



July 27, 2026

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
45 L Street NE
Washington, DC 20554

**RE: Reply Comments – Accelerating Wireline Broadband Deployment by
Removing Barriers to Infrastructure Investment; States That Have Certified
That They Regulate Pole Attachments, WC Docket Nos. 17-84, 10-101**

Dear Ms. Dortch,

The ACLP at New York Law School respectfully submits the following reply comments in the above-referenced proceedings.

Should you have any questions, please do not hesitate to contact us.

Kind regards,

_____/s/
Michael J. Santorelli, Director

_____/s/
Alex Karras, Senior Fellow

1. Introduction

The ACLP commends the Federal Communications Commission (FCC) for its continued focus on addressing barriers to broadband deployment. In particular, the FCC, under the leadership of Chairman Carr, deserves significant praise for its enhanced focus on pole attachments, including the implementation of streamlined dispute resolution of disagreements over the rates, terms, and conditions by which ISPs can attach broadband equipment to poles owned by electric utilities.¹

The latest iteration of these efforts, articulated in a Public Notice issued in June 2026, broadens the Commission’s focus on pole attachments to so-called reverse-preemption states.² As detailed in the Telecommunications Act of 1996, states can opt out of FCC pole attachment regulation if they certify that they will regulate attachments themselves, subject to an array of parameters enshrined in the statute.³ To date, 23 states and the District of Columbia have engaged in such reverse-preemption, creating a patchwork of differing pole regulatory frameworks.⁴

In their initial responses to the Public Notice, some commenters, notably electric utility representatives and regulators from reverse-preemption states, celebrate the fractured nature of pole attachment regulation and attempt to justify it as the manifestation of Congressional intent, as detailed in the 1996 Act.⁵ However, it is far from clear that Congress intended for reverse-preemption states to be completely left to their own devices vis-à-vis implementing and overseeing their pole attachment frameworks. To the contrary, the statutory text suggests otherwise. Indeed, as discussed in these reply comments, the Commission appears to possess the authority to assure some measure of consistency across these states’ rules.

When the 1996 Act was enacted, the communications market was markedly different than today, and the statutory framework developed to govern it reflected those dynamics. Back then, there was such a thing as local telecommunications service, enabled by networks with localized network elements. State Public Utility Commissions (PUCs) were expert in

¹ See, e.g., Michael Santorelli, *FCC Pole Ruling Faces Early Test*, May 20, 2026, Broadband Breakfast, <https://broadbandbreakfast.com/michael-santorelli-fcc-pole-ruling-faces-early-test/>.

² *Wireline Competition Bureau Reminds Reverse-Preemption States of Obligation to Effectively Regulate Pole Attachments and Seeks Comment on Need for Changes to the Commission’s Certification Rules to Ensure Effective State Pole Attachment Regulation*, Public Notice, FCC, WC Docket Nos. 17-84, 10-101 (June 11, 2026) (“Reverse-Preemption PN”).

³ 47 U.S.C. §224(c).

⁴ *Reverse-Preemption PN* at p. 2.

⁵ See, e.g., Comments of EEI at p. 7.

regulating the intrastate aspects of the communications, having done so for a century to that point.⁶

Nowadays, communications networks and the services they enable are borderless in nature.⁷ Even “plain old telephone service,” to the extent it is still used by consumers, is no longer a “local” service.⁸ ISPs compete across state lines, and state PUCs lack expertise in regulating these services because (1) Congress articulated a national light-touch regulatory framework for advanced services, which were still nascent in 1996, and (2) many states have preempted their PUCs from extending telecom regulation to newer, competitive services.⁹

Given this foundational shift in market and regulatory dynamics, the Commission is right to examine the contours of today’s regulatory framework for pole attachments and ask how it might be improved to facilitate advanced communications deployment.

These reply comments seek to provide additional context and analysis on key points raised by parties in their opening comments. In particular, these comments:

- Offer data and analysis regarding the stakes of this proceeding. Pole attachments remain essential to broadband deployment (Section 2).
- Discuss why maintaining a scattershot approach to resolving disputes between attachers and electric utilities will slow network construction, raise costs, and deprive Americans of advanced communications services (Section 3).
- Pose and offer answers to foundational questions implicated by the PN (Section 4):
 - o Should reverse-preemption states be held accountable for their pole rules or lack thereof?
 - o By which standards should reverse-preemption states be held accountable?

⁶ See, e.g., Michael Santorelli, *State Regulation of Advanced Communications Services: Learning from the Past to Understand the Present and Prepare for the Future*, 24 Colo. Tech. L. J. 15 (2026), https://ctlj.colorado.edu/wp-content/uploads/2026/02/02_CDT_24_1_text_SANTORELLI.pdf (“State Regulation of Advanced Communications Services”).

⁷ Id.

⁸ See, e.g., *AT&T Services, Inc.’s Petition for Preemption and Declaratory Ruling*, Comments of the ACLP at New York Law School, WC Docket No. 26-125 (July 7, 2026), <https://www.fcc.gov/ecfs/document/26109998348/1> (“ACLP Preemption Comments”).

⁹ See, e.g., Charles Davidson and Michael Santorelli, *Federalism in Transition: Recalibrating the Federal-State Regulatory Balance in the All-IP Era*, 29 Berkeley Tech. L. J. 1131 (2014), https://btlj.org/data/articles2015/vol29/29_2/29-berkeley-tech-l-j-1131-1204.pdf (“Federalism in Transition”).

- To whom should reverse-preemption states be held accountable?
- Does the FCC possess authority to play an active role in this context?

These reply comments recommend that the FCC require reverse-preemption states to regularly recertify their status via comprehensive filings that include details and data about their approaches to pole attachments and dispute resolution. Statutory text and compelling public policy considerations support an embrace of greater accountability and transparency of these critical processes.

2. The Stakes: The Continued Importance of Pole Attachments to Broadband Deployment

The advanced communications networks that deliver seamless internet connectivity to Americans, and that enable the internet ecosystem, rely upon – and, for the foreseeable future, will continue to rely upon – a technology first developed in the 19th century to support telegraph wires. Indeed, though they are so commonplace that they tend to blend into the background, the ubiquitous utility pole plays an essential role in modern communications delivery.

Leveraging poles to deploy broadband is cost-effective – the Fiber Broadband Association estimates that aerial deployments cost half as much as burying fiber – and can speed network construction.¹⁰ However, negotiating access to poles can be fraught as ISPs must navigate a patchwork of regulated and unregulated electric utilities of varying sizes and sophistication, who, collectively, own most of these poles. These interactions can quickly become adversarial, delaying projects and raising costs.

By some estimates, there are over 180 million utility poles in the U.S.¹¹ Many, if not most, are used by terrestrial ISPs of all ilk – cable, fiber, mobile, FWA, etc. – to host equipment that relays data traffic to and from users across the country. To access these poles, ISPs must request permission from the pole owner, a process that varies widely depending on where the pole is located and who owns it. The FCC has jurisdiction over poles owned by investor-owned electric utilities (IOUs) in 27 states; in the other 23 states, IOU poles are regulated by state public utility commissions. Regulation of poles owned by electric cooperatives and municipal electric utilities differs across all 50 states – some leave these entities entirely unregulated; some regulate one but not the other; and some regulate both.

The PN uses the federal BEAD program to illustrate the continued importance of poles to broadband deployment. Referencing data provided by the ACLP, the PN observes that

¹⁰ *Fiber Deployment Cost Annual Report – 2025*, Fiber Broadband Association, https://fiberbroadband.org/wp-content/uploads/2026/01/FBA_Cartesian_Fiber-Deployment-Cost-Annual-Report_2025.pdf.

¹¹ See, e.g., Alex Karras and Michael Santorelli, *Lingering Utility Pole Issues Could Raise Costs and Delay BEAD Buildout*, May 12, 2026, Broadband Expanded, <https://broadbandexpanded.com/posts/beadpoles> (“*Lingering Utility Pole Issues*”).

“BEAD-funded projects will touch an estimated 3,954,030 utility-owned poles across 2,053 electric utility service territories, based on 188,287 planned aerial fiber route-miles, and that pole-related costs for BEAD buildouts could range from \$534 million to \$4.63 billion.”¹²

However, of all the poles likely to be touched by BEAD-funded projects, only about 10.4%, or just over 411,000, are covered by the FCC’s pole attachment framework.¹³ Even after including poles owned by electric cooperatives and municipalities, whose poles are otherwise unregulated by the FCC but will be subject to those rules as a condition of accepting BEAD funds, this figure increases only marginally.¹⁴ This means that a significant number of poles to be touched by BEAD-funded projects will likely be outside the reach of the Commission’s pole attachment framework.

In a variety of ways, including with respect to pole attachments, BEAD represents a microcosm of the myriad challenges that ISPs must navigate before they can successfully deploy networks. Given the outsize role that reverse-preemption states are likely to play in the BEAD process, the FCC is right to shine a bright light on the rules and regulations developed by these states to guide deployments and address disputes. BEAD represents an historic investment of public funds to push broadband to as many Americans as possible. When combined with matching funds from ISPs, the total BEAD investment will likely exceed \$30 billion.¹⁵ Unnecessary delays could undermine these investments and further delay the delivery of broadband to those who remain without an internet on ramp.

3. The Impacts of the Status Quo: A Fractured Regulatory Landscape for Pole Attachments Increases Uncertainty and Costs

Under the leadership of Chairman Carr, the FCC has bolstered its regulatory framework for pole attachments. In particular, the Commission has consistently updated its rules to provide more clarity to all parties. In recognition of the stakes and costs associated with pole access, it has also deployed a rapid response team to assist in resolving disputes among parties. Taken together, these reforms demonstrate a commitment by the

¹² *Reverse-Preemption PN* at p. 4 (citing *Lingering Utility Pole Issues*).

¹³ *Lingering Utility Pole Issues*.

¹⁴ Per a forthcoming ACLP analysis of this issue, these pole figures have likely decreased as the BEAD map shifts due to continued deployments by ISPs, rendering some BEAD grants unnecessary. According to our updated analysis, 7% of poles likely to be touched by BEAD projects are IOU poles in FCC-regulated states. Only 1% of poles likely to be touched by BEAD projects are municipal or cooperative owned poles, where the muni/coop itself is a BEAD grantee, and which are in a state that does not regulate that type of owner. The ACLP is still refining this analysis, so we caution against citing it as authoritative. Even so, the preliminary results illustrate that many poles likely to be touched via BEAD will not be subject to FCC regulation.

¹⁵ Alex Karras and Michael Santorelli, *Private Investment is Amplifying BEAD’s Public Broadband Dollars*, June 2, 2026, Broadband Expanded, <https://broadbandexpanded.com/posts/beadmach>.

Commission to adjust its rules to reflect the evolving nature of the broadband market, while also respecting the interests of electric utility pole owners.

In contrast, the regulatory approaches evident in the 23 reverse-preemption states differ in many ways from the FCC’s framework, creating a fractured landscape that ISPs and pole owners must navigate. However, given the largely interstate nature of the broadband market and the largely local nature of the electricity market, electric utilities are better suited to navigate and influence reverse-preemption frameworks than ISPs, creating the potential for bias in how pole attachment processes are developed and how disputes are resolved.

In its opening comments in response to the PN, NCTA included a chart that highlights the myriad differences among these states vis-à-vis the FCC framework.¹⁶ Some states, like Pennsylvania and West Virginia, maintain policies that closely align with the FCC; some states, like Maine and New Hampshire, have created frameworks that mostly align with the FCC but differ in subtle ways on certain issues (e.g., timelines); some, like New Jersey, have failed to adopt rules on key issues like one-touch make ready or expedited dispute resolution; and a few, like Alaska and Delaware, have done the bare minimum to articulate a cohesive policy approach to these important issues. Among these states, 16 submitted their reverse-preemption certifications to the FCC prior to 1996, with some dating back to the 1970s.¹⁷

Patchwork regulation of advanced communications services is inefficient and harmful to consumer welfare.¹⁸ These offerings transcend borders and are provided over networks built by ISPs who, in most instances, serve multiple states. Indeed, according to an analysis of relevant data by the ACLP, 93.6% of U.S. residential units – 123,987,527 of 132,526,201 – are served by a wireline ISP that operates in more than one state.¹⁹ The technological revolution that has reshaped the U.S. communications space has even transformed the market for basic telephone service, the traffic from which now travels over national “all-distance” networks.²⁰

Advanced communications services generally and broadband specifically have thrived under a light-touch national regulatory framework.²¹ Broadband is widely available and

¹⁶ Comments of NCTA, at p. 8-14.

¹⁷ *Id.*

¹⁸ *State Regulation of Advanced Communications Services.*

¹⁹ ACLP Analysis (attached).

²⁰ *ACLP Preemption Comments.*

²¹ *The State of Competition in the Communications Marketplace*, Reply Comments of the ACLP at New York Law School, GN Docket No. 26-78 (June 22, 2026), <https://www.fcc.gov/ecfs/document/26109838311/1>.

currently on a path to universal availability.²² Nearly every person has multiple choices for service.²³ Speeds continue to increase and service offerings continue to diversify, all while the prices for wireline and mobile broadband have barely grown in a decade.²⁴

Diametrically opposed to these dynamics are electric utilities, who differ in almost every way from ISPs. Retail electricity is rarely, if ever, offered across state lines. Instead, retail electricity is provided by utilities that are regulated as natural monopolies by state PUCs. Electric ratepayers are thus captive to their utility, who are under an exacting regulatory microscope wielded by state regulators. Prices have increased markedly in recent years as utilities place the costs of modernizing and hardening their systems squarely on the shoulders of their customers.²⁵

In this environment, state PUCs continue to apply their expertise in utility regulation to electric providers. However, most state PUCs have seen their jurisdiction over advanced communications services like broadband erode substantially as local telecommunications services have been replaced by borderless IP-enabled offerings.²⁶ With section 224 requiring reverse-preemption states to “consider the interests of the subscribers of the services offered via such attachments [i.e., broadband customers], as well as the interests of the consumers of the utility services,” it is reasonable to ask whether state PUCs are adequately equipped to be aware of and “consider the interests of” broadband consumers and whether, given their significant focus on electric regulation, they might be inherently biased – or legally required, or both – to give more weight to “the interests of the consumers of [electric] utility services.”

Massachusetts is currently grappling with balancing these interests as it attempts to formalize a pole attachment framework.²⁷ After reviewing the draft rules issued by the relevant regulatory entities in the state, the ACLP observed that the proposed rules tilted too far towards utility interests and failed to adequately account for the interests of broadband subscribers.²⁸ This was seen most clearly in the lengthy timelines proposed by

²² Id.

²³ Id.

²⁴ Id.

²⁵ *Broadband Prices in Context, Broadband Expanded*, <https://broadbandexpanded.com/data/pricesincontext>.

²⁶ *Federalism in Transition*.

²⁷ *Joint Investigation by the Department of Public Utilities and the Department of Telecommunications and Cable on their own motion instituting a rulemaking pursuant to G.L. c. 30A, § 2, 220 CMR 2.00, and 207 CMR 2.00, to amend 220 CMR 45.00: Pole Attachment, Duct, Conduit, and Right-of-Way Complaint and Enforcement Procedures*, Order Instituting Joint Rulemaking and Further Inquiry on Memorandum of Agreement, D.P.U. 26-10/D.T.C. 26-1 (March 6, 2026), <https://www.mass.gov/doc/dpu-26-10dtc-26-1-order-instituting-joint-rulemaking-and-further-inquiry-on-memorandum-of-agreement/download>.

²⁸ *Joint Investigation by the Department of Public Utilities and the Department of Telecommunications and Cable on their own motion instituting a rulemaking pursuant to G.L. c. 30A, § 2, 220 CMR 2.00, and 207 CMR*

state regulators, which, when taken together with the full scope of proposed rules, would yield a pole attachment process that moves at the glacial pace of the electric industry. As the ACLP noted in comments to the Massachusetts regulators:

“Appreciating the profound differences in [the broadband and electric utility markets in the state] is critical when evaluating whether the Departments’ proposed pole rules sufficiently consider and balance the interests of broadband customers and utility customers.

- “Broadband customers benefit from a lightly regulated marketplace that is governed by market forces. Things move quickly in this space – speeds and reliability continue to increase in response to customer demand for faster and more seamless service; intermodal competition continues to evolve; prices are kept in check as a result.
- “Electric customers, on the other hand, remain at the mercy of their utilities and their ever-higher rates. Things move much more slowly in this space, especially in Massachusetts, whose utility sector lags those in many other states vis-à-vis diversifying its energy portfolio and embracing smart meters.”²⁹

Ultimately, ISPs are sensitive to the costs stemming from delays and disputes arising from seeking access to poles.³⁰ These disputes increase costs and stretch timelines, sometimes to the point where ISPs choose to walk away from a project rather than shoulder these expenses.³¹ Pole access issues will play key roles in supporting BEAD projects and other

2.00, to amend 220 CMR 45.00: Pole Attachment, Duct, Conduit, and Right-of-Way Complaint and Enforcement Procedures, Comments of the ACLP at New York Law School, D.P.U. 26-10/D.T.C. 26-1 (May 12, 2026), <https://www.mass.gov/doc/dtc-26-1-comments-by-advanced-communications-law-policy-institute-aclp-at-new-york-law-school/download> (“ACLP MA Pole Comments”).

²⁹ Id. (internal citations omitted).

³⁰ For a recent analysis of these costs, see Michael Santorelli and Alex Karras, *Lingering Utility Pole Issues Could Raise Costs and Delay BEAD Buildout*, May 12, 2026, Broadband Expanded, <https://broadbandexpanded.com/posts/beatpoles>.

³¹ See, e.g., *Charter Cites Pole Replacement Obstacles As It Surrenders Dozens of RDOF Bids*, April 29, 2024, Comm. Daily, <https://communicationsdaily.com/news/2024/04/29/Charter-Cites-Pole-Replacement-Obstacles-As-It-Surrenders-Dozens-of-RDOF-Bids-2404260059>.

expansion efforts across the country, as well as in the day-to-day operations of existing networks, where ISPs evaluate where to deploy capital to upgrade networks.³²

For these reasons, the ACLP argued that, in Massachusetts, “the Departments’ proposed rules will slow down the broadband sector to match the glacial pace of activity in the electric sector. This is anathema to the dynamics evident in the broadband space and may harm broadband customers in the state. The best remedy would be to align the rules in Massachusetts with those in nearby states and those developed by the FCC.”³³

In sum, onerous pole attachment rules on their own negatively impact ISPs by raising costs and lengthening deployment timelines, which can chill investment. These factors are compounded for ISPs that serve multiple states. As noted above, most households in the U.S. are served by ISPs that offer service in multiple states. When developing project plans and considering where to invest, multi-state ISPs will likely prioritize resources in states whose poles are governed by FCC rules or informed by them.

This is not to say that broadband capital will flee reverse-preemption states entirely. As noted, broadband is already widely available and very robust across the country. However, the introduction of onerous rules that differ so substantially from the FCC or peer states that have deliberately aligned their rules with the Commission raises the chances that multi-state ISPs expand their service territories, introduce new offerings, bolster their networks, or otherwise invest additional risk capital in states with more balanced and streamlined rules. This would be a major loss for broadband customers in states with pole attachment frameworks that diverge significantly from the FCC’s framework.

4. Moving Forward: Holding Reverse-Preemption States Accountable Pursuant to Section 224

Notwithstanding the myriad benefits to broadband customers of regulatory consistency and predictability, some commenters celebrate the scattershot regulatory approach in reverse-preemption states, rationalizing that these divergent frameworks reflect the unique circumstances and considerations evident in each state.³⁴ However, these commenters, who primarily represent electric utilities, fail to address the myriad downsides to broadband customers of this fractured landscape.

Ultimately, predictability, consistency, and speed to market matter to private ISPs when deciding where to deploy risk capital. Unlike electric utilities, private ISPs do not receive a

³² See, e.g., *Comments of the ACLP at New York Law School to NTIA re Non-Deployment Uses of Leftover BEAD Funds*, Feb. 18, 2026, <https://broadbandexpanded.com/files/policy/ACLP%20-%20Comments%20to%20NTIA%20re%20BEAD%20Fundings%20-%20February%2018%202026.pdf>.

³³ *ACLP MA Pole Comments*.

³⁴ See, e.g., *Comments of EEI*; *Comments of NRECA*.

guaranteed rate of return on their investments. Instead, returns in the broadband space must be earned in direct competition with ISPs fiercely jockeying for market share.

Thirty years after enactment of the 1996 Act, it is appropriate for the FCC to take a hard look at the disparate regulatory approaches to pole attachments that have developed in reverse-preemption states. To guide its inquiry, it is fair for the Commission to ask:

- Should reverse-preemption states be held accountable for their pole rules or lack thereof?
- By which standards should reverse-preemption states be held accountable?
- To whom should reverse-preemption states be held accountable?
- Does the FCC possess authority to play an active role in this context?

Some commenters claim that section 224 creates a black-and-white approach to the issue – i.e., that a state is either part of the FCC framework or, after reverse-preempting, can do as it pleases to reflect local considerations. In reality, though, the statute does not provide reverse-preemption states with a blank check. Instead, these states are subject to several requirements that must inform their pole attachment frameworks, including, among others:

- Whether the state framework “consider[s] the interests of the subscribers of the services offered via such attachments, as well as the interests of the consumers of the utility services”;³⁵
- Whether the state “has issued and made effective rules and regulations implementing the State’s regulatory authority over pole attachments”;³⁶ and
- Whether the state’s timelines generally align with the FCC’s timelines.³⁷

In its rules operationalizing section 224, the FCC adopted a rebuttable presumption vis-à-vis reverse-preemption, indicating that it is possible for a state’s certification to be found lacking.³⁸ However, the Commission has yet to provide guidance regarding how this rebuttable presumption might be triggered.

Based on the preceding discussion about the fundamental differences between the modern broadband and electricity markets, the area ripest for additional documentation from states is on the point of whether each reverse-preemption state “has the authority to

³⁵ 47 U.S.C. §224(c)(2)(B).

³⁶ 47 U.S.C. §224(c)(3)(A).

³⁷ 47 U.S.C. §224(c)(3)(B).

³⁸ 47 CFR 1.1405(b).

consider and does consider the interests of the consumers of the services offered via such attachments, as well as the interests of the consumers of the utility services.”³⁹

To bolster accountability and provide more clarity and predictability for all stakeholders, the Commission should require reverse-preemption states to regularly recertify their status – perhaps every year or two – and provide more detailed information about their pole attachment regulatory frameworks. As part of this process, states should be required to provide detailed discussion of how they balance the interests of broadband customers with those of electric customers when implementing their pole attachment rules.

In states whose PUCs expressly lack authority to regulate broadband, which is apparent in about half the states, there should be a requirement for PUCs to explain how that lack of jurisdiction impacts their implementation and enforcement of pole attachment rules. Reverse-preemption states should also be required to include in their certification filings high-level data regarding the rates charged for attachments in the state; the average time it takes for pole attachment requests to be fulfilled; and the average amount of time it takes the state to resolve disputes between pole owners and would-be attachers. At a minimum, these data will help the Commission hold reverse-preemption states accountable to the statutory requirements for taking “final action” on complaints.⁴⁰

During this recertification process, the Commission should invite stakeholders to comment on the more detailed filings by state PUCs and offer their perspectives on whether a state’s pole attachment framework truly balances vis-à-vis broadband and electric customer impacts. If, based on the records of these proceedings, the Commission determines that a state’s certification is lacking, then the Commission should have the option to extend its pole rules to that state until it cures its deficiencies. This would be consistent with current FCC rules.⁴¹

Ultimately, the Commission must act to rationalize, to the greatest extent possible, reverse-preemption states’ pole attachment regulatory regimes.

³⁹ 47 U.S.C. §224(c)(2)(B); 47 CFR 1.1405(b)(2).

⁴⁰ 47 U.S.C. §224(c)(3)(B).

⁴¹ 47 CFR Part 1 Subpart J.

Summary

93.6% of US residential units (123,987,527 of 132,526,201) are served by a wireline ISP that operates in more than one state.

The wireline market includes many small single-state operators: 1,410 of 1,655 providers (85.2%) operate in one state only. Together they reach 10.0% of residential units, but for only 3.0% are they the sole wireline option. Most units they serve also have a multi-state provider available.

In every state but Alaska, roughly 80% or more of residential units are served by a multi-state ISP. Alaska is the exception at 30.5%, where the largest wireline operators serve no other state.

Table 1. US residential units by which kinds of wireline ISP serve them.¹

		Single-state ISP		
		No	Yes	Total
Multi-state ISP	No	3.5%	3.0%	6.4%
	Yes	86.6%	7.0%	93.6%
	Total	90.0%	10.0%	100.0%

Methodology

Provider footprints come from the FCC Broadband Data Collection snapshot dated 2025-12-31, joined to the matching release of the Serviceable Location Fabric. The analysis covers wired service only (copper, cable, and fiber); fixed wireless and satellite are excluded. Unit counts include only records offering residential service.

For every provider we count the unique locations it reports serving in each state. Providers that file under separate subsidiary identifiers are first rolled up to their parent company, so a company operating through several state-level entities is not mistaken for several single-state ISPs. A provider is multi-state if its *second*-largest state contains at least 100 served locations, preventing trivial cross-border spillover from counting as multi-state operation.²

Residential unit counts include MDU unit counts from the Fabric. A location counts as served by a multi-state ISP when at least one of the providers reporting service there meets the test above. The denominator is every residential unit in the 50 states and the District of Columbia, including units at locations no wireline provider reports serving.

¹The two categories overlap: a unit can have both. No/No is units with no wireline provider at all. Each figure is rounded independently, so cells may not sum to the totals shown.

²The result does not depend on where this floor is set. Raising it from one location to 100,000 moves the share of residential units from 94.0% to 91.4%, a difference of 2.6 percentage points across five orders of magnitude.