Broadband Deployment Models

PUBLIC-PRIVATE PARTNERSHIPS

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Michael Santorelli, Director

Alex Karras, Senior Fellow

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

NEW YORK LAW SCHOOL

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TOP-LINE TAKEAWAYS

- A public-private partnership (PPP) that uses public resources (*e.g.*, grant funds) to leverage the expertise of private firms (*e.g.*, established ISPs) is the most effective way to extend broadband networks into unserved and underserved areas.
- Across the country, states are increasingly relying on PPPs with incumbent ISPs to close digital divides and will likely continue to do so as BEAD funds are doled out.
- PPPs are governed by contracts, allowing parties to ensure that priorities, timelines, budgets, and other parameters of a project are memorialized and legally protected.
- Selecting the right partner is critically important. The following discussion highlights the myriad criteria that state and local officials should use when vetting potential partners.

Players Involved

A public-private partnership (PPP) is an arrangement where government resources (*e.g.*, funding; right-of-way (ROW) access) are used as the basis for engaging a private sector entity to accomplish a shared objective.

Prevalence

PPPs are common in the U.S. and are regularly used to pursue a range of infrastructure initiatives. The flexibility of PPPs allows partners to craft unique agreements that address specific needs. As such, and because of the benefits that accrue to public and private partners, PPPs have become ideal vehicles for addressing a range of broadband connectivity issues.

Among many other things, public-private partnerships are being pursued by state and local governments to:

- **Expand Existing Broadband Infrastructure.** Cities and states work with ISPs to identify ways for extending networks into unserved areas.
- **Facilitate the Deployment of New Broadband Infrastructure.** Cities and states make available resources needed to encourage new network deployment in certain areas (*e.g.*, funding; ROW access; poles; etc.).
- **Pursue Smart City Services**. Cities engage ISPs and other vendors to deliver smart city applications over private networks built atop public ROW.
- **Enhance Broadband Adoption and Digital Literacy**. Cities and states leverage the expertise of ISPs, nonprofits, and others to deliver affordable connectivity options and supplemental training services.

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Structure

PPPs marry public resources with private expertise in building and operating broadband networks to enhance the availability of high-speed internet access. Most PPPs involve the use of available funding (*e.g.,* grant funding) to entice experienced ISPs to extend existing infrastructure into unserved or underserved areas within or adjacent to their service territory.

These arrangements are typically governed by contracts that include specific terms and conditions related to performance expectations, service guarantees, and other obligations by both parties. Private partners usually own the network assets built with public funds and, depending on the contractual arrangement, might pay fees to the public partner (*e.g.,* via franchise fees) or otherwise provide in-kind services (*e.g.,* free or discounted enterprise service for municipal buildings).

Variations

The following chart (1) describes seven major categories of PPP models that cities and states might explore vis-à-vis bolstering broadband availability; (2) details the roles of cities/states and partner ISPs; and (3) identifies potential pros and cons.

OPPORTUNITY	CITY/STATE ROLE	ISP ROLE	PROS & CONS
Request for Proposals (RFP)	- Issuer of RFP, which details a city/state's goals for broadband connectivity - Apply scoring criteria to identify winning bid - Develop contract that will guide partnership	- Engagement could help shape an RFP that precisely targets discrete connectivity challenges - Respondent to RFP, proposing parameters of a potential partnership	*Pros:* Because RFPs are a widely used tool for establishing PPPs, there is broad familiarity with what is expected of potential partners *Cons:* once responses are submitted, RFP processes are rarely transparent

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OPPORTUNITY	CITY/STATE ROLE	ISP ROLE	PROS & CONS
Smart City	- Facilitator of smart city deployment by, for example, providing ROW access; making funding available; sharing revenues derived from certain offerings; etc. - Anchor tenant/user of smart city systems	- Lead partner in building the network that will enable smart city services - Direct provider of certain services; facilitator of others	*Pros:* leveraging existing broadband infrastructure is most efficient, and can lead to additional deployment (*e.g.,* by extending existing networks into unserved areas) *Cons:* partnering with an inexperienced firm could raise cybersecurity and privacy concerns
State Grant Program	- States leverage available funding (*e.g.,* via BEAD, ARPA) to bolster broadband deployment to unserved areas - States set program criteria. For BEAD, criteria are reviewed and approved by NTIA, setting forth terms and conditions for using funds to build networks, etc.	- ISPs apply for grant funding - Awardee of grant funding, subject to the terms and conditions of the award set by the state and/or federal government - Provider of data to the state to track progress - Provider of broadband services in new markets, bringing the unconnected online	*Pros:* grant programs are now the primary means of facilitating broadband expansion, which means many programs have become efficient and impactful on this front *Cons:* some states have attempted to use these programs as a means of achieving extraneous policy goals (*e.g.,* funding municipal networks to enhance competition), which, in practice, can result in inefficient outcomes (*e.g.,* overbuild)

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OPPORTUNITY	CITY/STATE ROLE	ISP ROLE	PROS & CONS
Local Network Expansion	- Locality leverages funding to support network expansion in unserved and underserved areas - Locality develops the terms and conditions governing how these funds can be used	- ISPs work with local officials to develop a PPP that allows for the expansion of an existing network on mutually beneficial terms and conditions - ISPs educate officials about the importance of working with an established firm, especially vis-à-vis security, resilience, and long-term viability	*Pros:* localities and partner ISPs are well positioned to collaborate in the identification of where broadband remains unavailable *Cons:* some localities are using available funding to pursue muni broadband projects, eschewing the proven PPP model in favor of riskier, unproven, and oftentimes unnecessary market interventions in served markets
Dark Fiber/Conduit Lease	- Locality invests funding (*e.g.*, tax revenue; debt) to build a dark fiber or dark conduit network to introduce competition in the market - Locality seeks partner ISPs to leverage those resources to serve residents and/or businesses	- Potential anchor tenant/lessee of these publicly-owned assets	*Pros:* puts underused assets to productive use; potential revenue generator for a city *Cons:* oftentimes these assets are deployed in served markets, resulting in wasteful overbuilding.
New Market Entry	- Locality expresses interest in facilitating market entry by offering concessions to ISPs - Provides ISPs with low cost or free access to ROW and other offerings (*e.g.*, single point of contact; free office space; streamlined permitting)	- Party to special agreements with cities to enter a market on terms and conditions that are different from those of incumbent ISPs - Investor in new network infrastructure	*Pros:* a new ISP enters the market, providing consumers with additional choices *Cons:* failure to extend concessions to all ISPs tilts the playing field in favor of the new entrant and undermines the incentives of other ISPs to continue investing, negatively impacting consumers

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OPPORTUNITY	CITY/STATE ROLE	ISP ROLE	PROS & CONS
Regulatory Reform	- City/state indicates that it is open to addressing legal/regulatory barriers that impede investment and network expansion	- ISPs are critical partners in identifying rules and regulations that need to be modernized (*e.g.*, pole attachment policies; ROW access) and describing how reforms will impact investment levels	*Pros:* updating rules to reflect modern market dynamics can unlock new investments and potentially invite new entrants, which benefits consumers immensely *Cons:* none, so long as the reforms maintain a level playing field by being generally applicable to all ISPs

Selecting the Right Partner

The following factors should be considered by state and local officials when selecting PPP partners:

- **Expertise.** Is the prospective partner truly an expert in broadband network buildout? Is there evidence that the ISP has the technical, operational, and financial expertise to help the city/state achieve its goals?
- **Track Record.** Does the prospective partner have an established track record of successfully building, maintaining, operating, and upgrading a network? Of providing reliable service to customers? Of providing responsive customer service?
- **Scale.** Is the prospective partner ISP sufficiently established to achieve economies of scale in the delivery of its services? Such can greatly reduce the amount of capital needed to expand networks, speed construction, and lower prices for consumers.
- **Security & Resilience**. Is the prospective partner able to secure the network it is looking to build? Does the ISP have experience in deploying cybersecurity solutions? Protecting users' data and privacy? Hardening its assets against natural disasters? Addressing outages in a timely manner?
- **Community Roots.** Is the ISP a known quantity in the community? If not, what are the ISP's bona fides in the markets where it currently provides service?
- **Commitment to Competing on a Level Playing Field**. Is the ISP willing to offer its services on a level playing field with other competitors? Or is it seeking special concessions and other advantages to facilitate its entry into the market?

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Assessment

PPPs offer a highly effective approach to enhancing broadband connectivity because they leverage the unique strengths of both public and private partners. This combination fosters a collaborative environment that maximizes the likelihood of PPP projects delivering significant gains to consumers.

For the public partner, benefits of a PPP include:

- **Reduced Risk**. PPPs reduce a city or state's risk exposure. Electing to address broadband connectivity issues directly via government intervention (*e.g.*, in the form of a municipal broadband network) entails significant risk – in the form of debt, developing and successfully implementing a viable business model, keeping up with long-term operating expenses, out-competing nimbler private-sector counterparts, etc. A PPP, on the other hand, allows a city or state to offload much of the financial and operational risk to a private partner. Private partners have significant experience with shouldering and managing such risks.

- **Optimized Investment**. PPPs help ensure that finite public resources are put to their best uses. Oftentimes, PPPs require less capital to achieve connectivity goals than building a municipal broadband network or pursuing a similarly ambitious project. Indeed, many broadband PPPs entail the use of both public and private funds, which means that a city or state can free up funding for other, more pressing needs (*e.g.*, modernizing public infrastructure like roads, bridges, and dams; improving schools; bolstering public safety; shoring up pension funds; etc.).

- **Timely Achievement of Connectivity Goals.** PPPs can be narrowly tailored to target specific areas for broadband enhancement. These arrangements can steer needed resources (*e.g.*, funding) to support network expansion or the deployment of new infrastructure. Such precision in the deployment of resources helps to achieve connectivity goals more quickly. In contrast, electing to build a municipal broadband network from scratch, for example, takes many years, and there is no guarantee that a public network will succeed given the rocky history of municipal broadband.

- **Enhanced Relationships with ISPs**. PPPs are a means of forging more constructive relationships between government and ISPs. Both public and private stakeholders have deep roots in the communities they serve. ISPs have a significant interest in forging productive, solution-oriented relationships with localities and states.

- **Government as Convener**. An optimal role for both state and local governments in the broadband context is as a convener of stakeholders. Bringing parties together enhances planning and strategy development and ensures that whatever solutions are ultimately deployed have buy-in from all involved.

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For the private partner, benefits of a PPP include:

- **Enhanced Relationships with Cities and States.** Working together via a PPP can enhance the relationship between ISPs and their government partners. Indeed, these partnerships can be a valuable vehicle for ISPs to demonstrate to a city or state their commitment to helping achieve shared goals for broadband connectivity. This can be helpful in reframing how officials view and engage with ISPs. Forging a collaborative working dynamic can facilitate modernized regulatory frameworks, streamlined administrative processes, and related reforms that can unlock additional investment, lower deployment costs, and deliver better, more affordable service to consumers.
- **Accessing Resources to Make Deployment More Economic.** PPPs can help ISPs extend networks into areas that would otherwise be uneconomic to serve. This is a "win" for all involved: cities and states can leverage a relatively small amount of funding, supplemented by ISP investment, to bridge availability gaps; ISPs use the funds to offset its costs and speed buildout; and, most importantly, consumers are able to access quality, affordable connections.
- **Expanded Footprint**. A PPP focused on enhancing availability can result in the expansion of an ISP's service footprint, which helps to generate additional revenues that can be reinvested across the network. This positive feedback cycle ultimately benefits all customers of an ISP.
- **Set a Positive Precedent for Future Collaborations.** Successful PPPs can eventually translate into additional partnership opportunities between the partners. For example, cities and ISPs could leverage these enhanced relationships to facilitate smart city projects, serve anchor institutions, develop low-cost broadband programs, and launch collaborative digital literacy training efforts.

Is This Model Right for Your Community?

When evaluating whether this model makes sense for a particular community, stakeholders should ask and seek answers to the following questions:

Context Questions

- What are the essential context issues? Is there a problem that needs to be solved?
- What is the best way to determine if there is a problem in the first instance?
- What resources does the locality have on hand to address this problem?
- What are the other pressing needs facing the community?

Broadband Connectivity & State of Play

- Is the local market served? If so, how competitive is it?

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- What is the overall broadband adoption rate? What is the adoption rate across demographic groups?
- What are the trends vis-à-vis adoption rates, speeds, network enhancements, etc. Is the community seeing improvements, declines, stagnation?
- Have incumbent ISPs demonstrated a willingness and ability to respond to shifts in local demand?

Risk Analysis Questions

- What is your community's appetite and preparedness for assuming risk?
- Are there constraints (*e.g.*, debt limits) on your community's ability to pursue this model?
- What are the opportunity costs associated with pursuing this model?
- Are there less risky alternatives? Better paths forward?

Devil's Advocate Questions

- Why is this model best?
- Is it possible to replicate the "success" of a certain model in different communities? Are some models more replicable than others? What factors hinder replicability?
- How are "successful" examples of the model relevant to your community? How are failures and challenges seen elsewhere instructive to your community?
- Who typically pitches this model? What do they stand to gain from using this model?

Ultimately, the success or failure of a PPP hinges on (1) gathering enough information and data to answer the questions listed above and (2) ensuring that a partnership agreement reflects the following additional parameters:

- **The Scope of the PPP**. Successful PPPs address specific broadband challenges (*e.g.*, extending networks into an unserved area); unsuccessful PPPs attempt to do too much, oftentimes resulting in wasteful overbuilding (*e.g.*, duplicative middle-mile networks).
- **The Partners Involved.** Successful PPPs leverage the expertise of experienced ISPs; unsuccessful PPPs often involve untested or inexperienced ISPs.
- **Enforcement of Accountability Measures.** Successful PPPs are typically governed by carefully developed contracts that include robust monitoring provisions to ensure accountability; unsuccessful PPPs usually have similar provisions in place but oversight entities (*e.g.*, a government agency) might not be aggressive enough in enforcing those protections.

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Illustrative Case Studies: Successful PPPs

AT&T – Vanderburgh County, Indiana

In Vanderburgh County, Indiana, officials collaborated with AT&T to forge a PPP that brought fiber broadband service to 20,000 previously underserved households.[1] The PPP revolved primarily around funding: AT&T funded 75% of the $40 million buildout; the county used nearly $10 million in ARPA funds to cover the remaining 25%.[2] The County spearheaded the PPP by initially issuing an RFP, to which AT&T responded and was eventually selected as the winner.[3] The contract governing the PPP identified numerous additional areas where the parties could collaborate and leverage their core competencies to facilitate deployment – *e.g.,* the County promised to assist in securing permits and ROW access as needed.[4] In November 2023, AT&T announced that the project was complete, and service was available.[5]

Charter Communications – Florence County, South Carolina

In Florence County, South Carolina, officials forged a partnership with Charter Communications to extend broadband infrastructure into unserved parts of the county.[6] The county utilized $4.5 million in ARPA funding to seed this partnership; Charter committed to investing an additional $9.3 million.[7] The project sought to bring broadband service to 3,320 unserved households in the county.[8] The contract governing the PPP includes reporting mechanisms and commitments by the county to assist in securing necessary permits and other permissions related to building the infrastructure.[9]

T-Mobile – Oakland, California

To ensure that low-income schoolchildren in Oakland, California, had robust access to broadband during the pandemic, T-Mobile partnered with the city to deliver wireless hot-spots to some 35,000 students across the city.[10] T-Mobile has replicated this model in numerous cities across the country, helping to connect nearly six million students to the internet over the last few years.[11]

Comcast – Indiana

In November 2024, the Indiana Broadband Office and Indiana Office of Community and Rural Affairs announced a joint $55 million investment with Comcast to deploy broadband service to unserved and underserved households in Boone, Morgan, Shelby, Miami, Delaware, Fayette and Rush counties.[12] Comcast will receive about $9.4 million in state funds for the project; the remaining $45 million will come from the ISP as matching funds.[13] The partnership is part of the state's Next Level Connections grant program, which offered $350 million towards deployment of broadband infrastructure to "unserved end users."[14]

Cox Communications – Oklahoma

In Oklahoma, Cox was awarded $85 million in American Rescue Plan Act funding to bring broadband to 22,500 unserved households across 13 counties.[15] Cox indicated that it plans

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to deploy a fiber-to-the-home network, and that households will have access to the company's affordable internet plans.[16] In awarding ARPA funding to Cox's and other projects, the state utilized "a thorough overbuild prevention contest process...to eliminate awarding grant funds to homes and businesses with existing or planned service, or enforceable commitments."[17]

Windstream, Colquitt EMC – Lowndes County, Georgia

In May 2024, Lowndes County, Georgia, Windstream, and the Colquitt Electric Membership Cooperative announced a public-private partnership aimed at bringing broadband service to 16,000 locations in the county.[18] Windstream is to contribute approximately $18 million and "handle cost overruns," while the state and county will contribute $22 million.[19] The arrangement is similar to other partnerships between electric cooperatives and established ISPs, such as a recent partnership between Cox Communications and the Indian Electric Cooperative in Oklahoma, which sought to "combine the strengths" of the two parties.[20]

Illustrative Case Studies: Unsuccessful PPPs

SiFi Networks – Arlington, Texas

In March 2024, SiFi Networks announced that it was backing out of a contract with in Arlington, Texas, citing "decreased capital availability and ISP interest" and "increased growth of fiber deployment by existing local ISPs" since the agreement was signed.[21] The company appears to have accomplished little since signing an agreement with Arlington in 2021 beyond a "microtrenching pilot project" and some design work.[22] With over two years lost waiting on SiFi, Arlington now plans to "work with other internet service providers to fill in the pockets" of remaining unserved locations.[23] Arlington's situation underscores the value of working with established, accountable partners with a track-record of following through on the scope and timeline of their projects.

KentuckyWired – Kentucky

KentuckyWired is a $1.5 billion statewide middle-mile project that was launched to facilitate last-mile broadband service in unserved and underserved rural areas.[24] The project has gone significantly over-budget and was delayed for many years.[25] Despite being dubbed "substantially complete" in 2021,[26] it has yet to forge impactful partnerships with ISPs for the delivery of last-mile service.

Notes

[1] *See* Brady Williams and Jill Lyman, *Vanderburgh Commissioners Approve Expanded Broadband Project*, Sept. 28, 2021, 14News.com, https://www.14news.com/2021/09/28/vanderburgh-commissioners-vote-expanded-broadband-project/.

[2] *Id.*

[3] *See Fiber Construction Contract Between AT&T Indiana and Vanderburgh County, Indiana,* https://evansville.granicus.com/MetaViewer.php?view_id=2&clip_id=4612&meta_id=243586.

[4] *Id.*

[5] *AT&T Completes Fiber Broadband Build in Vanderburgh County, Indiana*, Nov. 13 2023, AT&T, https://about.att.com/story/2023/vanderburgh-county-fiber-completion.html.

[6] *See* Matthew Christian, *Florence County and Charter Communications Partnering...,* Sept. 23, 2021, SCNow.com https://scnow.com/news/local/florence-county-and-charter-communications-partnering-to-bring-broadband-to-whole-county/article_0fb433d8-1c8f-11ec-b84c-77b26668133d.html.

[7] *Id.*

[8] *Id.*

[9] *Broadband Infrastructure Grant Agreement*, Florence County, SC, https://s3.us-east-1.amazonaws.com/files.florenceco.org/public/CountyCouncil/Agendas/2021/Agendas/09/04/Agenda-September162021Revised(full).pdf#page=198.

[10] *A Big Step Across the Digital Divide: T-Mobile's Project 10Million Connects 35,000 Oakland Students,* Oct. 13, 2021, T-Mobile, https://www.t-mobile.com/news/community/p10m-hhm2021.

[11] *Connecting Classrooms: How T-Mobile's Project 10Million Powers Student Learning*, Sept. 2, 2024, T-Mobile, https://www.csrwire.com/press_releases/809461-connecting-classrooms-how-t-mobiles-project-10million-powers-student-learning.

[12] *Comcast Signs Agreements with State of Indiana: Joint $55 Million Investment to Bring Fast Internet to 10,000+ Rural Homes, Businesses*, Nov. 13, 2024, Comcast, https://www.prnewswire.com/news-releases/comcast-signs-agreements-with-state-of-indiana-joint-55-million-investment-to-bring-fast-internet-to-10-000-rural-homes-businesses-302303622.html.

[13] Joan Engebretson, *Comcast Committed Lots of Matching Funds for Indiana Broadband Award,* Nov. 13, 2024, Telecompetitor, https://www.telecompetitor.com/comcast-committed-lots-of-matching-funds-for-indiana-broadband-award/.

[14] *Next Level Connections*, Indiana Office of Community & Rural Affairs, https://www.in.gov/ocra/nlc/.

[15] *Cox Awarded Funding to Bring High-Speed Internet to more than 20,000 Oklahomans*, Jan. 25, 2024, Cox, https://newsroom.cox.com/2024-01-25-Cox-Awarded-Funding-to-Bring-High-Speed-Internet-to-more-than-20,000-Oklahomans.

[16] *Id.*

[17] In a historic first for Oklahoma, broadband expansion grants approved, Jan. 25, 2024, Oklahoma Broadband Office, https://content.govdelivery.com/accounts/OKBO/bulletins/386fbe3.

[18] Carl Weinschenk, *Windstream, Georgia Electric Co-Op Partner on $39M Public-Private Partnership*, May 6, 2024, Telecompetitor, https://www.telecompetitor.com/windstream-georgia-electric-co-op-partner-on-39m-public-private-partnership/.

[19] *Id.*

[20] *IEC, Cox make deal to accelerate broadband access*, June 28, 2023, IEC, https://www.iecok.com/iec-cox-make-deal-accelerate-broadband-access.

[21] Citywide Fiber Optic Broadband Update, Jan. 23, 2024, Arlington City Council, https://legistarweb-production.s3.amazonaws.com/uploads/attachment/pdf/2396939/DRAFT2_Citywide_Fiber_Optic_Broadband_Update_-_Jan_2024__003_.pdf.

[22] *Id.*

[23] *Id.*

[24] *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/.

[25] *Id.*

[26] *With KentuckyWired 'substantially complete,' exclusive provider looks to attract customers*, Feb. 19, 2021, The Courier-Journal, https://courier-journal.com/story/news/local/2021/02/19/kentuckywired-broadband-networks-exclusive-provider-accelecom/4494763001/ .