



The Regulatory Environment for Municipal Broadband

Limiting municipal broadband restricts competition and hurts incumbents as well

By Carl Kandutsch ■ *Esq.*

Recent years have seen a burgeoning body of writing among regulators and economists advocating that policy makers treat communications infrastructure as a “commons” rather than as a kind of private property. A commons is a resource to which anyone within the relevant community has a right without obtaining the permission of anyone else. Everyday examples include public streets and parks, but the concept includes nonphysical goods such as artistic works in the public domain, ideas such as Einstein’s theory of relativity, or the English language. This line of thought can be seen as an academic expression of the public outrage during the summer of 2003 when the FCC relaxed its media cross-ownership rules, in effect endorsing the ongoing consolidation-by-merger of the major print and broadcast media into the hands of a few huge conglomerates.

It is no accident that in this same period, we have seen a growing number of municipalities actually implementing the idea of a communications commons by building or managing their own public communications networks, often using “fiber-to-the-home” (FTTH) technologies.¹

Many factors – economic, political, legal and technical – affect the viability of these public networks. In this article we focus on the regulatory environment within which public FTTH networks are deployed. We

seek to identify the most significant regulatory issues on the federal, state and local levels, and to provide some examples that suggest how regulatory policies might be reformed to allow fiber-based local networks to achieve their full potential sooner rather than later.

Competitive Dynamics of FTTH

If the goal of communications policy is to foster and enhance competition for the benefit of end-users, the merits of any regulatory regime, existing or potential, must be evaluated in light of the competitive characteristics of the kind of network being regulated. From a policy perspective, there are two axes around which competition may be suppressed or encouraged:

First, providers may compete by using their own physical infrastructures, producing *facilities-based competition*. In the United States, the market for mobile personal communications services is characterized by facilities-based competition in that each provider builds, owns and maintains its own network. There is limited (duopoly) facilities-based competition in the market for broadband Internet access in that many if not most consumers can choose between cable modem access from a cable operator, or DSL access from an ILEC or CLEC.

To the extent that a physical infrastructure tends toward natural monopoly – when it does not make economic sense for a second provider to build a parallel network in order to compete

for customers – policy dictates that regulation be tailored to enhance *service level competition*. Providers do not own separate networks, but share the resources of a common network and compete in the provision of services to consumers. North American communications policy provides several models for service level competition, including the “unbundled network elements” (UNE) model applied to local telephone services, and the “open access” model (in which service providers share the common data-link layer of the network) applied to cable Internet service in Canada, but not currently in the United States.

Many analysts see FTTH as the communications technology of the future because, more than any other last-mile pipeline currently available, fiber lines have the capacity and flexibility to realize the full potential of the broadband Internet. Because fiber optic cable has a much higher potential bandwidth capacity than other media, fiber networks can shed the *physical* (if not the economic) “bottleneck” features of the “last mile” connection between the cable headend and the subscriber premises. Fiber can accommodate bandwidth applications such as streaming media, video on demand, video telephony and peer-to-peer applications yet to be imagined.²

The lack of empirical evidence at this early stage of deployment makes it difficult to assess the prospects for facilities-based competition in FTTH provisioning. The FCC’s decision in

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2004 not to require ILECs to unbundle FTTH loops pursuant to Section 251 of the 1996 Telecommunications Act incorporates a judgment that new entrants are not "impaired" from offering competitive services.³

On the other hand, several independent studies point to the high capital costs of deploying fiber and associated equipment all the way to the home, as well as significant first mover advantages, and speculate that "competition among multiple network operators is not a realistic expectation."⁴

If the FCC is right, government can best encourage FTTH investment and deployment by not burdening providers with unnecessary service-level regulation with regard to competition, such as UNE or open access. This is the "hands off" approach adopted in the FCC's most recent *Triennial Review Order*, and it is consistent with the Commission's deregulatory approach to "information services" generally. However, to the extent that the FCC's approach is likely to produce monopoly or duopoly (that is, replicating the cable/telco duopoly that currently prevails in most broadband Internet access markets), potential new entrants will be discouraged from investing in a locked-up market. From this perspective, FTTH deployment can best be enhanced by a regulatory policy focusing on preserving service-level competition; for example, by mandated sharing of last mile facilities in some form.

If the FCC's critics are right, policies aimed at stimulating cable and telco investment in FTTH infrastructure may accomplish that goal at the

price of conceding monopoly control over the new networks to media companies that have little interest in innovative broadband products, such as video on demand and VoIP that threaten their core video and voice telephony businesses.

Municipalities can act to preserve service-level competition by building their own high capacity local fiber networks and making those networks available to private broadband service providers on a competitive, non-discriminatory basis. The result is not only better service for consumers, but the creation of a hospitable environment for investment and economic development. Municipal broadband initiatives are, however, only as effective as federal and state regulatory policies allow them to be.

Here are some of the regulatory policies that affect a municipality's incentive and ability to deploy FTTH.

Federal Policies

In general, the FCC's broadband policies are characterized by uncertainty, and uncertainty retards investment. For example, within the framework of the FCC's *Computer Inquiries*,⁵ ILECs offering DSL Internet access have been required to allow competing DSL providers to use their high capacity local transport facilities, whereas cable companies offering cable modem Internet access have not been required to allow unaffiliated ISPs to use their local cable networks. The FCC has recently proposed a solution to this regulatory asymmetry by tentatively classifying wireline broadband service as an unregulated

"information service," like cable modem service.⁶

The Commission has taken this decidedly deregulatory approach to broadband in order to encourage the large network owners to invest in upgrading their infrastructure. The hope is that facilities-based competition will emerge later, opening up the duopoly structure of the market. The FCC's "wait and see" approach to broadband markets may be prudent in the face of rapidly evolving technology, but it is also by definition reactive, and therefore fraught with uncertainty.

In the midst of this uncertainty, municipalities need not remain passive. Federal law does not prohibit municipalities from being communications providers. Only the states can delimit the powers of local government when it comes to broadband. Section 613(e)(1) of the Communications Act provides that "a State or franchising authority may hold any ownership in any cable system."⁷ Similarly, Section 253 of the 1996 Telecommunications Act says: No State or local statute or regulation or other State or local legal requirement may prohibit or have the effect of prohibiting the ability of any entity to provide interstate or intrastate telecommunications service.⁸

While this language would appear to clear the way for municipal telecommunications, in *Nixon v. Missouri Municipal League*,⁹ the United States Supreme Court held that Section 253 did not preempt a Missouri statute prohibiting municipalities from providing telecommunications services because "any entity" does not include municipalities. The Court's decision is worrisome; not only does it sanction a lack of uniformity in state policies, it may in the long run (given the power of cable and telco lobbyists in state legislatures) short-circuit municipal authority in many parts of the country.

Another point: There are no federal restrictions on a municipality's authority to offer "information services" *per se*.

State and local governments can encourage FTTH deployment by removing regulatory obstacles to private investment, and by creating incentives for private companies to deploy high-capacity fiber networks in local communities.

State Supply-Side Policies

State regulatory policies can encourage (or discourage) FTTH deployment from either the supply side, through the construction or financing of public or public/private networks, or from the demand side, through the creation of incentives for private providers. On the supply side, a municipality's authority to provide a communications service generally is a matter of state law. Currently, thirteen states have enacted legisla-

tion limiting or blocking the ability of municipalities to offer communications service (see box).

As indicated, several of these statutes are currently subject to legal challenges. These state restrictions vary widely, from outright prohibitions (Texas, Missouri) to various procedural obstacles (Minnesota, Pennsylvania, South Carolina, Tennessee, Wisconsin), to bans on retail service but allowing municipalities to offer wholesale "open access" com-

munications (Nevada, Utah, Washington).

Laws that restrict municipal communications are intended to shield the private sector from unfair (publicly subsidized) competition. Given that the "private sector" in this context generally means the local telephone or cable monopoly, the policy rationale for such laws is open to question, if for no other reason than the needs of under-served rural communities are ignored. Most municipalities would not be interested in providing communications if the private monopoly providers could be relied on to invest in and deliver competitively priced products to their communities. Moreover, it may be argued that laws blocking municipal entry into communications markets actually retard private investment in certain rural markets. For example, there is some evidence that one factor in a firm's decision on whether to serve a particular market is the risk that not providing service would result in loss of that market.¹⁰

A sensible compromise is embodied in statutes that restrict municipalities' ability to offer retail communications, but allow them to address the last-mile bottleneck by building and leasing publicly owned networks to private providers of retail voice, video or data services. Municipal wholesale networks allow consumers to benefit from open competition in services using the public network, while service providers benefit from having the network built by municipalities at public expense.

Successful municipal FTTH projects based on the wholesale open access model can be found in the states of Washington and Utah.¹¹ The state of Washington limits public utility districts to the provision of wholesale telecommunications. The Grant County Public Utility District was one of the first to build (in 2000) an open access FTTH network, leasing wholesale capacity (using an active

States That Limit Municipal Networks

Arkansas (Ark. Code § 23-17-409)

Florida (Florida Statutes §§ 125.421, 166.047, 196.012, 199.183 and 212.08; pending litigation)

Missouri (Revised Statutes of Missouri § 392.410(7))

Minnesota (Minn. Stat. Ann. 237.19)

Nebraska (Legislative Bill 827; pending litigation)

Nevada (Nevada Statutes § 268.086, § 710.147)

Pennsylvania (new law as of 12/1/2004)

South Carolina (S.C. Code § 58-9-2600)

Tennessee (Tenn. Code Ann. §§ 7-52-601 *et. seq.*)

Texas (Texas Utilities Code §§ 54.201 *et. seq.*)

Utah (Utah Code Title 10 Ch. 18, Sec. 101 *et. seq.*)

Virginia (VA Code §§ 15.2-2108, 56-265.4:4, 56-484.7:1)

Washington (RCW § 54.16.330)

Wisconsin (2003 Wisconsin Act 278)

star Ethernet architecture) to private providers of voice, video and data. The project provides “triple play” communications services to more than 4,400 customers at low prices. The Grant County FTTH project was undertaken due to the local ILEC’s reluctance to invest in this sparsely populated rural area.¹² Utah’s UTOPIA project provides an ambitious and convincing example of how municipalities can join together to achieve the economy of scale needed to build a wholesale FTTH network.¹³

Most states do not have statutes directly addressing a municipality’s authority to provide communications facilities or services. In these states, municipal authority is determined by the extent of a municipality’s autonomy under state law. Some thirty-nine states have adopted “Dillon’s Rule,” which allows municipalities only those powers explicitly granted or necessarily implied by explicitly granted powers. In these states, a municipality cannot provide communications without more or less explicit statutory authority. In other states, municipalities possess “home rule” or “charter” authority to exercise any powers that are not explicitly denied by the state’s constitution, statutes, or the municipality’s own charter. In home-rule states, municipalities presumably have the authority to provide communications unless explicitly barred.

Municipal Electric Utilities (MEUs) lead the movement toward municipal broadband provisioning for several reasons, most importantly, communications services can be provided using a wiring infrastructure that already reaches every potential customer in the community. Also, MEUs can usually raise funds on favorable terms. In addition, MEUs already have access to conduits and utility poles, and a service relationship with consumers and businesses in the community.

Consolidation in network control forces the question: If our roads and highways are considered a public resource, why shouldn’t the “information superhighway” also be considered a public resource?

According to the American Public Power Association, 621 public power systems offered some kind of community broadband services as of the end of 2004,¹⁴ a significant increase over the preceding year. These efforts should benefit from the FCC’s October 2004 adoption of rules that establish specific technical and administrative requirements for “Access BPL” (Broadband Over Power Lines) equipment. The rules are intended to ensure that BPL operations do not become a source of interference with licensed radio services.¹⁵ The establishment of technical standards usually reduces uncertainty and thereby spurs investment in FTTH by MEUs.

State Demand-Side Policies

On the demand side, state and local governments can encourage FTTH deployment by removing regulatory obstacles to private investment and by creating incentives for private companies to deploy high-capacity fiber networks in local communities.

For example, deployment of any communication network usually requires the use of public property, such as for the construction of radio towers, digging up roads or sewers, and attaching equipment to utility poles. State or local regulations often deter infrastructure investment by burdening access to public property with unnecessary fees, procedures or delays. State and local governments can act to remove barriers to investment by implementing policies that, for example, streamline the permit application process for accessing

public property and outlawing excessive fees for such access.

TechNet/Analysys has published a comprehensive description of policies adopted by twenty-six states to reduce regulatory obstacles related to rights-of-way.¹⁶ The report also details other state and local demand-side initiatives, such as tax credits and subsidies for broadband providers to spur investment in infrastructure, and governmental efforts to stimulate broadband consumption.

Demand-side initiatives avoid the political controversies associated with governmental participation in communications markets, and tend to be inexpensive and low-risk. For example, municipal government can aggregate demand by forming public/private partnerships, or by acting as a bulk buyer of broadband services. The Ohio Department of Development administers the Ohio Broadband Link, which negotiates volume discounts with providers based on the combined purchasing power of Ohio businesses. Here the state functions as a reseller for commercial providers, reducing the sales and marketing costs of serving a large number of smaller customers.¹⁷

Pennsylvania’s Keystone Communications Project is a similarly creative demand-side initiative; the networking contracts of multiple state agencies are combined into a single contract, guaranteeing a large volume of state business to any private provider committed to providing low-cost communications services to rural areas.¹⁸ The success of these and many other demand-side

initiatives demonstrates how state and local governments can lower the costs for commercial providers to deploy broadband infrastructure, thus increasing the incentives for investment in their communities.

A Logical Outcome

In Washington, D.C. and on Wall Street, the name of the game is consolidation when it comes to communications policy and economics. And consolidation means control – centralized control over networks on multiple layers, from the physical infrastructure, to the logical protocols that enable applications, to the content delivered through applications over the physical conduit. What are the policy implications of a few vertically integrated companies controlling all three of these layers as we enter the broadband era?

If the tendency to consolidate and centralize control is a reaction to the threat posed by the radically decentralized Internet to legacy business models, then the movement toward a communications “commons” can be seen as an effort to preserve the democratic values associated with the open architecture of the original or “first generation” Internet.

Municipal broadband networks fill the regulatory void left by a federal policy that funds the deployment of high-speed networks by granting monopoly or duopoly status to vertically integrated media giants. Adopting the FCC’s passive “wait and see” approach to broadband markets would mean, in many parts of the country, waiting to see if Big Media decides to deploy high-speed networks in areas that are historically under-served.

As outlined in this article, there are many ways in which creative local governments can take the initiative to ensure that their communities have access to a full array of broadband services. Policy makers, especially at the state level, should allow these experiments with community

networks to blossom, rather than nip them at the bud. ♦

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¹ “FTTH” is here used as a general term encompassing different architectures, such as Fiber to the Home, Curb (FTTC) or Business (FTTB).

² Although not yet used in local access networks, Wave Division Multiplexing (WDM) technologies allow operators to increase the bandwidth of a fiber network by allocating multiple wavelengths, thus “future-proofing” the network through almost unlimited capacity.

³ See the FCC’s *Triennial Review Order*, available at 18 FCC Rcd 16978 (2003).

⁴ D. P. Reed, *Residential Fiber Optic Networks: An Engineering and Economic Analysis* (Boston: Artech House, 1991), p. 203; Banerjee and Sirbu, “Towards Technologically and Competitively Neutral Fiber to the Home (FTTH) Infrastructure,” available at http://itc.mit.edu/itel/docs/2003/banerjee_sirbu.pdf.

⁵ See especially, *In re Amendment of Section 64.702 of the Commission’s Rules and Regulations* (Second Computer Inquiry), Final Decision, 77 F.C.C.2d 384, 430 (1980).

⁶ *Wireline Broadband NRPN*, CC Dkt. Nos. 02-33, 95-20, 98-10 (Rel. Feb. 15, 2002); the FCC’s decision that cable modem service is an unregulated “information service” is contained in its *Declaratory Ruling*, GN Dkt. No. 00-185, CS Dkt. No. 02-52 (Rel. Mar. 15, 2002). This classification has been challenged in litigation currently pending before the United States Supreme Court.

⁷ 47 U.S.C. sec. 533(3).

⁸ 47 U.S.C. sec. 253(a).

⁹ 541 U.S. 125, 124 S.Ct. 1555, 158 L.Ed.2d 291, 2004 U.S. LEXIS 2377.

¹⁰ Riordon, “Regulation and Preemptive Technology Adoption,” *RAND Journal of Economics*, Vol. 23, No. 3, Autumn 1992.

¹¹ A current and comprehensive database of FTTH communities can be found on the FTTH Council’s website: www.ftthcouncil.org/db-files/techexchange/2004%20-05-19%20OptFiberCommList.pdf.

¹² Information on the Grant County project can be found at www.gc-pud.org/zip.htm, www.dynamic-city.com/casestudies_grantcounty.htm and www.ftthcouncil.org/db-files/techexchange/OPASTCO%20article%200702FTTH.pdf.

¹³ www.utopianet.org; Lawrence Kingsley, “Utah’s Experiment with Utopia,” in the November 2004 issue of this publication, provides an interesting overview.

¹⁴ www.appanet.org/files/PDFs/TelecomFlyer1204.pdf?snItemNumber=9965&tn.ItemNumber=10000.

¹⁵ The FCC’s BPL decision is in *Report and Order* (FCC 04-245, rel. Oct. 14, 2004).

¹⁶ www.technet.org/resources/State_Broadband_Index.pdf. The report ranks Michigan’s as the most effective state regulatory policy for broadband deployment, and includes a specific discussion of Michigan’s Metropolitan Telecommunications Rights-of-Way Oversight Act (2002), which encourages new competition in broadband infrastructure by streamlining the process for authorizing rights-of-way access. See www.michiganlegislature.org/documents/2001-2002/publicact/pdf/2002-PA-0048.pdf.

¹⁷ www.state.oh.us/gov/releases/092602broadband.htm (last visited on January 23, 2005).

¹⁸ www.keycomm.state.pa.us/keycomm/site/default.asp.