

GONs QUARTERLY UPDATE

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1. EXPLORATIONS IN FLORIDA & GEORGIA

Over the last few months, several municipalities across the U.S. have considered whether to deploy a GON.

In Florida, two cities – **Lakeland** and **Winter Haven** – evaluated proposals for building a municipal broadband system. Both efforts stemmed in part from a [report](#) released in June 2013 that discussed broadband across Polk County, where both Lakeland and Winter Haven are located. Among other things, the report noted the existence of fiber assets in both cities, much of which remained “dark,” or unlit. Several cities in Polk County, including both Lakeland and Winter Haven, had previously deployed fiber-optics in an effort to connect city agencies and enhance their internal operations.

In the case of Lakeland, some of its 330 miles of dark fiber was [leased](#) to a local medical center in an effort to monetize what was by all accounts an underused network. This situation – cities and municipal utilities overbuilding fiber-optic networks for proprietary use and seeing much of those assets remain “dark” because of underuse – is not unique to Polk County. [Many](#) municipal broadband efforts in the U.S., including those in [Chattanooga](#), [Bristol](#), [Lafayette](#), [Cedar Falls](#), [Danville](#), [Groton](#), and [Provo](#), have their genesis in cities looking to somehow commercialize and profit from these kinds of networks by attempting to extend them to residents, either on their own or in partnership with ISPs via an open access model.

In Lakeland, efforts to deploy a commercial GON began in January 2015 as city officials [explored](#) how the

AT A GLANCE

The first quarter of 2016 was an active time in the ongoing conversation about the efficacy of government-owned broadband networks (GONs). At its core, the debate over GONs continues to revolve around whether and how a city or state government should intervene in the broadband space as a service provider.

This Policy Briefing evaluates some of the biggest GONs developments to date. The systems and issues discussed here include:

- Lakeland, FL (sect. 1)
- Winter Haven, FL (sect. 1)
- Peachtree City, GA (sect. 1)
- Bristol, VA (sect. 2)
- Monticello, MN (sect. 2)
- UTOPIA, UT (sect. 2)
- WiredWest in Massachusetts (sect. 3)
- CT Gig in Connecticut (sect. 3)
- Kentucky Wired (sect. 3)
- Federal-local cooperation in furtherance of GONs (sect. 4)
- Google Fiber in Huntsville, AL, and San Francisco, CA (sect. 5)

municipality might become a “gig city.” Over the next few months, the city [commissioned](#) a Broadband Strategic Plan to identify possible paths forward. An initial [plan](#) was presented in October 2015 and offered seven options for the city to consider. These [ranged from](#) low-risk efforts to make the city more attractive for private broadband deployment; to positioning the dark fiber as an open access network over which ISPs could deliver service to residents, at a cost of \$4.4 million; to becoming a full-fledged fiber-to-the-home (FTTH) system, at a cost of \$270 million. Subsequent [debate](#) over the proposals highlighted the many risks associated with investing significant public resources in a network that some argue is unnecessary given the presence of several private ISPs. Even the city’s CFO expressed [deep skepticism](#) about the wisdom of investing in a municipal network, especially when the proposed financial model was “very sensitive” and “highly speculative.” After discussing the initial recommendations and highlighting several concerns, city officials have determined that [next steps](#) will include further research and vetting of the potential paths forward.

Similar discussions have taken place in Winter Haven, which is home to over 1,500 miles of [dark fiber](#). The focus there, though, has not yet encompassed leveraging the dark fiber network as part of a more ambitious and risky commercial GON plan. Instead, discussions have centered on whether the city should lease portions of the system to non-governmental entities. Until recently, the city had not leased or otherwise agreed with a third-party to light any of the fiber. However, at the end of 2015 city officials [debated](#) and eventually approved a lease of part of the network to a nonprofit ISP, [NAP](#), which plans to use it for providing data services to commercial clients. The decision was framed as a financial win for the city, as the lease will allow it to recoup its investment in the dark fiber network. Subsequent [discussions](#) touched on whether this arrangement could be a first step toward

the city offering retail services to residents. Several city officials, though, [noted](#) that such a move would be unwise given the significant amount of resources the city would have to commit. The city would also be poorly positioned to run the system given its lack of expertise in operating such a dynamic network in a competitive market.

Another city in the Southeast, ***Peachtree City***, GA, explored a city-owned broadband network. Unlike Lakeland and Winter Haven, [Peachtree does not](#) own any fiber assets and instead relies on private ISPs to meet its broadband needs. The GON [plan](#) presented to the city for consideration in August 2015 revolved around having the city issue \$3+ million in bonds to build a municipal fiber-optic network that would, at least initially, only serve government institutions and business customers. A [business plan](#) was finalized in September after the City Council adopted a resolution in support. According to the plan, the financial viability of the proposed network hinged on capturing about 25%-30% of the market for business data services and locking in 100% of the local government market. The plan also noted that failure to capture this level of market share would lead to financial losses and might necessitate the use of “cash reserves” or require higher prices to compensate. Subsequent activities in the city mostly involved [due diligence around financing](#) the system. In February 2016, the city decided to pursue a different route by [contracting with a private ISP](#) to address the city’s broadband objectives. After weighing the pros and cons of building the proposed GON and after soliciting bids from local ISPs, including Comcast, AT&T, and NuLink, the city determined that [the most feasible path forward](#) was to contract with NuLink.

2. CHECKING IN

There have been major developments regarding several of the GONs profiled by the ACLP over the last few years.

The GON in **Bristol**, VA, for example, was recently sold to a private firm, signaling the end of this [failing](#) municipal broadband system. In February 2016, city officials [agreed](#) to sell the system to Sunset Digital, a local ISP, for \$50 million; in March, the city council [officially approved](#) it (the sale will be final [after additional approvals](#) by an array of entities, including “the Cumberland Plateau Company, Inc., the U.S. Department of Commerce’s Economic Development Administration and its National Telecommunications and Information Administration, Virginia Tobacco Region Revitalization and other interested parties”). The sale came amidst ongoing inquiries into [corruption](#) by city officials, many of whom worked for or oversaw the utility that ran the GON. The system, though, had been in trouble financially for many years despite the fact that it benefited greatly from \$30 million in state funding from the Virginia Tobacco Commission. Indeed, the system, which cost upwards of \$100 million to deploy, was burdened by tens of millions of dollars of debt. As noted by the CEO of the utility operating the GON, the [system had](#) “peaked in its ability to compete as a broadband service provider.” In addition, he observed that the sale “gets us really a little bit smaller, more focused and we just have three services that will be debt free, it’s my hope that we will see the ability to make substantial adjustments to electric rates or have flexibility with electric rates going forward.”

The failing GON in **Monticello**, MN, continues to teeter on the brink of complete collapse. This system has been [struggling](#) financially for many years, requiring on several occasions infusions of city funds to prop it up. As a result, the city had trouble meeting its bond payment obligations, which eventually led it to default on its debt in 2014. Subsequent negotiations with [bondholders](#) yielded a framework that resulted in lenders being repaid at less than \$0.30 on the dollar – in other words, the city only [repaid](#) \$5.75 million of the \$26 million

borrowed to build the system. Since then, the city has explored a range of possible paths forward. In particular, in late 2015 and early 2016, the city [solicited proposals](#) from several private ISPs to run the network. Outright sale of the system has [also been discussed](#), but, for now, the focus is on trying to somehow get the system on stable financial footing by ceding operational control to an expert private firm.

The multi-city GON in Utah dubbed **UTOPIA** also continues to struggle. Efforts to partner with Macquarie Capital in order to bail the system out – a very [controversial](#) move that would have socialized much of the financing to “save” the system amongst all residents regardless of whether they subscribed to the services provided over the network – [appear to have petered out](#). Even so, some have [declared](#) victory, claiming that the system might be on a path toward viability. Indeed, there have been [efforts](#) to paint this ambitious GON as a success despite its hundreds of millions in outstanding debt, difficulty attracting subscribers, and incomplete deployment. Others have [attempted to find a silver-lining](#) by arguing that, because UTOPIA was one of the first open access GONs in the country, other municipalities have “learned a lot” from this failed and costly municipal system. Nevertheless, the system remains very far from reaching its initial goals, and significant hurdles to financial sustainability persist, including the burden of having to pay down hundreds of millions of dollars in long-term debt.

3. STATE GONS EFFORTS

An emerging model of larger-scale GONs involves the participation of state-level entities in the deployment of open access backbone network infrastructure. The hope is that municipalities will connect to these public middle-mile systems by investing in local last-mile residential networks. This strategy has been pursued previously in some highly rural parts of the country (like in parts of [upstate New York](#)). In addition,

hundreds of millions of dollars of federal stimulus funds were allocated in pursuit of these kinds of network initiatives in places like Florida, Georgia, and Maryland. Many of these systems ultimately failed to achieve their stated goals, though, because they were essentially [duplicative over-build](#). Nevertheless, a number of states are looking to build large scale public networks. As discussed below, such endeavors are replete with foundational challenges, high costs, and significant risks.

One such effort, now on hold, is the **WiredWest** initiative in Massachusetts. In 2010, the state's Broadband Institute received \$45.4 million in federal funding, which was matched with state funding, to build the \$90 million [MassBroadband 123](#), a 1,200 mile open-access middle-mile fiber network that was positioned to "serve as a backbone for over 400,000 households and businesses over a geographic area covering over one-third of Massachusetts with more than one million residents." The next step in this plan was to have [municipalities connect](#) to this network by building municipal last-mile networks. About \$40 million in [funding](#) was made available to eligible cities via the Massachusetts Broadband Institute (MBI); participating municipalities are [required to kick in](#) additional funding.

WiredWest was formed to take advantage of these opportunities. [WiredWest](#) is a "cooperative of municipal light plants...from [44 western Massachusetts towns](#), which are authorized by special legislation to finance the construction of telecommunications networks and offer services." This entity was [formed to build out](#) FTTH networks to "30 of the 44 towns that don't have broadband, using a combination of state and local tax money." However, the MBI in December 2015 [halted funding](#) to WiredWest citing "overall concerns with project operations and sustainability" – risks that have plagued failed GONs across the country. One of the [sticking points](#) is that

WiredWest "wants common ownership of each community's network...something MBI...has said it won't go along with." In February 2016, the Governor [halted negotiations](#) between MBI and WiredWest until it can "conduct due diligence on the financials." In March, the Governor [issued a letter](#) to WiredWest towns explaining that his decision to "pause" efforts was made so that the state could "ensure that public investments will be sound."

In nearby Connecticut, the state's broadband office, along with its consumer advocate, have launched **CT Gig**, a [collaboration with dozens of municipalities](#) to consider ways of "building a statewide fiber optic network capable of delivering gigabit-per-second broadband to Connecticut residents and businesses." A [primary motivator](#) offered in support of these efforts was to use this proposed expansive GON to manufacture more competition into local markets for residential and business services. Evolving its messaging over time, the CT Gig initiative has [framed its efforts](#) as an attempt to meet intense demand for fiber connectivity, demand that is "being led by business leaders and community anchor institutions (e.g., schools, hospitals, public safety, and municipal governments), along with enlightened city and rural dwellers." In its view, "[c]ities must [force competition](#) into the market to get industry to cooperate in public-private partnerships to create a competitive broadband ecosystem."

To make its case, the CT Gig initiative has commissioned a series of reports. The first report, grounded in faulty data, was released in January 2016 and highlighted perceived "deficiencies" in the state's broadband market. The [report](#) relied on data from Akamai to gauge the health of the state's broadband market (measured in terms of speed), as well as anecdotal data gathered by the report author from a "small sample of broadband customer experiences" in urban and rural areas. These sources, though,

proved to be misleading in many respects. After release of the report, for example, Akamai reported that it had [erred](#) in its calculations for the state – instead of declining, the data actually showed that “average connection speed [in the state] tripled from 2007 to 2015.” Similarly, some of the anecdotal stories cited in the report were [criticized](#) for being focused on “the few places where broadband is lacking.” The report also [failed to cite](#) other data that painted a much more optimistic picture about broadband in the state – for example, “the majority of Connecticut's urban population had access to relatively fast speeds in 2014, according to the U.S. Department of Commerce. Of that population, 97 percent could access 100 megabit-per second downloads and 73 percent could access uploads at that rate.”

In continued advocacy, a [second report](#), incomplete in its analysis, was released in early March 2016. It recommends that Connecticut “consider creating a broadband grant program to catalyze and incent local government and private investment in the infrastructure that enables gigabit services—fiber-to-the-premises.” To make its case, the report notes that two neighboring states – Massachusetts and New York – have “created...significant funding mechanisms for next generation broadband,” and that failure to match these programs, in terms of funding commitment and ambition, will result in the state effectively “ced[ing] the broadband landscape to neighboring states and their most prominent cities.” The report profiles the Massachusetts effort, as well as broadband programs in states like California, Illinois, Maine, and Wisconsin. As noted above, the Massachusetts program has been buffeted by problems in the recent past as the state takes a second, closer look at the viability of investing public dollars in GONs.

Interestingly, the report does not profile the New York broadband program, an omission that might have to do with the fact

that its program criteria do not align with the preferred outcomes in Connecticut. In particular, the criteria for securing funding in the first round of the [New NY Broadband Program](#) is very strict vis-à-vis municipal participation and technology type. According to its [RFP criteria](#), New NY is technology neutral, focused only on the last-mile, and will not fund a GON (municipalities can partner with private providers) – criteria that contradict the pre-ordained program structure in Connecticut.

Ultimately, the recommended approach to allocating grant funding in support of municipal broadband in Connecticut would be unique – and uniquely risky – in several ways. First, it would be one of the only, if not the only, grant programs in the country to use state funding to support over-build in served areas. In other words, the proposed network would likely face stiff competition from existing providers, thus challenging returns and overall viability and sustainability. Even so, the report recommends that funding be channeled to metropolitan areas since the state does not have many, if any, truly rural unserved areas. To date, the vast majority of state programs, including nearly all of those profiled in the report, dedicate funding to support broadband deployment only in areas that are unserved. Second, the Connecticut program would also be technology-prescriptive and require the use of fiber; every other program in the country is technology-neutral. Third, the program in Connecticut would be municipal-first – the report “encourage[s] the state to require local government participation in any grant application.” Most other programs are private-first, recognizing that scarce public dollars are often maximized when allocated to expert firms.

In late March, a [third report](#) was issued. In addition to highlighting a number of opportunities for state and local policymakers to “enable the deployment of next generation broadband” by, for example, implementing “make-ready” and “dig once”

policies, the report also puts forward a relatively detailed proposal for deploying a statewide FTTH GON. The report estimates that such a network would *cost in excess of \$3 billion*. It also highlights several public and private funding opportunities that could help to offset the state's financial commitment. Whether the state will opt for this or any of the other proposals put forward in the three reports remains to be seen at this point in time.

Kentucky is also exploring ways to bolster fiber-optic availability across the state. Its ***Kentucky Wired*** project is similar to what Massachusetts has endeavored to do – the [state is building](#) a “statewide, open-access fiber optic network,” the success of which “depends on building state and local partnerships that provide not only a middle mile connection but the last mile connections to local communities and residents.” To do so, the state announced a [partnership with](#) Macquarie Capital to “design, develop and operate the [fiber] network over the next 30 years.” The initial estimated [price tag](#) of this phase was \$250 million to \$350 million when first announced in December 2014; it will be “supported by about \$30 million in state bonds and \$15 to \$20 million in federal grants.” The final deal was [formalized](#) in September 2015. The final price tag is \$324 million to build the 3,400-mile middle-mile network. The intent is that “the vast bulk of the \$324 million network will be [funded by debt and by equity](#) raised by Macquarie...In exchange, [it] receives an annual concession fee of about \$29 million.” Beyond connecting anchor institutions and government buildings, it remains to be seen whether the Kentucky network will succeed in spurring new last-mile deployments in communities.

Financial issues are also emerging. In early 2016, the Governor [voiced concerns](#) about how the state will finance its share of the project, calling at one point for the terms to be [renegotiated](#). Specifically, the state [projected](#) a “39 percent shortfall in annual

revenue needed to make bond payments,” due in large part to a “tainted procurement process” under the previous Governor.

4. FEDERAL-LOCAL COOPERATION

Among the many unique attributes of the ongoing debate over GONs in the United States is the significant level of direct coordination between the federal government and localities in furtherance of municipal broadband. Indeed, GONs have become a prominent part of larger discussions about broadband in the country because of efforts by the federal government to promote them as a means of enhancing competition and innovation in the U.S. market.

Largely ignoring state government over the last few years, federal policymakers have launched a series of initiatives aimed at supporting GONs, creating a unique ***federal-local dynamic***. Initially, these efforts revolved around [channeling federal stimulus funds](#) to support communities that wished to build middle-mile broadband networks. However, subsequent activities expanded to provide federal funding, advocacy support, and other resources for municipal provision of last-mile Internet connections like FTTH. These have included a [series of ongoing meetings and programs](#) arranged by the Department of Commerce aimed at working directly with “communities that want to expand their broadband capacity.” Subsequently, the [President expressed support](#) for municipal broadband efforts and chided states for adopting laws impacting the deployment of these systems. Shortly thereafter, the [FCC acted to preempt](#) two of these laws. Each of these activities has been [justified](#) as necessary to realizing national imperatives around ensuring that every American has “affordable and competitive broadband choices.”

These efforts have continued apace in 2016. The NTIA, for example, co-hosted with a leading GONs advocacy group a [discussion](#)

[supportive of municipal broadband](#) at the end of March. In addition, the same pro-GONs advocacy group, [Next Century Cities](#), which is comprised of local officials that support municipal broadband, was named as a lead partner in the White House's new [Community Connectivity Initiative](#), a program that seeks to “empower communities across the country by giving them tools to support and accelerate local broadband planning efforts.”

Although [not entirely without precedent](#), such direct coordination between the federal government and municipalities in this context is unusual because it ultimately [undermines the ability of state governments](#) to oversee their subdivisions. By attempting to frame GONs as essential inputs to long-term economic prosperity in the United States and to realizing subjective speed benchmarks and subjective levels of “effective” competition among ISPs, proponents have often sought to marginalize the role of state-level officials, particularly state legislatures, in these policy discussions. As a result, efforts by state legislatures to mediate the exploration of high-risk municipal broadband projects, typically via legislation to govern the process by which these networks are approved and built, are often [dismissed out of hand](#) as intrusive encroachments of municipal authority and cited as proof in favor of federal intervention.

From the perspective of bolstering broadband connectivity – a widely shared goal – this new dynamic of federal-local cooperation and state-level marginalization is suboptimal. It ignores the profound importance of preserving a state's constitutionally-protected right to monitor its municipalities. In the GONs context, the need for robust oversight is especially acute because [states maintain ultimate responsibility](#) for the financial health of the cities and towns in their borders. Municipal broadband is an [expensive undertaking](#), costing anywhere from a few million dollars to several hundreds of millions of dollars.

When a network falters, local governments are forced to step in and prop up a failing system with funding and other support. In many cases, failing systems have resulted in [credit downgrades](#), which increase borrowing costs and strain local finances. As these systems become more complex and ambitious, the costs associated with building and maintaining them rise inexorably, increasing the risk of costly – and potentially catastrophic – default by local government. State policymakers thus have a [compelling interest](#) in evaluating the best course of action and, when appropriate, adopting legislative safeguards to protect against potentially ruinous outcomes. (Note: There are also numerous legal reasons why the FCC's preemption of state GONs laws will likely not survive [legal challenge](#). These are discussed in a separate [ACLP Policy Briefing](#).)

5. [EMERGING MODELS AND CONCERNS](#)

A significant development in the GONs space the first part of 2016 involved a private company, Google Fiber.

As discussed at length in the [ACLP's 2014 GONs report](#) (pp. 121-124), Google Fiber has been able to expand its service footprint by securing a number of favorable, company-specific terms and conditions from municipalities. Taken together, these terms and conditions highlight many areas – local franchising, rights-of-way administration, etc. – that are ripe for regulatory reform to ensure that all ISPs are allowed to compete on the same terms. Such regulatory parity is essential to sustainable, robust competition. To date, Google Fiber has [deployed or announced an intent to deploy](#) its network in about a dozen cities across the country. Until recently, its efforts revolved almost exclusively around building out its own network of fiber-optic cables, usually [via existing infrastructure](#) like telephone poles (it rarely buries fiber lines). However, in February 2016, Google Fiber announced a shift in its deployment plans.

Beginning with projects in **Huntsville**, AL, and **San Francisco**, CA, Google has said that it will now use municipal dark fiber assets when deploying its FTTH service. In [Huntsville](#), the municipal utility will have to actually “design and construct [a fiber] network. Once the network is built, Google Fiber — or any other broadband provider — will be able to bring high speed Internet service to the city.” To these ends, the utility will have to invest some [\\$57 million](#) in its network, which will be used in support of a smart electrical grid. It will also have excess capacity that it is seeking to monetize by opening it up to 3rd-party ISPs like Google Fiber. Google Fiber will be responsible for “lighting” the dark fiber by installing its own equipment and bringing connections to homes. A few days later, Google announced a similar project in [San Francisco](#), where it will leverage “existing fiber to connect some apartments and condos.”

This is a noteworthy GONs-related development for several reasons. First, it may encourage additional municipalities to build dark fiber networks — without a track record or data assuring success — in the hopes that a company like Google will partner with them in extending service.

Second and related, there will likely be more calls for building open access middle-mile and last-mile GONs. To date, the reality is that many of these networks have failed or struggled because they could not attract major ISPs or otherwise appeal to consumers, contributing to tepid demand and lower-than-expected revenues (see, for example, the failed systems in [Provo](#) and [UTOPIA](#)). For an array of reasons, major ISPs tend to prefer to build, operate, and be responsible for services provided via their own facilities rather than lease access under an open access arrangement. This is also in keeping with a longstanding policy preference in the U.S. vis-à-vis encouraging and embracing facilities-based intermodal competition amongst broadband providers (as opposed to [manufacturing competition](#)

in local telephone markets by mandating the unbundling of networks).

Third, the use of dark fiber assets built and owned by a municipal utility, as in Huntsville, raises a number of concerns, many of which were described in the ACLP’s [2014 GONs report](#) (pp. 94-95). In particular, there is cause for concern because cross-subsidization between the electric and fiber businesses will likely — and perhaps inevitably — arise. To this end, the utility is already projecting that its [fiber business will help keep electric rates low](#): “[Huntsville Utilities CEO] Stowe says not only will consumers not see the infrastructure costs on their bills, they may see the outlay lowering their bills in the long run. “This project helps us to have other revenue streams that may help us manage rates even more in the future.” This is concerning because, in cities that build GONs via their utilities (e.g., [Chattanooga](#)), the utility can leverage its electric monopoly to subsidize, implicitly or explicitly, the fiber network. This raises the potential for anticompetitive harm to local markets since electric utilities can leverage their captive ratepayers and guaranteed rates of return on investments to prop up what would otherwise be a failing system.