BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C.

In the Matter of	)	
	)	
City of Wilson, North Carolina	)	
	)	WC Docket No. 14-115
Petition for Removal of Section 160A-340	)	
et seq. of the North Carolina General Statutes	)	

REPLY COMMENTS OF THE CITY OF WILSON, NORTH CAROLINA

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The City of Wilson, North Carolina, submits these comments in reply to the opening comments filed in the above-captioned proceeding. The proceeding involves Wilson's petition pursuant to Section 706 of the Telecommunication Act of 1996, 47 U.S.C. § 1302, seeking removal of North Carolina General Statutes § 160A-340 *et seq*. ("Section 160A-340") which acts as an impermissible barrier to broadband investment and deployment by preventing Wilson from providing advanced telecommunications capabilities in areas neighboring Wilson County, including areas in the five other counties in which Wilson already provides electric service.

Scores of organizations and individuals from both the public and private sectors in North Carolina and across America have filed opening comments supporting Wilson's petition and the critical public interest and national goals that would be advanced by a decision in the City's favor. These commenters include local governments, prominent national associations, utilities, providers of information and communications technology and services, and numerous businesses and residents in neighboring communities who seek access to Wilson's state-of-the art services.[1] At

[1] A partial list of commenters supporting Wilson's petition includes the American Public Power Association (APPA); the Telecommunications Industry Association (TIA); the Fiber to the Home Council Americas (FTTH Council); the Internet Association (which represents the world's leading Internet companies, including Amazon, AOL, eBay, Expedia, Facebook, Google, LinkedIn, Netflix, reddit, Twitter, Yahoo!, and many other entities); the Utilities Telecommunications Council (UTC); the National Association of

the same time, a number of commenters have opposed Wilson's petition, including private-sector communications companies and their trade groups, various conservative "think tanks," and organizations seeking to prevent what they consider to be undue federal intrusion into State affairs.

Those who oppose Wilson's petition make two main arguments – (1) the Commission lacks authority under Section 706 to provide the relief that Wilson seeks; and (2) if the Commission does have such authority, it should nevertheless reject Wilson's petition, because the Commission has better options for advancing the goals of Section 706.[2] These arguments are based on multiple sub-arguments, which appear in some form in most of the opposition comments. In parts I and II below, Wilson addresses each of these arguments and sub-arguments and shows that none has merit.

The opponents have not successfully rebutted Wilson's showing that the language, purposes, structure, and legislative history of Section 706 all compel the conclusion that Congress intended the Commission to have authority to remove State barriers to community broadband initiatives. For one thing, some opponents continue to insist that neither Section 706(a) nor Section 706(b) contains an independent grant of authority to remove barriers to broadband investment and competition. The U.S. Courts of Appeal for the D.C. Circuit and Tenth Circuit

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Telecommunications Officers and Advisors; the National League of Cities, the U.S. Conference of Mayors; National Association of Counties; the North Carolina League of Municipalities; the Coalition for Local Internet Choice (CLIC); the Institute for Local Self Reliance (ILSR); the Schools, Health and Libraries Broadband Coalition; the New America Foundation; Common Cause; and Public Knowledge.

[2] For the purposes of these reply comments, we use the term "community broadband" to mean broadband initiatives undertaken by local government entities of all kinds, including, but not limited to, municipalities, counties, towns, public power utilities, public utility districts, joint action organizations, and the like.

Courts of Appeal have upheld the Commission's positions on this issue, and there is no reason why the Commission should revisit it.

Several opponents maintain that Section 706 does not provide the Commission "preemption" authority because the text of Section 706 does not expressly use that term. This argument is incorrect. First, the key operative language of Section 706 is that, upon finding that advanced telecommunications capabilities are not being deployed in a reasonable and timely manner to "all Americans," the Commission "shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market." This is a clear and unambiguous congressional directive with which the Commission must comply without delay. Second, in enacting the final version of Section 706, Congress expressly stated in its Joint Conference Report that it intended to give the Commission authority to preempt States that were not acting fast enough to encourage rapid and timely deployment of advanced telecommunications capabilities. Congress thus plainly understood that Section 706 included preemption authority.

The opponents have also failed to provide meaningful responses to Wilson's arguments about the purposes and structure of Section 706. In fact, the opponents have done little more than opine that Wilson's arguments are irrelevant. The Commission should therefore find that Wilson's arguments on these points are essentially unanswered.

As to the *Nixon* case,[3] most of the opponents of Wilson's petition expressly or tacitly concede that the distinctions between Sections 253 and 706 that Wilson has highlighted do, in fact, exist. They just argue that these distinctions are immaterial or irrelevant and that, if anything, municipalities had a stronger case in *Nixon* than they do here. Wilson stands on what it has said on this issue in its petition, so the issue is ready for a decision by the Commission.

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[3] *Nixon v. Missouri Municipal League*, 541 U.S. 125 (2004).

Turning from authority issues to policy issues, many of the opponents of Wilson's petition claim that municipal broadband projects usually struggle or fail; that States should be free to protect municipalities and their taxpayers from the consequences of troubled projects; and States should have the right to protect the private sector from the unfair advantages that municipalities supposedly have. Some opponents insist that the North Carolina statute is not in fact a barrier, as it leaves Wilson free to provide advanced telecommunications capabilities within its defined service area. Every one of these arguments is incorrect or incomplete and misleading.

At the outset, the "municipal failure" argument is irrelevant here, as the Wilson project is doing very well and is likely to continue to do so. Nor is this argument valid as applied to public broadband initiatives generally. While a few municipal projects have struggled, far more are succeeding – some spectacularly so. Moreover, despite the opponents' claims to the contrary, this proceeding is not about a State law that was enacted to protect municipalities or their taxpayers or to create a "level playing field" between public and private service providers. Rather, as Wilson showed in its petition, the statute at issue here had a single anticompetitive purpose and effect – to protect the incumbent service providers from competition from the far superior broadband capabilities and services provided by Wilson and potentially other North Carolina municipalities.

Last, the Commission's mission under Section 706 is not merely to ensure that all Americans have access to minimum levels of broadband connectivity. Rather, the Commission must also seek to ensure that America makes adequate progress in deploying high-capacity broadband networks. Why is this critically important? As CenturyLink candidly acknowledges in its opposition, "From an economic development, education, healthcare and public safety standpoint, fiber-based broadband is certainly in the best interest of the nation."[4] Similarly,

[4] CenturyLink Comments, at 1-2.

AT&T claims that it "shares petitioners' desire to ensure that all Americans, including, but not limited to, those living in and around Chattanooga and Wilson, have access to world class broadband infrastructure."[5]

Communities across the Nation, including Wilson, have increasingly come to view high-capacity fiber networks as platforms and drivers of simultaneous advances in just about everything they consider important, including economic development and global competitiveness, educational opportunity, modern health care, public safety, energy efficiency, environmental protection, smart transportation, cost-effective governmental service, democratic engagement, and much more. That is why so many of them are trying to acquire access to such networks by working with willing incumbent providers, entering into public-private partnerships, developing their own networks, or exploring other options that may work for their communities.

Unfortunately, and simply put, the opposition does not want communities to play a significant role in helping themselves and the Nation to achieve the goals of Section 706. According to AT&T and USTA, the Commission has a better option – it should subsidize extensions of the incumbent carriers' low-capacity networks through federal programs such as the Connect America Fund.[6] In other words, it is fine for the federal government to subsidize low-capacity private networks, but it is inappropriate for communities to invest in their own state-of-the-art fiber networks, from which they and the Nation have so much to gain.

Nearly a decade ago, Senator John McCain articulated the appropriate policy framework for viewing the role of the public sector in deploying broadband networks:

> …As a country, we cannot afford to cut off any successful strategy if we want to remain internationally competitive.

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[5] AT&T Comments, at 1.

[6] AT&T Comments, at 1-2; United States Telecommunications Association (USTA) Comments, at 6-7; CenturyLink Comments, at 2-3.

> I recognize that our Nation has a long and successful history of private investment in critical communications infrastructure. That history must be respected, protected, and continued. However, when private industry does not answer the call because of market failures or other obstacles, it is appropriate and even commendable, for the people acting through their local governments to improve their lives by investing in their own future. In many rural towns, the local government's high-speed Internet offering may be its citizens only option to access the World Wide Web.[7]

These words are as true today as they were in 2005. If the private sector will not provide communities the high-capacity fiber networks they need to drive and support economic development, educational opportunity, and much more, then the communities should have the right, unconstrained by incumbent-driven state laws, to do what they believe necessary to acquire or develop such networks.

I. THE COMMENTERS OPPOSING WILSON'S PETITION HAVE NOT SUCCESSFULLY REBUTTED WILSON'S SHOWING THAT THE COMMISSION HAS AMPLE AUTHORITY, AND IS REQUIRED, TO REMOVE THE BARRIER TO BROADBAND INVESTMENT AND COMPETITION AT ISSUE IN THIS PROCEEDING

In its petition, Wilson provided a detailed legal analysis of the Commission's broad and express authority under Section 706 to remove barriers to broadband investment. As Wilson demonstrated, the language, purposes, structure, and legislative history of Section 706 all evidence a clear congressional mandate that the Commission take immediate action to remove barriers to broadband infrastructure investment and competition so as to provide advanced telecommunications capabilities to all Americans on a reasonable and timely basis. In short, Wilson showed that the Commission has ample authority to remove barriers to public broadband investment and competition such as Section 160A-340.

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[7] Sen. John McCain, Floor Statement, 2005 Cong. Rec. S7299 (June 23, 2005), http://goo.gl/Q2K4GC

While several commenters agreed with Wilson's analysis and urged the Commission to grant Wilson's petition,[8] a number of opponents argued that the Commission lacks authority under Section 706 to preempt State laws. In this section, we set forth and respond in turn to each of the opponents' main arguments against the existence of such authority.

A. Removing the Restrictions of Section 160A-340 Would Not Violate the Constitution of the United States

Among other commenters, NTCA, the Free State Foundation, and the American Consumer Institute claim that the Commission would violate the Constitution of the United States if it were to grant Wilson's petition.[9] That is incorrect. The Supremacy Clause of the Constitution, Article VI, Clause 2, provides as follows:

> This Constitution, and the Laws of the United States which shall be made in Pursuance thereof; and all Treaties made, or which shall be made, under the Authority of the United States, shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State to the Contrary notwithstanding.

In *Altria Group, Inc. v. Stephanie Good*, 555 U.S. 70. 76 (2008), the Supreme Court succinctly summarized the relevant considerations:

> Article VI, cl. 2, of the Constitution provides that the laws of the United States "shall be the supreme Law of the Land; . . . any Thing in the Constitution or Laws of any state to the Contrary notwithstanding." Consistent with that command, we have long recognized that state laws that conflict with federal law are "without effect." *Maryland v. Louisiana, 451 U.S. 725, 746, 101 S. Ct. 2114, 68 L. Ed. 2d 576 (1981).*
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> Our inquiry into the scope of a statute's pre-emptive effect is guided by the rule that "'[t]he purpose of Congress is the ultimate touchstone' in every pre-emption case." *Medtronic, Inc. v. Lohr, 518 U.S. 470, 485, 116 S. Ct. 2240, 135 L. Ed. 2d 700 (1996)* (quoting *Retail Clerks v. Schermerhorn, 375 U.S. 96, 103, 84 S. Ct.*

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8 *See, e.g.*, FTTH Council Comments, at 11; UTC Comments, at 2; TIA Comments, at 7; Colorado Communications and Utility Alliance Comments, at 10; Netflix Comments, at 2; City of Portland Comments, at 1; and City of Fayetteville Comments, at 2-4.

9 *See also* NTCA-the Rural Broadband Association Comments, at 6; Free State Foundation Comments, at 16; and American Consumer Institute Comments, at 2.

> *219, 11 L. Ed. 2d 179 (1963))*. Congress may indicate pre-emptive intent through a statute's express language or through its structure and purpose. See *Jones v. Rath Packing Co., 430 U.S. 519, 525, 97 S. Ct. 1305, 51 L. Ed. 2d 604 (1977).* If a federal law contains an express pre-emption clause, it does not immediately end the inquiry because the question of the substance and scope of Congress' displacement of state law still remains. Pre-emptive intent may also be inferred if the scope of the statute indicates that Congress intended federal law to occupy the legislative field, or if there is an actual [*77] conflict between state and federal law. *Freightliner Corp. v. Myrick, 514 U.S. 280, 287,* [***406] *115 S. Ct. 1483, 131 L. Ed. 2d 385 (1995).*
>
> When addressing questions of express or implied pre-emption, we begin our analysis "with the assumption that the historic police powers of the States [are] not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress." *Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230, 67 S. Ct. 1146, 91 L. Ed. 1447 (1947).* That assumption applies with particular force when Congress has legislated in a field traditionally occupied by the States. *Lohr, 518 U.S., at 485, 116 S. Ct. 2240, 135 L. Ed. 2d 700*; see also *Reilly, 533 U.S., at 541-542, 121 S. Ct. 2404, 150 L. Ed. 2d 532* ("Because 'federal law is said to bar state action in [a] fiel[d] of traditional state regulation,' namely, advertising, we 'wor[k] on the assumption that the historic police powers of the States [a]re not to be superseded by the Federal Act unless that [is] the clear and manifest purpose of Congress'" (citation omitted)). Thus, when the text of a pre-emption clause is susceptible of more than one plausible reading, courts ordinarily "accept the reading that disfavors pre-emption." *Bates v. Dow Agrosciences LLC, 544 U.S. 431, 449, 125 S. Ct. 1788, 161 L. Ed. 2d 687 (2005).*

In this case, Wilson contends that the language, purposes, structure, and legislative history of Section 706 all reflect Congress's clear and specific intent to authorize the Commission to remove barriers to broadband investment and competition, including Section 160A-340. If Wilson is right, as shown in the petition and this brief, then there is no constitutional impediment to the Commission's removal of the barriers created by Section 160A-340.

B. Sections 706(a) and 706(b) Provide Independent Sources of Authority for the Commission to Remove Barriers to Broadband Investment and Competition

Several opponents of Wilson's petition insist that Sections 706(a) and 706(b) do not provide the Commission independent authority to remove barriers to investment and competition in appropriate circumstance. Rather, they insist that the Commission must find such authority in

other provisions of the Communications Act.[10] As Wilson showed in its petition, at 44-45, the Commission has ruled otherwise, and both the D.C. Circuit and the Tenth Circuit have affirmed the Commission's rulings.[11] This is now a closed issue that merits no further discussion.

C. Section 706 Authorizes the Commission to Remove Barriers to Broadband Investment and Competition

Most of the opponents of Wilson's petition contend that, even if Section 706 confers *some* authority on the Commission to address barriers to broadband investment and competition, such authority does not include the power to preempt State action. In particular, USTA and WISPA note that the terms "preempt" or "preemption" do not appear anywhere in Section 706 and that Congress in fact deleted preemption language from a prior version of Section 706.[12] According to WISPA, this indicates that Congress "expressly declined to provide the Commission with preemption authority under Section 706."[13] These arguments are without merit.

First, Congress was not required to use any particular "magic words" in authorizing the Commission to remove the barriers at issue in this case. As the Supreme Court made clear in *Gregory v. Ashcroft*, explicit statements are not required even in cases in which a "plain statement" standard is the relevant rule of statutory construction.[14]

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[10] *See, e.g.*, CenturyLink Comments, at 12; Int'l Center for Law and Economics and TechFreedom (Int'l Center/TechFreedom) Comments, at 4-7; and USTA Comments, at 18.

[11] *Verizon Corp. v. Federal Communications Commission*, 740 F.3d 623 (D.C. Cir. 2014); *Direct Commc'ns Cedar Valley, LLC v. Federal Commc'ns Comm'n*, 753 F.3d 1015 (10th Cir. 2014).

[12] *See, e.g.*, USTA Comments, at 21 n.56; Wireless Internet Service Providers Association (WISPA) Comments, at 6; and NTCA Comments, at 17-18.

[13] WISPA Comments, at 6.

[14] *Gregory v. Ashcroft*, 501 U.S. 452, 467 (1991) ("This does not mean that the Act must mention judges explicitly, though it does not. Rather, it must be plain to anyone reading the Act that it covers judges" (citation omitted).

Second, the fact that Congress did not use the terms "preempt" or "preemption" in Section 706 is immaterial given that Congress clearly and unambiguously authorized the Commission to do exactly what Wilson is asking it to do here. Specifically, Section 706(a) provides that the Commission "shall encourage the deployment on a reasonable and timely basis of advanced telecommunications to all Americans … by utilizing … measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment." Section 706(b) states even more emphatically that the Commission, upon finding that advanced telecommunications capabilities are not being deployed in a reasonable and timely manner, "shall take immediate action to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market." Congress gave the Commission broad discretion in determining whether broadband deployment is occurring in a reasonable and timely manner, and, if not, in removing any barriers to broadband investment and competition that it might find. Congress also required the Commission to be aggressively pro-active in rooting out such barriers, and it commanded the Commission to take immediate action to remove them. Congress was crystal clear about all of this.

Third, Congress also unequivocally expressed its intent in Section 706 that the Commission ensure that "all Americans," without exception, have reasonable and timely access to advanced telecommunications capabilities. To be sure, Congress gave the Commission wide latitude in fashioning different solutions for differently-situated Americans. But it cut the Commission no slack to leave any American behind. As Wilson showed in its petition, at 4-6, Congress was well aware at the time that it enacted Section 706 that municipalities could play a significant role in bringing the benefits of broadband connectivity to the Internet to all Americans. Furthermore, the record in this proceeding confirms that the goals of Section 706 simply cannot

and will not be met in some locations without municipal involvement. Indeed, even AT&T concedes that there are some areas that the private sector simply will not touch.[15] AT&T just wants to pen government networks into those areas.

Fourth, it also is of no significance that Congress deleted express preemption language from a prior version of Section 706 – specifically, the phrase "and it may preempt State commissions that fail to act to ensure such availability" in the last sentence of Section 304(b) of S.652.[16] Notably, Congress moved nearly identical language into the portion of the Joint Conference Report that explains its intent in enacting the final version of Section 706: "The Commission may preempt State commissions if they fail to act to ensure reasonable and timely access."[17] This is significant for two reasons. One is that the Supreme Court recognized in *Nixon* that it is appropriate to consider legislative history in determining whether Congress has made a "plain statement" of its intent to preempt a fundamental or traditional State power.[18] The other is that, next to the language of the statute itself, a conference report is "the most persuasive evidence of congressional intent" because it "represents the final statement of terms agreed to by both houses." *Demby v. Schweiker*, 671 F.2d 507, 510 (D.C. Cir. 1981); *Resolution Trust Corp. v. Gallagher*, 10 F.3d 416, 421 (7th Cir. 1993) (a conference report "is the most persuasive evidence of congressional intent besides the statute itself"); *RJR Nabisco, Inc. v. United States*, 955 F.2d

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15 AT&T Comments, at 1-2 ("Although AT&T does not necessarily oppose the use of GONs [Government Operated Networks] in areas where advanced infrastructure has not been, and is not likely to be, reasonably and timely deployed, we believe there are better and more effective ways of spurring broadband deployment in these areas, including through the FCC's Connect America Fund (CAF).").

16 S.652, Section 304(b), June 23, 1995. A copy of the bill is available from the Commission's website at http://goo.gl/BNi5ON.

17 House Conference Report 104-458, 104th Cong, 2d Sess. 182-183 (January 31, 1996).

18 *Nixon*, 541 U.S. at 141, citing *Gregory v. Ashcroft*, 501 U.S. 452, 460 (1991).

1457, 1462 (11th Cir. 1992) ("Indications of congressional intent contained in a conference committee report deserve great deference ….").[19]

So, what could Congress possibly have meant by taking explicit preemption language out of the text of Section 706 and putting nearly identical language into the Joint Conference Report, where it knew the language would be treated as highly persuasive evidence of its intent? The only plausible explanation is that Congress considered the preemption language in question redundant and unnecessary in view of the clear and unambiguous removal-of-barriers language in the text of Section 706.

WISPA and NTCA also suggest that references to "State commissions" in the Joint Conference Report indicate that Congress did not intend to authorize the Commission to preempt State legislation.[20] That makes no sense. The only role that Section 706 assigned to the States is to "encourage" reasonable and timely deployment of advanced telecommunications capabilities. Congress not only assigned the Commission similar responsibilities, but it also required the Commission to do much more – including defining the relevant terms, conducting at least annual studies to determine whether advanced telecommunications capabilities were being deployed in a reasonable and timely manner, and, upon answering that question in the negative, taking immediate action to remove any barriers to broadband investment and competition that it might find. If Congress thought that it was appropriate for the Commission to preempt States for merely failing to act fast enough to "encourage" rapid deployment of advanced telecommunications

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[19] This also disposes of NTCA's and the State of North Carolina's contentions that removal of State barriers to broadband investment and competition would violate Section 601(c) of the Telecommunications Act, 47 U.S.C. § 152 (note). NTCA Comments, at 8; North Carolina Comments at 2-7. Section 601(c) provides that "No Implied Effect. This Act and the amendments made by this Act shall not be construed to modify, impair, or supersede Federal, State, or local law unless expressly so provided in such Act or amendments."

[20] WISPA Comments, at 6; and NTCA Comments, at 17-18.

capabilities, then Congress surely must not have had any qualms about authorizing the Commission to preempt State laws that affirmatively impaired broadband investment and competition. In any event, there is no such limitation in the operative "removal-of-barriers" language in the text of Sections 706(a) and 706(b).

D. *Nixon* Does Not Control This Case

Most of the commenters urging the Commission to reject Wilson's petition insist that any authority that the Commission may have under Section 706 does not extend to removing State barriers to broadband investment and competition by entities of local government. In support of this argument, the commenters rely heavily upon *Nixon v. Missouri Municipal League*, 541 U.S. 125 (2004). In that case, the Supreme Court found that the term "any entity" in Section 253(a) of the Communications Act, 47 U.S.C. § 253, was not sufficiently clear to enable the Court to conclude that Congress intended the Commission to preempt State barriers to municipal telecommunications services.

In its petition, Wilson argued that *Nixon* is inapplicable here for several reasons. First, Wilson noted that Section 253 applies solely to "telecommunication service," whereas Section 706 applies to advanced telecommunications capabilities necessary to support broadband access to the Internet (an "information service"). The Commission has for years treated these as completely separate services. Second, Wilson observed that Section 253 was aimed solely at increasing competition among providers of telecommunications service, which was not a new service in 1996. In fact, telephone service had been widely available in many locations for more than a century. In contrast, Section 706 also sought to encourage competition, but it focused primarily on accelerating deployment of advanced telecommunications capabilities and services to all Americans. These capabilities and services were not widely available in 1996, but both Congress and the Commission viewed them as critically important for the well-being of all

Americans as well as the Nation's economic vitality and global competitiveness. As the Commission observed in its *Sixth Broadband Deployment Report*, "ensuring universal broadband is the great infrastructure challenge of our time and deploying broadband nationwide – particularly in the United States – is a massive undertaking."[21] Likewise, in the National Broadband Plan, the Commission recognized that "Broadband is *the* great infrastructure challenge of the early 21st century" (emphasis in original).[22]

Wilson also showed that the language, purposes, structure, and legislative history of Section 706 are fundamentally different from those of Section 253. Among other things, Wilson showed that (1) Section 706, unlike Section 253, requires the Commission to be aggressively pro-active in identifying and acting immediately to remove any barriers to broadband investment and competition that it may find; (2) Congress addressed the relationship between the Commission and the States in far greater detail in the language and structure of Section 706 than it did in Section 253, giving the Commission primacy in multiple ways; and (3) as discussed above, Congress expressly confirmed in the Joint Conference Report that Section 706 authorizes the Commission to preempt states that are not acting quickly enough to encourage reasonable and timely deployment of advanced telecommunications capabilities to all Americans.

Furthermore, Wilson also questioned whether it was even necessary or appropriate to treat Section 160A-340 as an exercise of a traditional or fundamental State power, to which *Gregory v. Ashcroft*'s heightened "plain statement" standard applies.[23] After all, that provision cannot be

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21 *Sixth Broadband Deployment Report*, 25 FCC Rcd. 9556, 9560, ¶ 6, 2010 WL 2862584, *2 (rel. July 20, 2010).

22 *See National Broadband Plan*, at 3, *available at* http://goo.gl/E2Ux8F.

23 If no traditional or fundamental State power were involved, the "plain statement" standard would not apply, and the Commission's interpretation of Section 706 would be entitled to routine deference under *Chevron, U.S.A., Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837 (1984).

justified as necessary to prevent municipalities from burdening surrounding areas with their infrastructure, to protect municipal utilities from exceeding their areas of expertise, or even to protect the interests of taxpayers or utility customers. Rather, Section 160A-340 is a purely commercial measure intended to protect certain incumbent providers of communications services from competition, even in extremely rural areas in which they are not currently providing – and may never provide – telecommunications capabilities that meet the Commission's minimum standards for being classified as "advanced." This is certainly not the government interest that *Gregory* and *Nixon* sought to protect, especially at the expense of the unserved or underserved businesses, institutions, and residents in the areas at issue, for whose benefit Congress enacted Section 706.

In its comments, the FTTH Council agrees with these points and adds that the traditional presumption of greater deference to historic police powers of a State is not applicable in areas where federal law generally occupies the field, as is the case with broadband infrastructure under Section 706:

> [I]mportantly, and of central significance in this case, the presumption generally has not been available when a State or local government regulates in an area "where there has been a history of significant federal presence."[54] Section 706 clearly identifies such an area: removing barriers to infrastructure investment where deployment of advanced telecommunications capability is unreasonable or untimely. Here, Congress, beginning almost two decades ago, intended the Commission to have a significant presence to ensure advanced telecommunications capability is being made available in a reasonable and timely fashion to all Americans and requires that the Commission take affirmative action where that is not the case. There is an express federal presence established by Section 706, whereby the Commission has both the authority to examine broadband deployment and then, affirmatively, the obligation to take immediate action to remove barriers to infrastructure investment in locations where deployment is unreasonable and untimely and "accelerate" the availability of broadband.[24]

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[24] FTTH Council Comments, at pp. 18-19, citing *See United States v. Locke*, 529 U.S. 89, 108 (2000).

The FTTH Council is correct. The Commission has a significant presence in the field of broadband, which includes the many responsibilities that it exercises under Section 706. Additional evidence of the Commission's central role in the broadband field is that Congress charged the Commission, not the States, with developing a national broadband plan.

Moreover, many states, including North Carolina, have expressly declined to assert regulatory jurisdiction over broadband services, and have recognized federal preemption in this area. This further confirms that broadband regulation is not a traditional or fundamental role of State governments. For example, in North Carolina, broadband services are explicitly exempt from regulation by the North Carolina Utilities Commission.[25] In describing the basis for the exemption of broadband services from regulation by the State, the North Carolina Utilities Commission states:

> Because of provisions in federal and/or state law, the Commission does not regulate either wireless service, cable television, long distance service, or broadband service, reflecting a movement toward greater reliance on market forces.[26]

The opponents of Wilson's petition do not provide reasoned responses to the many significant distinctions that Wilson has noted between Sections 253 and 706 and between the facts and policies at issue in *Nixon* and this case. Rather, the opponents essentially dismiss these distinctions out of hand, claiming that they are irrelevant or immaterial. Wilson stands on its arguments and submits that the opponents' responses are insufficient and unpersuasive.

Assuming (without conceding) that *Gregory*'s "plain statement" standard applied here, Section 706 would clearly meet it. As discussed pervasively throughout Wilson's petition and

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[25] N.C. Gen. Stat. § 62-2(b1).

[26] 2013 Report to the Joint Legislative Commission on Governmental Operations Regarding the Status of Telecommunications Service in a Changing Competitive Environment, North Carolina Utilities Commission, at 1.

this reply brief, the language, purposes, structure and legislative history of Section 706 compel the conclusion that the Commission has both the authority and the duty to take immediate action to remove barriers that prevent "all Americans" from obtaining reasonable and timely access to advanced telecommunications capabilities, including barriers to public broadband investments and competition. The Commission can thus readily grant Wilson's petition even if it applies the "plain statement" standard in interpreting Section 706.[27] The FTTH Council agrees with this as well:

> [I]n Section 706, there is no exemption for barriers that are erected by State laws affecting broadband providers that are also municipal utilities. All barriers to the timely and reasonable deployment of advanced telecommunications capability, by the plain language of Section 706(b), are potentially the focus of Commission scrutiny and action. This is not a situation where the term "barrier" has a different meaning depending upon the setting, as was the case regarding a completely different provision of the Communications Act in *Nixon v. Missouri Municipal League*.[28]

Finally, as Wilson maintained in its petition, the *Nixon* Court's hypotheticals are irrelevant where, as here, the statute and its legislative history clearly reveal that Congress intended to preempt the State actions in question. USTA insists that the Commission should refrain from preempting State barriers under Section 706 because doing so would result in the same problems

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[27] USTA suggests that Section 706 cannot meet the "plain statement" standard because the D.C. Circuit found it to be ambiguous in *Verizon* and decided that case on the basis of *Chevron* deference. USTA Comments, at 15. Even assuming (again without conceding) that Section 706 is ambiguous on the Open Internet issues that were before the *Verizon* court, it is not ambiguous with respect to the removal-of-barriers issues present here. That is essentially what Judge Silberman said in his footnote in *Verizon* characterizing State barriers to municipal broadband as a "paradigmatic" example of the kinds of barriers to broadband investment that Section 706 was intended to address. *Verizon Corp. v. Federal Communications Commission*, 740 F.3d 623, 661 n.2 (D.C. Cir. 2014) (Silberman, J., concurring and dissenting).

[28] FTTH Council Comments, at 19.

that the *Nixon* Court's hypotheticals revealed.[29] But the *Nixon* Court made clear that it resorted to its hypotheticals only because "concentration on the writing on the page does not produce a persuasive answer here."[30] That is not the case here, where there can be no reasonable doubt about Congress's intent to authorize the Commission to preempt State barriers to municipal broadband investment and competition, including barriers such Section 160A-340.

Commenters supporting Wilson's petition echo this conclusion. For example, UTC argues that:

> [N]o such hypotheticals are needed to determine the Commission's preemption authority under Section 706. As Petitioners emphasize, there is a clear policy mandate here to promote broadband access under Section 706 that is distinctly different from the issue in *Nixon*, whether the Commission's preemption authority extended to restrictions on either public or private entities from providing *telecommunications* services. In addition, UTC submits that the text of Section 706 is unmistakably clear and that the Commission is mandated to remove barriers to broadband deployment, if it finds that broadband deployment is not reasonable and timely. Moreover, the Commission has already determined that broadband deployment is not occurring on a reasonable and timely basis. Therefore, the Commission has the authority under Section 706 to preempt state restrictions on municipal broadband in order to take immediate action to promote the reasonable and timely deployment of broadband services to all Americans.[31]

As the Supreme Court has made clear, "[a] statute can be unambiguous without addressing every interpretive theory offered by a party. It need only be 'plain to anyone reading the Act' that the statute encompasses the conduct at issue.'"[32] Given the clarity of Congress's intent in enacting Section 706, resort to hypotheticals is unnecessary and inappropriate in this case. As Justice Stevens observed in his dissent to *Nixon*, the Court should not "stretch its imagination to identify possible problems" but instead "should confront the problem presented by the cases at

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29 USTA Comments, at 16; *see also* CenturyLink Comments, at 20-23; NTCA Comments, at 16; and Free State Foundation Comments, at 15-16.

30 *Id.*, at 132.

31 UTC Comments, at 7.

32 *Salinas v. United States*, 522 U.S. 52, 60 (1997), quoting *Gregory, 501 U.S.*, at 467.

hand and endorse the most reasonable interpretation of the statute that both fulfills Congress' purpose and avoids unnecessary infringement on state prerogatives."[33]

II. THE POLICY ARGUMENTS OFFERED BY OPPONENTS OF WILSON'S PETITION ARE INCORRECT, INCOMPLETE, OR IRRELEVANT

Aside from their arguments on authority, the opponents of Wilson's petition raise three principal policy arguments: (1) the Commission has better options for achieving the goals of Section 706 than encouraging and facilitating community broadband initiatives; (2) municipal broadband projects routinely fail, so it is entirely reasonable for States to adopt measures that protect local governments and their taxpayers from the catastrophic effects of municipal failures; and (3) because community broadband projects have multiple unfair advantages over their private-sector counterparts, it is appropriate for States to enact legislation that levels the playing field and promotes fair competition. None of these arguments can withstand careful analysis.

A. The Opponents' "Better Options" Argument Is Incorrect

AT&T claims that it "does not necessarily oppose the use of GONs [government operated networks] in areas where advanced infrastructure has not been, and is not likely to be, reasonably and timely deployed, [but] we believe there are better and more effective ways of spurring broadband deployment in these areas, including through the FCC's Connect America Fund (CAF)."[34] Similarly, USTA asserts that "[i]n contrast to municipal broadband networks that can undermine competition and saddle local communities with significant debt if such networks fail, the CAF offers an efficient, rational means of helping to expand broadband access to all Americans."[35] Likewise, WISPA takes issue not only with the Commission, but also the States of

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[33] *Nixon*, 541 U.S., at 150 (Stevens, J. dissenting).

[34] AT&T Comments, at 1-2.

[35] USTA Comments, at 6-7.

Tennessee and North Carolina for failing to do more to make public funding available to its members through the CAF and other subsidies.[36]

Comments like these are based on the false premise that the Commission's authority is, or should be, limited to ensuring that all Americans have access to minimum levels of broadband connectivity. That is a worthy goal, and it is one of the Commission's main responsibilities under both Section 706 and Section 254 of the Communications Act, which provides for the federal Universal Service Program. But that is not all the Commission is required to do under Section 706. As Wilson showed in its petition, at 5-7, Section 706 also requires the Commission to ensure that all Americans have reasonable and timely access to the high-capacity broadband networks that America needs to be economically vital and globally competitive. As The Internet Association observed in its comments:

> The Internet has become an indispensable tool. Whether used in a professional or personal capacity, the Internet has provided us with new tools that have changed the way we work, interact, learn, and entertain. Further evolution of these Internet-enabled tools hinges critically upon the Commission's ability to fulfill its mandate under Section 706 to ensure the timely deployment of *advanced* [emphasis in original] telecommunications capability to the entire nation. As the Commission has previously recognized, fulfillment of this duty depends critically upon the virtuous circle of innovation in which "new uses of the network—including new content, applications, services, and devices—lead to increased end-user demand for broadband, which drives network improvements, which in turn lead to further innovative network uses."[37]

Unfortunately, there will indeed be areas where subsidizing low-capacity private networks will be the Commission's best option – perhaps its only option. But doing that makes no sense at all where a community is ready, willing, and able to develop a fiber network that will provide far superior broadband connectivity to the Internet while simultaneously meeting many of the

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[36] WISPA Comments, at 16-17.

[37] The Internet Association Comments, at 2.

community's critical needs. As Chairman Tom Wheeler stated in his recent speech at 1776, a startup incubator in Washington, DC:

> A 25 Mbps connection is fast becoming 'table stakes' in 21st century communications. Today about 80 percent of American homes have access to a broadband connection that delivers 25 Mbps or better. … We will continue to establish requirements for our universal service programs, but beyond that, consumers are establishing their own expectations. Today, a majority of American homes have access to 100 Mbps. It is that kind of bandwidth that we should be pointing to as we move further into the 21st century. And while it's good that a majority of American homes have access to 100 Mbps, it is not acceptable that more than 40% do not."[38]

Contrary to the suggestions of AT&T, USTA, and WISPA, it is not only the Commission's statutory duty under Section 706, but also sound policy for the Commission to do its utmost to stimulate the deployment of as many high-capacity networks as possible, including community broadband networks.

B. The Opponents' "Municipal Failures" Argument is Baseless and Irrelevant

Contending that municipal broadband networks typically fail, many of the opponents of Wilson's petition argue that it is entirely appropriate for States to enact measures to safeguard municipalities and their taxpayers from the adverse consequences of such failures.[39] This argument is flawed for several reasons.

First, whatever one may say about failures of community broadband networks elsewhere, Wilson's network has been highly successful, as discussed at length in Wilson's petition. Thus, the municipal failure argument has no relevance to this proceeding.[40]

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38 Prepared Remarks of FCC Chairman Tom Wheeler, "The Facts and Future of Broadband Competition," at 3 (Sept. 4, 2014), available at http://goo.gl/nc62oA.

39 *See, e.g.*, USTA Comments, at 9; CenturyLink Comments, at 9; ITTA Comments, at 7-9; American Legislative Exchange Council Comments at 9.

40 One exception is the comments filed by the John Locke Foundation. These comments do apply to Wilson, but they are based almost entirely on a report that the Foundation published in 2009 criticizing Wilson network plans. That report was full of errors and omissions, and none of its unfounded predictions of Wilson's demise have come to pass.

Second, it is simply not true that municipal networks routinely fail. To be sure, a few municipal projects have struggled – in part because of incumbent-driven State restrictions that were enacted for that very purpose – but the record is full of examples of successful projects that have made major contributions to the well-being of their communities.[41]

In particular, according to a study commissioned by the Fiber to the Home Council, there were 57 public fiber-to-the-home networks operating in October 2009.[42] As the study showed, these networks enhanced economic development and benefitted their communities in numerous other ways. At the time of the study, the networks that had been in operation for 1-4 years were generally operating successfully, and a number of systems had "far exceeded original expectations." These networks were also very popular with their customers. In fact, the "take rates" of these networks averaged 54% nationwide, which exceeded by nearly 20% the average take rates of fiber systems then operated by large incumbent carriers.

Within the last month, *Broadband Communities Magazine*, which tracks fiber deployments of all kinds, reported that there are now 143 public fiber networks, including 13

Notably, the Foundation has not challenged any of the current facts surrounding Wilson's successes and bright future.

41 *See, e.g.*, Common Cause, et al., Comments, at 3-6; Coalition for Local Internet Choice Comments, at 5-15, 17-18; New America Foundation Comments, at 7-16; BVU Authority Comments, at 5-11; National League of Cities, *et al*., Comments, at 4-6; FTTH Council Comments, at 4-7.

42 FTTH Council, "Municipal Fiber to the Home Deployments: Next Generation Broadband as a Municipal Utility" (October 2009)," http://goo.gl/ZgChT3. A copy is appended as Attachment A. More recently, the Institute for Local Self Reliance reported that "there are more than 400 publicly owned networks successfully serving local communities and the vast majority of municipal networks have not used taxpayer dollars." ILSR, http://goo.gl/ZkSEF4, last visited on September 27, 2014.

public-private partnerships, and the majority of these networks are self-sustaining or even profitable.[43]

Third, even if some public broadband networks have not succeeded to the extent that the communities in question had hoped, that does not justify State legislation that expressly or effectively bans communities from deploying such networks. Someday, a case may come before the Commission in which a petitioner seeks removal of a State law that merely does what the opponents claim such measures do – i.e., provide reasonable safeguards to protect local governments and their taxpayers from failed projects. But that is not this case. Here, as Wilson discussed at length in its petition, Section 160A-340 cannot be justified on the ground that it merely imposes legitimate safeguards for communities and taxpayers. Rather, it flatly prohibits Wilson from providing communications services outside of Wilson County. If Wilson provided any such services outside Wilson County, it would lose its ability to provide services outside the City of Wilson, and to provide these services within the City, it would have to comply with all of the onerous requirements in Section 160A-340. As shown in Wilson's petition, compliance with these requirements is simply impossible for any entity – including the private entities, which are not, in fact, complying with them. As a result, Section 160A-340 has but a single purpose and effect – to prevent Wilson and other similarly-situated municipal utilities in North Carolina from making broadband investments that would support competition from far superior services than their private-sector counterparts are providing today or may ever provide in the areas in question.

C. The Opponents' "Level Playing Field" Argument Cannot Withstand Analysis

The commenters opposing Wilson's petition contend that Section 160A-340 does not prohibit Wilson from providing communications services but merely creates a "level playing

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[43] M. Zager, "Number of Community FTTP Networks Reaches 143," *Broadband Communities Magazine*, at 10 (August/September 2014), http://goo.gl/harHcR. A copy of the report is appended as Attachment B.

field" that will produce "fair competition" between the public and private sectors.[44] As Wilson showed in its petition, however, Section 160A-340 does no such thing. Rather, its many onerous provisions ensure that Wilson and other local government entities in North Carolina will not be able to make broadband investments in some areas or, if they try to do so, will not be able to complete successfully with incumbent providers. The Commission need not inquire into the mental state of the North Carolina legislators who sponsored or pushed for the enactment of Section 160A-340. Whatever their motives may have been, Section 160A-340, analyzed fairly and objectively, is unquestionably a barrier to broadband investment and competition that prevents at least some North Carolinians from obtaining reasonable and timely access to advanced telecommunications services. Under Section 706, the Commission must therefore take immediate action to remove it.

III. CONCLUSION

For all of the reasons discussed in Wilson's petition and in these reply comments, the Commission should grant Wilson's petition and declare Section 160A-340 to be null, void, and unenforceable.

Respectfully submitted,

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[44] *See, e.g.*, Avila Comments, at 1; Tillis Comments, at 1; Apodaca Comments, at 2; Madery Bridge Comments, at 4; John Locke Foundation Comments, at 6.

ATTACHMENT A

FTTH council | fiber to the home

Municipal FTTH Systems

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Municipal Fiber to the Home Deployments: Next Generation Broadband as a Municipal Utility

Updated-October 2009

The market penetration of fiber-to-the-home in North America is increasing, with connections now reaching five and one quarter million U.S. households. Fiber to the home (FTTH) is quickly becoming the broadband service of choice for consumers looking to keep pace with high-bandwidth Internet applications and home entertainment options such as high definition video on demand. What's more, this ongoing transformation to fiber-driven, next-generation networks is now a matter of strategic national importance, particularly as other countries in Asia and Europe proceed toward wiring up their communities with high-bandwidth fiber. Few people understand this better than civic leaders in many of America's outlying cities and towns, where access to the information highway can mean the difference between a future of robust economic development and one of community decline.

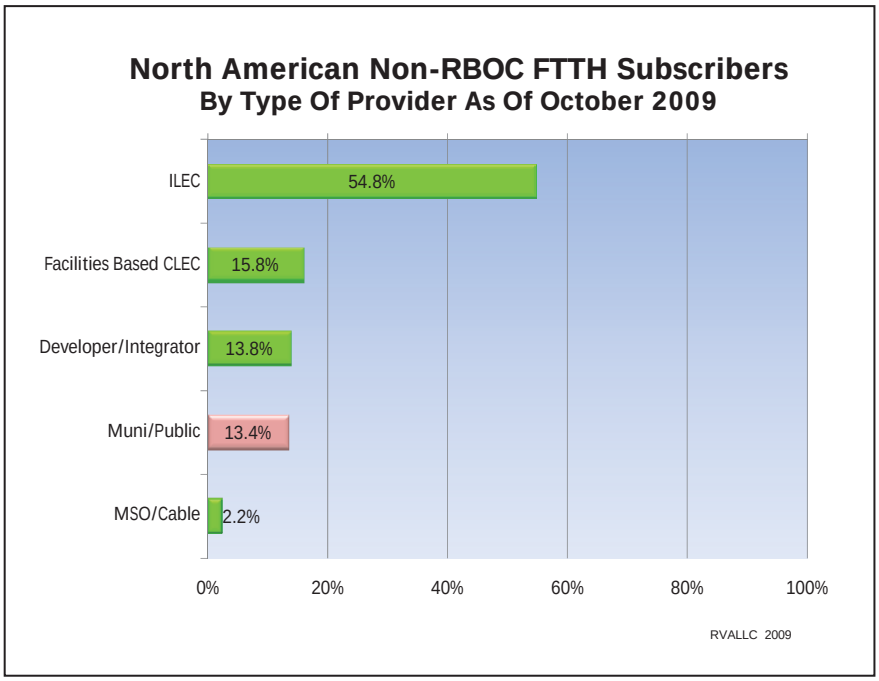
Accordingly, a growing number of municipal governments are taking it upon themselves to build FTTH networks – much in the way that they have previously built roads, sewers and/or electrical systems – as a means of ensuring that local residents have access to necessary services, in this case, the Internet connectivity for the 21st Century. These municipal deployments are usually undertaken after private service providers have declined to upgrade their networks or build such systems.

Deployments by municipalities were among the first FTTH systems operating in the United States. Though, in aggregate, they do not approach the number of FTTH subscribers of a Verizon – which currently accounts for nearly three quarters of all FTTH deployments in the U.S. – municipal systems do have a significant percentage of all non-RBOC subscribers. Further, they represent an important aspect of national FTTH deployment, namely, the option and opportunity for local elected officials and civic leaders to upgrade local connectivity - when private enterprise will not take on the job.

It is in the national interest that higher-speed networks proliferate quickly and to the greatest extent possible – and that special measures be taken to ensure that these networks can be accessed by people who live beyond the major metropolitan areas. Accordingly, it is the position of the FTTH Council that anyone who has the means and the desire to build an FTTH network should be allowed and encouraged to do so – especially when it is an elected local government that is taking the decision

to build when the private sector will not. Clearing the way for further municipal deployments of FTTH will help ensure that America is wired up for the global competition in technology and information.

Given all the above, what is the current state of municipal FTTH deployments? How are these systems faring, and what is their future? To find out more, the FTTH Council commissioned RVA LLC[1] – the leading market research firm specializing in FTTH – to survey municipal systems for the purpose of gathering first-hand status information from network operators. Its conclusions are summarized below.



1. Municipal FTTH systems are continuing to proliferate where allowed.

By definition, municipal FTTH systems are broadband communications systems run by public entities such as municipalities, counties, municipally-owned electric utilities or public utility districts, and which deliver services such as voice, television and Internet over direct fiber connections to residences. In addition, these systems typically offer reliable broadband connections to businesses, government locations and schools and libraries.

As of October, 2009, there are 57 public providers operating FTTH systems in North America. (These providers represent over 85 individual cities. A few cities have banded together to form consortiums and others are part of larger public utility districts.) In addition, to this list there are at least another 15 municipalities offering just fiber to the business.

Altogether, they serve 3.4 percent of the FTTH subscribers in North America. More importantly, they represent 13.4 percent of the non- RBOC FTTH deployments, with most of the remainder being served by small and medium-size telephone companies. The chart on this page lists FTTH subscribers by type of service provider.[2]

Systems operated by municipal and public electric utilities were among the first FTTH networks deployed in North America. Systems like Bristol, VA, Dalton, GA, Chelan County, WA, Grant County, WA, Jackson, TN, Kutztown, PA, and Reedsburg, WI all were started between 1999 and 2003. The average size of the first municipal FTTH systems was comparatively small – under 5,000 subscribers. Today, many new or expanded municipal FTTH systems are considerably larger,

[1] www.RVALLC.com

[2] It should be noted that not all municipal communications systems delivering television or Internet to area premises are FTTH. Hybrid Fiber Coax (HFC) or fiber to the business only (FTTB) systems are sometimes mischaracterized as municipal FTTH systems. (Examples of municipal networks sometimes mistakenly called FTTH systems include those networks deployed in Tacoma, WA and Marietta, GA. While these systems are generally successful, the FTTH Council does not have in-depth information on their financial performance.

and the average size of municipal deployment continues to grow. Larger cities – including Seattle, WA, San Francisco, CA, Portland, OR and St. Paul, MN – are considering building municipal FTTH systems.

A list of all municipally-operated FTTH systems in North America currently serving customers is included at the conclusion of this report.

2. More, and larger, municipal FTTH systems are under development for 2010

The success of municipal FTTH deployments in improving local economies and attracting new business has led other local governments to pursue this option. Recent FTTH bond referendums have been highly successful. The number of municipal FTTH systems will likely grow in the next two years as there appears to be a resurgence of interest in deployment by municipalities and a number of applications for stimulus funds where incumbent telephone company's are reluctant to invest in upgrading their networks. Older FTTH systems, such as that operated by the Grant County Public Utility District in Washington State, are now expanding again to cover more of the citizens in their service areas. Additional muni systems are in various stages of study, funding and development.

3. The "success" of municipal FTTH systems is substantiated by high subscriber take rates.

Based on interviews with municipal system operators and managers conducted by RVA, municipal FTTH systems have generally been undertaken in areas where it was perceived that there was little chance that private providers would initiate a fiber to the residence program in a reasonable amount of time – and where local leaders felt that having next-generation broadband connectivity was essential to the welfare of the community. (If private parties are willing to participate, municipalities have often sought to partner with these companies to help speed the introduction of FTTH to the community. One example of such a partnership has been the City of Fort Wayne, Indiana, which launched such an effort in partnership with Verizon rather than build its own city-run system.)

Municipal FTTH systems have generally been successful to date. In some cases, as expected, projects have had to deviate from their original business plans in order to respond to realities and ensure success in the field. A number of systems have far exceeded original expectations, while a few others are behind early expectations. One, Provo Utah was sold to a private company. This transaction allowed the city to retain its FTTH network, and the operator to sidestep the Utah restrictions on muni's operating communications systems. As of this printing, not a single muni FTTH system has failed.

In the case of muni systems, of which many are not-for-profit enterprises, one measure of "success" is defined as the level of their "take rate" – that is, the percentage of potential subscribers who are offered the service that actually do subscribe. Nationwide, the take rates for retail municipal systems after one to four years of operation averages 54 percent. This is much higher than larger incumbent service provider take rates, and is also well above the typical FTTH business plan. Deployments usually require a 30-40 percent take rate to "break even" within planned payback periods.

4. The effect of municipal FTTH systems on local economic development is significant

There is evidence that municipal FTTH systems positively impact local economic growth. Many FTTH cities attribute the success of efforts to retain and/or facilitate the expansion of businesses at least in part to the lure of their local FTTH communication infrastructure. Examples include information-intensive companies such as Google, MSN and Yahoo. Specific examples of large employers moving to communities in part because of the local FTTH system have been noted by many FTTH cities. The chart on the next page lists new business relocations that were attributed in part or in full to availability of FTTH as the community communication infrastructure.

According to community leaders interviewed, the attracted companies believe that local fiber to the premise systems allow them to do business more efficiently online with less cost. The availability of redundant fiber services from local providers is often also mentioned as a plus, as is the prospect of being able to expand quickly to non-adjacent buildings while still being tied to together via a virtual private network. The ease of employees working from home is often mentioned by relocation decision makers as a positive factor. RVA consumer research has shown that FTTH subscribers work from home significantly more often than those with DSL, wireless or cable modem connections, because of the speed and reliability of their connections.

Municipalities Reporting Plants Locating – in Part Because of FTTH

Auburn IN	Cooper Tire Expansion
Bristol TN	Media General
Bristol VA	Northup Grumman CGI
Chelan County WA	Yahoo
Douglas County WA	Sabey Corporation
Grant County WA	MSN (Microsoft) Ask Jeeves Intuit
Independence OR	Metal fabrication companies
Kutztown PA	Film production companies
LENOSIWSCO VA	Data Centers
Mason County WA	Louisville Slugger Sims Technology companies Online engineering firms
Morristown TN	Colgate Palmolive
Powell WY	Alpine Access Virtual Call Center
Windom MN	Trucking companies

(There are even documented cases of important employees having dedicated fiber lines between home and office in municipal FTTH cities.) Finally, interviewees noted the importance of improved quality of life for employees thanks to the availability of high bandwidth video and Internet services to nearby homes and schools.

Many municipalities also report an increase in home-based businesses because of FTTH – with many of these businesses bringing in revenue from outside the region. Specifically mentioned were examples of businesses requiring very high bandwidths for tasks such as scientific consulting and video editing.

Several municipalities also noted increased efficiency in city government because of the municipal fiber system.

Examples of such productivity improvements have included: systems to monitor remote inventories more efficiently and systems to reduce physical transport costs such as having prisoners face judges via video conferencing from detention facilities (especially for “first appearances”). Productivity enhancement has also included automated meter reading and the ability to remotely turn on or off the utility for non payment such as the system currently being implemented by Clarksville, TN.

Though more difficult to quantify, the “green” advantages of reduced costs from more telework have also been cited by those interviewed, including the anticipation of less road and bridge maintenance, and lower automobile pollution for the community.

5. Municipal FTTH systems have a positive impact on overall FTTH and broadband use.

One important early result of municipal FTTH systems was to help prove and incubate the technology of direct fiber optic access. From 2000-2004, municipal providers represented some of the largest FTTH trials at the time, and some RVA has interviewed feel that FTTH could not have been implemented as quickly by private providers without this in-the-field experience.

Municipal FTTH systems may influence overall FTTH and broadband penetration. Though the difference does not rise to the level of statistical significance at 95 percent confidence, states that do not restrict public involvement in broadband and telecommunications services generally have higher overall FTTH and broadband penetration than do states with prohibitions of or restrictions on municipal broadband.

It should also be noted that restrictions on municipal broadband are correlated with lower take rates for these systems. As mentioned above, states that mandate open access systems (i.e. Utah, Washington) currently have lower take rates for FTTH systems because of the mandated two-tier operation method.

6. CONCLUSION: Municipal FTTH Systems are an important element of national FTTH deployment and should be encouraged.

Municipal FTTH deployments are alive and well – and expanding on early pioneer success stories. Current deployments can point to local economy improvements as well as profitable operation and early pay-back of bonds.

States with regulatory barriers tend to trail in overall broadband penetration. Removal of legal and regulatory restrictions on municipal operation of communications networks will accelerate broadband investment, improve subscriber penetration rates and enable local governments in many outlying areas to ensure that their citizens can be part of the high-bandwidth future.

While municipal systems are beneficial and, in general are profitable, there still are restrictions in 14 states limiting or prohibiting such systems. Legislation has been introduced in both Houses of Congress to preempt state and local laws which currently ban the provision of broadband services by public entities. The Council encourages the passage of the Community Broadband Act or similar legislation, which frees municipalities in those 14 states to invest in next-generation networks.

North American Municipal Systems Currently Serving Customers with Fiber to the Home – October 2009

SYSTEMS SERVING LARGE PERCENTAGE OF SERVICE AREA (41)

Auburn IN
Barnesville MN
Bellevue, IA
Bristol TN
Bristol VA
Brookings, SD
Burlington VT
Chattanooga TN
Chelan PUD WA
Churchill County, NV
Clarksville TN
Crawfordsville IN
Dalton GA
Douglas County PUD WA
Gainesville FL
Grant County PUD WA
Jackson TN
Kutztown PA
Lafayette LA
LENOWISCKO VA
Lenox IA
Loma Linda CA
Marshall MO
Mason County PUD WA
Mi-Conection NC
MINET OR
Morristown TN
North Kansas City MO
Phillipi WV
Powell WY
Pulaski TN
Quincy FL
Radium Hot Springs BC
Reedsburg WI
Rochelle, IL
Sallisaw OK
Shawano WI
Spencer IA
Tullahoma TN
UTOPIA UT
Wilson NC
Windom MN

SYSTEMS SERVING LIMITED FTTH AREAS, OR JUST STARTING (16)

Abbington, VA
Ashland, OR
Baldwin, WI
Cedar Falls IA
Clallum PUD WA
CMON BC
Crosslake MN
Danville VA
Glasgow KY
Holland MI
Ketchikan AK
Monticello MN
Pend Oreille PUD WA
Sylacauga AL
Taunton MA
Tifton GA

ATTACHMENT B

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, 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.

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.

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 aready 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

Fiber networks operated by muncipal 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		Businessses 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, Enablence, 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	Mooresville, 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			
PowelLink	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			

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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 Telecom-munica-tions
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 Communica-tions (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		

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.

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