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## **MUNICIPAL BROADBAND NETWORKS: THE WRONG PATH TO INTELLIGENT CITIES**

**By**

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*Municipal ownership of broadband networks that compete with private telephone, cable television and internet access companies for commercial and residential customers is an ill-advised strategy for attracting businesses and residents to a community. Competition by government-owned and subsidized networks is inherently unfair and will discourage private broadband companies from investing in such communities. Ultimately, those communities will have fewer rather than more sources of broadband services, less rather than more competition, legacy rather than state-of-the-art technology, and higher rather than lower **real** rates for such services. Instead, municipal governments should focus on strategies that will encourage multiple broadband companies to invest in their communities, such as removing excessive franchise and right-of-way fees and requirements, and other barriers to entry; creating tax and regulatory incentives that encourage operators to upgrade their facilities; and developing programs that will encourage property owners to install "smart" broadband infrastructure and allow service to tenants on reasonable economic terms. Municipal governments should not wear the dual hats of regulator and competitor.*

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## I. INTRODUCTION

A. The United States historically has relied on the **private sector** for its communications services. Reflecting the nation's deep-rooted tradition of private enterprise, the government has functioned as a regulator, promoter and facilitator, but not as an operator, of networks for communications service to the public.

B. When "CATV" was just a fledgling industry, municipal systems served as a means for delivering television signals to largely **rural** areas that had poor broadcast reception and insufficient subscriber density to attract investment from private cable companies and that, but for municipal ownership, would have had virtually no service at all.

C. Although many other nations traditionally have provided communications services through state-operated instrumentalities, currently there is a strong global move to **privatization** of communications networks. This development has resulted from recognition of the inefficiency of government-operated networks, and is yielding more competition and greater efficiency.

D. Both in the U.S. and abroad, the model of competition among private communications providers is being enhanced by the **convergence** of previously distinct sectors: cable, telephone and internet. Convergence promises not only to enhance the level of competition in all such sectors, and therefore foster efficiency and lower prices, but also to hasten deregulation.

1. The growth of cable operators and cable networks, which challenged the dominant broadcast industry, and the subsequent dramatic growth of DBS, which has successfully challenged and wrested significant market share away from cable, has given consumers **choices** among video providers and has fomented the introduction of advanced digital services such as digital television, high-speed internet access, and internet telephony

2. The pro-competitive, and deregulatory, effect of convergence was one of the underpinnings of the 1996 Telecommunications Act, which opened the door to **competition** in the telecommunications industry against incumbent monopoly LECs.

E. Yet, beginning in the 1980s, and accelerating in the 1990s, there has been an increasing trend in the United States towards **municipal ownership** and operation of communications systems, which is being played out through the expansion of existing municipal electric and other utility networks into new services such as telephone, cable television and internet access.

1. The **causes** for municipalities' accelerated entry into communications are many and varied, including:

a. deregulation of their electric utilities, which has prompted them to look elsewhere for new sources of revenue;

b. shrinking tax bases and other financial pressures, causing local governments to view entry into the burgeoning communications market as a panacea for those fiscal ills;

c. the notion that municipal broadband is a logical extension of other municipally-owned utilities, such as gas, electric and water;

d. bureaucrats being caught up in the trend to “reinvent” government more in the image of private enterprise;

e. a perceived need to “competitively discipline” private service providers (especially, the rates of private operators);

f. dissatisfaction with the level of service being furnished by private operators, with local governments thinking that they can do it better; and

g. the desire to ensure that communities receive advanced telecom services that a private provider may not yet have initiated.

2. Some states have enacted **legislation** permitting, or even encouraging, municipal entry into the communications business. For example, Tennessee enacted legislation in 1997 permitting municipal electric utilities to enter the telecommunications business, and passed additional legislation in 1999 allowing them to enter the cable television and internet access businesses as well. Those laws permit utilities to “lend” ratepayer money to their non-utility divisions for development of new telephony and information service businesses. In 2002, Virginia enacted legislation allowing municipal electric companies, industrial development agencies and economic development agencies to enter the telephone (but not cable) business in communities served by three or fewer suppliers.

3. A **2001 study** by Jeffrey Eisenach<sup>1</sup> reported that over 200 publicly-owned utilities were by then in the broadband business, offering virtually every major category of broadband service:

- 109 municipal utilities operated cable television systems, with another 24 under construction or in planning;
- 61 offered internet access services;
- 58 leased fiber to the private sector;
- 32 provided high-speed data services;
- 18 provided local telephone “dial-tone” services; and
- 10 provided long distance voice services.

Information published by the American Public Power Association reflects that these numbers have increased.

4. Municipal entry into telecom has not been limited to small, underserved markets. For example, municipal cable systems are being operated in **large cities** such as Gainesville, Florida and Tacoma, Washington, and in suburban areas such as Braintree, Massachusetts and Newnan, Georgia. Likewise, the municipal electric utility of the City of Chatanooga, Tennessee has filed with the State to initiate broadband service to the city’s central business district.

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<sup>1</sup> Jeffrey A. Eisenach, PhD, *Does Government Belong In The Telecom Business?* (January 2001) (The Progress & Freedom Foundation)(“Eisenach Study”).

5. Recently, the State of Connecticut granted the state's first municipal cable overbuilder, Groton Utilities, a franchise to compete with the private incumbent operator.

F. The move to government ownership and operation of telephone and cable networks is **puzzling**, given that these industries are more competitive, complicated, expensive and risky than ever.

1. DBS **competition** to cable operators has flourished, with DirecTV and EchoStar now ranked as the second and fourth largest multi-channel video program distributors ("MVPDs") in the United States. Nationwide DBS competition exercises **competitive discipline** on cable operators' rates, and promotes the introduction of **new technologies and services** in both sectors.

2. The **1996 Telecom Act** stimulated the birth of hundreds of competitive local exchange carriers ("CLECs") and internet access companies, who have spent billions of dollars installing massive amounts of local and interstate **fiber facilities**. In the face of **sagging demand**, many of these companies have been punished by the financial markets for having spent the huge sums necessary to deploy those facilities, and are eagerly -- indeed, desperately -- waiting for demand to catch up to supply. Much of this capacity still stands idle but is ready to be put into service as soon as customers appear.

3. Likewise, cable operators have spent billions installing fiber-to-the-home or hybrid fiber-coax, and upgrading their networks to state-of-the-art digital facilities.

4. The broadband business is thus highly competitive, capital intensive, and **RISKY** -- raising serious questions about why municipal governments would jeopardize taxpayer dollars when such services can be obtained from a highly competitive and well-provisioned private marketplace.

## **II. THE SORRY TRACK RECORD OF MUNICIPAL BROADBAND NETWORKS**

A. Most municipal broadband networks have performed poorly, and have not produced the forecasted or desired results. According to the Eisenach Study, such operations have been saddled with **financial losses** and **legacy technologies**.

B. To survive, municipal broadband networks often have had to rely on **subsidies** that:

1. burden taxpayers;
2. distort the marketplace;
3. compete unfairly with private businesses; and
4. discourage private sector investment and encourage private flight from the marketplace.

C. A **study** of several municipal cable television “overbuilds”, prepared by Professors Ronald Rizutto and Michael Wirth<sup>2</sup> based on financial data provided by the municipalities themselves, revealed **poorly performing, subsidized municipal cable networks**.

1. Two prime examples are **Negaunee, Michigan** and **Paragould, Arkansas**, both of which are reported to have failed to pay back their original investment, to have sustained large negative cash outflows, to have been unable to upgrade facilities, and to be operating below sustainable breakeven penetration.

a. In **Paragould**, the City initially granted itself a franchise that was more favorable than the one previously issued to its private competitor, and then threatened to raise property taxes if more residents didn’t subscribe to the municipal system. After twice hiking property taxes, the City ultimately bought out the incumbent cable operator, and has since imposed tax increases on its residents, allocating approximately 10 percent of its tax rate to pay for the more than \$1 million shortfall in cable television revenues. It has been reported that the City’s position became so desperate that it threatened subscribers to the municipal cable system who were delinquent in their payments with disconnection of their power and water service as well.

2. The practice of charging higher rates to electric customers in order to subsidize rates for subscribers to the municipal cable system reportedly has been applied elsewhere, as in **Morganton, North Carolina**. When asked whether it was fair to make taxpayers who did not subscribe to the municipal system help shoulder the cost of its loss–operation, Morganton’s mayor was quoted as saying: “That’s their problem.” The City also is said to have tried to deny the private cable operator renewal of its franchise and to deny franchise applications by two other private companies.

3. **Glasgow, Kentucky** still has not reached payback on its original investment, despite more than a decade of operation and the benefit of multiple rounds of tax-exempt revenue bonds.

a. In a maneuver that takes on added significance today, in the midst of the Enron, WorldCom, Adelphia and other accounting scandals, Glasgow was found by the Tennessee Valley Authority to have **improperly booked** hundreds of thousands of dollars in cable system expenses to its electric utility division -- not once, but twice -- thereby understating the losses of its municipal broadband system and passing the burden of those losses on to electric customers, many of whom did not even subscribe to the municipal cable system.

4. **Lebanon, Ohio** has sustained large negative cash outflows, and is operating below its sustainable breakeven penetration.

5. The Rizutto-Wirth study reported several other notable findings and conclusions

a. The study concluded that the systems were **not sustainable** over the long run because each currently has, and has had, cash flow gaps that could be cured only by either permanent subsidies or greater cash flow from increased rates or subscribership, or the unlikely development of new revenue streams.

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<sup>2</sup> Ronald J. Rizutto and Michael O. Wirth, *Costs, Benefits, and Long-Term Sustainability of Municipal Cable Television Overbuilds* (1998, GSA Press).

b. The study found that all but one of the systems would have to **upgrade** its system to remain competitive with DBS in their core video business.

c. The study found that the systems studied appeared to create rate savings for their customers, but that these savings were, in reality, an **illusion** because the municipal systems are not financially self-sustaining, and but for subsidizing operating expenses and capital expenditures, providing interest-free loans, levying taxes in order to keep cable rates low, or deferring technological investment, the cable rate savings would be reduced substantially.

d. In a February 2002 update of this study, one of its authors confirmed the continued **unsustainable and illusory** nature of the supposed rate savings of the municipal systems, and further opined that new municipal "data-only" systems were not likely to be viable as stand-alone businesses.

D. News reports chronicle other **disappointing results** of, and **questionable practices** by, municipal telecom systems.

1. It was reported that **Wadsworth, Ohio's** municipal system did not allocate salary costs, powering costs or distribution plant capital costs to its telecommunications system.

2. In **Forsyth, Georgia**, the City spent nearly \$3 million -- **1/3 of its annual budget** -- to build a municipal cable television system, and then turned around and spent even more to buy out its private competitor in order to avoid having to compete. In the end, citizens were left with what they had before their local government spent millions of their hard-earned tax dollars -- only one cable television system.

3. The **Tacoma, Washington** municipal broadband network was envisioned as offsetting the effects of electric industry deregulation, but reportedly has come up short, resulting in the imposition of substantial surcharges on electric bills and the need for the power authority to borrow an additional **\$100 million**. It was also reported that the shortfall from the municipal broadband network resulted in the electric utility having to impose a **50 percent surcharge** on its customers' electric bills.

4. **CALNET**, a state-owned telecommunications system designed by the State of California to connect state agencies and other public entities with modern telecommunications services while saving taxpayers money, failed to achieve those savings and, in fact, lost so much money that the network was **privatized** in 1998. The strategic plan prepared by the California Department of Information Technology, which recommended divesting the state-owned system, observed: (1) "Owning and operating telecommunications networks are neither core competencies nor core responsibilities of the state"; (2) "State-owned network infrastructures have proven costly and cannot keep pace with the rapid developments in telecommunications technology"; and (3) "The inability of CALNET to meet, at competitive cost, the service requirements of...state agencies."

5. The Chatanogo Free Press reported that **Trion, Georgia** experienced such serious cost overruns on its municipal cable system that it was forced to shut it down before completion and sell off the equipment on a piecemeal basis. Similarly, the Atlanta Constitution reported that **Acworth, Georgia** experienced huge cost over-runs and had to sell its system, while still being obligated to service millions of dollars of outstanding bonds. And **Marietta** and **Tifton, Georgia**

both were reported to have posted substantial operating losses, over and above their bond issues and interest, requiring them to dip into general revenues to make up the shortfalls.

E. Similar findings were reported in a study prepared by the Beacon Hill Institute of Suffolk University.<sup>3</sup> The authors warned that cities should **think twice** before entering the broadband business, cautioning that “the rough-and-tumble cable business is not something for which the average town hall is well suited.” The study, after reviewing a number of failing attempts by cities to operate telecommunications businesses, found that municipal cable systems were likely to lose money, drain funds from other municipal needs, and subject electric ratepayers to rate increases and taxpayers to tax increases in order to subsidize the operation of the municipal broadband network.

1. In a perverted twist on the theme, the study reported that, when the City of **Scottsboro, Alabama**, which went into the cable business to provide lower rates to its community, experienced vigorous price competition from the privately owned system, the City went to court to try to prevent the incumbent from **lowering** its rates. So much for the City’s supposed desire to obtain lower cable rates for its citizens.

F. In California, the **City of Milpitas’** foray into a publicly-owned communications network was questioned by the **California Tax Payers Association** (“Cal-Tax”). Citing a study by the City’s own consulting firm, which stated that the city’s municipal system could not succeed “unless very aggressive penetration levels are assumed for core telephone and/or cable services”, the Cal-Tax Report noted generally that lower costs of municipal utility services derive not from more efficient operations but from **subsidies** in the form of (1) exemption from federal and state income taxes, and state and local property, gross receipts and excise taxes, (2) the ability to secure tax-exempt debt structures, and (3) access to low-interest government loans and guarantees.<sup>4</sup> The report observed that taxpayers ultimately are harmed because these subsidies cost money - - their money!

G. These cities have sustained their municipal broadband operations only by virtue of their ability to **subsidize** their operating expenses and capital expenditures, to provide their municipal systems with **interest free or preferential loans and financing**, and to **levy taxes**.

H. Although some of these systems supposedly have generated “**cable rate savings**” for those members of their communities that subscribe to the municipal services, those savings often are **illusory** because they:

1. are not sustainable over the long-run;
2. are the result of subsidization;
3. impose on non-users of the municipal system the burden of subsidizing operation of the municipal system through higher taxes or higher electric bills; and

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<sup>3</sup> David G. Tuerck, PhD, Jonathan Haughton, PhD, James P. Angelini, PhD, CPA, and John S. Barrett, MSc, *Cashing In On Cable: Warning Flags For Local Government* (October 2001, Beacon Hill Institute at Suffolk University).

<sup>4</sup> Municipalization and Subsidized Utility Competition - - The Taxpayers’ Perspective, Cal-Tax Digest (California Taxpayers Association, April 1997), citing Media Connections Group study.

4. sap their sibling municipal power companies and other municipal departments of resources that could be better directed to core municipal services.

I. Even some of the most prominent **municipal consultants**, such as Professor Barry Orton, have counseled municipal governments to **look before they leap** into municipal cable and telephone networks, warning them of the costs and risks inherent in such enterprises. Similarly, Al Powers of Carlisle, Iowa, is reported to have cautioned cities of the risks of large, up-front costs of municipal systems, with no guarantee of recovery.

J. Municipal broadband ventures often reflect the **naive notion** that a city, with the help of a consultant, can “do it better” than a private company. Yet, what makes those cities think that they can do it better, or more efficiently, than companies that specialize in the business; or that the competitive response by incumbent local exchange carriers (“ILECs”) will be any less vicious than when the ILECs are faced by private competitors; or that municipal systems will fare any better than private companies in the currently challenging competitive and economic environment -- unless they intend to abuse their position as municipal utilities?

K. Wisely, some states have enacted **legislation forbidding or restricting municipal entry** into telephone and/or cable, and others have considered, or are considering, such bills (e.g., Arkansas, Florida, Minnesota, Mississippi, Missouri, Nebraska, Nevada, Tennessee, Texas, Utah, and Washington). Judicial challenges to some such laws, as conflicting with a provision of the 1996 Telecommunications Act that forbids state or local law that would “prohibit or have the effect of prohibiting the ability of *any entity* to provide any interstate or intrastate telecommunications service” (emphasis added), have led to conflicting decisions that are now before the U.S. Supreme Court for review.

L. In other instances, **local voters** themselves are reining in unrealistic and risky plans for municipal broadband networks. Last year, voters in a **referendum** in the three suburban–Chicago communities of Batavia, Geneva and St. Charles soundly rejected a proposed municipal broadband network that would have provided cable television, telephone and internet access services, at a cost of \$62 million. Despite the endorsement of the mayors of these three communities, approximately sixty percent of the voters rejected the cities’ planned network as too expensive and risky.

1. Similarly, in a **poll** conducted in Georgia in 2002, **87 percent** of the persons polled voted against use of public tax dollars to provide cable television and internet access services in competition with private providers.

### **III. SHOULD MUNICIPAL GOVERNMENTS BE IN THE BROADBAND BUSINESS?**

A. **High Risk:** Broadband is a high-risk business.

1. While it may seem like a natural progression for a municipal utility to segue into broadband, it is always harder and more expensive than first thought to run the other guy’s business, even when it looks like it’s just a set of wires on poles attached to some receivers and a customer call center. The difficulty is evident even for commercial entities who thought they knew the “wire” business. SNET failed in its Personal Vision venture. Verizon failed to make “video dial tone” or wireless cable work. BellSouth abandoned its wireless cable and scrapped plans for a DBS

venture. SBC sold its overbuilt cable units, reportedly "for a song." Private overbuilds by smaller cable entities also have a long history of **collapse or retrenchment**.

2. Given that government entities generally are **less nimble** than their private sector counterparts, is it really prudent for them to commit public funds to so risky an enterprise, and thereby jeopardize their ability to provide essential services that truly are not available from the private sector?

a. For example, news reports questioned whether the public was "**hoodwinked**" in **Harlan**, Iowa, where expenses for the public cable system were hidden in other utilities and, notwithstanding deferred loans and interest payments, the true cost of the municipal cable system turned out to be twice that which was originally projected. As a result, the city was unable to afford needed water facilities or the replacement of storm-damaged electric transformers. The local newspaper referred to the system as a "**disaster**".

B. **Conflict of Interest:** When a municipal government enters the broadband business, it **wears the hats of both regulator and competitor**, subjecting it to an irreconcilable conflict of interest. At best, its regulatory actions will always be suspect, even when not actually improper. At worst, its decisions may be biased and its actions will be driven by the need to aid its affiliate and vindicate its entry into the highly competitive telecom market. This is not merely a remote or hypothetical possibility, given that the success of a new municipal broadband system will depend on its ability to beat its private competitor, or even to drive it out of business. In such circumstances -- particularly, as one court framed the issue, where a city is "complainant, jury, judge and 'executioner'" -- the private operator's constitutional right to **due process** may be violated.

C. **Unfair Advantages:** Municipal broadband systems enjoy a host of **advantages** not available to their private counterparts, including the ability to:

1. allocate costs of their competitive broadband businesses to other municipal departments, and cross-subsidize operating expenses and capital expenditures for their broadband businesses through electric and other utility or municipal activities;

2. issue tax-exempt bonds or receive interest-free, interest-deferred or reduced-interest loans, not available to private companies;

3. use public rights-of-way, and pole and conduit networks, on preferential terms (monetary and non-monetary), and at the same time delay, or unfairly burden, their private competitors' access to those same poles, conduits and rights-of-way;

4. exercise the power of eminent domain, of which few private companies can avail themselves;

5. operate without a franchise, or pursuant to a franchise that is less onerous than those issued to private broadband companies;

6. avoid franchise and other fees and taxes, and regulatory requirements, to which their private competitors are subject;

7. exercise their regulatory powers in a discriminatory fashion that disadvantages private competitors;

8. use municipal employees, equipment, billing and customer service systems, marketing and sales departments, and other resources at no, or reduced, cost; and

9. subsidize their telecom losses through tax increases and/or other utility rate increases.

**D. Harm to the Public:** These unfair advantages ultimately harm the public.

1. In their most immediate manifestation, they enable a municipal broadband system to **under-price** its private competitors.

2. The supposed savings to consumers from lower municipal cable, telephone and internet rates are **illusory**, since rate reductions must be subsidized through general tax increases, higher rates for other utility services, or revenue losses to the community in other areas resulting from the preferences given to the municipal broadband system.

3. Long-term, by unfairly undermining private companies' ability to compete, they **reduce private competitors' incentive to invest** in broadband networks or to remain in the market, for fear that the city will undermine the companies' investments. Moreover, this impact is not limited just to investment in cable and telephone infrastructure, for if a municipal utility has those services in its sights today, how long will it be until it decides to expand into the provision of other services (e.g., internet access) in competition with private companies? And why stop even there?

4. A municipality that takes customers away from the incumbent cable operator loses franchise fees (five percent of gross revenue) that that incumbent provides to the city. And if the municipality ends up buying out the incumbent, which has happened in some locations, the municipality loses significant public benefits provided by the incumbent, such as grants for Public, Educational and Governmental ("PEG") Access, I-Nets, and taxes. Furthermore, from a state tax perspective, municipalization of broadband facilities has the effect of robbing Peter to pay Paul, by removing private sector assets from the tax base, thereby impacting state funds available to county governments and school districts. Ultimately, **taxpayers are harmed** by this.

5. In addition, artificially low rates deprive a municipal operation of the revenue necessary to enable the continued **upgrade** of network facilities, thus depriving the community of state-of-the art facilities and services.

6. Finally, they **burden all taxpayers** with the costs of subsidizing the government broadband system when only a portion of the community's residents will subscribe to that service, with others choosing the service of private competitors.

**E. Antitrust Abuses:** Cities that enter the telephone, cable or internet business generally seek to capitalize on their ability to use existing electric and other municipal utility infrastructures, equipment, personnel and customer base. They may seek either to extend those monopolies into broadband, or to cross-subsidize their new cable, telephone and internet businesses with monopoly revenues.

1. The antitrust laws generally prohibit conduct such as **monopoly leveraging, "tying" and cross-subsidization** that is intended to achieve, preserve or extend monopoly power.

2. For example, the **City of Stilwell, Oklahoma** was sued by the United States Department of Justice for conditioning residents' access to the city's monopoly water service on their purchase of its non-monopoly municipal electric service. In filing suit against this allegedly **illegal tying**, then-Attorney General Anne Bingaman was quoted as saying that the lawsuit was a **"shot across the bow"** to municipalities using illegal means to squelch competition; "this practice seems to be a much more common practice than we were aware of...." The City of Stilwell entered into a **consent decree** with the federal government agreeing that it would no longer seek to coerce its water customers to take the city's electric service. Might cities not be tempted to engage in similar coercive tactics to prop up an ailing municipal broadband system that is losing competitive ground to its private counterpart?

3. Such anticompetitive practices by municipal utilities are particularly unfair because local governments, unlike private companies, are generally **immune** from any antitrust damages (let alone the treble damages to which private companies are subject).

**F. First Amendment Concerns:** Municipal cable television systems -- which will be the sole source of television to the homes they serve -- tread on important First Amendment principles by placing a significant media outlet -- and potential source of criticism of the government -- within the control of the government, from whose power the Constitution intended to shield the media. This poses the risk of the government manipulating the content of the programming that the public views on the municipal system in order to insulate itself from criticism and to disadvantage political rivals.

1. In **Forsyth, Georgia**, where the private cable operator made public statements on its cable system criticizing the City's expenditures of public funds and use of tax-exempt bonds to finance the construction and operation of a municipal cable system, the City went to court to try to **muzzle** the private operator. Although the court denied the City's request for an injunction, the City's actions demonstrate the dangers of putting a municipality in the posture of a competitor to private telecom companies, and particularly private cable television systems.

**G. Risky Business:** Municipal broadband operations are likely to be unprofitable, to impose on the public the burden of substantial losses (which must be paid for through higher taxes or higher electric utility bills), and to sap necessary resources from other, truly essential municipal services such as roads, water, schools, public safety, and sanitation.

#### **IV. WHAT IS THE PROPER ROLE OF GOVERNMENT IN FOSTERING INTELLIGENT CITIES?**

A. Government's primary duty must always be to govern. As regulator, government is **inherently conflicted** when it also attempts to assume the posture of competitor. But eschewing the role of competitor does not mean that a municipal government cannot take an active part in ensuring the development of a broadband-rich community that attracts, retains and provides advanced services to businesses and residents.

B. Municipal governments already have ample power, and means, to **regulate** telephone and cable providers, including:

1. control over use of the rights-of-way through franchise and permitting processes;
2. control over technical, performance and safety issues through bond and insurance requirements, customer service standards, periodic reporting, franchise grant, transfer and revocation proceedings, and the power to impose fines and penalties;
3. the ability to raise revenue through the imposition of substantial franchise and license fees, as well as through taxes of general applicability;
4. the power to require cable television franchises to provide desired community services, such as cable channels dedicated for Public, Educational and Governmental Access, to provide PEG studies, and to wire and serve public schools; and
5. the power to ensure performance of franchise obligations.

C. Given the rigors of competing with the private company(ies) that it regulates, and the enormous financial and political pressure of ensuring that a municipal broadband system lives up to the promises made in first proposing it to the public, cities may be ethically and practically challenged by the **temptation** to favor their own operation, and disadvantage their private competitors, through their control of the regulatory process and similar means.

D. Municipal governments can avoid these pitfalls and ensure that private companies will be incentivized to provide their communities with **advanced broadband communications facilities and services**, by taking a variety of actions, including:

1. removing barriers to entry into their local markets;
2. enforcing equal access to rights-of-way by competitive and incumbent providers alike;
3. awarding contracts to serve government and public facilities to competitive and incumbent carriers on a nondiscriminatory basis;
4. creating tax and regulatory incentives for broadband companies to invest in the continued upgrading of their facilities and services;
5. creating tax and regulatory incentives to encourage property owners to open their buildings and developments to multiple carriers so that tenants will have access to multiple providers;
6. offering grants to businesses and building owners that upgrade their properties with "smart" telecom infrastructure; and
7. procuring their municipal telephone, cable and internet services from the many competitive broadband companies that have deployed state-of-the-art facilities across the country and that are eager to offer an ever-expanding panoply of services.

**V. CONCLUSION**

Municipal broadband networks may seem, at first glance, like a sure path to communities rich with cable, telephone and advanced information services. But, upon closer inspection, they can be seen to risk the erosion of the private foundation upon which the United States has built the most advanced communications networks in the world. This is not meant to suggest that cities should not consider granting competitive franchises to multiple private operators. Nor is it meant to argue against municipal utilities deploying broadband facilities that they actually need to operate their own core utility infrastructure (e.g., for operational and control purposes). Moreover, there may well be isolated instances in which private entities truly are unable or unwilling to provide broadband services to small, rural communities, in which cases municipal networks may be justifiable (although even on such occasions, every effort should first be made to obtain services from the private sector). But absent such extraordinary circumstances, the smart path to the development of Intelligent Cities is for municipal governments to be facilitators, not competitors, and to leave the broadband business to the private sector.

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