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The Municipal Broadband Debate: A Need for Federal Policy

Crucial to the idea of *smart cities* is a municipality's ability to quickly move information across a network. In recent years, some cities have developed and installed publicly-owned municipal broadband networks to facilitate the flow of their data, many of which serve double-duty as a low-cost internet service provider for residents and businesses. This approach considers internet access as a public utility, an infrastructure investment for the public good just like a road or bridge. The government can take full advantage of the coverage to allow its many public services to communicate more effectively, and citizens get another option for internet service where before there were few (or none). Due to their direct competition with private telecommunications companies, the legality of municipal broadband networks has sparked a major controversy, prompting the introduction of federal legislation by both sides. Early implementation efforts met with financial, technological, and political hurdles, but recent success stories abound showcasing the benefit of a tech-savvy municipality. A national policy is needed to end the debate and support the ability of cities and communities to leverage municipal networks for the public good.

The Need for Connectivity vs. A Private Status Quo

As our lives become more and more dependent on web access for basic communication and government services, high speed internet access is increasingly seen as a basic human need, the *fourth utility* that Cisco promotes, as important as electric power, running water, and sewage. In 2010, the International Telecommunications Union told the UN that it broadband access should be a human right.[i] Finland has made it so, and has promised each citizen access to a 100 megabit internet connection by 2015.[ii] We have no such promise in this country (we did, but the Bush administration fell short of its promise for universal, affordable broadband access by 2007) Broadband access in the United States lags behind at 17th place in Broadband availability and usage according to a 2009 Harvard University Study. [iii] Broadband coverage has been on the federal agenda over the last decade as well, with both the Bush and Obama administrations implementing a "Broadband Strategy," but not quite a policy.   The 2009 economic stimulus spending package included 7.2 billion dollars in grants and loans for expanding broadband coverage. The Obama administration also mandated that the FCC create a national broadband plan with recommendations to ensure ubiquitous broadband coverage, which endorsed removing the state-level restrictions on municipal networks.
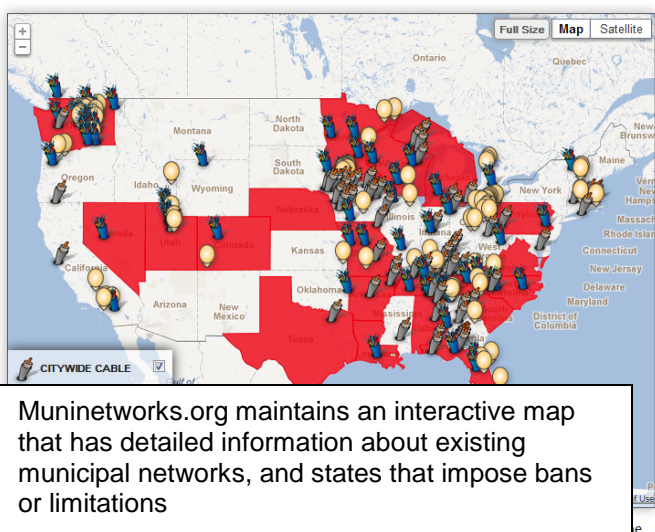
Despite this vote of confidence at the federal level, our bandwidth destiny lies in the hands of private companies who respond to financial incentives. Municipal Broadband Networks are severely restricted or banned outright in 19 states[iv], and much of the state legislation against them is driven by the telecom lobby. Existing broadband service providers have a de-facto monopoly due to the high costs of building and

maintaining a network, and the FCC has stated that 96% of American households are served by a broadband duopoly or worse. [v] Telecom companies actively lobby and advertise to suppress municipal networks with arguments that they will stifle competition and free markets, raise taxes, and cost municipal employees their jobs.   Large cable internet/phone/tv providers are so interested in maintaining the status quo that they appear lowered prices in a localities that have introduced municipal broadband, leveraging their large coverage areas to cover the difference of selling internet access below their normal rates.[vi]

Community Broadband Network Map

Communities build their own broadband networks for a variety of reasons -- economic development, creating competition, increasing the quality of life, improving access to education and health care, etc. This map tracks those efforts as well as efforts to revoke local authority to make this decision.

Muninetworks.org maintains an interactive map that has detailed information about existing municipal networks, and states that impose bans or limitations

statute(s) described.

Municipal network projects are born from a community's claim that private internet providers are not providing sufficient service or coverage. The federal stimulus provided definitions for what constitutes broadband access; anything below 768 kbps is "unserved, and anything between unserved and 3mbps is "underserved". In densely populated areas, telecom companies can see quick ROIs on upgrading their infrastructure, but are hesitant to invest in upgrades in areas that are less dense and farther removed. Large national service providers may require densities as high as 3,000 households per square mile before they will consider installing a network. "Anything less does not ensure them of the subscription revenue they estimate they will need to offset the cost

of building the network"[vii] A common infrastructure analogy is made in comparing high-speed internet to the railroads… they bring the digital ideas, goods, and services of our day. If your town's been bypassed, you're doomed to decline. It's in every town's interest to have great internet connectivity, but it is not usually in a cable company's interest to provide it in every town. A 2008 policy brief from the New Rules Project, nonprofit that supports localized sustainable development, summarizes the gap in priorities: "Private companies are legally required to maximize profit for their shareholders. Public entities have a different mission; they are focused on maximizing social and economic benefit to the community. This distinction seems to have been lost in much of the discussion around municipal broadband systems."[viii]

Ultimately, the debate comes down to the fact that telecom companies are interested in short term profits and are accountable to shareholders, whereas municipal networks are interested in the long-term public good and accountable to the taxpayers.

Smarter Cities Need Networks

     In addition to the benefits afforded to businesses and residents by ubiquitous broadband, governments are able to operate more efficiently when they have a high speed network at their disposal. This efficiency comes in the form of automatic power/water meter reading, video surveillance, data in the field for building inspectors, police officers, firemen, utilities monitoring and remote control, and other smart technologies. These network flows are completely internal, but without a municipal network, the connections that make them happen must be purchased as leased lines

and mobile phone subscriptions, and the connection must be shared with the rest of the traffic on the provider's network. Municipal networks eliminate a major hurdle in getting these kinds of smart systems online, and help to ensure that coverage reaches all parts of a government's jurisdiction, reducing the digital divide, something that private companies have no incentive to do on their own.

Legalities and Vignettes

The federal-level legal framework for municipal networks is based in the telecommunications act of 1996. A supreme court decision in *Nixon v. Missouri Municipal League* in 2004 provided clarification of an FCC regulation that affected telecommunications services, creating the precedent for the current state legislation. The FCC regulation stated that states could not prohibit any "entity" from providing telecom services, but was unclear as to whether a local government qualified as an "entity". The 8th circuit ruled in favor of municipal networks, but the supreme court reversed the decision leaving it up to the states to regulate their subdivisions accordingly. A year later, another crucial supreme court decision in National Cable and Telecommunications Ass'n v. Brand X Internet Services classified broadband providers as *information services* and not *telecommunications providers,* keeping them free from the tight common carrier regulations that the phone companies had been subjected to for years. [ix]

In *2007, The Community Broadband Bill* was introduced in the U.S. Senate stating "No State or local government statute, regulation, or other State or local government legal requirement may prohibit, or have the effect of prohibiting, any public provider from providing advanced telecommunications capability…", but died in committee and has not been reintroduced.[x]

State-level debate has been especially active in North Carolina, where bills to restrict municipal networks were defeated in 2007, 2009, and 2010, but finally passed in 2011 with strong lobbying from Time Warner Cable.

Opponents referred to the bill as "a cable monopoly protection bill," that "…protects Time Warner Cable and ensures they will continue to do what they've been doing for decades, which is serving where they want to serve and not serving where they don't want to serve." The 5 existing networks were grandfathered, and allowed to continue operations, but a partially-built network in Chapel Hill was denied its request to continue development.[xi]

A negative ad run in Lamont, CO to influence voters to vote against lifting the anti-municipal network law.

In Longmont Colorado, a 2005 state law prohibited municipalities from building and operating their own telecommunications infrastructure, and rendered the town of Lamont unable to use the million-dollar fiber-optic loop it had

installed 10 years earlier. The Colorado Cable Telecommunications Association, which

is heavily funded by the dominant local ISP Comcast, spent $250,000 on a series of ads

alleging that the city had secret plans that would put money in the pockets of Alcatel-

Lucent. The allegations were based on email conversations the Association dug up

between Alcatel and city employees years earlier. A referendum on the vote in 2009 left

the law in place, with help from the negative ad campaign. Some residents were upset

when they learned after the fact that Comcast was behind all of the publicity, and the

measure was put to a vote again in 2011, passing despite another $300,000 negative

ad campaign by the CCTA. [xii]

A key argument against municipal networks is that they undermine the

competitive market, but this is not necessarily true and depends on the network's

business model. UTOPIA, a municipal network in Utah created by 17 local

municipalities, treats their fiber network as a roadway. Multiple Internet Service

Providers are free to compete for the business of connected residents without the

massive costs of building and maintaining the physical network themselves. Customers

on UTOPIA's network have 7 different options for internet service, each is delivered

over the same government-owned fiber-optic cable connection. [xiii] Existing companies

could voluntarily provide this type of competitive selection over the wires that they own

and maintain, but have no reason or incentive to as Carol Ellison explains in a law

journal on the subject: "The problem with shared infrastructure is that a profit maximizer

prefers to lock customers into their own services. The network owner must therefore

either be forced to open the network to competitors by government regulation (an option

the U.S. is unlikely to embrace) or choose to do it by putting community interest ahead of profits." [xiv]

Public-private partnerships have emerged as the structure of choice for providing municipal networks. Like all such arrangements, their strengths lie in mutual benefit of resources that each brings to the table which the other might have trouble with. In the case of municipal networks, the city brings water towers, buildings, bridges, and existing utility poles; colocation facilities that constitute a major cost for any private company seeking to install this or that antenna. Cities may also serve as an "anchor tenant", or a guaranteed revenue stream as the provider's main customer, justified in this spending due to the improved public services the network will provide. The private companies bring the expertise and experience for building and maintaining the network. [xv] The result has been successful partnerships that are both financially profitable and seek to serve the public good.

Success Stories[xvi]

Bristol, Virginia is home to BVU (Bristol Virginia Utilities), a municipal network that began with the connection of municipal buildings, electrical substations, and schools, and quickly expanded to a city-wide FTTH (Fiber to the home) network offering gigabit speeds. It has since expanded outside of Bristol and been elevated to a state-level agency serving nearly 12,000 subscribers, and boasting $10,000 in community savings since 2003.

Lafayette, Louisiana created a fiber plan in 2004 for its existing municipal electric utility, LUS (Lafayette Utility System). In the face of major opposition and lawsuits by the local telecom providers, a city referendum endorsed a $125 million bond to build the network. Since 2008, the network has attracted businesses to Lafayette, creating hundreds of jobs.

Chattanooga, Tennessee has received accolades for creating a municipal fiber network offering gigabit speeds, while simultaneously creating the most automated smart electrical grid in the country. Their gigabit service is about $350 per month, a tenth of the cost for similar service by private connections. The network serves 35,000 customers and has been credited with creating thousands of new jobs and attracting businesses to the city.

Conclusion

The arguments against municipal networks have everything to do with maintaining a stagnant status quo that favors a few large ISPs at the expense of economic growth and promotion of more efficient and smart city services. For cities to realize their tech potential, they must be able to shed their dependence on private for-profit corporations that are unwilling to upgrade their networks. Locally driven network improvements not only deliver network service that the world regards as a human right, but are better suited to meet the needs of their specific jurisdictions than regional and national providers. A clear policy at the federal level removing state's abilities to limit

municipal networks is the appropriate next step if the U.S. really has a priority to

achieve ubiquitous broadband internet connectivity for all.

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[iii] "In Broadband Race, USA is not No.1." Editorial. *USAToday* 6 Dec 2011. Web.
[iv] www.muninetworks.org/communitymap
[v] *United States FCC.* "Connecting America: The National Broadband Plan." 2010. *p.37*
[vi] Wilson, Conrad. "Monticello municipal broadband slugs it out." *Minnesota Public Radio minnestota.publicradio.org.* 26 Mar 2012. Web.
[vii] Ellison, Carol. "Municipal Broadband: A Potential Twenty-First Century Utility." *NYU Law Journal of Legislation and Public Policy. Vol. 11. No. 3. 2008. Web.*
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[ix] Dunne, Matthew, "Let my people go (online). The power of the FCC to preempt state laws that prohibit municipal broadband". Vol. 107. No. 5. 2007. Web.
[x] www.govtrack.us
[xi] Heaton, Brian. "Municipal Broadband Networks Slammed in North Carolina." *Govtech.com*. 25 May 2011. Web
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[xiii] Mitchell, Christopher. "Municipal Broadband: Demystifying Wireless and Fiber-Optic Options". *The New Rules Project Policy Brief. March 2008. Web*
[xiv] Ellison (see note vii)
[xv] Should Public-Private Partnerships be in your Broadband Future?
[xvi] Mitchell, Christopher. "Broadband at the Speed of Light:How Three Communities Built Next-Generation Networks." *Institute for Local Self-Reliance White Paper.* April 2012. Web.