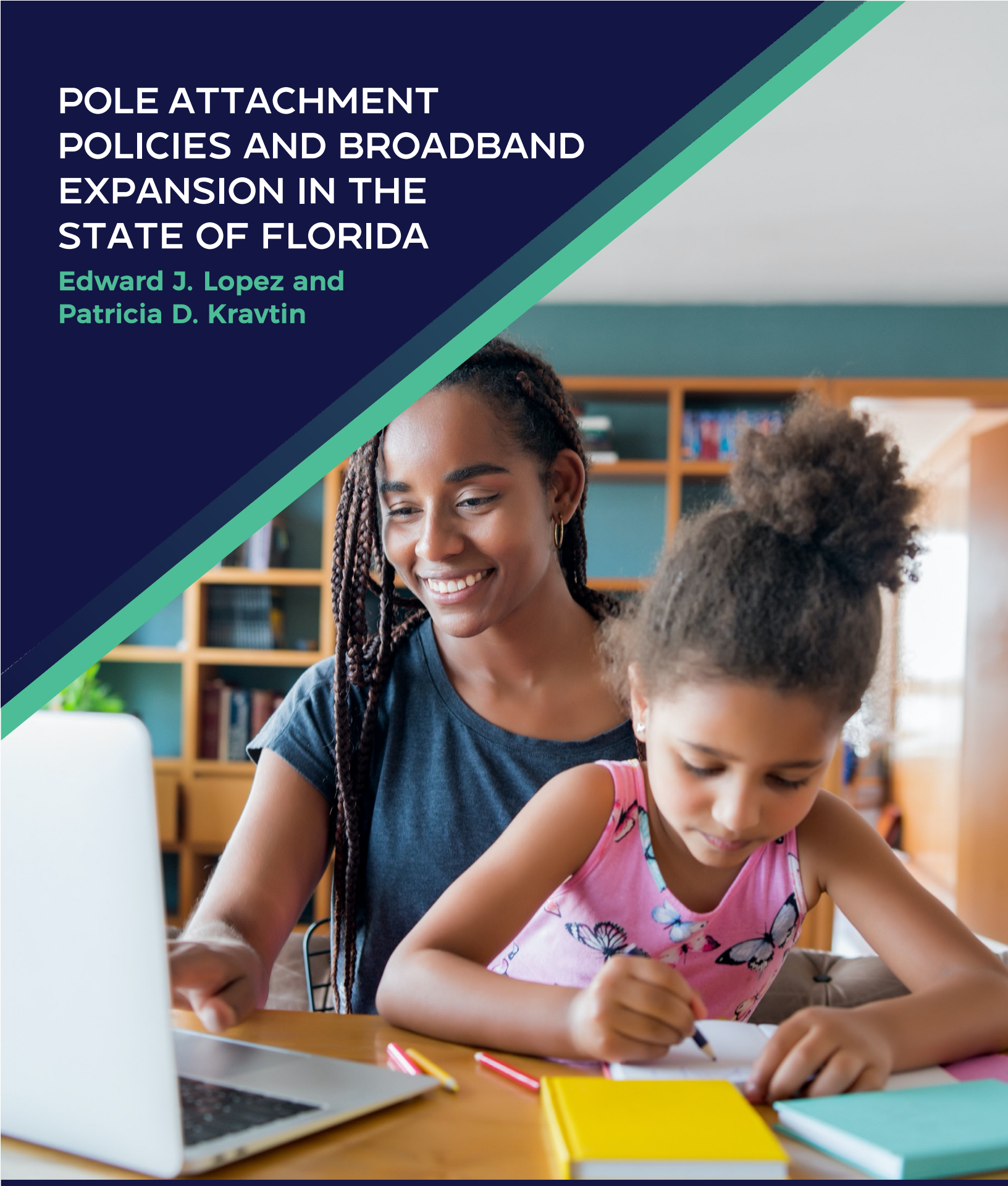
POLE ATTACHMENT POLICIES AND BROADBAND EXPANSION IN THE STATE OF FLORIDA

Edward J. Lopez and
Patricia D. Kravtin



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ABOUT THE AUTHORS

Edward Lopez | *ejlopez@wcu.edu*

Professor of Economics, BB&T Distinguished Professor of Capitalism, and Director of the Center for the Study of Free Enterprise at Western Carolina University. He has taught university economics for over two decades and has authored over 60 scholarly publications and two books. He holds a Ph.D. in economics from George Mason University, where his fields of concentration were public economics and industrial organization.

Patricia Kravtin | *pdkravtin@comcast.net*

Owner and Principal of Patricia D. Kravtin Economic Consulting, a private consultancy specializing in telecommunications, energy, cable regulation and broadband markets. She is frequently called upon as an expert witness on pole attachment related matters before state, federal, and international regulatory bodies. Ms. Kravtin studied in the Ph.D. program in economics at MIT, with concentrations in Government Regulation of Industry, Industrial Organization, and Urban and Regional Economics.

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EXECUTIVE SUMMARY

Between 804,000 and 2.37 million Floridians currently lack access to high-speed broadband. In this study, we estimate that expanding broadband access to this unserved population would create anywhere from $2.25 billion up to $16.83 billion of new economic gains to Florida's homes and small businesses (the amount varying based on the database of unserved locations used to quantify). This estimated economic gain represents the social return on new public and private sector investments, namely the productive, commercial, educational, health, and other benefits that stand to be realized by achieving full broadband expansion in Florida.

Today broadband deployment is being inhibited due to utility pole infrastructure access issues and problematic behavior of certain utility pole owners. Specifically, pole owners frequently deny or delay broadband providers pole attachment access, or impose economically unfeasible rates, terms, and conditions that impose excessive costs on broadband providers associated with pole replacement and upkeep. In the study of economics, this is known as the *hold up problem*[1], an inefficient concentration of market power that harms the public interest.

When pole owners hold up the process, the result is foregone economic gains to Floridians. In this study, we estimate that every month of delayed expansion due to pole owner hold up costs Florida between $13.6 and $99.51 million.

Utility poles represent a critical input in broadband deployment, as attachment to existing pole networks is the most efficient means to expand high-speed broadband access to currently unserved areas of the country. Policymakers should initiate additional measures to recapture this economic value by revising and modifying pole policies and pole owner behavior to facilitate broadband deployment.

> Pole Owner Hold Up Costs Florida **$13.6M – $99.51M** *every month* it delays expansion.

CURRENT BROADBAND INITIATIVES IN FLORIDA

Depending on the basis of measurement, the total number of Floridians lacking access to high-speed broadband now ranges between 804,000 to 2,373,981.[2] We estimate that expanding broadband access to this unserved population would create new economic gains between $2.25 billion up to $16.83 billion (calculated as net present value over 25 years at 5% discount rate). As in many states nationwide, recent initiatives have been taken by lawmakers to respond to the problem. In May 2021, lawmakers passed the Broadband Deployment Act of 2021 (HB 1239), effective July 1, 2021. This comprehensive legislation created a new broadband grant program titled the Broadband Opportunity Program ("BOP") to provide "utility pole relief" for broadband providers attaching to poles owned by municipal utilities and funding for geographic information system ("GIS") mapping of broadband internet service availability throughout the state in a manner consistent with the FCC's new reporting standards. The legislation also directs the Florida Office of Broadband ("FOB") to create a strategic plan to increase the use of broadband internet services in the state by June 30, 2022.

The state's BOP, likely subject to initial funding in 2022, will award grants to applicants seeking to expand broadband service to unserved areas of the state. The BOP would augment an existing federal support grant program through the FCC's Rural Digital Opportunity Fund (RDOF) aimed at expanding broadband access to unserved locations throughout the country. Under the RDOF program, Florida was awarded $192 million in grant funding to enable providers to reach 141,625 unserved homes and small businesses in rural locations throughout the state. Other federal programs and funding available to the state include the recently announced U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) Program Broadband Infrastructure Program, as well as provisions within the American Rescue Plan Act (ARPA) and other federal stimulus programs whose overarching goal is to expand access to high speed fixed broadband connections to currently unconnected rural homes and small businesses. Under the ARPA Coronavirus Capital Projects Fund, Florida was allocated a substantial $366 million to fund broadband infrastructure projects. Although not specifically allocated to broadband, additional funding for broadband expansion in unserved areas of the state is available as part of the total $8.8 billion total state level fiscal funding awarded to Florida under ARPA.[3] The Infrastructure Investment and Jobs Act of 2021 ("IIJA"), recently enacted by Congress on a bipartisan basis, includes an additional $42 billion commitment to broadband buildout across all 50 states. When combined with federal and state funding already in the pipeline as part of the recent COVID-19 relief packages, the government funding commitment to invest in the state's broadband infrastructure, as across the other 49 states, is unprecedented.

In addition to the measures described above, the Broadband Deployment Act (HB 1239)

also set forth a number of new rules for municipal utilities in new Fla. Stat. § 288.9963 aimed to advance broadband deployment in unserved areas of the state in municipal electric utility service territories. The new rules address both recurring and nonrecurring rates, terms, and conditions of access to municipal utility poles faced by broadband providers. The new rules provide for the establishment of a promotional recurring annual rate and related terms for wireline attachments of broadband facilities to municipal electric utility poles.[4] In addition, the new rules establish guidelines that limit the cost responsibility that municipal utilities can impose on broadband providers for replacement poles in certain circumstances at the upfront end of deployment.[5]

EXISTING HOLD UP POWER OF MUNICIPALITY & COOPERATIVELY OWNED ELECTRIC UTILITIES OVER FLORIDA BROADBAND EXPANSION

Despite existing regulations and substantial funding mechanisms from the state and federal governments, the public's return on current broadband investment in the state remains substantially vulnerable to the leverage and market power that pole owners enjoy over broadband service providers seeking to attach their broadband infrastructure to utility poles. This leverage has intensified in recent years due to a variety of factors: the increased urgency of policymakers to get broadband out to unserved areas of the state, the pole owner's information advantage as to where unserved customers – the target recipients of broadband grant awards and build out commitments – are located thereby raising the currency of the pole owners' gatekeeper status, the greater number of poles needed to reach those customers in outlying hard to reach rural areas of the state, and an increasing desire among pole owners to enter and compete in the broadband market against broadband attachers.[6]

The power to impede others' ongoing investment plans is classified in economics as a "*hold up problem*." A hold up problem is an example of the inefficient concentration of market power that harms the public interest and results in market failure absent adoption of public policies to prevent the exercise of the hold up power at its source.

In the case of pole attachments needed for broadband deployment, hold up power emanates from the charging of inefficiently high costs and imposing of delays on pole attachers at the upfront end of their planned broadband buildout as part of the "make-ready" process, although excessive recurring charges (rental rates for space on the pole) are not an insignificant factor. These high make-ready costs and delays are especially pronounced in connection with the change-out or replacement of existing poles. In the absence of effective pole policies, pole owners routinely seek to push the entire cost of pole replacement on to attaching entities, including broadband providers, thereby sharply, unpredictably, and inequitably increasing the cost of attachment.

In Florida, historically inefficient make-ready charges have been compounded by the high recurring annual rental rates charged by unregulated municipally and cooperatively owned utilities. Inefficiently high recurring charges also impede broadband expansion by raising the ongoing costs of attaching to a pole. A 2019 study examining pole rates nationwide found rates charged by unregulated municipally and cooperatively owned utilities in the state of Florida to exceed those charged by regulated investor-owned utilities ("IOUs") in the state by 2 to 2.5 times, respectively. Moreover, the study found the observed higher recurring pole rental rates charged by municipal and cooperatively owned poles and their peer IOUs in Florida were higher than the nationwide average, indeed representing some of the highest rates in the nation.[7]

The recent legislative reforms enacted in Florida address a number of inefficient make-ready practices of municipally owned utilities and represent a positive step forward in the state. Although helpful, the new make-ready rules still fall short in leveling the playing field entirely, given the extent of the hold up power that municipally and cooperatively owned utilities hold over broadband providers in unserved, rural areas of the state, and the degree to which these utilities can thwart the realization of the state's broadband expansion goals.

For example, while the recent legislative reforms applied to municipal utilities limits pole owner shifting of pole replacement costs onto broadband attachers in a number of situations e.g., when the pole is at the end of its useful life, or found currently out of compliance, the new reforms do not address the efficient sharing of cost responsibility for replacement poles required as a condition of broadband provider access more generally, and still affords the utility considerable discretion in terms of recurring and other non-recurring rates, terms, and conditions affecting access.

MEASURING THE ECONOMIC HARMS OF POLE OWNER HOLD UP POWER IN FLORIDA

Our analysis measures the economic harms to Florida residents and small businesses of the hold up power of pole owners. These harms are measured in the form of foregone consumer value, known in economics as *deadweight loss* (DWL).[8] The methodology employed applies well established metrics on consumer *willingness-to-pay* (WTP) from the economic literature (in lay terms, the highest price a household would pay for improved broadband).[9] We apply these WTP metrics to reported data on the number of unserved locations awarded grant funding in the state in the FCC's RDOF auction program. Under the RDOF program alone, third-party providers have committed to expand high-quality broadband access to as many as 141,625 currently unserved homes and small businesses across over 50 counties in the state of Florida, the majority in rural areas. We've

expanded our prior analysis to include the total number of unserved locations in the state identified in the FCC's most recent Broadband Deployment Report, as well as information on total unserved locations from an independent data base of unserved Floridians compiled by a data aggregation company, BroadbandNow.[10] Given the substantial private investment and government funding mechanisms being deployed to serve all unserved locations in the state, including the IIJA's massive commitment to broadband infrastructure, this broader analysis is appropriate. The FCC Broadband Report database, which reports unserved population, indicates a total number of 303,396 unserved locations across the state based on the average 2.65 persons per household in Florida.[11] Similarly, according to the BroadbandNow data base, 2,373,981 Floridians have no broadband.[12]

In Tables 1 and 2 below, we present our main findings applied to the state of Florida. Table 1 reports aggregate economic gains for three speed and latency thresholds under three sets of assumptions. The selected speed (measured in megabits of data) and latency thresholds (measured in milliseconds) are comparable to existing broadband service plan offerings rolling out at the time of this writing. The estimates in Table 1 represent a range of possibilities. For example, if all currently unserved locations assigned for deployment under RDOF get connected at 1000/100 Mbps and <10 Ms, this would create $2.66 billion of new economic gains statewide. But if all currently unserved persons estimated by the FCC to lack broadband get similarly connected, that gain would be $5.69 billion. And connecting all unserved persons as estimated by BroadbandNow would yield $16.83 billion. These calculations are net present value over 25 years, or the lower end of average pole life, at 5% discount rate.

FL TABLE #1:

ECONOMIC GAINS IF ALL CURRENTLY UNSERVED POPULATION GAINS BROADBAND ACCESS

	All Assigned RDOF Locations Gain Access	All FCC Unserved Population Gains Access	All BroadbandNow Unserved Population Gains Access
150/25 Mbps at <10 Ms	$2.25B	$4.82B	$14.24B
300/100 Mbps at <10 Ms	$2.49B	$5.34B	$15.77B
1000/100 Mbps at <10 Ms	$2.66B	$5.69B	$16.83B

Note: Table entries equal net present value of annualized gains over 25 years at 5% discount rate. See Appendix D of the companion Federal paper for explanation of methodology and modeling assumptions.

Moving to Table 2, this same computation methodology demonstrates the foregone economic gains, DWL, due to delayed or denied broadband expansion under the pole owner hold up problem. As our previous analysis demonstrated, the identified losses in the form of potential foregone consumer value welfare from the delay or unavailability in broadband access, are also quite substantial. As shown in Table 2, we compute the magnitude of DWL to be in the range of $15.73 million to $99.51 million per month, at speed thresholds of 1000/100 Mbps and <10 Ms latency.

We emphasize that these Florida estimates, as with our nationwide estimates, are conservative in magnitude given that the underlying WTP estimates do not reflect higher broadband demand since COVID-19 or the high speeds being deployed in current expansion plans. For these reasons, the true economic gain to Florida of full broadband expansion likely exceeds the estimates shown in Table 1.

FL TABLE #2:
ESTIMATES OF FOREGONE ECONOMIC GAINS DUE TO POLE ATTACHMENT HOLD UP

	Foregone Gains of Delayed Expansion to Currently Unserved RDOF Locations	Foregone Gains of Delayed Expansion to Currently Unserved FCC Estimated Population	Foregone Gains of Delayed Expansion to Currently Unserved BroadbandNow Estimated Population
150/25 Mbps at <10 Ms	$13.31M	$28.51M	$84.18M
300/100 Mbps at <10 Ms	$14.74M	$31.58M	$93.25M
1000/100 Mbps at <10 Ms	$15.73M	$33.70M	$99.51M

Note: Table entries are monthly aggregate foregone economic gains.

CONCLUSION: POLICY RECOMMENDATIONS TO PROMOTE FULL BROADBAND ACCESS IN FLORIDA

The Florida legislature's recent efforts on municipal utility reform including the creation of a utility pole relief program, that provides some small rate relief for the recurring annual rental rates municipal pole owners charge broadband attachers, and on the non-recurring make-ready front, sets a number of guidelines for the sharing of cost responsibility for pole replacements between Muni pole owners and attachers represents an important initial step towards addressing the hold up power that nonregulated pole owners have.

However, for the reasons described above, these measures do not go far enough in reducing the cost impediments facing broadband providers that have been imposed by pole owners.

Rapid broadband expansion in the state is particularly at risk given the current exemption of municipal and cooperative utilities from regulations governing both nonrecurring and recurring rates, terms, and conditions of third-party access to utility poles, with the exception of the pole replacement and rental rate guidelines included in the Muni reforms. The lack of an existing comprehensive regulatory framework enables these entities to potentially hold up broadband expansion that is in the public interest, and instead advance their narrow interests.

This study demonstrates that the economic stakes at risk are high. Necessary electric utility pole infrastructure investments and pole reforms that address nonregulated municipal utilities and cooperatively owned electric utilities to help speed broadband deployment should include: adoption of efficient pole replacement cost allocation standards based on the net book value of the poles to be replaced (taking into account the inevitable replacement of those poles and the betterment value to the pole owner from their earlier replacement), along with other economically fair, just and reasonable rates, terms, and conditions of access to utility poles for broadband providers, as delineated in Appendix A to the national study that accompanies this state study.

While a number of such legislative and regulatory initiatives are underway across the country, as in Florida, the ability of pole owning utilities to hold up broadband expansion still remains. In addition to the Muni reforms enacted in Florida, one of the first such legislative initiatives enacted to date is Texas HB 1505, passed by the Texas legislature this past spring. The Texas law incorporates a number of the key elements of a model pole policy presented in the national study [and reproduced as Appendix A to this study] required to mitigate pole owner impediments to full broadband expansion. Given the substantial demonstrated consumer gains of full broadband expansion in Florida, there is a compelling public interest case for policymakers to act now to adopt more of these key reforms.

APPENDIX A: ELEMENTS OF A MODEL POLE POLICY

Two foundational principles necessary for the success of broadband deployment in unserved areas are: 1) changing the cost equation for the intermediate pole input in order to encourage infrastructure investment in hard-to-reach areas of the country; and 2) the removal of other regulatory or market impediments to the vital pole input that might jeopardize the cost-efficient nature of that infrastructure investment and deployment. These two principles are at the forefront of the effort to achieve full broadband access in unserved rural areas of our country. The first policy priority is being addressed by federal and state programs that seek to support the cost-efficient deployment of broadband in hard to serve areas of the country; however, the second priority requires additional policies, including policies to ensure an economically efficient and fair cost allocation of pole costs that would help to moderate a pole owners' ability to exercise anti-competitive, anti-consumer market power in an otherwise competitive ecosystem.

Key elements of urgently needed broadband deployment promoting policies include:

- Creation of a pole replacement fund or grant program to promote the efficient use of available state and federal infrastructure funding dollars in support of the buildout of utility pole infrastructure into unserved areas, and in conjunction, ensure pole owners provide nondiscriminatory, just and reasonable non-recurring and recurring rates, terms, and conditions of access to broadband providers (consistent with those detailed below);
- Definitions for make-ready related pole replacements that distinguish make-ready pole replacements from those related to the utility's own inevitable electric (or broadband related) infrastructure upgrade costs;
- Terms that require the pole owner to pay the entire cost of pole replacement when due to safety or reliability as a result of normal wear and tear or other natural causes; or the pole has recorded conditions or defects that would reasonably be expected to endanger human life or property and which should be promptly corrected (whether or not officially "red tagged" for replacement;
- Terms that provide for the economically efficient and equitable sharing of costs of pole replacements tied to the age and/or net book value of the utility poles to be replaced that would preclude, as precondition of access, new attachers from having to bear the full cost of replacing aging poles. This would preclude the utility seeking from attachers the full recovery of poles that the utility would have to replace at its own cost in the near future in the absence of the new attachment or overlash;
- Terms that prevent the utility from seeking any cost recovery from attachers associated with pole replacements unrelated to the need to accommodate a new attachment terms that facilitate the efficient use of federal and state grant funding;

- Detailed make-ready related invoices;
- Specify workable time frames for pole permit application, survey timeframes, pre and post construction requirements;
- Shorter timelines for make-ready work;
- Longer timelines for assessing new attacher One Touch Make-Ready ("OTMR") requests versus existing attachers whose facilities are slated for OTMR;
- Audit process and costs;
- Reasonable notice-only policy for overlashing;
- Terms that preclude, as precondition of access prior to overlashing, a requirement for permitting or fixing of preexisting violations;
- Expedited dispute resolution under the auspices of the state utility commission or through the courts subject to applicable law;
- Charges for non-recurring charges, including pole replacement, must be based on actual, reasonable costs, objectively determined (i.e., based on accepted economic cost allocation criteria); and
- Recurring rental rates set based on the widely used FCC cable rate formula.

END NOTES

[1] The hold up problem is the power to impede others' ongoing investments. In general, hold up problems arise in scenarios where Entity A makes an initial investment that is called "relationship-specific" because its return depends on Entity A subsequently contracting with Entity B. In these scenarios, if Entity B has information about A's investment, then B has market power to extract rents from A's investment and thereby destroy economic value by requiring a high selling price (high, specifically, relative to what the selling price would be in absence of this market power). Hold up problems are classified in economics terms as one example of inefficient concentration of market power that harms the public interest.

[2] See *FCC Fourteenth Broadband Deployment Report*, rel. January 19, 2021, FCC 21-18, Appendix A, https://broadbandnow.com/research/fcc-broadband-overreporting-by-state.

[3] See Diane Goovaerts, "U.S. Broadband Funding State by State, September 15, 2021, https://www.fiercetelecom.com/special-report/u-s-broadband-funding-state-by-state.

[4] Under the state's utility pole relief program, effective July 1, 2021, a broadband provider can receive $1 per wireline attachment per pole per year for any new attachment necessary to make broadband service available to an unserved or underserved end user within a municipal electric utility service territory until July 1, 2024. Additionally, under the terms of the program, municipal pole owners may not increase the fees charged to broadband providers for pole attachments between July 1, 2021 and July 31, 2022.

[5] The new Muni law provides that "municipal utilities cannot charge broadband providers for pole attachments beyond the reasonable and nondiscriminatory costs, attributable solely to the new attachments minus the salvage value of the pole, if positive. More specifically, municipal utilities may not charge broadband providers for pole replacements necessitated (a) because a pole is out of compliance, (b) to bring a pole into compliance with changed standards, or (c) because a pole is at the end of its useful life (30 years for wood poles and 50 years for steel/iron/concrete etc).

[6] See, e.g. Sara-Meghan Walsh, "Lakeland, Fla., Approves High-Speed Internet Deal for City," The Ledger, July 7, 2021 at https://www.govtech.com/network/lakeland-fla-approves-high-speed-internet-deal-for-city and Lisa Maria Garza, "Winter Park to improve connectivity with fiber optic network for city buildings, 5G installation," Orlando Sentinel, February 24, 2021, at https://www.orlandosentinel.com/news/orange-county/os-ne-winter-park-connectivity-20210224-ptjas6bubjfhdpnvyorcubo7si-story.html.

[7] See Michelle Connelly, The Economic Impact of Section 224 Exemption of Municipal and Cooperative Poles, July 12, 2019, submitted before the FCC Broadband Deployment Advisory Committee, GN Docket No. 17-83, Wireline Infrastructure, WC Docket No. 17-84, Wireless Infrastructure, WT Docket No. 17-79, July 22, 2019, at 3,19, 22, Figure 1, Tables A4, A5.

[8] Deadweight Loss (or, DWL) is a standard textbook measure of foregone economic gains created by end-users lacking access to goods and services, including broadband access. In Appendix D of the national study that accompanies this state study, we explain the economic methodology used to generate these estimates. See also Appendix B of the national study for a Glossary of Technical Terms used in this study.

[9] Willingness to Pay (or, WTP) is a standard textbook measure of economic gains created by end-users having access to goods and services, including broadband access. In Appendix A of the national study that accompanies this state study, we explain the economic methodology used to generate these estimates. See also Appendix C of the national study for a Glossary of Technical Terms used here.

[10] See http://BroadbandNow.com

[11] See *FCC Fourteenth Broadband Deployment Report*, rel. January 19, 2021, FCC 21-18, Appendix A.

[12] More precisely, the BroadbandNow estimates identify unserved population to which state-specific ratios of the average number of persons to households can be applied to derive a number of locations comparable to those identified in the RDOF data base, 2.65 in the case of Florida. The discrepancy in unserved locations between the FCC and BroadbandNow databases is largely attributable to the FCC's methodology which only included unserved households in fully unserved census blocks, whereas the BroadbandNow drilled down below the census block level. See https://broadbandnow.com/research/fcc-broadband-overreporting-by-state.