

Number of Community FTTP Networks Reaches 143

Despite the privatization of several community broadband networks, the number of public and public-private fiber networks continues to climb.

By Masha Zager / *Broadband Communities*

BROADBAND COMMUNITIES' count of public and public-private fiber-to-the-premises network projects now stands at 143, a 6 percent increase from 2013. This small change in the total count masks larger changes in the composition of the list.

Additions to the list include a number of new projects as well as a few older, under-the-radar networks that were missing from earlier lists. These older networks identified for the first time were typically built strictly for municipal purposes – that is, to connect municipal offices or substations of municipal electric utilities – and later extended to connect a few nearby businesses. Networks of this type attract little attention outside or even inside their service areas, so it's possible there are many more that we haven't yet discovered.

Deletions from the list include several pending projects that were abandoned when their anticipated financing failed to materialize. Two of these, in Seattle and Chicago, attracted quite a lot of attention both when they launched and when they fizzled, and these projects may well be resurrected in some form.

Also deleted from the list were several functioning fiber-to-the-home networks, built by municipalities, that were sold and are now being operated by private companies. iProvo, built by the Provo, Utah, city government, was privatized for the second time when Google bought it in 2013. In addition, community fiber

networks in Connecticut, Florida, Indiana, Virginia and Wisconsin were sold. Typically, communities sell their fiber networks because they lack the managerial or financial resources to operate them professionally, market them adequately or keep their technology up to date. Not all these projects can be considered failures, even if they were sold at a loss. Sometimes building a fiber network and then selling it to the private sector is the best or even the only way for a community to acquire adequate broadband infrastructure.

Additional networks are likely to be privatized in the near future to access more secure funding streams for growth and upgrades. As of press time, the cities of North Kansas City, Mo., and Burlington, Vt., were considering seeking buyers for their networks, and several UTOPIA communities were negotiating with Macquarie Capital for a long-term lease arrangement.

Despite these sales, the majority of community fiber networks appear to be self-sustaining or even profitable. Many continue to expand or add new types of customers and services. Often, a municipal fiber network begins in one community and expands by popular demand into neighboring communities, though in some cases, expansions requested by residents have been quashed by state legislatures.

More important, well-run community fiber networks are instrumental in attracting

new businesses and retaining existing businesses in their communities. The most common rationale for building community networks is to provide businesses with affordable fiber connections; in fact, many networks are built or extended to accommodate specific requests by local businesses.

WHY AREN'T THERE MORE COMMUNITY FIBER NETWORKS?

In the last few years, some community networks, such as EPB Fiber Optics in Chattanooga, have achieved superstar status. Their successes have been touted in the mainstream media and

helped make “gigabit” a household word. They’ve inspired dozens of other communities to consider building their own networks; many of these have taken positive steps toward this goal, such as conducting feasibility studies and market research. A **BROADBAND COMMUNITIES** reader wrote recently to

WHO'S ON THE LIST?

All the network deployers on this list

- Are public agencies, public authorities, public benefit corporations, consortia of public entities, consortia of public and private entities or, in a few cases, private entities that benefited from significant investment or participation by local governments
- Own all-fiber networks that connect local homes or businesses to the Internet (or are actively developing such networks)
- Make available – directly or through retailers – such services as voice, Internet access or video (or are planning such services)
- Are in the United States or U.S. territories.

Excluded are tribal authorities, municipalities that provide broadband services exclusively for city facilities and schools, those that serve private entities only by leasing dark fiber and those that provide broadband services only over cable or wireless networks.

This list includes only organizations with functioning networks or with approved plans and funding. However, plans do not always materialize; several projects that were reported on earlier versions of the list failed to survive. Others, although still in progress, have not met their deployment goals.

Multiple-municipality projects have become more common because they can achieve economies of scale in construction and operation and, by aggregating demand, can attract third-party service providers more easily. UTOPIA, in Utah, is an example of an early FTTH network built by a consortium of cities. More recent projects include ECFiber in Vermont, SMBS in Minnesota and FastRoads in New Hampshire.

Even a network owned by a single town or city may provide service beyond city limits. For example, Jackson Energy Authority and Chattanooga EPB in Tennessee both serve areas adjacent to the cities that own them. The city of Williamstown, Ky., used broadband stimulus funding to expand its community network beyond city borders. (Its original network was hybrid fiber-coax, but it is using FTTH for its expansion.) In Washington state,

BROADBAND COMMUNITIES maintains updated information about community fiber networks and other FTTP deployments in the U.S. in a searchable database at www.fiberville.com. The database field labeled “Community Benefits” contains a wealth of information on the economic development and other benefits of these networks.

though each public utility district builds and operates its own network, most or all belong to the Northwest Open Access Network (NoaNet), a coalition of public utility districts that linked their fiber optic networks together to achieve economic feasibility in underserved areas. NoaNet offers long-haul transport and last-mile access to wholesale communications providers throughout the Pacific Northwest.

Networks identified as public-private partnerships are those in which both public and private owners made significant investments (which may include pre-existing conduit or fiber). Of course, many other types of public-private partnerships are possible and are described in other articles in this issue. The private partner may be a retail service provider or an operator; the public partner may contribute low-interest loans, grants, access to rights-of-way, expedited permitting and so forth. Such partnerships are *not* considered public-private networks for the purposes of this list.

COMMUNITY BROADBAND



Community broadband networks operate in 37 states and American Samoa (Alaska and American Samoa not shown.)

ask why, in light of all this interest, the number of community fiber networks isn't growing faster than it is.

There are several answers to this question. One is that some communities now conducting feasibility studies *will* eventually build their own networks – the process is slow.

Another answer is that 19 states either prohibit communities from building community networks altogether or impose restrictions that discourage or effectively prevent them from building such networks. Tom Wheeler, chairman of the FCC, has expressed interest in overturning those bans, but whether the commission will do so and whether Congress and the courts will permit such actions remains to be seen.

A third reason is that some previously underserved small and midsize communities are finally getting better broadband from the private sector. It isn't always as fast or affordable as they might have wanted, but it may be good enough to blunt demands for community-owned networks. In some cases, this occurred as incumbent providers worked their way down their list of investment priorities. In other

cases, it occurred when communities proactively sought out competitive overbuilders. For example, the town of Gothenburg, Neb., attracted Pinpoint Networks to build a broadband network there (see p. 45), and the town of Wake Forest, N.C., featured in the March-April 2014 issue of this magazine, attracted RST Fiber to build a network in its community. Both Pinpoint Networks and RST Fiber are deploying gigabit fiber networks.

Finally, the smallest, poorest rural communities often can't finance broadband networks without subsidies of some kind. Broadband stimulus funding allowed several community fiber networks (for example, Lake Connections – see p. 40) to be built in extremely rural areas. However, other such communities have struggled for years to finance the networks they would like to build. The July 2014 passage of the Massachusetts IT Bond Bill may permit some western Massachusetts communities to begin building last-mile networks, and funding from the FCC's rural broadband experiment may enable some other communities to do so. However, neither program is adequate to meet the

needs of all the communities that still need better broadband.

DIFFERENT APPROACHES

There is no single model for public broadband. Each project takes a slightly different approach, depending on the legal and political landscape, the availability of financing, the interest of potential partners and the skills and assets public agencies possess. Communities have many options and should explore as many of them as possible before committing to a plan or deciding that public broadband is not for them. (See "The Art of the Possible" on p. 24.)

Political opposition to municipal broadband often constrains cities' options. State legislatures aren't the only entities to impose constraints; opposition may come from community members who disapprove of municipal broadband on principle. Because the pendulum of public opinion shifts constantly, a broadband project that proves legally or politically impossible one year may become feasible a few years later, even in a conservative community. In several cases, city leaders and broadband activists

succeeded in changing public opinion by educating citizens about the economic and social benefits of high-speed broadband.

Some states now actively support municipal broadband projects. For example, in Illinois, Gov. Pat Quinn launched a competition that will award up to \$4 million in funding to ultra-high-speed broadband deployment projects as part of the Illinois Jobs Now! economic development program and has already funded several networks, including those in the cities of Aurora and Evanston.

MUNICIPAL UTILITIES

Municipalities are more likely to become broadband providers when they are already in the business of providing electric power. Citizens in these municipalities are already used to the idea of government-provided utility services. Many public power utilities were set up in response to the failure of the private sector to deliver adequate services, and residents accept that government might set up public communications utilities for the same reason. In most cases, citizens have had positive experiences with their municipal utilities and are prepared to buy additional services from them.

In addition, public power utilities already have back-office operations, such as billing and customer service, needed for providing telecom services. Finally, public power utilities are increasingly building communications networks for smart-grid applications; once they begin planning these networks, they often realize the networks are suitable for purposes such as business or residential broadband. Municipal utilities that distribute Tennessee Valley Authority electricity have been in the forefront of combining smart-grid and telecom applications.

In some cases, such as Wilson, N.C., the city operates a municipal electric utility but set up the telecommunications utility as a separate entity or department. A few cities, such as Salisbury, N.C., do not have municipal electric utilities.

Cities often begin by connecting municipal facilities with fiber, then extend their networks to serve businesses, followed by MDUs, new developments and other residential areas.

WHO ARE THE CUSTOMERS?

Cities often begin by installing institutional networks to serve municipal office buildings or utility substations, then extend fiber to commercial buildings or business parks, add multiple-dwelling-unit properties and greenfield residential developments, and finally reach single-family households and small businesses. The list shows deployers at various points along this path.

Fifty-four of the municipal networks, or more than one-third, deliver fiber services only to businesses, and several others serve mainly businesses. Many of these also deliver residential broadband services via cable or wireless. A few fiber networks that began as business-only, such as Gainesville Regional Utilities in Florida, now serve residential customers in MDUs or greenfield developments, and several, such as nDanville in Virginia and Cedar Falls Utilities in Iowa, built out fiber to residential customers citywide. However, other municipal providers that once planned to follow a similar path, such as Ashland Fiber Network, have been stymied by lack of funding.

WHOLESALE OR RETAIL?

Municipalities are more likely than private deployers to allow third-party providers access to their networks – either because state laws require them to do so, because they do not have the expertise to provide services themselves or because they want to offer a wider variety of services than they could provide on their own. Twenty-nine municipal networks either allow or plan to allow multiple retail service providers to deliver services. Twelve others have

contracted with a single third-party service provider to deliver services (some of these are open to additional service providers). Some municipal providers have both wholesale and retail strategies. For example, ECFiber was conceived as an open-access network but is offering retail services until the network grows large enough to attract other providers. Urbana-Champaign Big Broadband, originally a retail provider, recently announced a partnership with iTV-3, which will expand the FTTH network and deliver services to both old and new customers.

Certain states, such as Utah and Washington, prohibit municipalities from providing retail services. This can pose a problem for municipal fiber deployers at startup, when third-party providers (especially for residential services) may not find joining the network worthwhile.

OTHER PARTNERSHIPS

At least 13 municipal fiber systems contract with third parties – local exchange carriers or other network operators – to operate their networks. Such partnerships (which also exist in the private sector) can be helpful for municipalities without experience operating telecommunications networks. On the other hand, like any critical outsourcing contracts, they must be intensively managed. Several such arrangements have ended abruptly or even resulted in lawsuits.

Some municipalities have formed agreements with real estate developers that allow municipal providers to build fiber in new buildings or developments or to provide fiber backbone and services if developers build the local access infrastructure. New partnership

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Fiber networks operated by municipal electric utilities often implement smart-grid applications along with the triple play of data, video and voice.

models continue to be developed all the time.

VENDORS AND TECHNOLOGIES

Because of open-access requirements and the importance of business customers, active Ethernet networks are slightly more prevalent among municipalities than among private network builders. (Supporting open access is easier on point-to-point than on PON systems – or at least it was until recently.) At least one-third of municipal deployers use active Ethernet technology.

Several electronics vendors have sizable shares of this market, with no single vendor taking a leading position. Alcatel-Lucent, Calix, Aurora (which acquired the Wave7/Enablence portfolio) and Ciena each have several deployments and at least one sizable

system, and a number of other vendors have also had significant customer wins.

GEOGRAPHIC DISTRIBUTION

Laws that govern municipalities' ability to compete as telecommunications providers vary from state to state. Some states give municipalities a free hand, and others do not. Municipal electric utilities are more common in some areas than others, and some regions are better served by private providers than others are.

Given all these factors, the chances for municipal broadband are wildly uneven in different parts of the United States. This census identified community fiber systems in only 37 of the 50 states and in American Samoa. Seven states account for a large number of deployments: Washington

(13), Kentucky (11), Minnesota (10), Tennessee (8), Iowa (8), Illinois (7) and Florida (7).

TRIPLE PLAY AND BEYOND

Though some municipalities offer only Internet access over their fiber networks, most whose planned or actual services we could determine offer the triple play of voice, video and data. Specialized business services are common, as are smart-grid applications. Broadband stimulus funding and encouragement from the Tennessee Valley Authority have made smart-grid applications more prevalent in the last few years, and these applications are likely to become still more important in the future.

A few open-access networks are actively recruiting many different kinds of services. For example, on the St. Joe Valley Metronet, 30 providers deliver 20 different types of services, including such offerings as conferencing, disaster recovery and video surveillance. Enabling a wide variety of broadband services could become a way to make more community networks financially viable. ♦

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NETWORK DEPLOYER	COMMUNITY(IES)	STATE(S)	PUBLIC-PRIVATE OR MUNI	DATE PROJECT STARTED	VENDORS (FTTH Electronics)	TECHNOLOGY	SERVICES	MARKETS SERVED BY FIBER (all premises unless otherwise noted)	SERVICE PROVIDER (if other than network owner)	OPERATOR (if other than network owner)
AccessEagan	Eagan	MN	MUNI	2013		Active Ethernet	Business Services, Data	Businesses only	Multiple	
Algona Municipal Utilities	Algona	IA	MUNI	2013	ADTRAN	Active Ethernet, GPON	Data, Video, Voice			
American Samoa Telecom	American Samoa		MUNI	2008	Calix	GPON	Data, Video, Voice			
Anderson Municipal Light and Power	Anderson	IN	MUNI	2009		Active Ethernet	Data	Businesses only	Multiple	
Ashland Fiber Network	Ashland	OR	MUNI	2000			Data, Video, Voice	Mainly businesses	Multiple (also sells services directly)	
Auburn Essential Services	Auburn	IN	MUNI	2006	Enablence	EPON	Data, Smart Grid, Voice			

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Barbourville Utility Commission	Barbourville	KY	MUNI	2010	Calix	GPON	Data, Video			
Barnesville Municipal Utilities	Barnesville	MN	MUNI	2009	Calix	GPON	Data, Video, Voice			
Bellevue Municipal Utilities	Bellevue	IA	MUNI	2006	Enablence	EPON	Data, Video, Voice			
Benton County Public Utility District	Kennewick, Prosser and Benton City	WA	MUNI				Business Services, Data	Businesses only	Multiple	
Bowling Green Municipal Utility	Bowling Green (also serves Warren County)	KY	MUNI	2007		EPON	Data, Voice	Businesses only		
Braintree Electric Light Department	Braintree	MA	MUNI	2008		Active Ethernet	Data	Businesses only		
Bristol Tennessee Essential Services	Bristol	TN	MUNI	2005	Alcatel-Lucent	GPON	Data, Smart Grid, Video, Voice			
Buffalo Municipal Utilities	Buffalo	MN	MUNI	1996			Data	Businesses only		
Burlington Telecom	Burlington	VT	MUNI	2006	Calix	GPON	Business Services, Data, Video, Voice			
BVU OptiNet (BVU Authority)	Bristol (also serves surrounding areas)	VA	MUNI	2003	Alcatel-Lucent, Calix	GPON	Business Services, Data, Smart Grid, Video, Voice			
Calnet (Calhoun Utilities)	Calhoun	GA	MUNI	2012 (Lit services)		Carrier Ethernet	Data, Voice	Businesses only		
CC Communications	Churchill County	NV	MUNI	2004	Calix, Enablence	Active Ethernet, EPON	Data, Security, Video, Voice			
CDE Lightband	Clarksville	TN	MUNI	2007	Ciena, Zhone Technologies	Active Ethernet	Data, Smart Grid, Video, Voice			
Cedar Falls Utilities	Cedar Falls	IA	MUNI	2006	ADTRAN, Calix	Active Ethernet, GPON	Data, Smart Grid, Video			
Chanute Utilities	Chanute	KS	MUNI	2005			Data	Businesses only, planning residential expansion		
Chaska.net	Chaska	MN	MUNI			Active Ethernet		Businesses only		
Chelan County Public Utility District	Chelan County	WA	MUNI	2004	Alcatel-Lucent	GPON	Data, Video, Voice		Multiple	
Chicopee Electric Light	Chicopee	MA	MUNI				Data	Businesses only		HG&E Telecom
Circa (Idaho Falls Power)	Idaho Falls	ID	MUNI	2007		Active Ethernet	Data, Voice	Businesses only	Multiple	

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City of Ammon	Ammon	ID	MUNI	2011			Data		Multiple	
City of Cortez	Cortez	CO	MUNI	2011	Calix	Active Ethernet, GPON	Data, Video, Voice	Businesses only, planning residential expansion	Multiple	
City of Evanston	Evanston	IL	MUNI	2013				Businesses only		
City of Hamilton	Hamilton	OH	MUNI	2014	Calix	Active Ethernet, GPON	Business Services, Data	Businesses only		
City of LaGrange	LaGrange	GA	MUNI		Calix	GPON	Business Services, Data, Voice	Businesses only		
City of Laurinburg	Laurinburg	NC	MUNI	2014			Data	Businesses only	Broadplex LLC	
City of Leesburg	Leesburg (also serves Lake County)	FL	MUNI	2001			Data	Businesses only		
City of Mishawaka	Mishawaka	IN	MUNI	2012			Data	Businesses only		St. Joe Valley MetroNet
City of Mount Vernon	Mt. Vernon (also serves Burlington and Port of Skagit)	WA	MUNI					Businesses only	Multiple	
City of Ponca City	Ponca City	OK	MUNI					Businesses only		
City of Vernon	Vernon	CA	MUNI	1999			Data	Businesses only		
City of Westminster	Westminster	MD	MUNI	2013			Data	Pilot project	Multiple	
Clallam County Public Utility District	Clallam County	WA	MUNI	2002	Cisco	Active Ethernet	Data		Multiple	
Coldwater Board of Public Utilities	Coldwater	MI	MUNI	2010		EPON	Data	Businesses only		
Community Network Services	Thomasville	GA	MUNI	1999		Carrier Ethernet	Data	Businesses only		
Community Network System (Pend Oreille County Public Utility District)	Pend Oreille County	WA	MUNI	2001	Zhone Technologies	Active Ethernet	Business Services, Data, Video, Voice		Multiple	
Crosslake Telephone	Crosslake	MN	MUNI	2005	Calix	Active Ethernet, GPON	Data, Video, Voice			
DiamondNet (Sallisaw Municipal Authority)	Sallisaw	OK	MUNI	2004	Enablence	EPON	Data, Video, Voice		Momentum Telecom	
Douglas County Public Utility District	Douglas County	WA	MUNI	1999	Telco Systems	Active Ethernet	Data, Video, Voice		Retail service providers	

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Dover Technology	Dover	OH	MUNI	2004	Hitachi		Data	Businesses only		
ECFiber	Consortium of 23 Vermont towns	VT	MUNI	2010	Calix, Zhone Technologies	GPON, Active Ethernet	Business Services, Data, Voice			
EmeryConnect	Emery	CA	PUBLIC-PRIVATE	2013		Active Ethernet			Multiple	PAXIO
EPB Fiber Optics	Chattanooga	TN	MUNI	2007	Alcatel-Lucent	GPON	Data, Smart Grid, Video, Voice			
EPlus Broadband (Jackson Energy Authority)	Jackson (also serves part of Madison County)	TN	MUNI	2004	Enablence	EPON, Carrier Ethernet	Data, Smart Grid, Video, Voice			
FastRoads	Monadnock Economic Development Corporation (covers Enfield and Rindge)	NH	MUNI	2011	Calix				Multiple	
Fayetteville Public Utilities	Fayetteville	TN	MUNI	2010	CommScope	EPON, RFoG	Data, Video, Voice			
FiberCom	Cartersville	GA	MUNI				Business Services, Data, Voice	Businesses only		
FiberNet Monticello	Monticello	MN	MUNI	2008	Calix	GPON	Data, Video, Voice			
Fibrant Communications	Salisbury	NC	MUNI	2008	Zhone Technologies, Calix		Data, Video, Voice			
FPUAnet Communications (Fort Pierce Utilities Authority)	Fort Pierce	FL	MUNI		Cisco	Active Ethernet	Data	Businesses only		
Frankfort Plant Board	Frankfort	KY	MUNI	2009	CommScope	Carrier Ethernet, RFoG	Data, Video, Voice			
Franklin County Public Utility District	Franklin County	WA	MUNI			Active Ethernet	Data, Business Services		Multiple	
Franklin Municipal FiberNET	Franklin	KY	MUNI	2013			Data	Businesses only		
Gahanna Net	Gahanna	OH	PUBLIC-PRIVATE	2010			Business services, Data	Businesses only		WOW Business
Gainesville Regional Utilities	Gainesville	FL	MUNI	2001		Active Ethernet	Data	Businesses, MDUs, greenfield developments		
Glasgow Electric Plant Board	Glasgow	KY	MUNI				Data	Businesses only		
Glenwood Springs Community Broadband Network	Glenwood Springs	CO	MUNI	2002	Calix	GPON	Data, Voice		ROF.NET	

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Goshen Fiber Network	Goshen (city and school district)	IN	PUBLIC-PRIVATE	2008			Data, Video, Voice	Businesses only	New Paris Telephone	New Paris Telephone
Grant County Public Utility District	Grant County	WA	MUNI	2000		Active Ethernet	Data, Video, Voice		Multiple	
Grays Harbor County Public Utility District	Grays Harbor County	WA	MUNI	1998			Data		Multiple	
Greenlight	Wilson	NC	MUNI	2008	Alcatel-Lucent	GPON	Data, Video, Voice			
Harlan Municipal Utilities	Harlan	IA	MUNI	2010	Calix	GPON	Data, Video, Voice			
HES EnergyNet	Hopkinsville	KY	MUNI		Calix		Data	Businesses only		
HG&E Telecom (Holyoke Gas & Electric Department)	Holyoke (also serves Chicopee and Springfield)	MA	MUNI	1997		Carrier Ethernet	Data, Voice	Businesses only	OTT Communications	
Highland Communication Services	Highland	IL	MUNI	2010	Calix	GPON	Data, Video, Voice			
Holland Board of Public Works	Holland	MI	MUNI				Data	Businesses only	Multiple	
Hometown Utilicom	Kutztown	PA	MUNI	2002	Calix	BPON, GPON	Data, Smart Grid, Video, Voice		D&E Communications	
Independence Light & Power	Independence	IA	MUNI	2013	ADTRAN	GPON	Data	Businesses only		
Indianola Municipal Utilities	Indianola	IA	MUNI	2012	Calix	Active Ethernet	Data, Video, Voice		Mahaska Communication Group	
Kitsap County Public Utility District	Kitsap County	WA	MUNI	2000		Active Ethernet	Data, Video	Mainly for businesses	Multiple	
KPU Telecommunications	Ketchikan	AK	MUNI	2007	ADTRAN, Enablece, Zhone Technologies	Active Ethernet, GPON	Data, Video, Voice			
Lac qui Parle County/Farmers Mutual	Lac qui Parle County	MN	PUBLIC-PRIVATE		Calix	GPON	Data, Video, Voice			
Lake Connections (Lake County)	Lake County (also serves part of Saint Louis County)	MN	MUNI	2010	Calix	Active Ethernet, GPON	Data, Video, Voice			
Lenox Municipal Utilities	Lenox	IA	MUNI	2008	Calix	GPON	Data, Video, Voice			
Leverett Municipal Light Plant	Leverett	MA	MUNI	2012	Calix	Active Ethernet	Data, Voice		Crocker Communications	
liNKCity	North Kansas City	MO	MUNI	2007	Calix, Ciena	Active Ethernet	Data			

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Lit San Leandro	San Leandro	CA	PUBLIC-PRIVATE	2012	ADVA Optical Networks			Businesses, MDUs		
Loma Linda Connected Communities Program	Loma Linda	CA	MUNI	2005	Allied Telesis	Active Ethernet	Data, Video, Voice		Multiple	
Longmont Power and Communications	Longmont	CO	MUNI	2012	Calix	GPON	Data, Voice			
Los Angeles Department of Water and Power Fiber Optic Enterprise	Los Angeles	CA	MUNI			Carrier Ethernet	Business Services, Data	Businesses only		
LUS Fiber	Lafayette	LA	MUNI	2007	Alcatel-Lucent	GPON	Data, Smart Grid, Video, Voice			
Marshall Municipal Utilities	Marshall	MO	MUNI	2005			Data, Smart Grid			
Martinsville Information Network (MINet)	Martinsville (also serves parts of Henry County)	VA	MUNI	2009			Business Services, Data, Voice	Businesses only		
Mason County Public Utility District	Mason County	WA	MUNI	2000	Ciena, Telco Systems	Active Ethernet	Data		Multiple	
Mayfield Village		OH	MUNI	2012			Data	Businesses only		One Community
Medina County Fiber Network	Medina County Port Authority	OH	MUNI	2012				Businesses only		One Community
MI-Connection	Mooreville, Davidson and Cornelius	NC	MUNI	2009	Calix	GPON	Data, Video, Voice			
MINET	Monmouth and Independence	OR	MUNI	2007	Alcatel-Lucent	GPON	Data, Video, Voice			
Montana Economic Revitalization & Development Institute/Fatbeam	Butte	MT	PUBLIC-PRIVATE	2013			Business Services, Data, Voice	Businesses only		
Morristown Utility Systems (MUS Fibernet)	Morristown	TN	MUNI	2006	Alcatel-Lucent	GPON	Data, Smart Grid, Video, Voice			
Murray Electric System	Murray	KY	MUNI	2000		Active Ethernet	Data, Video, Voice	Businesses only		
nDanville	Danville	VA	MUNI	2007	Calix	Active Ethernet, GPON	Business Services, Data, Security, Video, Voice		Multiple	
NetQuincy	Quincy (also serves surrounding areas)	FL	MUNI	2003	Alcatel-Lucent	BPON	Data, Video, Voice			

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New Albany Net	New Albany	OH	MUNI	2010			Business Services, Data	Businesses only		WOW Business
Norwood Light Broadband	Norwood	MA	MUNI				Data, Voice	Businesses only		
Ocala Utility Services	Ocala	FL	MUNI			Active Ethernet	Business Services, Data	Businesses only		
Okanogan County Public Utility District	Okanogan County	WA	MUNI	2002		Active Ethernet		Businesses only	Multiple	
OMU Fibernet (Owensboro Municipal Utilities)	Owensboro	KY	MUNI	1998			Data	Businesses only		
ONE Burbank (Burbank Water and Power)	Burbank	CA	MUNI	2010	Cisco, MRV	Carrier Ethernet	Business Services, Data	Businesses only		
OnLight Aurora	Aurora	IL	MUNI	2012		Carrier Ethernet	Business Services, Data	Businesses only		
Opelika Power Services	Opelika	AL	MUNI	2010	Alcatel-Lucent	GPON	Data, Smart Grid, Video, Voice			
Optilink (Dalton Utilities)	Dalton	GA	MUNI	2003	Alcatel-Lucent	GPON	Data, Video, Voice			
Orangeburg County Broadband	Orangeburg County (serves nine communities)	SC	MUNI	2010	Calix	Active Ethernet	Data, Voice			
Pacific County Public Utility District	Pacific County	WA	MUNI	2000			Data		Multiple	
Palm Coast FiberNET	Palm Coast	FL	MUNI	2009	Cisco	Active Ethernet	Business Services, Data, Voice	Businesses only	Multiple	
PES Energize (Pulaski Electric System)	Pulaski (also serves Giles County)	TN	MUNI	2007	Calix, Enablence	EPON	Data, Smart Grid, Video, Voice			
Philippi Communications System	Philippi	WV	MUNI	2005		BPON	Data, Video			
PowellLink	Powell	WY	MUNI	2007	Calix	GPON	Data, Video, Voice		Tri County Telephone, open to other providers	
PPS FiberNet (Paducah Power System)	Paducah (also serves McCracken County)	KY	MUNI	2004	Alcatel-Lucent, Allied Telesis	Active Ethernet, BPON	Data, Security, Video, Voice	Businesses only	Multiple	
Princeton Electric Department	Princeton	IL	MUNI	2003			Data	Businesses only	IVNet	IVNet
Reedsburg Utility Commission	Reedsburg (also serves nearby communities)	WI	MUNI	2003	Calix	BPON, GPON	Data, Video, Voice			

NETWORK DEPLOYER	COMMUNITY(IES)	STATE(S)	PUBLIC-PRIVATE OR MUNI	DATE PROJECT STARTED	VENDORS (FTTH Electronics)	TECHNOLOGY	SERVICES	MARKETS SERVED BY FIBER (all premises unless otherwise noted)	SERVICE PROVIDER (if other than network owner)	OPERATOR (if other than network owner)
Rochelle Municipal Utilities	Rochelle	IL	MUNI		Zhone Technologies	Active Ethernet	Business Services, Data, Voice			
Rock Falls Electric Utilities	Rock Falls	IL	MUNI	2007				Businesses only	Essex Telcom	
RS Fiber Cooperative	Communities in Renville and Sibley Counties	MN	PUBLIC-PRIVATE	2014						
Russelville Electric Plant Board	Russelville	KY	MUNI	2010	Calix	Active Ethernet, GPON	Data, Smart Grid, Video, Voice			
Sandersville FiberLink	Sandersville	GA	MUNI				Data			
SandyNet Fiber	Sandy	OR	MUNI	2011	Calix		Data, Video, Voice	Businesses only, planning residential expansion		
Santa Monica City Net	Santa Monica	CA	MUNI	2004	MRV	Carrier Ethernet	Data	Businesses only	Multiple	
Scottsboro Electric Power Board	Scottsboro	AL	MUNI			Active Ethernet	Data, Smart Grid	Businesses only		
Sebewaing Light and Water Department	Sebewaing	MI	MUNI	2013	Calix	GPON	Data			
Sherwood Broadband	Sherwood	OR	MUNI	2004			Data	Businesses only	Multiple	
Southwest Minnesota Broadband Services	Bingham Lake, Heron Lake, Lakefield, Jackson, Round Lake, Brewster, Okabena, Wilder	MN	MUNI	2010	Calix					Windom Telecommunications
Spencer Municipal Utilities	Spencer	IA	MUNI	2007	Calix	GPON	Data, Smart Grid, Video, Voice			
SpringNet (City Utilities of Springfield)	Springfield	MO	MUNI	2000		Active Ethernet	Business Services, Data	Businesses only		
Sun Prairie Utilities	Sun Prairie	WI	MUNI	1999	Ciena	Carrier Ethernet	Data, Smart Grid	Businesses, MDUs		INOC
Swiftel Communications (Brookings Municipal Utilities)	Brookings	SD	MUNI	2006	Calix	GPON	Data, Video, Voice			
Sylacauga Utilities Board	Sylacauga	AL	MUNI	1997	Alcatel-Lucent	Active Ethernet	Data			
SyncSouth (SGRITA)	Baker, Calhoun, Early, Miller, Mitchell, Terrell, & Seminole Counties	GA	MUNI	2007				Mainly businesses		

COMMUNITY BROADBAND

NETWORK DEPLOYER	COMMUNITY(IES)	STATE(S)	PUBLIC-PRIVATE OR MUNI	DATE PROJECT STARTED	VENDORS (FTTH Electronics)	TECHNOLOGY	SERVICES	MARKETS SERVED BY FIBER (all premises unless otherwise noted)	SERVICE PROVIDER (if other than network owner)	OPERATOR (if other than network owner)
Taunton Municipal Lighting Plant	Taunton	MA	MUNI	2001	Calix, Enablence	EPON	Data			
Town of Jupiter	Jupiter	FL	MUNI	2014		Carrier Ethernet			Multiple	
Town of Rockport/GWI	Rockport	ME	PUBLIC-PRIVATE	2014				Mainly businesses	GWI	GWI
Tullahoma Utilities Board	Tullahoma	TN	MUNI	2007	Enablence	GPON	Data, Video, Voice			
UC2B (Urbana-Champaign Big Broadband)	Urbana-Champaign	IL	PUBLIC-PRIVATE	2010	ADTRAN	Active Ethernet	Data, Video, Voice		iTV-3	iTV-3
UTOPIA	Consortium of 16 cities	UT	MUNI	2004	Alcatel-Lucent, Allied Telesis	Active Ethernet	Data, Video, Voice		Multiple	
Williamstown Cable & Broadband	Williamstown (serves Corinth and parts of Grant and Owen Counties)	KY	MUNI	2010			Data, Video, Voice	Fiber outside Williamstown only		
Windomnet (Windom Telecommunications)	Windom	MN	MUNI	2004	Calix	GPON	Data, Video, Voice			
Wired Road (Blue Ridge Crossroads Economic Development Authority)	Carroll & Grayson counties, city of Galax	VA	MUNI	2009			Data		Multiple	WideOpen Networks
Zing (St. Joe Valley Metronet)	South Bend, Mishawaka, St. Joseph County	IN	PUBLIC-PRIVATE	2005			Business Services, Data, Security, Videoconferencing, Voice	Businesses, MDUs	Multiple	

Dozens of local governments are now exploring ways to obtain better broadband services for their communities. Some may deploy community networks, others may develop partnerships with private sector companies and still others will encourage private companies to build next-generation networks for their residents.