempts by municipalities and other non-traditional ISPs to enter the New York broadband market.

2.1. CREATING A SOLID REGULATORY FOUNDATION FOR BROADBAND INVESTMENT: 2003-2012

Since the mid-1980s, the New York Public Service Commission (PSC), which oversees public utilities in the state, has engaged in periodic assessments of the advanced communications sector. The primary goal of these self-initiated proceedings has been to "respond[] to technological and market developments" in telecommunications.[3] In 2006, the PSC examined for the first time the impacts of emerging intermodal competition in the voice and broadband markets on consumers and the prevailing regulatory frameworks in place at the time.

The 2006 "Competition III" order released by the PSC at the end of this proceeding continued forward with a responsive approach to telecommunications regulation that the Commission had established decades before. Indeed, the Competition III order revolved around a general ethos of "relying" on competitive markets, rather than formal regulation, to discipline service providers and deliver more robust consumer welfare gains.[4]

Among many other things, the PSC in its Competition III order exempted broadband from universal service obligations.[5] The PSC noted that, unlike traditional telephony, broadband was not a natural monopoly service because it was capable of being provided over multiple platforms (*e.g.,* cable, DSL, etc.). Accordingly, the PSC determined that there was no need for regulatory intervention at that time because market forces had already driven

[3] *Proceeding on Motion of the Commission to Examine Issues Related to the Transition to Intermodal Competition in the Provision of Telecommunications Services*, Statement of Policy on Further Steps Toward Competition in the Intermodal Telecommunications Market and Order Allowing Rate Filings, at p. 5, Case 05-C-0616 (April 11, 2006) ("*Competition III*").

[4] *Id.* at p. 21.

[5] *Id.* at p. 76.

broadband across much of the state and subscribership was increasing in response to declining prices.[6]

2.1.1. Streamlining Modernization of Telephone Networks

Around this time, the PSC acted to facilitate the modernization of telephone networks by electing not to impose duplicative regulatory requirements on these entities.

In the mid-2000s, telephone providers like Verizon, the largest incumbent in the state, sought to upgrade their networks with fiber-optics, allowing them to offer video services and internet access at higher speeds than their DSL offerings, which were delivered over the copper-wire telephone network. From a regulatory standpoint, it was unclear whether Verizon was required to secure additional permissions to upgrade its facilities in local rights-of-way (ROW) or if it could proceed according to its existing agreements with localities. The PSC determined that additional permissions were unnecessary "because the upgrade furthers the deployment of telecommunications and broadband services."[7] However, Verizon and others seeking to offer cable television services were still required to secure franchises from each municipality they wished to serve.[8] Even so, Verizon and others responded by investing millions to modernize their networks.

2.1.2. Pole Attachment Policy Statement

During this period, the PSC also released a foundational decision impacting an array of pole attachment issues.[9] Poles play a critical role in supporting broadband deployment. With several million telephone and utility poles scattered across the state, these structures represent core infrastructure inputs for wireline and wireless broadband networks.[10] Leveraging poles for broadband deployment, as opposed to burying lines, reduces costs and hastens construction, especially in rural areas.

Once again acting on its own motion in response to market developments, the Commission brought together stakeholders from the telecommunications and electric utilities sector to identify common ground on the costs and processes surrounding access to and use of utility

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[6] *Id.*

[7] *Joint Petition of the Town of Babylon, the Cable Telecommunications Association of New York, Inc. and CSC Holdings, Inc. for a Declaratory Ruling Concerning Unfranchised Construction of Cable Systems in New York by Verizon Communications, Inc.*, Declaratory Ruling, at p. 4, Case 05-M-0250, N.Y. PSC (June 15, 2005), https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={C8ACFCF6-6D31-4DE8-BE5B-6B8489CBB9AA}.

[8] *Id.*

[9] *Proceeding on Motion of the Commission Concerning Certain Pole Attachment Issues*, Order Adopting Policy Statement on Pole Attachments, Case 03-M-0432, N.Y. PSC (Aug. 6, 2004) ("*PSC Policy Statement*").

[10] There does not appear to be a recent estimate of the number of utility poles in the state. However, in New York City alone there are well over 300,000 poles. *See* Michael Pollak, *Questions on Telephone Poles and Subway Globes,* Aug. 8, 2014, N.Y. Times, https://www.nytimes.com/2014/08/10/nyregion/questions-on-telephone-poles-and-subway-globes.html. Across the U.S. there are some 180 million poles, suggesting an average of over 3 million poles in each state. *See, e.g.,* Lineman Central, Statistics, https://www.linemancentral.com/statistics.

poles for the deployment of advanced communications networks. The result was a principles-based Policy Statement meant to provide clarity on key issues during interactions between pole owners and those wishing to attach equipment to poles.[11] The Commission established, among other things, specific timelines, cost structures, and dispute resolution guidelines, actions that put New York at the forefront of proactive pole reform.

Nearly twenty years later, these principles – and the Policy Statement itself – remain an important guidepost for the Commission and stakeholders in the telecommunications and utilities space on pole-related issues. However, as discussed in more detail below, there remain numerous opportunities for the PSC to spearhead additional reforms and updates to its approach to pole attachments and pole access more generally.

Taken together, these regulatory actions established a solid foundation for rapid broadband deployment. ISPs responded to the certainty provided by these decisions in the form of increased investment in and deployment of broadband networks across much of the state. As a result, New York was an early leader in broadband access and in adopting forward-looking light-touch policies for this emerging technology.

2.1.3. Efforts to Prematurely Intervene in the Market

In contrast to the regulatory approach to broadband discussed above, some policymakers have advocated for an expansion of the role of government in the provision of broadband services.

This was evident beginning shortly after the Competition III proceeding with the introduction of bills that sought to micromanage the deployment of broadband. For example, a proposed "omnibus telecommunications reform" bill in 2007 would have established a "broadband development authority" to oversee infrastructure buildout in certain areas.[12] Another proposal from 2007 attempted to impose network neutrality requirements on ISPs despite clear evidence that such actions would likely have been preempted as inconsistent with the federal regulatory approach to broadband.[13]

Many of these proposals were attached to more rational proposals. For example, the network neutrality requirements were bundled with a proposal for statewide franchising, an efficient approach to hastening the entrance of new ISPs. However, the continued attempts of some to add stringent regulatory strings to policies that, on their own, would have helped further broadband deployment did not gain traction in the legislature.

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[11] *PSC Policy Statement* at p. 2 (noting that "The Policy Statement on Pole Attachments should govern the relationship
between attachers and utilities, unless they mutually agree otherwise, on a prospective basis").

[12] Assembly Bill 3980-B of 2007,
https://assembly.state.ny.us/leg/?default_fld=&leg_video=&bn=A03980&term=2007&Summary=Y&Text=Y.

[13] Assembly Bill 1423 of 2007,
https://assembly.state.ny.us/leg/?default_fld=&leg_video=&bn=A01423&term=2007&Summary=Y&Text=Y.

2.2. THE STATE PRIORITIZES PARTNERSHIP-DRIVEN BROADBAND EXPANSION: 2012-2020

By the early 2010s, it was apparent that the policy framework for broadband discussed above was having significant positive effects across much of the state. According to a survey conducted by SUNY-Albany in 2011, less than 8% of the state's population remained without access to a broadband connection.[14] Broadband adoption rates were also strong, with about two-thirds of the population connected.[15]

Despite these myriad successes, discrete broadband challenges were still evident on both the supply-side and demand-side.[16] The vast majority of unserved areas, located primarily in rural parts of the state, were generally characterized by low population density, making it uneconomic for ISPs to deploy networks without government subsidies. On the demand-side, the contours of the state's digital divide mirrored those evident at the national level: broadband adoption tended to correlate with income, educational attainment, and a variety of other factors.[17]

2.2.1. New York Focuses its Resources on Supply-Side Issues

In response, the state elected to focus its attention and resources mostly on supply-side issues. This represented an important turning point in broadband connectivity policy in New York. (As discussed more fully in Sections 0 and 1, state officials largely overlooked demand-side issues for many years and are only now beginning to grapple with these complex issues in a meaningful way. To the extent the state engaged in demand-side initiatives during these years, they were underwritten primarily with federal funds.)

The state's supply-side actions during this period included:

- The establishment in 2012 of a statewide Broadband Program Office, which was tasked with coordinating strategic investments in network build-out and adoption;[18]

[14] *Broadband Internet Service Adoption and Use in New York State Households*, at p. 10, Prepared by the Center for Technology in Government, University at Albany-SUNY, in collaboration with the Center for Survey Research, Stony Brook University-SUNY and The Rockefeller Institute of Government, University at Albany-SUNY (May 2011), https://www.ctg.albany.edu/media/pubs/pdfs/broadband_survey.pdf.

[15] *Id.* at p. 11.

[16] For additional discussion, *see* Charles M. Davidson & Michael J. Santorelli, Broadband and the Empire State: Toward Universal Connectivity in New York, ACLP at New York Law School (2012), http://comms.nyls.edu/ACLP/ACLP-Report-Broadband-and-the-Empire-State-September-2012.pdf ("*Broadband and the Empire State*").

[17] *Id.*

[18] The state first established a broadband program in the state CIO's in 2008. The office was renamed and moved to the Empire State Development agency in 2012.

- The development of a first-generation interactive broadband map to assist in identifying pockets of unavailability and low rates of usage;[19]
- Via Regional Economic Development Council grants and other sources, the distribution of $8M over the course of two rounds in 2011 and 2012 to support public-private partnerships (PPPs) focused on bolstering broadband infrastructure and informed utilization in discrete communities across the state;[20] and
- The use of $25 million in state funding to support additional PPPs that are focused on further broadband network deployment to unserved parts of the state.[21]

The $25M in funding, which was announced in 2012, was to be distributed via a newly created grant program, Connect NY. By launching this program, New York became a pioneer in leveraging available state funding to support broadband deployment in the form of grants.

The Connect NY program was structured primarily as a vehicle to encourage PPPs with experienced ISPs.[22] It limited funding to unserved and underserved areas and required grantees to contribute a 20% match.[23] The program also strongly encouraged projects that would deliver last-mile connections.[24]

Connect NY grants were announced in March 2013. Eighteen projects received funding, supporting deployment to over 150,000 previously unserved and underserved households.[25]

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[19] *Broadband and the Empire State*

[20] NY Broadband Program Office, State Funding (May 26, 2013), http://web.archive.org/web/20130526191031/http://www.nysbroadband.ny.gov/state-funding.

[21] *See* Press Release, *Governor Cuomo Hosts Regional Economic Development Councils to Discuss Progress on Job Creating Plans*, Aug. 21, 2012, Office of the Governor of the State of New York, *available at* https://niagarachamber.org/2012/08/24/governor-cuomo-hosts-regional-economic-development-councils-to-discuss-progress-on-job-creating-plans/.

[22] *See, e.g., Connect NY – FAQ,* http://web.archive.org/web/20130911071619/http://nysbroadband.ny.gov/assets/documents/ConnectNY-FAQs.pdf.

[23] *Connect NY Broadband Grant Program – Overview,* http://web.archive.org/web/20120916163333/http://www.nysbroadband.ny.gov/assets/documents/connectnygrantguidelines1.pdf.

[24] *Id.*

[25] *See, e.g.,* Phillip Dampier, *New York Grants $25 Million for Broadband Expansion, Mostly for Last-Mile Projects,* March 7, 2013, Stop the Cap!, https://stopthecap.com/2013/03/07/new-york-grants-25-million-for-broadband-expansion-mostly-for-last-mile-projects/.

2.2.2. The $500M New NY Broadband Program

To further these gains, the state in 2014 announced that it would leverage an additional $500 million to reach universal broadband availability by the end of 2018.[26] Over the next few years, the New NY Broadband Grant Program would make "a total of 53 Program awards, consisting of 126 individual projects totaling $487.2 million."[27] Once fully built, these projects would deliver broadband service to an additional 256,000 unserved and underserved households.[28]

The New NY program integrated several core elements of Connect NY, notably its focus on encouraging the use of PPPs to extend existing networks into unserved areas. Indeed, none of the New NY awards went directly to a municipality for a municipal broadband project.[29] Unlike Connect NY, however, the New NY program required grantees to provide a significantly higher 50% match. In addition, New NY, while focused mostly on wireline connectivity, was more willing to support projects that leveraged wireless and satellite services.

The impacts of New NY have been mostly positive. Hundreds of thousands of New Yorkers have benefited from the program. However, according to an audit of the program by the state Comptroller, nearly two-thirds of the grant-funded projects struggled with delays and other challenges.[30] In addition, to achieve the state's universal connectivity goal more quickly, the program allocated a substantial share of funding to satellite service providers to provide slower speeds (25/3 Mbps) than other grant-funded projects, which aimed for speeds of at least 100 Mbps.[31] This represented a gamble of scarce funds on a broadband platform that has since proven unreliable and ultimately unable to adequately serve many areas.

As discussed more fully below, criteria associated with current federal broadband grant programs, notably BEAD, do not consider households to be served if they can only access satellite services. This means that tens of thousands of New York households technically remain unserved and that a sizeable percentage of New NY grant dollars were ultimately squandered on satellite service.

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[26] *Gov. Cuomo Launches #Broadband4All Campaign,* March 18, 2014, Catskill Chronicle, https://thecatskillchronicle.com/2015/03/19/gov-cuomo-launches-broadband4all-campaign/.

[27] *New NY Broadband Program,* at p. 1, Report 2020-S-19, Office of the N.Y.S. Comptroller (July 2022), https://www.osc.state.ny.us/files/state-agencies/audits/pdf/sga-2022-20s19.pdf ("*Comptroller Report*").

[28] *Id.*

[29] For a full listing of New NY grantees, *see* N.Y. ConnectALL Office, New NY Program, https://broadband.ny.gov/new-ny-broadband-program.

[30] *Comptroller Report* at p. 13.

[31] *Id.* at p. 13-14.

2.2.3. ISP-Driven Rural Broadband Deployment

The availability gap in New York further narrowed in the wake of the merger of Time Warner Cable and Charter Communications in 2016. During review of the merger by the state PSC, Charter committed to investing over $300 million in the state to upgrade and expand its network to reach an additional 145,000 households, all of which were unserved.[32]

In 2019, after a dispute[33] over the progress that Charter was making towards meeting these goals, the PSC and Charter reached a settlement agreement that yielded commitments by the ISP to double its investment in the state and deploy its network to an additional 45,000 unserved and underserved households.[34] All told, Charter would extend its network to pass almost as many unserved and underserved households as the wireline projects supported by the New NY program.

2.2.4. Continued Action on Pole Attachment Issues

During this time, the PSC continued to grapple with pole attachment issues in a variety of contexts. Many of its actions were informed by the Commission's 2004 Policy Statement, a framework that has provided pole owners and would-be attachers with certainty regarding the pole attachment process. The Policy Statement, however, initially encompassed only attachments for wireline networks. The Commission did not formally extend the Policy Statement to wireless attachments until 2019.[35]

Among the more contentious pole issues that the Commission continues to grapple with are the fees that certain entities can charge to attachers for access to certain parts of a pole. Ongoing adjustments to the rates that municipal electric utilities can charge to cable and telecommunications entities for attachments is illustrative. In New York, pole attachment

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[32] *See, e.g.,* Joseph Spector and Sarah Taddeo, *What it Means for Cable Customers: Charter Spectrum, New York Regulators Reach Settlement,* April 19, 2019, Democrat & Chronicle, https://www.democratandchronicle.com/story/news/politics/albany/2019/04/19/what-means-consumer-charter-spectrum-new-york-reach-deal/3523198002/ ("*What it Means*").

[33] The dispute revolved around allegations by the PSC that Charter had failed to provide sufficient evidence to support claims that it had deployed broadband to enough households in certain parts of the state and therefore had run afoul of commitments included in its merger agreement forged with the state in 2016. Charter categorically denied these allegations and observed that political factors, rather than merits-based concerns, might have played a role in animating the PSC inquiry. *Joint Petition of Charter Communications, Inc. and Time Warner Cable Inc. for Approval of a Transfer of Control of Subsidiaries and Franchises; for Approval of a Pro Forma Reorganization; and for Approval of Certain Financing Arrangements,* Response of Charter Communications to Order to Show Cause, at p. 64-66, Case 15-M-0388, N.Y. PSC (May 9, 2018). Ultimately, the settlement agreement did not include any "finding or admission of any violation by Charter," nor did it "constitute a penalty or forfeiture." *Joint Petition of Charter Communications, Inc. and Time Warner Cable Inc. for Approval of a Transfer of Control of Subsidiaries and Franchises; for Approval of a Pro Forma Reorganization; and for Approval of Certain Financing Arrangements,* Order Adopting 2019 Settlement Agreement and Other Related Actions, at p. 22, Case 15-M-0388, N.Y. PSC (July 11, 2019).

[34] *What it Means.*

[35] Petition of CTIA – The Wireless Association to Initiate a Proceeding to Update and Clarify Wireless Pole Attachment Protections, Order Approving Petition in Part and Continuing Proceeding, Case 16-M-0330, N.Y. PSC (March 14, 2019) ("*PSC Wireless Attachment Order*").

fees charged by private electric companies (aka investor-owned utilities or IOUs) to communications entities follow a formula developed by the FCC. For smaller municipal electric utilities, the Commission in 2007 elected to adopt a different formula, one that has resulted in significant rate growth for attachments.[36] Indeed, over the fifteen years from 2007 to 2022, the PSC nearly doubled the amount that municipal electric utilities can charge for pole attachments, bringing these rates on par with those charged by much larger IOUs.[37]

2.3. EFFORTS TO INTERVENE IN THE BROADBAND MARKET: 2020-PRESENT

The 2000s were a decade of foundation-building for broadband policy. The 2010s were a decade of rapid progress towards realizing universal availability goals – progress that was fueled by a willingness to wager significant state funds on the ability of PPPs to bring broadband to nearly every corner of the state.

During the early years of the 2020s, some policymakers have sought to repudiate core tenets of this framework despite clear evidence of significant connectivity and consumer gains. The following examples are illustrative.

2.3.1. An Attempt to Regulate the Price of Broadband

For nearly two decades, New York had relied primarily on competitive market forces to discipline broadband prices. There is evidence that this approach has succeeded – in general, consumers currently pay less per month, in terms of dollars spent per Mbps of service, than they did just a few years ago.[38] Even so, in 2021 New York enacted a law that sought to mandate how certain broadband offerings were to be priced.

Dubbed the Affordable Broadband Act (ABA), the law required ISPs to offer broadband service to qualifying low-income households for no more than $15 per month.[39] The law passed even though there was a high likelihood that it would be struck down in court because the federal regulatory framework for broadband does not permit rate regulation.[40] The ABA also came at a time when most major ISPs in the state already offered low-cost offerings to low-income households and when significant subsidies were available from the

[36] Proceeding on Motion of the Commission to Determine Pole Attachment Rates for Municipal-Owned Poles, *Order on Municipal Pole Attachment Rates*, Case 06-E-1427, N.Y. PSC (May 9, 2007).

[37] Tariff Filing by the New York Municipal Power Agency to Modify Its Electric Tariff Schedule P.S.C. No. 1 - Electricity, to Update the Pole Attachment Proxy Rates Used by Its Municipal Utility Members, Order Establishing Updated Pole Attachment Rates, Case 22-E-0435, N.Y. PSC (Nov. 18, 2022).

[38] *See, e.g.,* Jason Shevik, *Broadband Pricing Changes: 2016 to 2022,* Feb. 7, 2022, BroadbandNow, https://broadbandnow.com/internet/broadband-pricing-changes.

[39] NY General Business Law § 399-zzzzz.

[40] *See, e.g.,* Michael J. Santorelli, *Better Ways to Expand Broadband: City and State Can Expand Access Without Wasting Public Funds,* March 27, 2021, N.Y. Daily News, https://www.nydailynews.com/opinion/ny-oped-better-broadband-20210327-xr7n6k5agbcgbfgvcmklk57bhi-story.html (“*Better Ways to Expand Broadband*”).

FCC to further drive down the cost of a monthly broadband connections.[41] After a legal challenge, the Act was found to be preempted by federal law.[42]

Rather than accept this loss, the state has appealed the ruling.[43] In addition, there has been continued pursuit of state-enforced rate regulation despite clear evidence that the state has no authority to do so.[44]

2.3.2. A Push for Duplicative Municipal Broadband Deployment

State policymakers have created vehicles to use public funding to subsidize the deployment of duplicative broadband infrastructure in markets that are already served by private ISPs.

The state enacted several laws expressly authorizing and encouraging municipalities to build their own broadband networks regardless of whether private broadband service is already available in an area.[45] For example, the state established a Municipal Assistance Program (MAP), which will provide "grant funding to municipalities [and] state and local authorities...to plan and construct infrastructure necessary to provide broadband services, support the adoption of broadband services, or other purposes for maximizing the effectiveness of municipal broadband."[46] Any municipality can deploy a broadband network so long as it deems such a project "necessary."[47]

As discussed in Section 2.4, the state's embrace of municipal broadband reversed two decades of substantial agreement among policymakers that available public funding for broadband should be used to seed PPPs with expert ISPs focused on deploying networks in unserved areas.

2.3.3. Attempts to Redirect Regulatory Efforts

There have also been attempts to expand the role of the state PSC so that it plays a more assertive role in the broadband space.

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[41] *Id.*

[42] *NYS Telecom Assoc. v. James*, 544 F. Supp. 3d 269 (E.D.N.Y. 2021).

[43] *NYS Telecom Assoc. v. James,* No. 21-1975 (2nd Cir.).

[44] *See, e.g.,* Assembly Bill No. 1714 (2023-24), https://www.nyassembly.gov/leg/?bn=A01714&term=&Summary=Y&Actions=Y&Votes=Y&Memo=Y&Text=Y.

[45] N.Y. General Municipal Law § 99-y.

[46] N.Y. Unconsolidated Law § 6266-gg(8). The ConnectALL Office has elected to implement the MAP as two separate but related programs: the Local Connectivity Planning Program and the 21st Century Municipal Infrastructure Grant Program. *See, e.g., Request for Adoption of Municipal Infrastructure Program Guidelines; and Authorization to Take Related Actions,* Sept. 21, 2023, Empire State Development Board of Directors, https://esd.ny.gov/sites/default/files/news-articles/092123-ESD-Board-Materials.pdf ("*Municipal Infrastructure Program Guidelines*") Throughout the remainder of this Profile, unless otherwise indicated, reference to the MAP encompasses both programs.

[47] N.Y. General Municipal Law § 99-y.

For example, in 2021 the PSC was called upon to continue forward with reforms to the pole attachment framework by developing "a process for streamlining actions related to utility pole attachments."[48] This would build upon several previous actions by the PSC to inject clarity and certainty into pole attachment negotiations between pole owners and prospective attachers.

At the same time, some have sought to position the PSC as a monitor of broadband connectivity in the state by charging it with studying broadband availability and adoption; creating and maintaining a state broadband map; and submitting its findings and recommendations to the legislature for removing barriers to broadband deployment.[49] These activities are largely duplicative of the state's broadband office, which is charged with overseeing administration of grant funding, and the FCC, which maintains a national broadband map that was used to determine BEAD funding allocations.

Ultimately, these activities place the PSC in uncertain territory vis-à-vis taking action to address broadband-related issues: when it struck down the legislature's attempt to regulate broadband rates, the federal court in the Eastern District of New York made clear that the state and its agencies, including the PSC, lack any authority to regulate broadband in a manner that contradicts the deregulatory approach established by the FCC.[50]

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In sum, state policymakers in the 2020s have become articulated and sought to further a more interventionist approach to broadband issues. Attempts to enshrine this approach in the law appear to reflect a new pessimism about the ability of intermodal competition in the broadband market to continue generating consumer welfare gains. When viewed in proper context – *i.e.,* the substantial progress that has been made in broadband availability and adoption across every part of the state stemming from the more responsive approach detailed in Sections 2.1 and 2.2 – this new pessimism is unwarranted.

2.4. THE LIMITED ROLE OF NON-TRADITIONAL ISPS IN ADDRESSING CONNECTIVITY ISSUES

To date, non-traditional ISPs – defined as municipalities, municipal electric utilities, electric cooperatives, investor-owned electric utilities, and other service providers with little or no experience as broadband service providers – have played a very limited role in making high-speed internet access nearly universally available across New York.

2.4.1. Recent Broadband Efforts by Non-Traditional ISPs

To date, only a handful of broadband projects involving non-traditional ISPs appear to be operational in the state. In each case, entrance into the broadband market appears to have

[48] N.Y. Public Service Law § 119-a(4).

[49] N.Y. Public Service Law § 224-c.

[50] *NYS Telecom Assoc. v. James*, 544 F. Supp. 3d at 282-283.

been driven in part by a desire to bring service to unserved and underserved households. However, in most instances, it appears that these networks have also been deployed in served areas, suggesting that inefficient and wasteful overbuilding has occurred.

- **Delaware County.** Beginning in 2015, the Delaware County Electric Cooperative partnered with two local telephone cooperatives to assist in deploying fiber to unserved and underserved households across the cooperative's service territory.[51] The estimated cost of the project was $6.7 million, $2.9 million of which came via a state regional economic development grant.[52] Retail broadband service is provided by the telephone cooperatives.[53] Over time, the scope of this project grew to encompass served households, including grant funding allocated to a telephone cooperative to upgrade its facilities in presumably served areas.[54]

- **Southern Tier Network.** In the Southern Tier region of the state, a nonprofit entity, the Southern Trier Network (STN), was created by local governments to build an open access middle-mile fiber network. The goal was to bolster last-mile connectivity by reducing the construction costs for partner ISPs in this rural part of New York. STN has benefited from $50 million in state and federal grant funding.[55] Indeed, the financial health of the STN appears to hinge on its ability to secure additional grant funding – in some years, grant revenue has comprised nearly 40% of STN's overall operating revenue. But for such consistent grant funding, STN might run at a loss.[56] Accordingly, it is unclear whether STN will be able to sustain itself financially once grant funding opportunities end.

  STN notes that 40% of its network reaches unserved areas.[57] This appears to mean that STN may have used grant funding to overbuild networks in served areas. As discussed more fully in Section 1, the open access business model makes it difficult for the middle-mile network owner to self-sustain. This is especially true in rural areas, where ISPs of all kinds struggle to make the economics of a project work. Consequently, many open access systems rely on expansion to generate revenues

[51] *See, e.g., Delaware County Broadband Initiative Nears its Goal of 100% Service,* De. 17, 2019, N.Y. Assoc. of Public Power, https://www.nyapp.org/news-1/delaware-county-broadband-initiative-nears-its-goal-of-100-service.

[52] New NY Broadband Program, Prior Broadband Investments, https://broadband.ny.gov/new-ny-broadband-program.

[53] DCEC, Delaware County Broadband Initiative, https://dce.coop/delaware-county-broadband-initiative-dcbi.

[54] *Id.*

[55] *Id.*

[56] For example, in 2022, STN's net income (operating revenues less operating expenses) would have been negative $570,415 if not for $1.158 million in grant revenue. *STN Financial Statements – Dec. 31, 2022,* at p. 4, https://southerntiernetwork.org/wp-content/uploads/2023/03/Southern-Tier-Network-FS-12-31-2022-FINAL.pdf.

[57] STN, Home, https://southerntiernetwork.org/.

that can be used to subsidize its offerings in more challenging-to-serve areas. This appears to be the model that the STN has been following in recent years.

Officials in other parts in the state, notably Erie County, have looked to the STN as a model for their own middle-mile broadband projects (the project in Erie, ErieNet, will be overseen by the same entity, ECC Technologies, that built the STN).[58] It is unclear whether Erie or others will be able to replicate the ability of STN to consistently secure grant funding to sustain operations. In addition, 80% of the construction costs of the original STN fiber network were underwritten by Corning, a major fiber manufacturer headquartered in New York.[59] It is unlikely that other projects in the state will benefit from such public or private largesse.

- **NYPA Fiber Pilots.** In 2022, the legislature amended state law to allow the New York Power Authority (NYPA), which oversees significant electric generation and transmission assets, to lease excess capacity on its existing fiber lines for use in supporting last-mile connectivity.[60] In other words, NYPA fiber could be used as middle-mile infrastructure by municipalities and other public entities, who would lease access on it to deliver broadband service.

  Shortly after enactment, the state committed $10 million to support pilot projects aimed at bringing fiber broadband service to 2,000 unserved and underserved households and businesses in the localities of Diana, Nichols, Pitcairn, and Sherburne.[61]

  The scope of this initiative appears to have evolved over time. Completion of the first pilot project, in Sherburne, was announced in December 2022.[62] Sherburne's municipal electric utility has deployed last-mile fiber across the town, passing some 1,800 households and businesses;[63] it will work with EntryPoint Networks to operate an "automated open-access" last-mile fiber network, which will be used to deliver

[58] ECC Technologies, ErieNet Broadband Project – Designed and Managed by ECC Technologies, https://www.ecctec.com/news/erienet-build-ecc-technologies.

[59] *See, e.g.,* Michael J. Santorelli, *To Improve Broadband, Explore All Options,* April 12, 2019, https://buffalonews.com/opinion/another-voice-to-improve-broadband-access-explore-all-options/article_32f5407e-aed6-5b38-a600-3a2fa86a9ddd.html.

[60] N.Y. Public Authorities Law § 1005(29).

[61] *Governor Hochul Announces Completion of First Phase of $10 Million ConnectALL Pilot Initiative Bringing Affordable Broadband Internet Access to Rural Communities,* Dec. 20, 2022, Office of N.Y. Governor, https://www.governor.ny.gov/news/governor-hochul-announces-completion-first-phase-10-million-connectall-pilot-initiative.

[62] *Id.*

[63] Sean Gonsalves, *New York's First Bite of the Municipal Broadband Apple,* June 9, 2022, Community Networks, https://communitynets.org/content/new-yorks-first-bite-municipal-broadband-apple.

internet service to customers.[64] As of September 2023, Sherburne reported 405 "connected fiber customers," with another 100 awaiting installation.[65]

The NYPA pilot in Sherburne appears to have resulted in some overbuilding. Sherburne officials have noted that its last-mile network, which is enabled by the NYPA middle-mile network, passes all households and businesses in the town. According to the National Broadband Map, as of December 31, 2022, 94.34% of Sherburne was served by a wireline or licensed fixed wireless provider capable of delivering at least 25/3 Mbps service.[66] A similar percentage of the town – 94% – had access to a 100/20 Mbps connection.[67] Similarly robust connectivity is evident in other NYPA pilot areas. In Nichols, for example, 92.7% of the town is served.[68]

The statutory language authorizing these NYPA fiber projects limits middle-mile fiber leases to those that will enable broadband service in "unserved and underserved communities in the state."[69] In Sherburne, less than 6% of households fall into the state's definition of unserved or underserved.[70] If Sherburne had limited its deployment to those households, its network would only pass about 108 locations. It is unclear whether Sherburne is leveraging its NYPA fiber lease to support last-mile service for the remaining unserved and underserved households, or if it is relying on that fiber to enable its town-wide fiber offering.

In light of these questions, state and local officials should provide more information regarding the details of these fiber pilots, including details regarding the scope of the fiber leases and whether NYPA fiber will only be used by localities to deliver service to households that are deemed unserved or underserved.

- **Dryden.** In 2022, Dryden began building a citywide fiber network.[71] This $15 million project is being built in stages. An initial pilot project, which aims to serve about 50 households, is being funded in large part from the town's COVID stimulus funds; the remaining $12M+ that will be needed to finish the project will likely be sourced from a combination of debt and grant funding.[72]

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[64] EntryPoint Networks, Resources, https://www.entpnt.com/resources/.

[65] Sherburne Village Board Minutes, September 18, 2023, https://sherburne.org/wp-content/uploads/2023/09/091823REGMTGVILLAGEBD-Draft.pdf.

[66] National Broadband Map, Sherburne, NY.

[67] *Id.*

[68] National Broadband Map, Nichols, NY.

[69] N.Y. Public Authorities Law § 1005(29)(a).

[70] N.Y. Public Service Law § 224-c(b)-(c).

[71] *See, e.g.,* Karl Bode, *Dryden, NY, Launches Municipal Fiber Network,* Jan. 26, 2023, Community Networks, https://communitynets.org/content/dryden-ny-launches-municipal-fiber-network.

[72] *Id.*

A major driver of this municipal broadband project is a desire by Dryden to address a "non-competitive [broadband] environment that primarily offers service on legacy infrastructure, limiting capabilities."[73] A survey conducted by the town's consultant in 2019 found significant interest in a potential municipal fiber network.[74] Informal surveys of this nature tend to produce biased results; those who offer their input generally do not reflect the demographic makeup of the area being studied.[75] Nevertheless, Dryden's consultant used the responses to its survey to estimate that the municipal fiber network would be able to achieve a 70% take-rate.[76] Very few ISPs ever achieve such a high take-rate, and those that do are often portrayed as monopolists.

Dryden has elected to pursue a citywide fiber network based on an overly-optimistic – and likely unrealistic – take-rate. In practice, this will likely place the network at a financial disadvantage from the start since its financial projections revolve around the 70% take-rate figure.

In addition, the municipal fiber network is being built in a marketplace that is markedly different from the one that the town's consultant studied in 2019. Since then, broadband speeds have increased, as has the availability of competitive alternatives. According to the National Broadband Map, only about 4% of households remain without access to a 25/3 Mbps connection.[77] Equally as important has been the deployment of T-Mobile's in-home fixed wireless offering, which serves as a substitute for a wireline connection. T-Mobile's fixed wireless service was available to about 89% of households as of December 31, 2022; it is likely even more widely available now.[78]

The consultant's report also came before the widespread availability of subsidies for broadband internet access. Each of the major ISPs in Dryden currently participates in the FCC's ACP program, which provides a $30/month subsidy for a broadband subscription to qualifying households. In some cases, consumers can receive broadband for free from an ISP by participating in the ACP program and the ISP's low-income program.

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[73] *Engineering Report for Municipal Internet Access Network – Town of Dryden, NY,* at p. 4, HUNT Engineers (Nov. 2019), https://dryden.ny.us/wp-content/uploads/2019/12/191121-Dryden-Municiple-FTTH-Report.pdf ("*Dryden Report*").

[74] *Id.* at p. 10-12.

[75] For further discussion of surveying methodologies and the likelihood of bias stemming from poorly designed informal surveys, *see* For further discussion, *see State and Local Policymakers' Broadband Planning Tool Kit,* at p. 67-70, ACLP at New York Law School (Oct. 2022), https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1008&context=reports_resources ("*ACLP Tool Kit*").

[76] *Dryden Report*.

[77] National Broadband Map, Dryden, N.Y.

[78] *Id.*

In short, the emerging municipal fiber network in Dryden appears to face significant competitive headwinds, a dynamic that is not surprising given high levels of broadband availability across the state and the availability of significant subsidies for broadband service.

- **Saratoga Springs.** In 2018, Saratoga Springs contracted with SiFi Networks to build a $32 million citywide FTTH network at no cost to the city.[79] SiFi, which will leverage foreign capital to build the network, has received numerous exclusive concessions from the city to assist in constructing the network. These include streamlined permitting processes; a single point of contact to assist with securing necessary permissions; and exclusive access to certain city-owned ROW.[80]

  Construction of the network did not begin until the fall of 2022 because of significant concerns expressed by local officials about SiFi's use of microtrenching to deploy its fiber network.[81] SiFi attempted to address these concerns by piloting its microtrenching technique on a small-scale. Several initial attempts failed.[82] Eventually, the city indicated that SiFi had refined its microtrenching enough to allow it to use it across the city.[83] Local officials expect the first customers to be connected to the SiFi network by the fall of 2023, with project completion expected in 2024, six years after SiFi first approached the city.[84]

  To date, only one ISP, Gigabit Now, has indicated that it will provide service over the open access network.[85] The selling point of open access networks is that they can theoretically support many different ISPs. Indeed, SiFi has positioned its proprietary FiberCities approach to open access as a means of introducing more choice and competition in local markets.[86] However, of the six projects that SiFi labels as "under

[79] Wendy Liberatore, *Saratoga Springs Advanced Fiber Network Project,* Jan. 8, 2019, Albany Times Union, https://www.govtech.com/network/saratoga-springs-ny-advances-fiber-network-project.html.

[80] *SiFi Networks Development Agreement with Saratoga Springs, NY,* Aug. 3, 2018, https://www.scribd.com/document/396996581/SiFi-Networks-Development-Agreement-CLEAN-2018-08-03#.

[81] Wendy Liberatore, *Wiring Saratoga Springs for High-Speed Internet Stalls,* May 21, 2021, Albany Times Union, https://www.timesunion.com/news/article/Wiring-Saratoga-for-high-speed-internet-stalls-16194098.php.

[82] *See, e.g.,* Steve Thurston, *SiFi Networks' Test Fails in Saratoga Springs, Another Test Starts June 13,* June 9, 2022, Foothills Business Daily, https://foothillsbusinessdaily.com/sifi-network-s-test-fails-in-saratoga-springs-another-test-/.

[83] *Officials Hold Ceremony to Fete the Project Bringing High-Speed Internet to the City,* Nov. 7, 2022, Saratoga Business Journal, https://www.saratoga.com/saratogabusinessjournal/2022/11/officials-hold-ceremony-to-fete-the-project-bringing-high-speed-internet-to-the-city/.

[84] *Id.*

[85] *Id.*

[86] SiFi, FiberCities, https://sifinetworks.com/residential/our-fibercities/.

construction," out of a total of 30 FiberCity projects listed on its website, only two offer more than one ISP option.[87]

2.4.2. In a Well-Served State Like New York, Municipal Broadband Leads to Inefficient Overbuilding

Several other localities in the state are in various stages of exploring a municipal broadband network and other non-traditional approaches to enhancing broadband availability. The recently created Municipal Assistance Program may further some of these efforts and encourage additional cities to explore a municipal network. Other municipalities might be able to secure grant funding to support limited deployments focused on unserved areas. In short, given the robustness of broadband availability in the state (see Section 3.1 for additional discussion), it is likely that most non-traditional broadband efforts will result in significant overbuilding. There is evidence that this is already occurring (see above).

Overbuilding results when public resources are used to subsidize broadband network construction in areas where service is already available. Overbuilding is wasteful because it reduces funding available to deploy broadband in truly unserved areas. Even if a non-traditional ISP does not use BEAD funds or state grants to build a network, it may draw on public funds in another way (e.g., via the MAP) or use public resources that might be more effectively used elsewhere. For example, given the debt limits imposed on localities by the state, issuing debt for a municipal broadband project would reduce a city or town's overall bonding capacity, potentially reducing its ability to address more pressing public needs (e.g., paying municipal workers, building new schools, etc.). In addition, if a project struggles or fails, then a city may be forced to prop up a network by using general tax revenues or to sell a system at a steep loss, a dynamic that is common among underperforming municipal networks.

2.4.3. New York City's About-Face on Municipal Broadband Offers a Lesson for Other Cities

Cities considering municipal broadband, or another other form of non-traditional broadband deployment, might study how New York City has evolved on these issues.

New York City has long been among the best served cities in the state, if not the country. To the extent supply-side interventions were necessary, officials tended to focus on discrete issues like deploying Wi-Fi in public housing to offer a low-cost or free option for internet access.[88] The limited scope of these projects reflected the fact that the primary broadband issue facing communities in New York City is under-adoption of available broadband connections, not lack of options for getting online.[89]

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[87] *Id.*

[88] *See, e.g.,* Michael J. Santorelli, *Testimony Regarding Broadband and the Digital Divide,* Oct. 13, 2020, N.Y. City Council, https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1001&context=reports_resources.

[89] *Id.*

In 2020, the city, despite clear evidence of universal broadband availability, proposed spending upwards of $2.1 billion to build a citywide municipal fiber network.[90] Its primary goal for this ambitious undertaking was to introduce new competition into the market and drive prices lower, thereby encouraging more people to adopt the service. In a city of universal availability of multiple wireline and wireless broadband options; evidence that prices were declining; and numerous low-cost options already on offer from ISPs, this proposal was met with significant skepticism.[91]

Two years later, the city, under the leadership of a new mayor, elected to shelve this plan in favor of focusing on demand-side issues.[92] To that end, the city, in partnership with cable providers Spectrum and Altice, launched Big Apple Connect (BAC), a program that provides free broadband access of 300 Mbps, basic cable, a modem, and a wireless router to public housing residents lacking such services.[93] BAC currently reaches some 300,000 residents across 202 public housing developments.[94] City officials have framed this new approach as the "fastest path to providing service for those who need it most."[95] As discussed in Section 1, programs like BAC are the best way to close digital divides in areas where broadband already abounds.

2.5. TAKEAWAYS

Early action by the state PSC created a solid foundation for broadband policy in New York. For many years, the prevailing approach to broadband was informed by PSC efforts to provide broadband with room to grow and evolve organically. From the start, broadband market forces in the state have been robust, positioning consumers, rather than the state, as the primary influencer of ISP investment decisions. Government interventions were generally limited to the allocation of grant funding to encourage deployment of broadband networks deeper into rural parts of the state. As discussed in Section 0, this approach has yielded significant gains in broadband availability and adoption, favorably positioning the state to finally realize long-held goals for universal broadband connectivity utilizing available grant funding.

In recent years, unfortunately, there have been attempts to undermine the policy framework for broadband that was forged over the preceding two decades. Recent efforts on this front

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[90] *The New York City Internet Master Plan*, NYC Mayor's Office of the CTO (Jan. 2020). https://tech.cityofnewyork.us/wp-content/uploads/2020/01/NYC_IMP_1.7.20_FINAL-2.pdf.

[91] *See, e.g., Better Ways to Expand Broadband.*

[92] *See, e.g.,* Jaclyn Jeffrey-Wilensky, *NYC Kills 'Internet Master Plan' for Universal, Public Web Access,* Dec. 5, 2022, Gothamist, https://gothamist.com/news/nyc-kills-internet-master-plan-for-universal-public-web-access.

[93] NYC, Big Apple Connect, https://www.nyc.gov/assets/bigappleconnect/.

[94] *Big Apple Connect Expanded to Provide Free Internet/TV to 300,000+ Residents at 202 NYCHA Developments,* March 23, 2023, NYCHA Journal, https://nychajournal.nyc/big-apple-connect-expanded-to-provide-free-internet-tv-to-300000-residents-at-202-nycha-developments/.

[95] Matthew Fraser, *Bridging the Digital Divide with Big Apple Connect,* March 26, 2023, AMNY, https://www.amny.com/opinion/bridging-the-digital-divide-with-big-apple-connect/.

have sought to reorient the broadband market according to government fiat in the form of, among other things, broadband rate regulation and the availability of significant support for municipal broadband overbuilding. These actions do not accurately reflect the market dynamics evident in New York.

Fortunately, notwithstanding undue government intervention, broadband connectivity gains continue apace. However, as discussed in Section 2, continued pursuit of interventionist policies could undermine these gains and reduce the chances that New York effectively deploys available resources.

3. THE STATE OF BROADBAND IN NEW YORK

With over $1.2 billion in new federal and state funding available for broadband, New York must determine how to maximize the impact of those dollars on the state's residents.[96] To do so effectively and efficiently, New York's efforts must be guided by data. To prevent funds from being used to support duplicative buildouts – a key tenet of BEAD and a principle that has generally guided previous state grant programs – the state should leverage new, accurate availability data to ensure that its infrastructure allocations are targeted and effective. In addition, the state should utilize robust adoption data as it looks to bolster and expand its long-neglected demand-side efforts.

3.1. BROADBAND AVAILABILITY

Broadband connectivity, delivered via an array of technologies, is widely available across the state of New York. The following provides an overview of broadband availability in the state based on the most recent data.

As of December 31, 2022, approximately 96.6% of households in the state had access to a broadband connection meeting or exceeding the FCC's broadband threshold of 25/3 Mbps.[97] This translates to approximately 149,000 locations without adequate service.[98] Availability at higher speeds is similar, with 92.4% of households having access to a connection of 250/25 Mbps or greater.[99]

Narrowing the above to exclude fixed wired technologies, the proportion of households with access to a 25/3 Mbps connection decreases to 94.6%.[100]

These figures are based on data from the FCC's new Broadband Data Collection (BDC) program, an enhanced location-based mapping effort that was used for allocation of BEAD funds, and which largely supplants previous mapping efforts by the Commission and the state.[101]

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[96] For a recent accounting of these funds, *see New Federal Dollars for Broadband Deployment,* Office of the N.Y.S Comptroller (July 2023), https://www.osc.state.ny.us/files/reports/pdf/new-federal-dollars-for-broadband-deployment.pdf.

[97] *National Broadband Map,* FCC, (data as of December 31, 2022; last updated by the FCC on September 26, 2023).

[98] *Five-Year Action Plan*, NY ConnectAll Office, September 2023, https://broadband.ny.gov/system/files/documents/2023/09/nys-bead-5-year-action-plan.pdf at p. 85. The plan identifies "149,389 total unserved and underserved addresses" based on FCC Broadband Data Collection (BDC) data. ACLP analysis of an updated version of the same FCC BDC data (on file) identified 149,342 such locations.

[99] *Id*.

[100] *Id*.

[101] This location-based mapping effort is intended to provide greater accuracy and granularity than previous availability mapping by the Commission.

Competition among providers is also increasingly robust. For example, as of December 2021, 90.3% of households in the state had two or more fixed, terrestrial broadband connections of 25/3 Mbps or more available to them.[102]

An additional source of broadband availability metrics is the New York Public Service Commission's Broadband Assessment Program (BAP), with the latest figures published in June 2023.[103] This program, similarly intentioned to the FCC's BDC program, uses different source data,[104] methodology, and definitions of "served," "underserved" and "unserved," but provides figures very close to those of the latest FCC data.

According to the BAP, 97.5% of the state's locations are "served," meaning that the location has access to at least two ISPs, with at least one of those ISPs offering 100/10 Mbps service. The remainder of the state's locations are largely deemed "unserved,"[105] with less than 0.1% marked as "underserved."[106] While the PSC and the FCC programs differ both methodologically and in their definition of "served," both find the same strong level of broadband availability and leave about 3% of the state in need of supply-side assistance.

Alongside wireline and fixed wireless offerings, the state also has widespread availability of both 4G and 5G wireless connections. As of June 30, 2022, FCC data indicates that 99.4% of the state's population lives in an area where 4G coverage is reported, and 96.5% of the population lives in an area where 5G coverage is reported.[107] These technologies, traditionally utilized using a mobile device, are emerging as effective method for household internet access via several recently launched in-home 4G/5G broadband offerings.[108] In addition, both Verizon and T-Mobile are rapidly expanding in-home fixed 5G wireless offerings across New York, increasing the number of choices available to millions of residents and businesses.

Efforts focused on addressing supply-side issues should continue to be targeted towards the roughly 3% of households that are truly unserved and do not have a broadband connection readily available. Given the state's experience with complex broadband

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[102] *2022 Communications Marketplace Report*, FCC, December 30, 2022. This figure includes both licensed and unlicensed fixed wireless, along with all wireline technologies. Excluded from this metric are satellite connections. These figures are based on Form 477 data – official competition metrics from the FCC's new Broadband Data Collection program have not yet been released as of this writing.

[103] *2023 Report on the Availability, Reliability and Cost of High-Speed Broadband Services in New York State*, NY PSC, June 22, 2023. *See also* New York State PSC Broadband Map, https://mapmybroadband.dps.ny.gov/ ("*NY PSC Broadband Map*").

[104] The BAP combines data from the state's Street and Address Maintenance Program, Fiber Optic and Coaxial Asset Inventory Program, and ISPs to quantify broadband availability.

[105] Defined as having no 25/3 Mbps service of any kind available.

[106] Defined as having only one ISP, or only speeds above 25 Mbps but below 100 Mbps.

[107] ACLP analysis of FCC Broadband Data Collection wireless shapefile data (on file).

[108] See, *e.g.*, *Cable Companies and Mobile Carriers Battle Over Fixed Wireless Internet*, April 26, 2023, Wall Street Journal, https://www.wsj.com/articles/cable-companies-mobile-carriers-battle-fixed-wireless-7dd189d7.

mapping and the availability of new, highly accurate location-based maps from the FCC, federal funding can be efficiently channeled through the state to experienced entities best suited to closing those remaining gaps.

3.2. BROADBAND ADOPTION

The availability of a connection is just one factor in the complex dynamic that determines whether a household ultimately utilizes a broadband connection. Equally important is the willingness of consumers to subscribe to broadband and their ability to put those connections to meaningful uses.

The status of, and trends in, New York broadband adoption largely echoes those seen across the country: while adoption rates continue to grow and many gaps continue to narrow, certain subsets of the state's households need continued adoption efforts. That this strong growth in adoption has come despite the state's myopic focus on supply-side issues and almost no focus on demand-side issues means that a renewed focus on adoption could drive significant gains in broadband usage.

As of 2022, Census data indicate that about 90.4% of the state's households have adopted broadband, up from 81.7% in 2016.[109] The state does not appear to have any rural-urban digital divide, with adoption in rural households (which comprise about one-tenth of the state's households) of 90.4%, matching the 90.4% of urban households with a broadband subscription, and closing the roughly 1% gap present in 2016.[110] This is likely a credit to the state's robust availability, meaning that the same determinants of adoption decisions are at play, largely regardless of location.

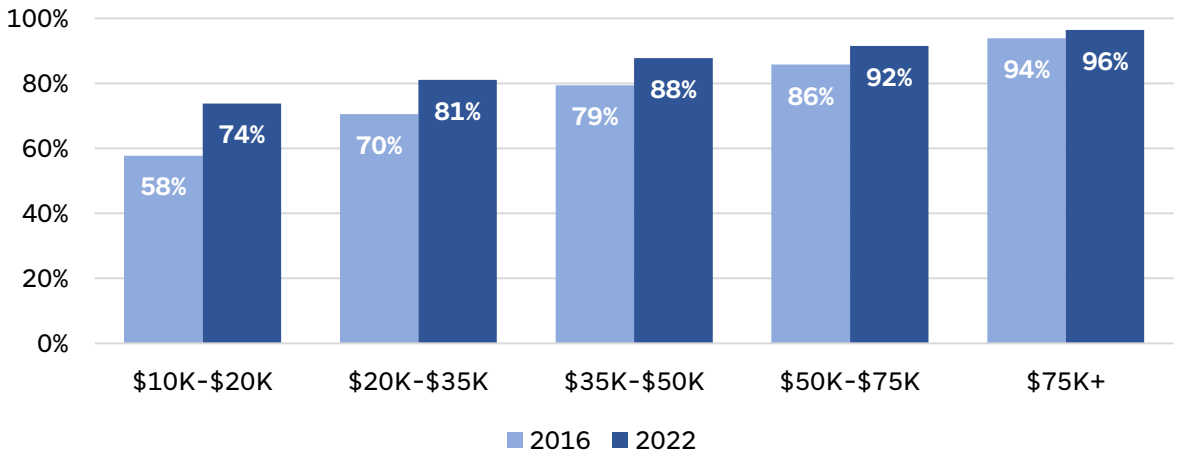
Broadband adoption in New York's households is positively correlated with income, a trend that is pervasive across the country (see Figure 1 below).[111] Figure 1 also shows that the largest gains in broadband adoption over the past five years have been among lower-income households, with the gap in adoption between the highest and lowest income categories narrowing from 36% down to 22%. Despite this positive progress, notable gaps remain and underscore the need for deliberate adoption initiatives at the state level.

[109] ACLP analysis of American Community Survey data (on file).

[110] *Id.*

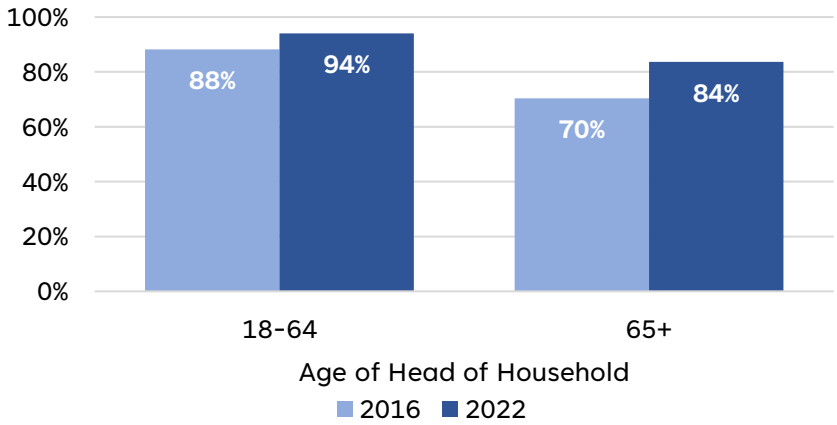
[111] *Id.*

Figure 1 – Percent of NY Households with a Broadband Subscription by Income Category[112]



Adoption rates also continue to lag amongst older residents in the state. As shown in Figure 2, households with a head-of-household aged 65 or older are 10% less likely to have a broadband subscription than those with a younger head-of-household. While this gap has also narrowed, down from 18% in 2016, there is still ample opportunity for efforts to bring older individuals online.

Figure 2 – Percent of NY Households with a Broadband Subscription by Age of Head of Household[113]

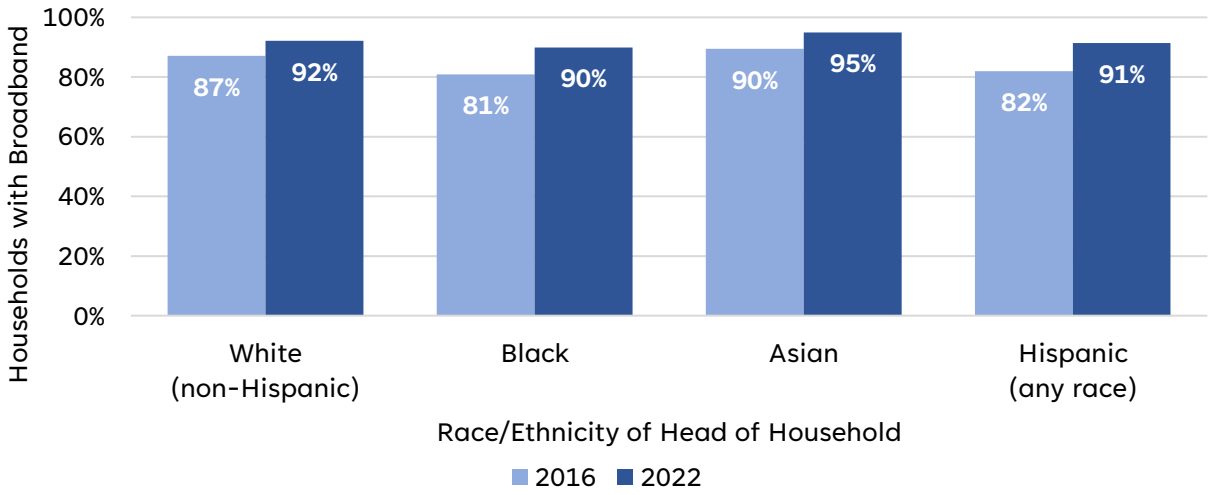


One of the areas with the most significant progress has been the narrowing of the race/ethnicity digital divide. As shown in Figure 3, the gap in broadband adoption between households with a Black or Hispanic head-of-household compared to their White counterparts all but closed between 2016 and 2022.

[112] *Id.*

[113] *Id.*

Figure 3 – Percent of NY Households with a Broadband Subscription by Race/Ethnicity[114]



3.3. TAKEAWAYS

Taken together, the state's robust broadband availability and consistent upward trends in adoption are a strong positive sign, and largely a credit to two decades of responsive and market-conscious efforts by the state's leadership. The state of availability and adoption in New York in no way lends credence to a shift by the state legislature towards interventionist policymaking.

Instead, the small remaining pockets of unserved households necessitate the same types of partnerships with experienced providers that helped bring broadband to nearly every part of the state and can now maximize the impact of BEAD funding. In addition, remaining adoption gaps, especially among older and lower-income households, mean that the state must utilize federal funding to build out adoption programs and initiatives, a critical area of need that has not been adequately addressed by officials to date.

[114] *Id.*

4. LOOKING AHEAD

The next phase in the evolution of policymaking impacting broadband connectivity in New York will be critical. Over $1 billion will soon be available to address remaining supply- and demand-side issues. Attempting to use these opportunities to further a particular policy agenda or restructure an already healthy and robust broadband market could undermine what has been a decades-long success story in New York.

The following recommendations are offered to state and local policymakers in New York as they begin to shape the programs and revisit the policy frameworks that will directly impact broadband connectivity efforts in the state for years to come.

4.1. OPPORTUNITIES TO ADDRESS REMAINING SUPPLY-SIDE ISSUES

There are numerous opportunities for state and local policymakers to address remaining broadband supply-side challenges in a manner that supports rather than impedes continued gains in availability, competition, and innovation. Indeed, New York has access to historic levels of funding, totaling $1.2B, specifically earmarked for supporting broadband expansion. These funds include:

- **BEAD Funding.** $665 million in BEAD funding, which was formally allocated by NTIA in June 2023.[115]

- **CPF Funding.** $345 million from the Department of Treasury's Capital Projects Fund (CPF).[116] To date, the state has received $100M from this allocation. Those funds will be used to launch the Affordable Housing Connectivity Program, which will support open access fiber deployments to affordable housing units across the state.[117] It appears that many of the households targeted by this program are already technically served, but 54% remain underserved according to a state analysis.[118]

- **Supplemental State Funding.** In its FY2023 budget, the state reappropriated $190M from previous initiatives to supplement available funding for broadband expansion.[119]

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[115] *See Biden-Harris Administration Announces State Allocations for $42.45 Billion High-Speed Internet Grant Program as Part of Investing in America Agenda,* NTIA, June 26, 2023 https://ntia.gov/press-release/2023/biden-harris-administration-announces-state-allocations-4245-billion-high-speed.

[116] *See Grant Program Guidelines – New York State's Affordable Housing Connectivity Program*, at p. 5, ConnectALL Office, Empire State Development (April 2023), https://esd.ny.gov/sites/default/files/news-articles/042023-ESD-Board-Materials-v2.pdf#page=84 ("*Grant Program Guidelines*").

[117] *Id. See also* ConnectALL, Fiber Broadband for Affordable Housing, https://broadband.ny.gov/fiber-broadband-affordable-housing.

[118] *Grant Program Guidelines.*

[119] *FY 2023 Enacted Capital Program and Financing Plan,* at T-232, N.Y. State Budget Office, https://www.budget.ny.gov/pubs/archive/fy23/en/fy23en-cp.pdf.

These funds should be more than sufficient to serve all remaining unserved and underserved areas.[120]

To ensure that these once-in-a-lifetime funds are used as efficiently and effectively as possible, broadband policymaking, including the establishment of rules and procedures to govern the allocation of grant funds, should be (1) informed by past successes and (2) focused on remedying clearly defined challenges. Recommendations in support of such an approach are offered below.

4.1.1. Maximize the Impact of Available Grant Funding by Supporting Projects Aimed at 100% Unserved Areas

States must use available BEAD funds to address unserved areas first, then underserved areas. In New York, the number of unserved and underserved areas has shrunk considerably due to the allocation of significant state grant funds (over $530 million since the early 2010s), the use of federal funding from the FCC's CAF II and RDOF (about $247 million in total since 2017),[121] and continued investment of risk capital by private ISPs, which has exceeded several billions of dollars over the last decade (this includes $600 million in merger-related investments by Charter, over $4 billion by Verizon deploying 5G and upgrading its wireline network, and hundreds of millions more by other ISPs like Altice and T-Mobile, among many others).[122]

According to FCC data, which was used to determine BEAD funding allocations, approximately 149,000 locations remain unserved by a wireline or fixed wireless provider capable of delivering at least 25/3 Mbps service.[123] These remaining unserved areas will be expensive to serve and will be characterized by low population density, geographical remoteness, and/or challenging topography. These characteristics will greatly increase the amount of grant funding that is needed to make these areas "economic" to serve.[124]

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[120] *See, e.g.,* Mike Conlow, *How Far Might the Broadband Funding Go? An Update with Data from the New Maps,* Jan. 31, 2023, Substack – Mike's Newsletter, https://mikeconlow.substack.com/p/how-far-might-the-broadband-funding. *Cf. Five Year Action Plan*, at p. 85-87, ConnectALL Office (Sept. 2023), https://broadband.ny.gov/system/files/documents/2023/09/nys-bead-5-year-action-plan.pdf (estimating that the state's BEAD allocation would not be enough to serve all unserved locations with FTTH) ("*5-Year Plan*").

[121] Approximately $170 million in CAF II funds was provided to the state by the FCC for use as part of the New NY program. *See, e.g.,* Sean Buckley, *New York Gets $170M in FCC Broadband Funding that Verizon Turned Down in 2015,* Jan. 27, 2017, Fierce Telecom, https://www.fiercetelecom.com/telecom/new-york-gets-170m-fcc-broadband-funding-verizon-turned-down-2015. As part of RDOF, ISPs in New York received about $77 million in total allocations to support expansion into unserved areas. *See* FCC, Authorized Auction 904 Long-Form Applications (as of Jan. 13, 2023), https://www.fcc.gov/file/24626/download.

[122] *See, e.g., Verizon Business Takes 5G Innovation Sessions Series to New York City,* Nov. 3, 2022, Verizon, https://www.verizon.com/about/news/verizon-business-5g-innovation-sessions-series-new-york-city.

[123] ACLP Analysis of FCC Fixed Broadband Availability Data (data as of December 31, 2022; last updated September 26, 2023).

[124] For further discussion, *see ACLP Tool Kit* at p. 42.

To make these areas more attractive to prospective grantees, states have authority to define the geographic level of their BEAD grants. In theory, a state could define grant projects' areas to include up to 20% of households that are already served so long as the remaining 80% are unserved households.[125] Including served households would allow an ISP to tap into a market where demand is already evident.[126] Doing so, though, would result in overbuilding, an inefficient outcome that squanders scarce public funding on duplicative broadband infrastructure (see Section 2.4 for additional discussion).

A better path would be for New York to establish criteria that define acceptable grant project areas as those that contain only unserved households.[127] Once projects seeking to serve just those households have been funded, then the state should focus remaining funds on projects to serve only remaining underserved households, only a small number of which remain in the state.[128] This approach will ensure that all available grant funding is put towards unserved and underserved households only, thereby eliminating any possibility of wasting funds on duplicative overbuilds in served areas.

4.1.2. Avoid Subsidizing the Overbuilding of Middle-Mile Networks

Middle-mile networks, which bridge last-mile networks and backhaul connectivity, are widely available in New York and across the country. In the absence of data showing that an area lacks any available middle-mile infrastructure, allocating grant funding in support of middle-mile projects should be avoided.

The lack of significant public investment in middle-mile networks over the last 15 years indicates that the state is already well-served in this regard. Indeed, since 2009, when federal grant funding was made available to support mostly middle-mile fiber deployments, only a handful of small and medium-sized middle-mile networks have been deployed in the state using public funds. Several of these were discussed in Section 2.4.

Among the largest middle-mile projects pursued in the state over the last few decades was a 1,300-mile fiber ring deployed in upstate New York that benefited from $39 million in BTOP funding.[129] It is unclear if that network was successful in boosting last-mile broadband access in its footprint. However, it should be noted that this BTOP-funded network was sold to a private equity-backed ISP, FirstLight, in 2016.[130] Since then, FirstLight, with the

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[125] *Notice of Funding Opportunity,* at p. 38, NTIA (May 2022), https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf ("*BEAD NOFO*").

[126] Per NTIA guidance, BEAD grants must go to areas that are at least 80% unserved or underserved, meaning that 20% of a grant area could be served. *BEAD NOFO* at p. 34, fn. 47.

[127] *Cf. 5-Year Plan* at p. 75 (indicating that the state will likely not pursue this path).

[128] According to data collected by the New York PSC, 99.9% of locations in the state are either served or unserved, leaving 0.1% underserved. *NY PSC Broadband Map.*

[129] NTIA, BTOP – New York Summary, https://www2.ntia.doc.gov/New-York.

[130] *Joint Petition of OHCP Northeastern Fiber Buyer, Inc.; Sovernet Holding Corporation; RLEC Holding Company, LLC; ION Holdco, LLC; and ION Newco Corp for Authority to Transfer and Acquire Shares,* Letter from PSC to Keith J. Rowland, Case No. 16-C-0471, N.Y. PSC (Dec. 16, 2016),

assistance of several private equity firms, has continued to purchase middle- and last-mile infrastructure across upstate New York and several other states in the region.[131] One component of FirstLight's business model is its willingness to lease access on its networks to third-parties.

In June 2023, NTIA awarded $14.5M to the Development Authority of the North Country (DANC) to extend its existing middle-mile fiber network to enable last-mile deployments in unserved parts of the state.[132] In particular, the funds will be used to build 344 miles of "new middle-mile fiber" across "12 counties" and will "enable broadband service to approximately 2,500 unserved residences along the fiber route and 287 community anchor institutions (fire stations, libraries, health care sites, etc.)."[133] Some funding will also be used by the DANC's partner, National Grid, to bolster its electric assets by connecting them with fiber and by the DANC itself to "increase telecommunications resilience" for Fort Drum, "a critical installation for national defense that serves multiple branches of the armed forces."[134]

Combined with the potential for additional middle-mile fiber being made available by NYPA and other public entities (e.g., the Thruway Authority[135]), it does not appear that further investment of state funding in middle-mile networks is needed at this time. Over-investing in middle-mile infrastructure would be wasteful and could result in stranded assets given the myriad challenges associated with successfully leveraging these systems to support last-mile service in rural areas.

There are numerous examples of failed and struggling middle-mile networks, many of which have been funded in large part by public dollars. The following examples should be studied closely by the state before it invests in middle-mile projects:[136]

- **KentuckyWired (Kentucky).** Perhaps the most infamous example of middle-mile overbuild is the KentuckyWired project, which has been labeled a "boondoggle" by

https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={82BA8C25-D40C-4835-A6F0-52B905358D8F}.

[131] *See, e.g.,* Chelsea Diana, *How FirstLight Fiber Positioned the Company to be More Attractive to its New Owners,* July 27, 2017, Albany Business Review, https://www.bizjournals.com/albany/news/2018/07/27/how-firstlight-fiber-positioned-the-company-to-be.html.

[132] NTIA, Enabling Middle Mile Broadband Infrastructure Program – Funding Recipients, https://broadbandusa.ntia.doc.gov/funding-programs/enabling-middle-mile-broadband-infrastructure-program/funding-recipients.

[133] *Annual Report: 2022-2023,* at p. 6, DANC, https://www.danc.org/media/Annual%20Reports/Annual%20Report%20FYE%202023.pdf.

[134] *Id.*

[135] The Thruway Authority oversees a 550-mile fiber network along the state thruway. *Fiber Optic Facilities Supplement,* N.Y. State Thruway Authority (Jan. 2016), https://www.thruway.ny.gov/business/realproperty/forms/tap-401f.pdf.

[136] For additional examples and discussion, *see Comments of the Advanced Communications Law & Policy Institute at New York Law School to the ALJ's Email Ruling Issued September 9, 2021*, California PUC (Oct. 1, 2021), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M411/K510/411510548.PDF.

many.[137] This statewide middle-mile network was launched to facilitate last-mile broadband service in unserved and underserved rural areas.[138] The project has gone significantly over-budget – it has cost more than five times as much as initially estimated – and was delayed for many years.[139] It is now mostly complete, but it has yet to forge meaningful partnerships with ISPs for the delivery of last-mile service.

- **EAGLE-NET (Colorado).** In 2009, a consortium of entities in Colorado successfully secured federal grant funding to build EAGLE-Net, a statewide middle-mile fiber network aimed at connecting every school district in the state and providing connectivity to various anchor institutions.[140] This $135 million project struggled from the start. Indeed, as the network was being built, it quickly became clear that, in many places, the infrastructure would be placed near existing middle-mile assets. Rather than "identify[] and adapt[] to these market changes, EAGLE-Net plowed forward," overbuilding private infrastructure and eventually triggering a federal investigation.[141] The investigation concluded that the project was engaging in inefficient overbuild, which contributed materially to the network's financial struggles.[142] Eventually, a private entity was engaged to "take[] over the responsibility of managing Colorado's beleaguered EAGLE-Net."[143]

- **North Florida Broadband Authority (Florida).** In 2009, 14 North Florida county governments and eight municipalities came together to build a "1,200-mile fixed wireless broadband network" that would connect "more than 300 community anchor institutions at speeds of 10 Mbps to 1 Gbps," all in an effort to "enhance

[137] *See, e.g.,* Karl Bode, *Kentucky Hopes to Shake Off KentuckyWired Boondoggle as State Gets Ready for BEAD Funding,* May 8, 2023, Community Networks, https://communitynets.org/content/kentucky-hopes-shake-kentuckywired-boondoggle-state-gets-ready-bead-funding. For an extended discussion of the struggles of middle-mile networks in Kentucky and several other states, *see Comments of the Advanced Communications Law & Policy Institute at New York Law School to the ALJ's Email Ruling Issued September 9, 2021*, California PUC (Oct. 1, 2021), https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M411/K510/411510548.PDF.

[138] *See, e.g.,* Alfred Miller, *Auditor: Kentucky Taxpayers Ripped Off as Price of Beshear Project Leaps*, Sept. 27, 2018, Courier Journal, https://www.courier-journal.com/story/news/politics/2018/09/27/kentuckywired-broadband-cost-taxpayers-1-5-billion/1436691002/.

[139] *Id.*

[140] EAGLE-Net Project Overview, BTOP, U.S. Dept. of Commerce, https://www2.ntia.doc.gov/sites/default/files/grantees/cboces.pdf.

[141] Kellen O'Brien, *EAGLE-Net's Never-Ending Odyssey: Addressing Colorado's Unique Broadband Infrastructure Challenges,* 12 J. on Telecomm. & High Tech. L 222, 240 (2014), http://www.jthtl.org/content/articles/V12I1/JTHTLv12i1_O%27Brien.PDF.

[142] *See generally Letter from Todd J. Zinser, Inspector General, U.S. Department of Commerce, to the Honorable Greg Walden, et al.,* Jan. 23, 2014, https://www.oig.doc.gov/OIGPublications/OIG-14-011-M.pdf.

[143] Sean Buckley, *Zayo Takes Over Management of Colorado's Trouble EAGLE-Net Alliance,* July 20, 2015, Fierce Telecom, https://www.fiercetelecom.com/telecom/zayo-takes-over-management-colorado-s-troubled-eagle-net-alliance.

economic development, education, and public services throughout the region."[144] The North Florida Broadband Authority (NFBA) received $30 million in federal grant funding to begin the project; the remaining $9 million was to come from members of the consortium.[145] Almost immediately, the NFBA project became financially unsustainable, due in large part to project mismanagement.[146] In response, the federal government froze its funding in September 2011 and opened an investigation.[147] Shortly thereafter, the project was described as stable and almost complete.[148] However, by 2013, a private entity was tapped to take over due to a "shortage of customers."[149] That entity "pulled out within a year after souring on the prospects of making a profit."[150] As a result, the network quickly became defunct – equipment was not maintained, making the system "unreliable" and forcing "some customers [to move] on to other sources for internet service."[151]

- **MassBroadband123 (Massachusetts).** The MassBroadband123 middle-mile network was built to connect anchor institutions and bolster last-mile rural broadband connectivity. It currently "consists of approximately 1,200 miles of fiber, connecting 123 communities in western and north central Massachusetts."[152] It was built at a cost of about $90 million, half of which was funded by the state and the other half via a federal stimulus grant.[153] The original vision for the MassBroadband123 network was to serve as a means of facilitating last-mile deployment by municipalities and other ISPs in unserved and underserved parts of the state. That effort quickly struggled due to, among other things, operational and sustainability concerns of some of the city-led broadband efforts.[154] Now, the state

[144] *Project Fact Sheet: North Florida Broadband Authority,* NTIA, U.S. Dept. of Commerce, https://www2.ntia.doc.gov/sites/default/files/grantees/fl_nofloridabbauth_final.pdf.

[145] *Id.*

[146] *See, e.g., Testimony of the Hon. Lawrence E. Strickling, Assistant Secretary for Communications and Information, NTIA, U.S. Dept. of Commerce, Before the House Subcommittee on Communications and Technology,* at p. 11, Feb. 27, 2013, https://www.govinfo.gov/content/pkg/CHRG-113hhrg80019/pdf/CHRG-113hhrg80019.pdf#page=28 ("*Strickling Testimony*").

[147] *Id.*

[148] *Id.*

[149] Anthony Clark, *Rural Counties Struggle Getting 'Last-Mile' of Fast Internet,* Nov. 28, 2015, Gainesville Sun, https://www.gainesville.com/story/news/local/2015/11/29/rural-counties-struggle-getting-last-mile-of-fast-internet/31888290007/.

[150] *Id.*

[151] *Id.*

[152] Massachusetts Broadband Institute, Middle Mile Network, https://broadband.masstech.org/middle-mile-network.

[153] *Project Fact Sheet: MassBroadband 123,* NTIA, U.S. Dept. of Commerce, https://www2.ntia.doc.gov/sites/default/files/grantees/MA_MassBroadband123.pdf.

[154] *See, e.g.,* Lisa Gonzalez, *Shoot-Out Over the WiredWest: MBI Pulls Funding in Massachusetts Saga,* Jan. 27, 2016, Community Networks, https://muninetworks.org/content/shoot-out-over-wiredwest-mbi-pulls-funding-massachusetts-saga.

primarily focuses its resources on supporting last-mile deployment by private ISPs, either on their own or in partnership with municipalities.[155] This shift underscores the ability of public-private partnerships to serve as a viable solution in some unserved and underserved areas.

Even privately funded open access middle-mile networks struggle to deliver the kind of competitive panacea that many advocates promise of these systems. As noted above, SiFi Networks, which is seeking to deploy middle-mile infrastructure in dozens of cities across the U.S., including Saratoga Springs in New York, has only been able to provide more than one choice of ISP in two of its markets to date. Many other putative open access networks typically lock in an ISP for an exclusive term to help generate revenues for the ISP and the city. In some cases, the exclusive contract gives the initial partner-ISP a significant first-mover advantage, which tends to discourage other ISPs from utilizing the middle-mile network.[156] Indeed, some ISPs are now calling for a cap on the number of service providers that can lease access on open access networks to prevent a "race to the bottom" that could make it difficult, if not impossible, for these entities to self-sustain.[157]

In short, the track-record of middle-mile networks vis-à-vis bolstering last-mile access is mixed given the significant challenges associated with attracting credible partner-ISPs to deliver retail service to customers and the attendant financial strains that these struggles place on the middle-mile network owner. Accordingly, allocating state grant funding to support middle-mile deployments would be inefficient and do little to close the state's remaining digital divides.

4.1.3. Deploy a Robust and Inclusive Challenge Process

Before allocating BEAD grant funding, the state must design a "transparent, evidence-based, and expeditious challenge process" that allows an entity to "challenge a determination made by [the state]...as to whether a particular location" is unserved and therefore eligible for grant funds.[158]

New York has some experience in designing and implementing challenge processes as part of grant programs. For example, prospective grant applicants had several opportunities to challenge the designation of Census blocks as unserved or underserved during each phase

[155] *See, e.g.,* Diane Brancaccio, *MBI Changes Broadband Course,* May 10, 2016, Greenfield Recorder, https://www.recorder.com/MBI-changes-broadband-course-2046546. *See also* MBI, Flexible Grant Program, https://broadband.masstech.org/last-mile-programs/flexible-grant-program ("*Flexible Grant Program*"). The state's middle-mile network still serves as a means of facilitating deployment by municipal ISPs, but such uses appear to be limited.

[156] This dynamic has been observed in several places, including Huntsville, AL and West Des Moines, IA.

[157] *See, e.g.,* Teralyn Whipple, *Open Access Models Should Limit Number of Providers Riding the Network: ISP Exec,* July 19, 2023, Broadband Breakfast, https://broadbandbreakfast.com/2023/07/open-access-models-should-limit-number-of-providers-riding-the-network-isp-exec/.

[158] IIJA § 60102(h)(2).

of the New NY program.[159] Challengers, though, were limited to ISPs that provided broadband service in the areas subject to a challenge. The BEAD challenge process, on the other hand, will be open to units of government, nonprofit organizations, and ISPs.[160] In addition, the scope of BEAD-related challenges and the data offered in support of those challenges will be more expansive than what New York accepted during New NY.[161] Ultimately, whatever data is submitted as part of a BEAD challenge must be verified by the state. Hence the need for a robust challenge process.

What might a robust and inclusive challenge process look like in New York? Ultimately, challenge processes help to ensure that grant funding goes to truly unserved areas, and then to underserved areas. A variety of factors make it difficult for any one source to correctly identify every unserved or underserved area in a state. For example, data from ISPs regarding their service territory might be inaccurate; areas that are technically served might only have access to unreliable broadband connections;[162] or an area that is currently unserved might be "subject to an enforceable federal, state, or local commitment [*e.g.,* a state grant; RDOF funding; an ARPA-funded project; etc.] to deploy qualifying broadband," which would render it served for the purposes of allocating BEAD funding.[163] Challenge processes that leverage localized knowledge of broadband deployment, stemming from experience with connectivity matters in a given area, can help to ensure that public funds are expended in a fiscally prudent manner and not used to enable unnecessary and inefficient overbuilding.

The state broadband office has indicated that it "expects that it will need to make multiple modifications to the FCC dataset to present an accurate set of unserved locations to potential [BEAD] subgrantees."[164] NTIA has identified several possible modifications that states might adopt as part of their challenge process. For example, states could elect to reclassify locations that are served only by DSL as undeserved given the reliability and speed concerns associated with this aging technology.[165] Many states are exploring a range of additional modifications that would result in a significant increase in the number of unserved and underserved locations. Ohio, for example, has proposed treating locations served only by licensed fixed wireless service as unserved.[166] Others are seeking to classify

[159] *See, e.g., New NY Broadband Program: Phase 3 Request for Proposal Guidelines,* at p. 35, N.Y. State Broadband Office (March 30, 2017), https://broadband.ny.gov/system/files/documents/2022/04/broadband_-_phase_3_rfp_guidelines-final.pdf.

[160] *Final BEAD Challenge Process Guidance,* NTIA (June 2023), https://www.internet4all.gov/bead-challenge-process-policy ("*BEAD Challenge Process Guidance*").

[161] *Id.*

[162] *See, e.g., BEAD NOFO* at p. 15, fn. 13 (noting that areas served only by DSL connections could be considered unserved if those connections are deemed unreliable).

[163] *BEAD NOFO* at p. 36.

[164] *5-Year Plan* p. 68.

[165] *BEAD Challenge Process Guidance* at p. 10.

[166] *Initial Proposal Volume 1,* at p. 11-12, BroadbandOhio, https://broadbandexpanded.com/files/iija_plans/OH%20-%20BEAD%20Initial%20Proposal%20-%20Volume%201%20Draft.pdf.

entire multi-dwelling units (MDUs) (*e.g.,* apartment buildings) as underserved if not all units in the building have a broadband connection. In Illinois, which has proposed this modification, this would result in upwards of 335,000 additional underserved locations in the state.[167]

The practical effect of these modifications is to dilute available BEAD funding by vastly increasing the number of unserved and underserved locations. The underlying rationale for this approach to reclassifying served locations appears to reflect a mindset that fiber is the preferred platform for the state vis-à-vis realizing universal connectivity. This approach to closing the digital divide is counterproductive because it dismisses the myriad positive impacts of intermodal competition and seeks to replace consumer demand for platform choice with a single platform built with fiber.

ConnectALL has indicated that it foresees leveraging a variety of platforms, including fiber and "wireless internet technologies," to close remaining availability gaps.[168] To effectively operationalize this strategy, the state should thus avoid unnecessarily broad reclassifications of served locations.

4.1.4. Engage in Additional Forward-Looking Policy Reforms

As part of the BEAD application process, states are required to identify potential legislative and regulatory reforms that could help to reduce broadband deployment costs and otherwise hasten buildout.[169] This offers New York an opportunity to focus on practical reforms aimed at further streamlining the broadband deployment process.

The legislature has proven that it can achieve needed telecommunications reforms when the need arises. For example, legislators recently rolled back the so-called "fiber tax," which imposed per-mile fees on fiber deployments in the state right-of-way.[170] The removal of this tax will free up funding for ISPs that can be reinvested in their networks. Further legislative reforms aimed at rationalizing fee structures for local ROW and otherwise streamlining local permitting and approval processes might also be explored by the legislature and recommended by the ConnectALL office as part of the BEAD planning process.

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[167] *Initial Proposal Volume 1,* at p. 19, Connect Illinois, https://broadbandexpanded.com/files/iija_plans/IL%20-%20BEAD%20Initial%20Proposal%20-%20Volume%201%20Draft.pdf.

[168] *Empire State Development Releases Five-Year Action Plan for New York's BEAD Funding,* Sept. 28, 2023, Empire State Development, https://esd.ny.gov/esd-media-center/press-releases/esd-releases-five-year-action-plan-for-new-york-bead-funding.

[169] *BEAD NOFO* at p. 32.

[170] *See, e.g.,* Megan McGibney, *Making Broadband Internet Connections to New York's Hardest-to-Reach Places,* June 1, 2022, City & State New York, https://www.cityandstateny.com/policy/2022/06/making-broadband-internet-connections-new-yorks-hardest-reach-places/367579/.

4.1.5. Continue to Update Policies Impacting the Use of Utility Poles for Broadband Deployment

Additional reforms to the state's pole attachment policy framework are also needed.

As noted above, the legislature has tasked the PSC with considering specific updates to this framework, with a focus on streamlining many of the key processes involved in attaching equipment to utility poles.[171] Among the most contentious issues that must be resolved is fairly apportioning the costs associated with replacing outdated poles.

In many instances, particularly in rural areas, electric utilities, which own a significant share of poles in the state, have sought to shift the entire cost of pole replacement to ISPs seeking to attach broadband equipment. ISPs contend that some utilities deliberately delay pole replacement in the hopes that a third-party will request an attachment to the outdated pole, allowing the utility to insist that the new attacher pay for a replacement pole before the attachment can be made.[172] Utilities counter that they should not be responsible for the cost of replacement because the attachments of others have, in many instances, caused the pole to deteriorate.[173] In addition, utilities note that, if they are forced to shoulder a significant share of replacement costs, then they will have to raise electric rates.[174]

Among the solutions put forward by stakeholders, the most logical would be to apply the same basic approach to pole replacement costs that is used for pole attachments – *i.e.,* each entity that uses the pole, including the electric utility, contributes a proportionate share to replace it. An alternative proposal put forward by the electric utilities would have the state use available BEAD funding to offset these costs.[175] In practice, this would likely require grant applicants to build the costs of pole replacements into their proposals. This could result in a significant ballooning of deployment costs, which could result in fewer households being served via grant-funded projects. As such, the PSC should consider adopting a proportionate approach to cost-sharing.

Other pole-related costs deserve legislative or regulatory action. If a pole does not need to be replaced, a new attacher will likely still be responsible for certain make-ready costs. These encompass a host of costly activities aimed at making room on a pole for new equipment. When the PSC extended its utility pole Policy Statement to wireless attachers in 2019, the Commission deferred action on key make-ready issues, including "improvements to streamline the make-ready application, survey and construction processes [and] the

[171] *Proceeding to Review Certain Pole Attachment Rules,* Notice Seeking Comment, Case 22-M-0101, N.Y. PSC (March 1, 2022).

[172] *See, e.g., Proceeding to Review Certain Pole Attachment Rules,* Comments of Charter Communications, Case 22-M-0101, N.Y. PSC (April 7, 2022).

[173] *See generally Proceeding to Review Certain Pole Attachment Rules,* Comments of the Joint Utilities, Case 22-M-0101, N.Y. PSC (April 7, 2022).

[174] *Id.*

[175] *Proceeding to Review Certain Pole Attachment Rules,* Further Comments of the Joint Utilities, Case 22-M-0101, N.Y. PSC (Oct. 21, 2022).

feasibility and implementation of a one touch make-ready," an approach that can reduce costs for attachers.[176]

The state might consider creating a discrete fund to address these pole-related costs. Several states, including North Carolina, Ohio, and Texas, have established pole replacement funds by leveraging available ARPA funding.[177] The New York legislature should explore a similar fund and should consider shifting a significant portion of funding that might go to the MAP to a pole replacement fund. ConnectALL has proposed using MAP funding to offset pole-related costs in the context of municipal broadband projects.[178] The state should consider expanding the use of these funds to address pole-related costs for a much broader range of broadband projects, including those that will be funded in part with BEAD dollars.

Replacing outdated poles in a cost-effective and timely manner and helping ISPs defray a meaningful amount of make-ready costs will have a profound and immediate impact on achieving broadband connectivity goals. Indeed, in the context of the state's administration of BEAD funds, addressing pole-related costs separately would ensure that BEAD allocations go much further than they otherwise would if an ISP is forced to include these costs in their applications.

4.1.6. Strictly Define the Parameters of the Municipal Assistance Program and Otherwise Tailor Support for Municipal Broadband

Broadband projects by municipalities and other non-traditional ISPs have played a very limited role in helping drive broadband to more parts of the state. In most cases, there has been no need for such drastic intervention because of consistent investment by private ISPs and responsiveness by the state in the form of grant funding to support expansion into rural areas. Even before the state enacted laws expressly permitting municipal broadband, localities could pursue a broadband project; there were few real roadblocks standing in their way. In addition, grant funding via Connect NY and New NY was technically available to municipalities, but few applied, and even fewer received funding. In short, most municipalities and other non-traditional ISPs saw no compelling need to interfere in the broadband market.

The creation of a Municipal Assistance Program focused on supporting municipal broadband projects, coupled with the efforts of some to depict the state's broadband market as subpar and uncompetitive, could encourage projects that might not exist but for the MAP. In other words, the state risks creating artificial demand for municipal broadband. Without sufficiently clear parameters for and guardrails on the MAP and related programs,

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[176] *PSC Wireless Attachment Order* at p. 2.

[177] NCDIT, Broadband Pole Replacement Program, https://www.ncbroadband.gov/grants/make-ready-grant; OH Rev. Code § 191.27, https://codes.ohio.gov/ohio-revised-code/section-191.27; Texas Broadband Development Office, Programs – Broadband Pole Replacement Program, https://comptroller.texas.gov/programs/broadband/funding/.

[178] *Municipal Infrastructure Program Guidelines.*

there is a high probability that many municipal broadband projects funded by the MAP will struggle or fail.

The statute that created the MAP authorizes the state broadband office to establish criteria for distributing grant funds in support of municipal broadband projects.[179] Priority is to be given to projects that deploy fiber, adhere to net neutrality principles, and focus on unserved areas; in theory, however, MAP funds could be given to almost any municipal broadband project deemed appropriate by the broadband office.[180] Given the likelihood that remaining unserved parts of the state will be connected via the use of BEAD grants, the MAP could end up subsidizing municipal networks in mostly served areas, leading to the use of public funds for overbuilding.

Using the MAP to subsidize overbuilding would not be contrary to the statute since the law permits the broadband office to determine how to "maximiz[e] the effectiveness" of the program.[181] Indeed, it is possible that the broadband office could position the MAP as a means of bolstering competition by underwriting the introduction of new municipal ISPs in served markets.

For the myriad reasons discussed above, this would be a highly inefficient outcome. State grant funding should not go to any entity, municipal or otherwise, that seeks to build a broadband network in areas that are already served. Every available dollar should support deployment to unserved areas, and then to underserved areas. Any remaining funds should be invested in much-needed demand-side initiatives across the state (see Section 4.2).

To the extent the state allocates significant funding to the MAP, thereby necessitating comprehensive action by the broadband office to design a grant program, then the office, as a first step, should carefully study, perhaps via the creation of an informal advisory group, the history of municipal broadband and the prevailing models being used by localities to build networks. The goal of this endeavor would be for the office to identify best and worst practices and otherwise develop an understanding of why certain approaches to building municipal broadband networks struggle or fail. If the state stokes artificial demand for municipal broadband, as is likely, then it has a responsibility to educate localities about the real risks and downsides of pursuing these projects. Municipal broadband is incredibly risky, especially when deployed in served markets.[182]

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[179] ConnectALL has begun the process of implementing this program via *Municipal Infrastructure Program Guidelines*.

[180] N.Y. Unconsolidated Law § 6266-gg(8).

[181] *Id.*

[182] These risks and struggles have been well documented. *See, e.g., Understanding the Debate over Government-Owned Broadband Networks: Context, Lessons Learned, and a Way Forward for Policymakers,* ACLP at New York Law School (June 2014), http://comms.nyls.edu/ACLP/ACLP-Government-Owned-Broadband-Networks-FINAL-June-2014.pdf; T. Randolph Beard et al., *The Law and Economics of Municipal Broadband,* 73 Fed. Comm. L. J. 1 (2021), http://www.fclj.org/wp-content/uploads/2021/01/73.1.1_Municipal-Broadband-Article-Final-Proof.pdf.

Another step the office should take when framing out the MAP program is to establish clear eligibility criteria for prospective applicants. Large cities should be excluded because, in almost every instance, they are already well served by multiple wireline and wireless ISPs. Supporting a municipal broadband network in a place like New York City, even one that is small-scale in nature (e.g., a Wi-Fi mesh network), would represent wasteful overbuilding. Eligibility criteria could revolve around data-points like broadband availability, population density, and geographic characteristics.

The office should also consider capping grant amounts. If a municipality wishes to deploy a broadband network, then it should be responsible for bearing much of the financial and operational risk. MAP grants could support feasibility studies and related planning efforts undertaken by an entity chosen from a preselected list of vendors with an established track-record of objectivity.[183] MAP support for construction costs should be limited to a small percentage of the overall project cost. In addition, even though the statute is clear on this point, the office should clarify that MAP funds are only to be used for planning and construction costs. MAP funds cannot and should not be used to offset operating expenses.

Finally, the legislature and the office should consider funding the MAP at minimal levels until all grant funds – BEAD and CPF – are allocated. This will provide policymakers with a clearer view of the new broadband landscape. If some areas remain unserved, then a tailored municipal broadband project might be appropriate to serve those discrete areas. However, if the state is on track to being fully served, as is likely, then the legislature might consider leaving the MAP unfunded or repealing it entirely.

4.2. OPPORTUNITIES TO ADDRESS REMAINING DEMAND-SIDE ISSUES

Until it was required to do so in response to federal grant rules, New York State did not focus in a meaningful way on demand-side issues like broadband adoption or digital literacy. Fortunately, broadband adoption rates rose significantly and consistently across every major user group over the last two decades. However, as noted in Section 3.2, discrete demand-side challenges remain. With approximately $65 million forthcoming to the state via the NTIA Digital Equity Capacity Grant program, and likely millions more available for demand-side activities in the form of leftover BEAD funds, New York will have ample opportunity to develop and deploy a comprehensive strategy for making sure every resident and business has equal opportunity to adopt broadband and use it in meaningful ways.[184]

The following articulates recommendations to inform how the state and its broadband office approach the development and implementation of its digital equity strategies.

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[183] Municipal broadband consulting has become a cottage industry wherein few vendors decline to recommend costly projects. For additional discussion of the need for objectivity in the planning process and recommendations for developing processes to assure the hiring of experts, *see ACLP Tool Kit* at Section5.

[184] *A Guide to Federal Broadband Funding Programs – An Overview of the IIJA's Digital Equity Programs,* at p. 5, ACLP at New York Law School (March 2023), https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1010&context=reports_resources.

4.2.1. Assure Robust, Inclusive, and Comprehensive Planning

To access available federal grant funding for broadband, state policymakers must collaborate with their counterparts at the local level, as well as stakeholders across the private and nonprofit sectors, to develop and deploy plans that detail how resources will be used to enhance digital equity and promote more robust broadband connectivity. Indeed, the IIJA positions equity as a primary consideration that must inform how BEAD funding is allocated – the statute requires states to ensure that whatever funding is distributed in support of broadband expansion is done in an "equitable and non-discriminatory manner."[185] Similarly, securing digital equity grant funding via the IIJA requires states to work with local counterparts to develop digital equity plans that cover the full range of broadband connectivity issues – *i.e.,* those on both the supply-side and demand-side.[186]

The products of these planning processes will be a digital equity plan that describes how New York will deploy available demand-side funds. To assure a robust, inclusive, and comprehensive plan, New York might consider adapting the ACLP's digital equity framework, core elements of which include:

Availability Assessment. As part of the BEAD planning process, officials will undertake a comprehensive inventory of broadband availability across every part of the state. To inform digital equity planning, these efforts should encompass all forms of broadband regardless of technology and should catalog available speeds, price points, and service offerings. If an area is served (*i.e.*, if residents can readily subscribe to a broadband connection of some kind), then officials should focus their planning efforts on demand-side issues. Ultimately, New York should seek to deploy funding to areas of most need, as required by the IIJA. This means that BEAD funding goes first and foremost to unserved and undeserved areas, while digital equity funding will go to served areas to support certain covered populations.

Adoption Assessment. In served areas, the next step is to evaluate broadband adoption in the community. What are the adoption rates across relevant demographic and socioeconomic groups? What kinds of services and speeds are consumers using? Who isn't online? Data should be derived primarily from the Census Bureau's ACS reports and supplemented with survey and anecdotal data collected by states, localities, and relevant community groups.

Barriers Assessment. For those who aren't online, understanding specifically why they have not adopted broadband is essential. What are the major barriers impeding their adoption? Is it the cost of a broadband connection? The lack of a computing device? A hesitance or fear of going online? A lack of appreciation for how broadband can positively impact one's life? General disinterest? A granular understanding of these issues within each under-adopting user group will increase the chances that policy responses are impactful.

[185] IIJA § 60102(g)(2)(B).

[186] IIJA § 60304(c)(1).

Given the state's lack of experience with demand-side issues, the following offers an overview of major barriers to broadband adoption and informed use:

- **Awareness of Broadband and its Availability.** Broadband adoption requires consumers to know what broadband is, what it can do, and that it is available to them for purchase. The COVID-19 pandemic certainly raised the profile of broadband and its many uses in enabling both convenient (*e.g.*, video-conferencing) and critical (*e.g.*, telemedicine, virtual schooling) services. Indeed, there is data suggesting a small but meaningful bump in broadband adoption in certain areas during the pandemic.[187] In addition, surveys taken during the pandemic indicate greater awareness of the essential nature of broadband.[188] Policymakers can build on this momentum by using the digital equity planning process discussed here to continue promoting the benefits of broadband and underscoring that it remains a critical tool.

- **Appreciating that Broadband is Relevant to One's Life.** Broadband adoption requires more than just an awareness of an available connection. Consumers must also view broadband as relevant to their life and therefore a valuable investment of resources. "Relevance" has long been part of the digital divide conversation. Survey data consistently highlights that many non-adopters do not perceive broadband as relevant or useful.[189] Such an outlook directly impacts whether they view the cost of a broadband subscription as affordable.[190] Properly designed outreach and education initiatives, especially those that receive digital equity grants, can help to reframe broadband as relevant for many non-adopters.

- **Ability to Afford Broadband.** For some, the cost of a subscription is a major barrier to broadband adoption. In general, broadband adoption has long been correlated with income: those with higher annual incomes tend to have much higher rates of broadband adoption than lower-income households.[191] For many years, there were limited resources available to non-adopters who were unable to afford a broadband connection. Fortunately, a spate of new programs has been launched in recent years by the federal government, notably the ACP, and private ISPs to help address the

[187] *See, e.g.,* Catherine Isley and Sarah A. Low, *Broadband Adoption and Availability: Impacts on Rural Employment During COVID-19,* Telecommunications Policy 46 (2022), https://www.sciencedirect.com/science/article/pii/S0308596122000143.

[188] *See, e.g.,* Colleen McLain et al., *The Internet and the Pandemic,* Sept. 1, 2021, Pew Research Center, https://www.pewresearch.org/internet/2021/09/01/the-internet-and-the-pandemic/.

[189] *See, e.g.,* Rafi Goldberg, *Unplugged: NTIA Survey Finds Some Americans Still Avoid Home Internet Use,* April 15, 2019, NTIA, https://www.ntia.gov/blog/2019/unplugged-ntia-survey-finds-some-americans-still-avoid-home-internet-use.

[190] *See, e.g.,* Charles M. Davidson, Michael J. Santorelli & Thomas Kamber, *Broadband Adoption: Why it Matters & How it Works*, 19 Media L. & Policy (2009), http://comms.nyls.edu/ACLP/Davidson_Santorelli_Kamber-BB-Adoption-Article-MLP-19.1.pdf.

[191] *See, e.g.,* Rafi Goldberg, *New NTIA Data Show Enduring Barriers to Closing the Digital Divide, Achieving Digital Equity,* May 11, 2022, NTIA, https://www.ntia.doc.gov/blog/2022/new-ntia-data-show-enduring-barriers-closing-digital-divide-achieving-digital-equity.

affordability of broadband (see below for further discussion).[192] Eligible consumers can now use these subsidies in combination with low-cost broadband offerings from ISPs to access the internet for free.

- **Ability to Access Broadband on a Computing Device.** Another impediment to broadband adoption is the lack of a computing device to harness a broadband connection. Purchasing such a device adds to the overall cost of adopting broadband, further compounding the affordability concerns of many non-adopters. Until recently, one of the only means of overcoming this barrier was via a nonprofit that refurbished old computers. Now, device subsidies are being rolled out as part of a broader focus on steering funds directly to consumers to address broadband affordability issues.

- **Privacy and Security Concerns.** A range of additional barriers impact broadband adoption decisions and how adopters use the internet. These include security and privacy concerns – *e.g.*, being online increases the likelihood of having one's personal or financial information stolen. These concerns are common across both adopting and non-adopting households. Indeed, even avid internet users tend to avoid certain online activities because of safety and privacy concerns.[193] Among non-adopters, these concerns are especially prevalent among older adults.[194] Effective digital literacy programs can help to assuage these fears provided they have plans in place for adapting curricula and training to reflect emerging issues like AI.

- **Accessibility-Related Barriers.** Accessibility barriers also remain for many people with disabilities. Nationally, the broadband adoption rate among people with disabilities is somewhat lower than the rate for those without disabilities: 72% vs. 78%.[195] This may be because the quality of the user experience is reduced in many cases for people with disabilities as a significant number of websites and online services lack even basic accessibility features.[196]

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[192] For further discussion of these offerings, see *ACLP Tool Kit* at Section 6.

[193] *See, e.g.,* Andrew Perrin, *Half of Americans Have Decided Not to Use a Product or Service Because of Privacy Concerns,* April 14, 2020, Pew Research Center, https://www.pewresearch.org/fact-tank/2020/04/14/half-of-americans-have-decided-not-to-use-a-product-or-service-because-of-privacy-concerns/.

[194] *See, e.g.,* Ed Baig, *Older Adults Wary about their Online Privacy,* April 23, 2021, AARP, https://www.aarp.org/home-family/personal-technology/info-2021/companies-address-online-privacy-concerns.html.

[195] *See* Andrew Perrin and Sara Atske, *Americans with Disabilities Less Likely Than Those Without to Own Some Digital Devices,* Sept. 10, 2021, Pew Research Center, https://www.pewresearch.org/fact-tank/2021/09/10/americans-with-disabilities-less-likely-than-those-without-to-own-some-digital-devices/.

[196] *See, e.g.,* Sarah Katz, *The Inaccessible Internet,* May 22, 2020, Slate, https://slate.com/technology/2020/05/disabled-digital-accessibility-pandemic.html.

- **Possessing the Skills Needed to Use an Internet Connection.** Many non-adopters and fledgling broadband adopters lack the skills needed to use broadband effectively, significantly decreasing the perceived usefulness of an internet connection. Promoting the notion of "digital readiness," of being ready, willing, and able to harness the transformative power of broadband, is essential to state and local efforts aimed at bringing more people online.[197] Developing these skills should be at the core of all programs that receive digital equity grant funding.

Partnership Assessment. Once the nuanced landscape of broadband connectivity is fully understood, the next step is to identify potential partners for bringing more people online. ISPs are natural partners given their presence in the locality. Partnerships with them could yield greater promotion of existing low-cost offerings, the availability of ACP subsidies, additional Wi-Fi deployments, or other appropriate responses to connectivity challenges facing certain communities. Currently, there appears to be a significant gap in awareness of the availability of low-cost broadband programs and subsidies among users who might qualify. Closing that gap should be a priority for policymakers and other stakeholders (see below for further discussion).

On the demand-side, partners might include anchor institutions, nonprofits, foundations, healthcare associations, community groups, senior centers, and other stakeholders in the local social infrastructure with established roots in the community and demonstrated bona fides vis-à-vis bringing people online and delivering targeted digital literacy training. The ACLP has proposed to the NTIA that expert providers of demand-side offerings should serve as validators of inexperienced or nascent entities seeking digital equity grant funding.[198] This approach could greatly reduce the potential for waste, fraud, and abuse of digital equity funding. New York should study this proposal and consider adapting it.

Strategy Development. After the data have been gathered and assessed; the issues identified; and resources marshaled, state and local officials will then be in a better position to begin aligning these assets to address the challenges at hand. An inclusive process that brings all stakeholders to the table for collaborative, solution-focused discussions will be best vis-à-vis generating workable strategies.

Solution Deployment. Once strategies have been developed, officials, in tandem with the network of partners convened to assist, can focus on the tactical deployment of actual solutions, including the securing and allocating of available grant funding. Priority should be assigned to those communities where broadband adoption rates are lowest.

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[197] *See, e.g.,* John B. Horrigan, *Digital Readiness Gaps,* Pew Research Center (Sept. 2016), https://www.pewresearch.org/internet/wp-content/uploads/sites/9/2016/09/PI_2016.09.20_Digital-Readiness-Gaps_FINAL.pdf.

[198] *Digital Equity Act of 2021 Request for Comment,* Comments of the ACLP, at p. 4-5, NTIA (May 1, 2023), https://digitalcommons.nyls.edu/cgi/viewcontent.cgi?article=1011&context=reports_resources.

4.2.2. Promote the Availability of Subsidies

A major source of recent progress on the broadband adoption front has been the availability of subsidies to offset the cost of a broadband subscription and an access device. The FCC's Affordable Connectivity Program (ACP), which provides eligible low-income participants with a $30/month subsidy, has enrolled over 21 million households nationwide.[199] In New York, about 1.57 million households had enrolled by the end of September 2023.[200] Though of great help to qualifying households, the ACP is significantly undersubscribed. At the national level, about 55.6% of qualifying households have enrolled.

ACP enrollment in New York is about 60%, outpacing the national average.[201] This success stems from Governor Hochul making the ACP a priority and continuously promoting the availability and benefits of enrollment.[202] However, about a million households in New York could benefit from ACP but have yet to enroll. More must be done to raise awareness about the availability of this subsidy.

For those enrolled in the ACP, many can also avail themselves of low-income programs offered by ISPs like Altice, Charter, and Verizon. In many instances, broadband is provided for free to these customers. In New York City, Big Apple Connect has adapted the ACP model to provide free broadband and cable services to qualifying public housing residents (see Section 2.4 for additional discussion). In short, the cost and perceived affordability of broadband is no longer an issue for many New Yorkers.

Even so, the state should begin contingency planning in case the ACP runs out of funding before it is renewed or made permanent. Some estimate that ACP funding could be depleted by early 2024.[203] The state might study Big Apple Connect and use that as a model should the ACP be left to expire. In particular, the state could use funding leftover from the BEAD program once all unserved and underserved areas are addressed to fund a BAC or ACP-like program statewide. This could extend the availability of subsidies for a period during which legislators can determine how to structure and fund a permanent program.

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[199] USAC, ACP Enrollment and Claims Tracker (as of Sept. 30, 2023), https://www.usac.org/about/affordable-connectivity-program/acp-enrollment-and-claims-tracker/.

[200] *Id.*

[201] Based on a comparison of ACP enrollment data as of May 2023, *id.,* with the total number of households eligible for Lifeline, a program with similar eligibility criteria to the ACP. *See* USAC, Lifeline – Program Data, https://www.usac.org/lifeline/resources/program-data/. The ACP's eligibility criteria are broader than Lifeline's, so the enrollment rate for the ACP is likely even lower.

[202] *See, e.g., Governor Hochul Announces up to $30/Month Discount with Federal Affordable Connectivity Program,* Jan. 10, 2022, Office of the Governor of N.Y., https://www.governor.ny.gov/news/governor-hochul-announces-30month-discount-federal-affordable-connectivity-program.

[203] *See, e.g.,* Jeff Baumgartner, *Fixing ACP's Funding Gap 'Biggest Issue' on 2023, Horizon,* March 3, 2023, Light Reading, https://www.lightreading.com/digital-divide/fixing-acps-funding-gap-biggest-issue-on-2023-horizon---aca-connects-ceo/d/d-id/783640.

4.2.3. Leverage Available Digital Equity Funds to Scale Proven Programs

Empowering users with a core set of skills requires comprehensive planning, the development of curricula, and the provision of opportunities to acquire and hone these skills. As noted, about $65 million in federal digital equity grant funding will be available to support many of these efforts in New York.

These funds should be used to scale impactful and proven demand-side programs, of which there are many in New York. Older Adults Technology Services (OATS) is headquartered in New York City and has deployed tailored training programs for senior citizens across NYC and in rural parts of the state.[204] It is the preeminent organization focused on connecting and training seniors. Its invaluable expertise should be sought out and leveraged to inform any digital equity plan that emerges. Other experts to engage include Power My Learning, which provides devices and training to school-aged children,[205] and Per Scholas, which provides tech-focused workforce development training to adults of all ages.[206] The state should also study and consider funding broader use of the Digital Navigator program, which places digital literacy experts in community settings (*e.g.,* libraries, community/senior centers, etc.) to deliver hands-on training.[207] At a minimum, best practices should be distilled from these efforts and offered to other groups designing additional digital literacy programs.

Embracing and adequately funding a more robust and expansive digital equity and literacy vision is essential at a time when technology like broadband is becoming more and more central to every aspect of life. New York is beginning to appreciate the importance of addressing demand-side issues and fostering core digital literacy skills. For example, the New York Department of Labor has launched a "free digital literacy program to help job seekers gain skills needed to be more marketable to an employer."[208] This is a welcome development and hopefully sets a precedent for greater involvement by the state in addressing demand-side issues.

With greater use comes greater benefits, but also more risk in the form of privacy violations and cyber threats. In addition, as technology continues to advance, it will be essential for New York to have a robust digital equity and literacy infrastructure in place to deliver updated training and education on issues like AI and protecting personal data when online.

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[204] OATS, www.oats.org.

[205] Power My Learning, https://www.powermylearning.org/.

[206] Per Scholas, About, https://perscholas.org/about-per-scholas/.

[207] See, e.g., Matt Kalmus et al., *A Human Approach to Closing the Digital Divide,* June 13, 2022, BCG, https://www.bcg.com/publications/2022/how-to-close-digital-divide-with-human-approach.

[208] Scott R. Axelrod, *New York Launches Digital Literacy Program to Boost Employment,* May 15, 2023, Staten Island Advance, https://www.govtech.com/network/new-york-launches-digital-literacy-program-to-boost-employment.

4.2.4. Digital Equity Planning Should Also Focus on Assuring the Long-Term Sustainability of Funded Programs

The Digital Equity Act, which created the digital equity (DE) grant programs that will channel tens of millions of dollars in grant funding to New York, appears to be silent on a key point – the long-term sustainability of the programs that receive DE grant funds. Indeed, there does not appear to be adequate recognition that many grant-funded programs may be unable to sustain themselves once grant funding runs out. Left unaddressed, there is a high probability that some of these programs will face and likely fall over a financial cliff once their grant awards are fully deployed. The state must focus on and address the issue of DE program sustainability.

Sustainability of DE programs is critical because digital equity and its component parts – notably broadband adoption and digital skill development – are ongoing concerns that will require constant attention and resources. Adoption levels are increasing anew thanks to ACP subsidies, but they may begin to plateau again or drop if those funds run out or if other aspects of the adoption equation are inadequately addressed. For example, the inability of policymakers to protect consumer data privacy, strengthen cybersecurity, or stem the tide of disinformation could negatively impact broadband adoption in some communities. At the same time, the constant emergence of new issues – like the rapid rise of AI and the potential for it to reshape every aspect of modern life – underscores the importance of possessing a core set of digital literacy skills and having flexible training programs in place to nimbly address these issues in a timely manner.

The state can leverage its stewardship of DE issues to address these issues in several ways. It can:

- **Highlight the Importance of Addressing Sustainability Issues.** The state should facilitate conversations on this issue with the legislature, localities, nonprofits, service providers, and other stakeholders during planning sessions. These sessions are natural forums for raising the issue of carving out funding in state, local, nonprofit, philanthropic, and private sector budgets to assure long-term sustainability of worthwhile and impactful DE programs.
- **Highlight the Potential for Integrating DE Programs into Government Processes.** Doing so could relieve some financial pressure on grantees by providing them with revenue-generating opportunities. For example, the state or a municipality could contract with a successful DE program to deliver social services like workforce development in certain communities, or develop school curricula focused on digital literacy, or facilitate partnerships with healthcare providers to foster greater awareness and use of telemedicine services.
- **Position For-Profit Entities, Like ISPs and Other Organizations, as Favored Partners with Public and Non-Profit Entities Seeking DE Funding.** The Digital Equity Act does not include ISPs or other private for-profit entities in the list of eligible DE grant recipients.[209] However, the Act permits NTIA to allow partnerships between eligible

[209] IIJA § 60305(b).

recipients and other entities that it "determines to be in the public interest."[210] ISPs should be at the top of NTIA's list of ideal partners. ISPs have substantial expertise in the DE space and, from a sustainability standpoint, a significant track-record of dedicating robust resources to these efforts. The state should advocate for and encourage such partnerships.

- **Create a Council or Task Force Comprised of DE Experts.** This group would provide the state with ongoing input and data regarding new priorities, new training techniques, best practices, etc. This could be modeled after the FCC's Consumer Advisory Committee or any number of other federal and state advisory bodies.
- **Advocate for More DE Funding from the Legislature and Congress.** This request dovetails with related advocacy efforts around making the ACP permanent. Indeed, Congress could bundle the ACP and DE grant programs together and create a single predictable revenue stream to funding them over the long term. The state legislature should also consider appropriating significant funding for DE sustainability, perhaps by requiring that all leftover BEAD funding be allocated for DE-related purposes and/or shifting funding from the MAP to support DE programs.

4.2.5. Implement Robust Safeguards When Administering Digital Equity Grants to Reduce Waste, Fraud and Abuse

As the state develops its DE plan and implements its DE grant program, it must focus on protecting against waste, fraud, and abuse. Unfortunately, the Digital Equity Act does not explicitly reference these terms; instead, the Act appears to address these concepts indirectly. For example, the Act includes several reporting requirements by states, grantees, and NTIA itself vis-à-vis the use of funds, the efficacy of programs leveraging funds, etc.[211] In addition, the Act permits but does not require NTIA to contract with expert third-parties to "evaluate the impact and efficacy of activities supported" by DE grants and "develop, catalog, disseminate, and promote the exchange of best practices...to achieve digital equity."[212]

The state should view these statutory requirements as a baseline and strive to embrace more comprehensive and systematic approaches to both accounting for how funds are deployed and evaluating the programs leveraging grants. Critically, these requirements and an overall commitment to studying the operations and impacts of its DE grant program should last in perpetuity. The state should contract with expert, objective third-parties to track each grant funded program. It should conduct longitudinal, data-driven assessments to gauge effectiveness and identify best practices. At the same time, the state should conduct regular audits of DE-funded initiatives to hold grantees to account.

These kinds of safeguards are critical given the likelihood that funding will go to entities and programs that have little track-record with DE. The focus of the Digital Equity Act is

[210] IIJA § 60305(b)(8).

[211] *See, e.g.,* IIJA § 60306(a).

[212] *Id*. at § 60306(b)(1)-(2).

broad – its "covered populations" encompasses communities beyond the focus of many established demand-side broadband programs. This extended reach is a good thing given the pervasiveness of demand-side challenges, but, in practice, the DE infrastructure (*e.g.,* groups dedicated to delivering digital literacy training) in some of these communities is thin or non-existent and will likely require investments of funds in untested programs.

The Act appears to recognize these dynamics and details some procedures for vetting prospective grantees and for clawing back funds in the event a state cancels a grant award. Unless deployed aggressively, though, these mechanisms, which operate mostly after an award is made and funds are spent by a grantee, may not be enough to protect crucial DE funds.

A better approach would be to encourage, if not require, prospective grantees without a substantial track-record of success in addressing DE or broadband adoption to partner with expert nonprofits, ISPs, or other established entities with bona fides in this space. These partnerships need not involve the provision of services by an expert entity. Rather, expert entities could review and validate the approach of an untested grantee. For example, a nonprofit with expertise in providing social services to older or disabled veterans could engage a nonprofit with expertise in delivering DE-related services to older or disabled adults to develop relevant curricula and programming. A grant application from the veterans' group could reference its collaboration with the expert nonprofit and frame it as akin to a certification. When reviewing these kinds of applications, the state could score them more highly than those lacking such expert input and guidance.

In the near-term, this collaborative approach will increase the odds that DE funds are allocated wisely and spent efficiently. Waste, fraud, and abuse may still occur, but involving as many established entities as possible in every step of the grant-making process – from planning, to certifying approaches, to receiving and deploying grant funding – could help reduce the amount that is misused. Over the long-term, this approach will increase the number of expert firms and establish a sturdier infrastructure of DE support across a broader number of communities and populations.

State Broadband Profile
New York

October 2023

Attachment #2

Navigating the BEAD Weeds: Project Areas

(November 2023)

Navigating the BEAD Weeds

PROJECT AREAS

November 2023

ACLP
ADVANCED COMMUNICATIONS LAW & POLICY INSTITUTE
at New York Law School

NEW YORK LAW SCHOOL

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- Serve as an incubator of ideas and actions to be emulated throughout New York City, the nation, and the world.

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Navigating the BEAD Weeds

PROJECT AREAS

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1. SUMMARY

- A key element of state BEAD grant programs is how states define their project areas. Project areas (PAs) are where ISPs will use BEAD funding to build new networks. PAs can be as small as a single location or as large as a county or Census tract.
- States could allow applicants to define their own PAs. However, to date, most states have elected to dictate their own PAs by using a range of geographic unit systems that bear little, if any, relationship to existing networks. For example, some states are seeking to define PAs by using the pre-existing borders associated with Census Block Groups, county borders, or school districts, among others. This means that PAs in a state might encompass all unserved and underserved locations in a county or across a school district.
- The following explores why states should select the most granular system that is administratively feasible. Higher levels of granularity – i.e., PAs that are as small as a single location – provide greater opportunity for efficient, targeted buildouts and gives the most flexibility to applicants both large and small.
- States may believe that PAs that are very large, like those set at the county level, might be easier for them to administer, but in practice, large PAs might be too expansive – and expensive – for applicants to serve.
- Using standardized, granular units from the Census Bureau, such as Census Blocks, to design PAs is probably the most efficient approach for states seeking off-the-shelf solutions.

2. INTRODUCTION

Once their BEAD grant programs are approved by NTIA, states will begin accepting applications from internet service providers (ISPs) for funding in support of broadband network buildout in unserved and underserved areas. These applications will require ISPs to identify where, and to whom, their BEAD-funded networks will be available. In theory, these project areas (PAs) could be as small as a single location, or they could be much larger, encompassing all the unserved locations in a county.[1]

States could let applicants define their own PAs. As Texas state broadband officials have observed, this seems like the most commonsense approach because "eligible applicants themselves have the best knowledge of how far and where they have the most ability and willingness to expand and the task of defining and proposing expansion plans can be left, at least initially, to eligible applicants themselves."[2] From an administrative standpoint, however, some states are concerned that they could be overwhelmed with having to "de-duplicate" proposals with overlapping PAs.

The other option is for states to define PAs themselves. States can do this by using "off-the-shelf" geographic units like Census Blocks or Census Block Groups. In Ohio, for example, the

state will sort unserved locations by Census Block Group (CBG) and require winning bidders for that PA to bring service to every unserved location in the CBG.[3]

CBGs are one of several different geographical units that states have chosen for defining their BEAD PAs. Choosing which unit is best is no easy task. The pool of options is wide, from existing political boundaries like counties and school districts, to geographic unit systems available from federal agencies like the U.S. Census Bureau. These approaches are discussed in more detail below.

Other states, however, are creating bespoke PAs using different methods. For example, Oklahoma seeks to create custom-made Network Expansion Territories (NETs) that will cluster "nearest unserved/underserved and unfunded [locations] which have a positive estimated [net present value]."[4] Michigan will "utilize hexbins to divide the state into hexagonal geographic units, each with a diameter of three miles across opposing vertice."[5]

3. ALLOWING STATES TO DEFINE BEAD PROJECT AREAS IS RESULTING IN AN INEFFICIENT PATCHWORK

As of November 15, 48 states had made public their plans for defining PAs. The following chart attempts to summarize these disparate approaches by sorting them into four very broad categories.

Approach	States
Let Applicants Define their Own PA	IA, MN, MO, ND, SD, TX
State to Define Using Established Geographic Units (e.g., CBGs, county or municipal boundaries, etc.)	AL, AR, CO, CT, DE, GA, HI, IN, KY, MA, MT, NC, NH, OH, PA, RI, SC, UT, WY
State to Define by Using Alternative Approach (e.g., school districts, a bespoke design)	AZ, IL, KS, LA, MI, NE, NJ, NM, NV, NY, OK, OR, TN, VA, VT, WI, WV
TBD (state has yet to pick its approach)	CA, ID, MD, ME, MS, WA

Within each category, a wide variety of approaches are being considered. For example, among the 17 states seeking to use an alternative approach to define PAs:

- Illinois will identify Project Area Units (PAUs), which will encompass a group of unserved and underserved locations, and permit applicants to piece together PAs using these pre-defined PAUs.[6]

- Kansas has proposed to define project areas "by Unified School District (USD) borders in place June 1, 2023."[7] Oregon has proposed a similar approach.[8]

- Louisiana will sort its 230,000 unserved and underserved locations into approximately 2,000 sub-project areas using "a mix of census block groups and census blocks, depending on the numbers of eligible locations in different local areas."[9]

- Michigan will use hexbins, a system of equally sized hexagonal areas repeated across the state.

- Nevada will sort BEAD eligible locations into Regional Project Areas (RPAs), each of which will differ in size.[10]

- New York has proposed designing its own Grant Areas that will "be released in the form of polygons or descriptions of established geographic boundaries (such as counties), accompanied by lists of eligible locations."[11] Several other states will take a similarly bespoke approach to designing PAs from scratch. Oklahoma, for example, will create custom-made Network Expansion Territories (NETs), while New Jersey will create Project Area Building Blocks,[12] and New Mexico will design Project Area Units.[13]

- West Virginia will "create and publish a set of "Target Areas", which are pre-defined groupings of targeted locations. [The state] has created these through a clustering method that seeks to create approximately homogeneous and contiguous groupings of targeted locations."[14]

4. FACTORS INFLUENCING STATES' CHOICES FOR DEFINING PROJECT AREAS

When choosing whether to pre-define PAs or allow applicants to define their own, state broadband offices must balance several, often opposing, factors:

- **Universal Service.** Fundamental to each state's BEAD program is ensuring that all unserved locations get access to reliable, high-speed broadband. To do so, project areas must encompass all such locations in a way that best enables subgrantees to apply, get funded, and provide service to them.
- **Granularity.** The geographical unit system must allow ISPs to define PAs with enough specificity to design feasible networks and apply for funding. If they are too broad, providers that may be able to efficiently serve part of an area but not the entire area will likely not apply. The more granular the system selected, the more likely its units will have consistent density of serviceable locations and similar physical characteristics.
- **Complexity of Administration.** The complexity of accepting applications, resolving overlapping project areas, and otherwise handling the grant process increases with the complexity of the PA method chosen. For example, handling applications defined at the county level might appear to be easier administratively and computationally

than one involving smaller units. However, as previously noted, PAs that are too big could discourage applicants.

- **Meaningfulness.** The system of units chosen is more powerful if its units are meaningful rather than arbitrary shapes on a map. For example, breaking up a state into units based on physical terrain and political boundaries provides areas that more closely reflect buildout dynamics compared to dividing a state into a grid of equally sized squares.

5. A SURVEY OF "OFF-THE-SHELF" OPTIONS FOR SETTING PROJECT AREAS

The most accessible options for defining PAs leverage existing geographic units developed and used by the U.S. Census Bureau. At the sub-county level, the most used units are Census Blocks, Census Block Groups, and Census Tracts. The Census Bureau's geographic units are convenient to use for a number of reasons, including easy availability of data files, the fact that they are based on both physical (e.g., roads, waterways) and non-physical (e.g., property lines, political boundaries) features, that they do not cross county boundaries, and that they cover 100% of all land in the U.S., meaning no locations will be left out.

The Census Bureau's units are built upon the basic unit of Census Blocks, which are aggregated into larger units like block groups and tracts. Except for minor changes, blocks are re-defined every ten years, in tandem with the Decennial Census. Since this was last performed for the 2020 Census, these units will conveniently (for BEAD purposes) be largely unchanged through 2030.

Usage of the Census's geographic unit systems is commonplace across many disciplines. For example, Census Blocks are how location information has been provided in public data from both the FCC's old Form 477 program and its new BDC initiative.

The primary tradeoff involved in selecting a system is between granularity and complexity of administration. *A sensible guiding principle for states is that they should select the most granular system of geographic units for grantmaking that they can confidently handle administratively*. Assuming that Census Blocks are the most granular system being considered, all the higher levels of aggregation should be considered a compromise, wherein some degree of granularity was sacrificed to reduce complexity.

Discussed below are several candidates for geographic unit systems that could be used to administer BEAD grants. Seneca County, NY is offered as an illustrative example of how these units translate into the real world. Seneca County was chosen because its density and layout best illustrate the distinctions between each system. (As noted above, New York has chosen to eschew off-the-shelf approaches and will instead design its own PAs.)

The following table summarizes the number of each unit, both in the state and in Seneca County, NY:

Geographic Unit	New York	Seneca County
Counties	62	1
Census Tracts	5,411	11
Census Block Groups	16,070	32
Census Blocks	288,819	1,766

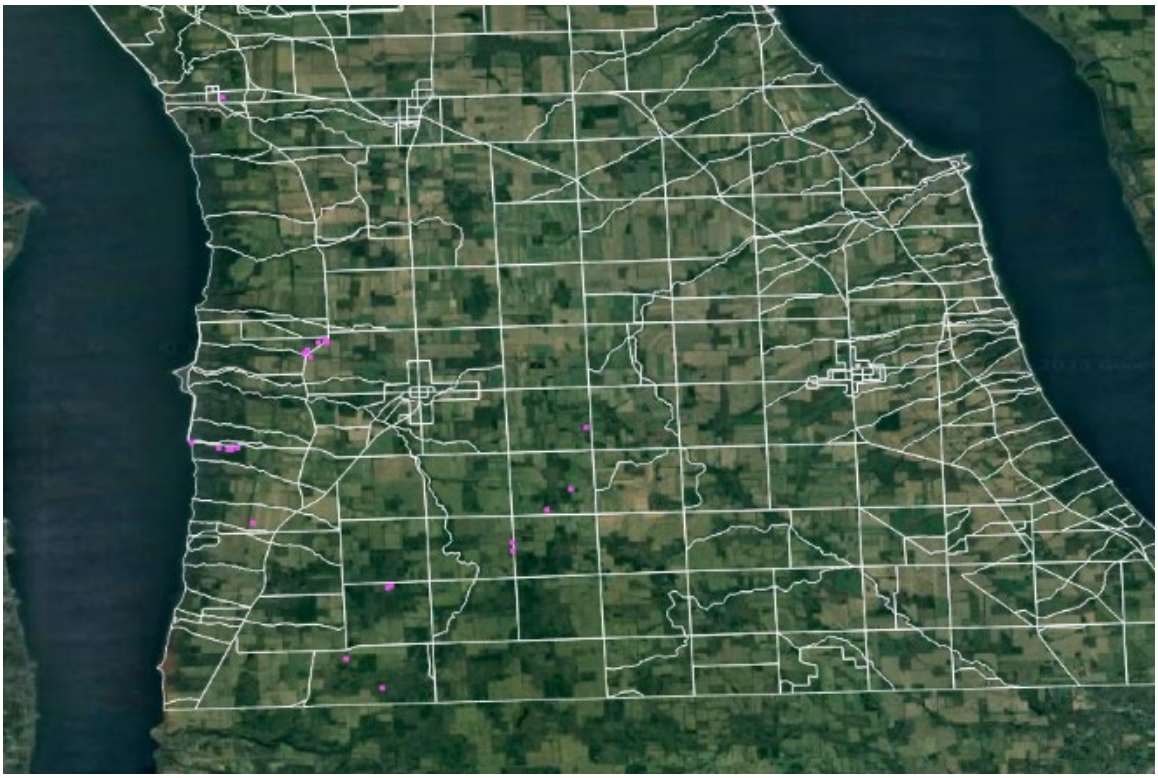
5.1. CENSUS BLOCKS

Census Blocks (CBs) provide the highest level of granularity that is reasonably usable by a state that wishes to define its own PAs. With 288,819 Census blocks in the state of New York, choosing CBs would also result in the highest level of administrative complexity for state broadband offices among the candidate systems (outside of permitting ISPs to define their own PAs). Resolving overlapping projects could involve thousands of CBs. This would be further compounded by complex network layouts wherein providing service in one block could be contingent on service in other blocks. This means that even the omission or addition of a few blocks to reconcile overlapping applications could invalidate network designs or business cases, necessitating time-consuming collaboration between broadband offices and competing ISPs.

On the other hand, the high level of granularity means that CBs are the most likely system to offer a consistent density and geography within each unit. Most ISPs, by virtue of years of Form 477 reporting and the even more complex BDC reporting, are experienced with this level of complexity. Among the system options, the high granularity of CBs best enables carefully tailored applications that efficiently target unserved locations and gives ISPs the greatest possible flexibility in preparing their applications.

As shown in Figure 1, CBs provide a very high level of granularity, allowing unserved areas (in magenta) to be precisely defined. In urban areas, blocks can be as small as city blocks. There are 288,819 CBs across the state of New York.

Figure 1 – Detailed View of Census Blocks in Southern Seneca County



5.2. CENSUS BLOCK GROUPS

The first step up from CBs are Census Block Groups (CBGs), which, as the name suggests, are collections of CBs. Specifically, CBGs contain all blocks within a Census Tract (discussed below) that have the same first digit of their four-digit block number and are "generally defined to contain between 600 and 3,000 people."[15] Just like CBs, CBGs do not cross state or county lines.

Using CBGs to define PAs could provide a useful compromise between using CBs and allowing applicants to define their own PAs without completely erasing granularity. In New York, there are 16,070 block groups, roughly one CBG per 18 CBs. (On average across the U.S., there are about 34 CBs per CBG.[16])

As shown in Figure 2, CBGs offer a compromise, providing less granularity while still allowing meaningful groupings of unserved locations (in magenta), even in low-density areas like southern Seneca County.

Figure 2 – Detailed View of Census Block Groups in Southern Seneca County

5.3. CENSUS TRACTS

The next level up from CBGs are Census Tracts (CTs), which further aggregate CBs. Tracts are intended by the Census Bureau to remain stable over time, allowing for consistent comparisons to be made across decades of data. Tracts tend to have "between 1,200 and 8,000 people, with an optimum size of 4,000 people."[17]

In New York, there are 5,411 CTs, roughly one CT for every 3 CBGs or one CT for every 53 CBs. This means that the step down in complexity between CBGs and CTs is smaller than the drastic 18-to-1 decrease between CBs and CBGs. For states that would be able to handle administration at the CT level, there appears to be little downside to stepping down to the CBG level, which yields a bit more granularity and flexibility without a significant increase in complexity.

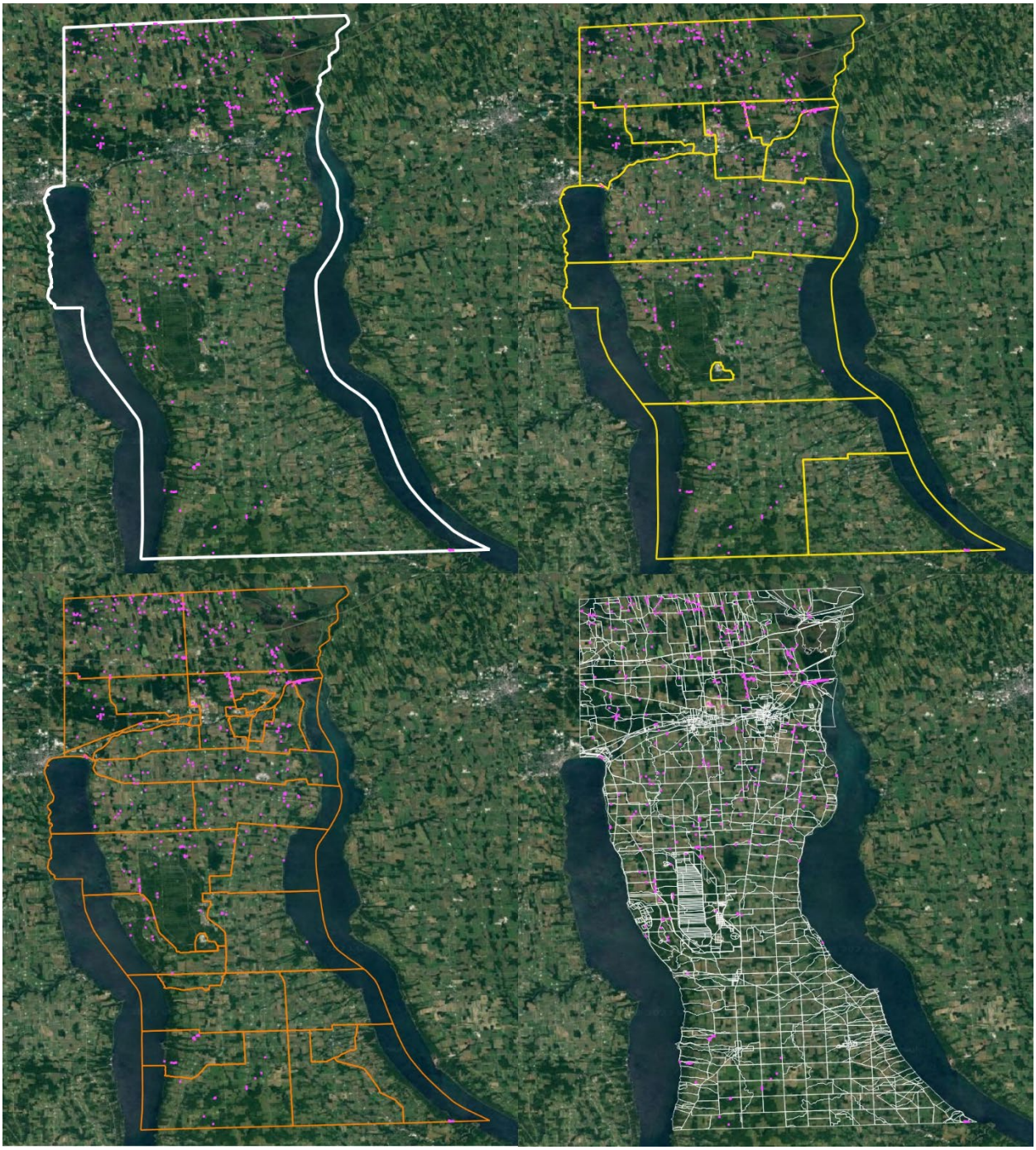
Figure 3 – Detailed View of Census Tracts in Southern Seneca County

5.4. COUNTIES

Likely the broadest of units being considered, defining PAs at the county level is by far the easiest from the standpoint of administration, due to the relatively small number of counties in each state. In New York, there are 62 counties, which means that BEAD applications would be simple to collect, compare, and award.

Allocating grants at the county level, however, comes with serious economic drawbacks. Foremost among these is that density and geography can vary drastically within a county. The all-or-nothing approach of requiring applicants to serve an entire county means that smaller, targeted network expansions (e.g., extending an existing network down a road) would not be allowed. This could disadvantage both large and small ISPs looking to efficiently expand to pockets of nearby unserved locations. Figure 4 illustrates this dynamic by comparing a county-level PA (top-left) with PAs set at the CT (top-right), CBG (bottom-left), and CB (bottom-right) levels.

Figure 4 – Comparison of County (Top Left), CT (Top Right), CBG (Bottom Left), and CB (Bottom Right) PAs in Seneca County, NY



6. RECONCILING THESE DIVERGING PATHS: SMALLER PROJECT AREAS ARE BETTER

As states continue to finalize their BEAD grant proposals, additional novel approaches to PA definition have arisen. Given that numerous methods have already been proposed, there is unlikely to be much consistency between states in this aspect of BEAD grantmaking. This means that ISPs, especially those operating across multiple states who may be best positioned to leverage economies of scale to deploy broadband more economically and efficiently than other applicants, will have to work with a patchwork system of geographic systems. These state-by-state differences, which are quickly becoming a hallmark of the BEAD program's deference to state broadband offices, could discourage some ISPs from applying in multiple states, depriving some areas of the technical, operational, and managerial expertise that these experienced entities could bring to unserved and underserved areas, not to mention the efficiencies they would bring to states' BEAD programs.

NTIA should encourage greater consistency in how states approach the issue of defining PAs. Too much diversity in defining PAs could create a dynamic where some prospective applicants elect not to seek funding in states that take a novel approach to grouping unserved and underserved areas. In addition, some states that set very large PAs might not receive applications for areas with unserved and underserved locations that are spread too diffusely, making it economically infeasible to leverage economies of scale in serving these areas.

A core principle of the BEAD program, as affirmed numerous times by NTIA, is to award the minimum grant funding necessary for a given project so that there are enough resources to bring service to every remaining unserved and underserved location.[18] Allowing states to define PAs that are too big or that include eligible locations that are too spread out would likely result in much higher-than-average costs to serve these areas.

To avoid these inefficient outcomes, NTIA should underscore the importance of maintaining some semblance of consistency across the states and highlight common approaches, like using CBs to define PAs, that could yield more uniformity and efficiencies that will maximize the effectiveness of the State's BEAD funding.

In short, defining PAs is a critical and foundational issue for the efficient administration of BEAD. NTIA's role will be critical to ensuring that states do not unintentionally undermine their grant programs by choosing suboptimal approaches to setting their PAs.

NOTES

[1] *See, e.g., BEAD Notice of Funding Opportunity*, at p. 38, NTIA (May 2022), https://broadbandusa.ntia.doc.gov/sites/default/files/2022-05/BEAD%20NOFO.pdf (BEAD NOFO).

[2] *Draft: Initial Proposal Volume II,* at p. 34, Texas Broadband, Office of the State Comptroller (Nov. 2023), https://broadbandexpanded.com/files/iija_plans/TX%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[3] *Draft: Initial Proposal Volume II,* at p. 82, BroadbandOhio (October 2023), https://broadbandexpanded.com/files/iija_plans/OH%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[4] *Draft: Initial Proposal Volume 2,* at p. 16, Oklahoma Broadband Office (Oct. 2023), https://broadbandexpanded.com/files/iija_plans/OK%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[5] *Draft: Initial Proposal Volume 2,* at p. 10, Michigan High-Speed Internet Office (October 2023), https://broadbandexpanded.com/files/iija_plans/MI%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[6] *Draft: Initial Proposal Volume 2,* at p. 25-26, Connect Illinois (Sept. 2023), https://broadbandexpanded.com/files/iija_plans/IL%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[7] *Draft: Initial Proposal Volume 2,* at p. 18, Kansas Office of Broadband Development, https://broadbandexpanded.com/files/iija_plans/KS%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[8] *Draft: Initial Proposal Volume 2,* at p. 19, Business Oregon, https://broadbandexpanded.com/files/iija_plans/OR%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[9] *Draft: Initial Proposal Volume 2,* at p. 38, ConnectLA, https://broadbandexpanded.com/files/iija_plans/LA%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Final.pdf.

[10] *Draft: Initial Proposal Volume 2,* at p. 17, High Speed NV (Sept. 2023), https://broadbandexpanded.com/files/iija_plans/NV%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[11] *Draft: Initial Proposal Volume 2,* at p. 52, N.Y. ConnectALL Office, https://broadbandexpanded.com/files/iija_plans/NY%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[12] *Draft: Initial Proposal Volume 2*, at p. 14, New Jersey, https://broadbandexpanded.com/files/iija_plans/NJ%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[13] *Draft: Initial Proposal Volume 2*, at p. 22-24, New Mexico, https://broadbandexpanded.com/files/iija_plans/NM%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[14] *Draft: Initial Proposal Volume 2,* at p. 44, West Virginia (October 2023), https://broadbandexpanded.com/files/iija_plans/WV%20-%20BEAD%20Initial%20Proposal%20-%20Volume%202%20Draft.pdf.

[15] Census Bureau, Glossary: Block Group, https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_4.

[16] Census Bureau, Tallies – 2020, https://www.census.gov/geographies/reference-files/time-series/geo/tallies.html#tract_bg_block (dividing the total number of U.S. CBs by CBGs).

[17] Census Bureau, Glossary: Census Tract, https://www.census.gov/programs-surveys/geography/about/glossary.html#par_textimage_13.

[18] *See, e.g., BEAD NOFO* at p. 43.