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Today's Business

"Pro" column in response to the question:

"Is it appropriate for local governments to use their fiber optic systems to provide services such as local phone connections, Internet access and cable TV in direct competition with private companies?"

**By Leona Stoecker
Mayor, City of Longmont**

Abraham Lincoln, when asked what activities are the proper domain of government, said: "The legitimate object of government is to do for a community of people whatever they need to have done, but cannot do at all in their separate and individual capacities."

Services such as fire and police protection, water, sewer and electricity are so important to the prosperity of all citizens that municipal government is considered to be the appropriate provider. The fiber optic or broadband networks necessary to deliver the benefits of the "information superhighway" increasingly fall into the same category.

The question is not whether private enterprise can provide advanced communications, entertainment and information services. The questions for Longmont, and the answers that evolved during a year-long public analysis preceding the City Council's decision to build a municipally-owned broadband network, were these:

- "When will private companies provide advanced services in Longmont?" Not for a long time.
- "Will such services be easily and equally available to everyone?" Probably not.
- "Will there be adequate competition to ensure a wide choice of services and reasonable rates?" Probably not.
- "Will such systems be operated for the greatest benefit of the community, or will the expectations of stockholders come first?" Probably not, and more than likely.

The fact is, private service providers were not terribly interested in building a ubiquitous broadband network in Longmont by themselves. The local telephone company stated that decisions to deliver "services such as these will be based on population

density, consumer demand and the most cost-efficient way to do business.” In other words, the bottom line potential to quickly recover investment and make a profit.

Certainly, as existing service providers point out, some of the enhanced communications products and services our citizens desire are already available. The problem is with that little word *some* -- *some* of the services, *some* of the time, for *some* customers, in *some* parts of the city, and only on the provider’s terms and conditions.

Our vision in building a municipal broadband network infrastructure is to afford all members of the community an equal opportunity to grow economically, intellectually, culturally, socially and with diversity. We believe the benefits of a community-owned fiber optic system include:

1) Economic vitality. The demand for advanced telecommunications services is a current business need. Longmont businesses identified improved communications as a critical key to maintaining or improving their competitiveness. A community fiber optic network improves the city’s ability to retain existing businesses and attract new businesses. We expect our broadband network to be an economic engine that powers prosperity in coming years.

2) Competition and choice. Investing in infrastructure is a barrier for potential competitors. By building a high capacity fiber optic system that is open to alternative service providers, the city expects to stimulate competition for communications, entertainment and information services that will expand the choices of consumers, improve service quality and control costs.

3) Enhanced community services. Connecting schools, homes and businesses to distance learning, library and teacher resources will expand learning opportunities. Connecting doctors, hospitals, clinics, businesses and homes will enable more effective medical services. On-line access to city government and social services will allow citizens to be more involved and informed.

4) Protection of city rights-of-way. Building one infrastructure that everyone can use enables the city to protect rights-of-way and minimize disruption to businesses and citizens.

5) Advanced electric services. Consumers will soon have a choice of electric service providers. To prepare for competition, the municipally-operated electric

department can use the advanced communications capabilities of the city's fiber optic system to provide automated control and management of the electric system, remote meter reading, real time pricing, customized billing services, and a variety of other new services and customer support activities.

Finally, our goal from the beginning has been to build a broadband infrastructure that positions the city to develop alliances with private service providers for shared access to consumers. We believe this partnership approach provides the greatest benefit to the whole community. It is a win-win approach that enables the city to develop enhanced government, social, education and cultural services while allowing private enterprise to develop and deliver competitive commercial services to business and residential customers.

Stoecker bio

Leona Stoecker has been the Mayor of Longmont since 1993 and serves on the board of directors of Platte River Power Authority.

Craig Settles Bio

Broadband business strategist, marketing expert, author and internationally renowned speaker. Craig Settles helps organizations use broadband technologies to improve government and stakeholders' operating efficiency, as well as local economic development.

In 1999 Mr. Settles served as Dir. of Electronic Commerce for Metricom, which marketed Ricochet wireless Internet access service, the pre-cursor to today's municipal wireless networks. He authored Fighting the Good Fight for Municipal Wireless in 2005. This, together with his numerous in-depth analysis reports, established Mr. Settles as a prominent thought leader on appropriate business strategies for municipal broadband network deployments.

In recent years he has consulted with several cities on municipal broadband strategy. Technology vendors and service providers tap Mr. Settles' industry knowledge and marketing expertise to implement programs that generate sales leads.

Mr. Settles is frequently called upon as an municipal broadband expert for journalists at CNN, the Wall Street Journal, New York Times, Time Magazine and a host of business, technology and local media outlets. He has spoken and chaired various conferences, including MuniWireless, the Wireless & Digital Cities Congress and the N. American Wireless Cities Summit.

Fighting the Next Good Fight, Mr. Settles' latest blog, further showcases his expertise in this area.

For over 20 years Mr. Settles developed and executed innovative marketing campaigns for technology clients that include Microsoft, AT&T and Symantec. A staunch advocate of creative yet practical uses of technology to improve business operations, he keeps abreast of new developments, tactics and techniques that help organizations thrive in an increasingly competitive marketplace



Municipal Wireless Snapshot Report™

Fighting the Next Good Fight

Assessing what our national broadband
strategy should be

January, 2009

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Introduction

The road to the success or failure of technology to achieve business (economic) objectives, whether for government, commercial or nonprofit organizations, starts with thoroughly understanding the needs of those who will use the technology. This report affirms broadband technology can improve economic development, but only if we adhere to this rule.

National broadband strategy – or the lack thereof – is an increasingly hot topic from the corridors of Washington, D.C. to the cornfields of Iowa and beyond. Broadband has become an economic imperative, earning headlines calling for a “broadband New Deal.” But how do we get there from here?

In November 2008, I conducted a national survey of economic development professionals to assess how they believe broadband can impact local and regional economies (<http://www.successful.com/msp/snapshot-12-08.doc>). They are the people who have key roles executing plans to use broadband for this goal. They work every day with the local businesses and constituents who ultimately use the technology.

Based on the survey results and comments of those who completed the survey, I developed this second report, “Fighting the Next Good Fight.” Here, individuals who are improving their local economies describe what broadband can achieve, and explain what’s needed from national and local government and business organizations to get there.

This report shows what a national broadband strategy should accomplish on a wider scale: attract businesses into economically depressed areas, create new businesses, prepare workers for a digital economy and produce a new generation of workers skilled in next-generation technology. More importantly, it is an assessment of what’s needed by the people who deploy and use the technology solutions this strategy hopefully produces.

I have experienced firsthand, and frequently chronicled, muni wireless’ meteoric rise, fall and slower rising. With this perspective, I find much of the national broadband rhetoric shortsighted and destined to lead to expensive failures because once again, policy makers appear not to be doing enough needs assessment. There’s another good fight to be fought, and this report’s goal is to get people started on the right foot.

I. Do we have the right perspective on this broadband strategy

The good news is that the topic of broadband and its potential to impact economic development is now front and center on the national stage as well as at the local level. The bad news is that the potential exists to really botch up what is a golden opportunity to turn broadband into an impressive U.S. economic engine.

I've stated for years that how you view the business objective for using a technology, and how effectively you assess the needs of those who will use it, determine whether technology you roll out is a major success or a total flop. Two months of assessing how economic development professionals believe broadband can produce economic benefits contradict some of the views reportedly held in Washington D.C.

Do people in the Obama administration have a complete picture of how broadband can impact economic development? Are they spending enough time with the local and state organizations that know best what needs to be done?

An almost bigger question, though, is who will actually drive the broadband discussion in the White House and Congress? An economic stimulus effort on the scale of the 1930's New Deal may be laudable. But to have the broadband component of this effort lead by people whose thinking is anchored in the New Deal era would be a total disaster.

How broadband will impact economic development

Much is made of the potential of a broadband network to create economic gains. However, those interviewed in this report know from experience that just building highspeed infrastructure and declaring "mission accomplished" is as bad as building a bridge to nowhere.

A network by itself will impact the economy as much as building foundations without walls and roofs will decrease homelessness. Sure, similar to the New Deal programs, you will create jobs by building highspeed networks, but this a small portion of the potential economic impact of the effort.

Broadband is an engine that will drive business expansion, spur a surge in home-based businesses, attract new organizations to poor and rural areas and create a 21st Century workforce. Yet it cannot do these things alone. A national broadband policy is incomplete unless it addresses the various technologies, programs, training and support that must accompany network infrastructure. Those interviewed here talk about different ways the Obama administration can address this.

Think globally, act locally

When building highways and bridges, the look of the finished product may vary from community to community, but fundamentally, the infrastructure in every state uses the same "technology." What's more, the basics of how you build it hasn't changed much since the original New Deal. But broadband, no matter how often people use "highway" analogies, is a radically different beast comprised of a variety of continually evolving technologies. Because each city and county's

broadband needs are different, each often requires a different permutation of the technologies and supporting programs.

An effective broadband strategy from Washington requires not a physical construction of a digital I-95 through multiple states, but funding, support and legislative action to enable local and state organizations to build infrastructure most appropriate for local needs. If anything, the administration should establish guidelines so there's fairness in funding, and some uniformity in standards, quality of service and (most importantly) what data speeds constitute broadband.

In the interviews here, it is obvious network building and program implementation needs to take place at the local level. People talk about putting stimulus dollars into projects that are "shovel ready," meaning they're on the drawing board just waiting for funding. In spite of the unattainable hype of muni wireless, one benefit of it was that many cities and counties analyzed their economic needs that broadband can address. Broadband stimulus needs to target these communities.

Who's driving this bus

In order to align national broadband strategy with real economic development needs, who drives the effort from D.C. is critical. If the incumbent telecom and cable companies grab the wheel, broadband as a true economic development engine is dead, and a lot of taxpayer dollars will line the grave. If the people in charge of formulating strategy at either end of Pennsylvania Ave. still haven't figured out how to print their own e-mails, a similar fate is likely in store.

The economic development professionals in this report, and those who completed my recent survey, identified needs that are best addressed by people who use technology as a way of life, AND are responsive to communities more than stockholders. Their success stories were made possible by innovative thinkers, people with hands-on experience, local companies and public servants in spite of lobbyists and technophobes.

The Obama campaign owes much of its success to a cadre of tech-savvy folks who knew how to use the latest technology to turn the business of campaigning and community activism upside down. These are the kind of people needed at the wheel.

Patience is indeed a virtue

2006 saw municipal wireless hyped as the solution to all of American's broadband ills. Then came the fall for a lot of projects as too many politicians jumped on the "free muni WiFi" bandwagon without doing effective needs analysis. However, the local governments that did their homework, developed the right business plans, and then moved boldly forward are now the winners with their effective broadband solutions.

In 2009, the new administration and Congress need to do thorough due diligence before spending one dime on broadband infrastructure. Similar to how Obama's transition team stimulated numerous constituents and organizations to hold 8,200 meetings over two weeks to discuss healthcare policy and gather feedback, conduct a similar effort to solicit insights from those involved with local economic development. The interviews in this report are just the tip of the iceberg.

II. Report participants

The people selected for this report represent a cross section of the types of communities that can benefit from the effective use of broadband for economic development.

Bob Cabeza – Exec. Dir YMCA Downtown, Long Beach, CA

Mr. Cabeza manages a program that teaches youth nationwide high-end digital media skills through neighborhood tech labs, then connects those skills to academic achievement and workforce development.

Misty Chase – Dir. Beyond Tobacco, Greene County, NC

Their countywide wireless network has attracted new businesses worth millions of dollars and dozens of jobs, increased home-based businesses, and significantly raised students' academic performance.

Ron Dickerson – Economic Development Manager, MTCO Corp.

This independent local exchange carrier develops and delivers services that help communities in their region, which is near Peoria, IL, attract business and expand existing businesses.

Stephane Gallant – Dir. Of Operations, NEOnet

This regional organization partners with private sector businesses and secures grants to bring broadband networks to rural and remote areas of Ontario, Canada where there is not highspeed access.

Greg Goldman – CEO, Wireless Philadelphia

Wireless Philadelphia continues to carry out the citywide network's original mission – bringing underserved people into the digital economy through access, hardware, training and key partnerships.

Robin Krieger – Immediate Past Chair, International Economic Development Council (IEDC)

Ms. Krieger is also Executive VP of the Chamber of Commerce in Oklahoma City, which has built a citywide Tropos wireless network, giving her both a local and national perspective on the discussion.

Karl Robillard – Mgr, Employment Programs/Tech Lab, St. Anthony Foundation, San Francisco, CA

This nonprofit organization runs technology training programs that helps low-income individuals enter, re-enter and/or advance in the workplace.

Wes Rosenbalm – President & CEO, Bristol Virginia Utilities,

Jerry Brown – Exec. Dir., Bristol Office of Economic Development

This public utility has built its fiber optic network out to over 65% of the homes and businesses in Bristol and surrounding area of 20,000 people.

Jeff Rossate – Business Development Division Administrator, Iowa Department of Economic Development

This agency promotes policies and practices that improve the state's economic progress.

Dan Speer – Exec. Dir., Pulaski-Giles County (TN) Economic Development Council

Mr. Speer was the driving force of this city and county project to bring fiber highspeed access to every home in the county through a municipal-owned entity.

Esme Vos – Founder, President, MuniWireless.com

Ms. Vos has been a long-time expert, champion and extensive knowledge resource regarding municipal broadband issues and activities.

III. Question responses – how broadband impacts economic development

To get a good starting roadmap to tackling economic issues with broadband, I asked roundtable participants the following questions. The first four questions solicit examples and recommendations of specific ways that broadband can impact economic development. The final four address requirements and policies that are important for moving broadband projects forward.

It's important to look closely at Question 1 that addresses what communities are achieving with broadband networks. I do not believe enough local or national policymakers fully understand or appreciate the financial impact these networks make.

1. What are some examples of your community or municipal broadband network impacting business or personal economic development?
2. To improve a local business economy which would you do first, use the network to try to bring new businesses to town, or use it to improve current local companies' competitiveness and profitability?
3. Can these networks lead to the increase, and eventual success, of home-based businesses?
4. In what ways can muni networks facilitate the re-training of jobless individuals for the new digital and global economy?
5. Besides highspeed access, what technologies and programs need to be put into place in order to impact economic development?
6. How do you fund these network projects given the current economic climate?
7. What can the in-coming Obama administration do to improve the advancement of broadband network projects that improve local economies?
8. What are the top three things a local government needs to do if they want a muni network to impact economic development?

1. What are some examples of your community or municipal broadband network impacting business or personal economic development?

Chase (Greene County): We have a development project that will eventually build 650 homes here. The property managers are using the network to drive 80% of their lot sales through the Internet. A dog supply company used to sell everything by printed catalogs, and they used the network to establish a Web-based business that now generates 90% of their sales. They have gone from three to 20 employees.

YamCo made a \$6 million investment in the county to build a food manufacturing plant that created 63 jobs. Their equipment relies on

broadband connectivity. SmartPlay invested \$250,000 into the community to open an automated plant that makes tennis balls, and creating 15 jobs. Another company brought in \$3 million and 12 new jobs. Our network plus our newly computer proficient workforce convinces these companies to move here.

Cabeza (Long Beach YMCA): In the inner city, kids might go to a 'digital high school' but what happens when that school closes at 3 p.m.? The city's free wireless network downtown solved this problem.

We piggybacked on the school district's broadband for after-school programs, and built digital media labs in 12 of the lowest performing schools. Youth access technology on the playground and in the cafeteria. They're creating digital newsletters and making movies about science. A group of 3rd graders recently made a video about a fire at their school. 1st graders teach kindergarten kids abc's with a movie they made. Without free wireless at the schools and downtown, the kids couldn't do these things because there aren't alternative connectivity resources available with the capacity to run the media software.

Rosenbalm (Bristol): One intangible benefit is that we raised the profile of Bristol. We get calls about locating here that we never got before from companies. We expanded the network through southwest Virginia, which was a key factor getting Northrop Grumman and CGI to move into the area. These companies brought 700 jobs with an average salary of \$50,000 when jobs around here had a \$20,000 average salary.

On personal level, more people are telecommuting, and people are getting Masters and other college degrees online. The people with these advanced degrees are the ones getting the jobs when large companies come to town. Also, we recently did a study on what our business and residential customers have saved using our network. It was \$10 million collectively over five years based on lower rates from us and by us forcing the incumbents to lower theirs.

Gallant (NEOnet): Before they got broadband, companies could get access with dialup, but couldn't upgrade their Web site. After a year online, a lady who designs and creates jewelry is getting business from Montreal and throughout the province. Financial services, law, consulting and other services can be delivered remotely, so these businesses are growing. There's a company in Sudbury that does animation for US companies, and they could not do the work without broadband.

We support satellite access to the Internet in areas where nothing else is practical. There's a project coming online in Spring 2009 for farm communities with between 100 and 450 people. Farmers can check pricing, do research, and submit reports on various activities such as the use of fertilizers.

Goldman (Philadelphia): We know there's a definite link between Internet access and employability. We've had great success working with funding agencies and community-based organizations that assist folks move into the workforce or up the ladder. We offer a computer, access and training together as an incentive to enter and complete employment-training programs. Evaluations proved this incentive increased the likelihood of recipients getting and retaining jobs.

The Recovery & Education Centers provides recovery-based services for individuals with psychiatric and co-occurring disorders. We gave them laptops with wireless access they use to teach individuals in the rehabilitation recovery program computer skills. They loan laptops to members on projects that help them reach educational or occupational goals, and give away some laptops as rewards for people who progress significantly in their recovery. Members enter the workforce or academic world prepared to use new technologies and Internet resources.

Rossate (Iowa): A great example is the progressive nature of communities such as Denison, Carroll and Cedar Falls to create state-of-the-art networks. These communities were ahead of the curve in the 1990's and early 2000's and the results are a clustering of high tech-based services and firms that work with clients around the globe. These communities would not be where they are today in terms of recruiting and creating tech businesses without the broadband network capacity. For example, I've observed Cedar Falls outpace its nearby neighbor Waterloo in attracting nationally known data centers, ad agencies, John Deere operations and others needing highspeed fiber communications.

Speer (Pulaski): The World Wide Wait is over in Pulaski. There's a printing operation here that has to send large graphic files all the time to their corporate headquarters in Los Angeles. One company that has their offices on the north side of community and the manufacturing plant on the south side use the network to send large data files back and forth.

Hospitals here can upload and download files such as x-rays, MRIs, and CT scans immediately between other hospitals and doctors 75 miles away in Nashville. Patients don't have to be transferred there, saving lives and money. None of this can happen without broadband

Tennessee adopted the No Child Left Behind program that adds another year of math and science to high school curriculum, but we can't find enough teachers to do this, especially in rural areas. Broadband allows us to work with the University of Tennessee to deliver these classes.

Krieger (IEDC): In Oklahoma City, broadband is covered in one of a list of 20 questions we ask businesses considering locating here. It's as important as 'can I get water and sewer.' Broadband is elevated to point to where it's always discussed, but we talk more about upgrading highways than that because we've totally integrated the broadband.

Here, when I have some business coming in that needs telecom services, I only have to make a few phone calls and there may be five vendors competing for the business. Companies that need these resources have them. There are a lot of highspeed resources available. In university districts, the tourism center and the airport WiFi is big. The city government has its Tropos wireless network they recently completed.

Dickerson (MTCO): The slogan of economic development professionals is, make business development happen sooner rather than later, and broadband does that. We needed our insurance agent to get a performance bond for a project we're doing. Without the network it would have taken three or four days to get the paperwork, engineering documents and materials back and forth by regular mail. But with broadband the agent had the bond to us in 30 min. This speeded up completion of a specific project in nearby Peoria.

Broadband allows us to facilitate bureaucratic operations and move faster. In a previous community where I worked the telco didn't keep their technology current, so businesses wouldn't locate there. This changed when the telco was bought and their equipment overhauled. Over the five years I was there, maybe four or five houses per month were built and employment opportunities decreased. Now, companies are more productive, the town is building 12 houses per month and a large state facility moved in.

Robillard (San Francisco): In neighborhoods like the Tenderloin, less than 40% have access to technology, whereas up to 90% in middle class and wealthier neighborhoods have access. In November 2009 we had 1000 people come in to use the Lab and 86% had never had an e-mail account for anything – jobs, reaching friends. Many are transitioning away from casual labor like construction or house keeping. We're able to get them to sit down, create resumes and look for jobs online.

We're seeing people master some of the basic skills that those who've been in the professional world take for granted. So this helps level the playing field a little. We were told about a 20-hour-a-week admin position that a person completing training last year could have gotten easily now has 100 applicants applying for it, some with college degrees.

2. To improve a local business economy which would you do first, use the network to try to bring new businesses to town, or use it to improve current local companies' competitiveness and profitability?

Brown (Bristol): As global competitiveness changes the job landscape for almost all communities, it is extremely important to retain as many jobs as we can, and work to increase employers' profitability by providing them the necessary tools such as broadband access. However, we must still spend time and resources to attract new jobs to our community who need the broadband network to operate successfully.

Goldman (Philadelphia): I feel the first priority is to improve the local business climate. We want to provide a comprehensive program with organizations that promote local micro businesses. Broadband helps these startups that have no access at all. Helping companies located where there are groups of unemployed or underemployed individual has the greatest immediate impact on reducing unemployment.

Rossate (Iowa): By far, our priority has been the improvement of current companies and ensuring they have the tools necessary to communicate and compete on a global basis. Existing industry is still our strongest economic base and as their needs evolve, broadband service is one of solutions to meet those needs.

Gallant (NEOnet): Once the network is done and people are using it, you can bring in new companies. One large business that was attracted to Timmons is Teletech, an inbound call center. They wouldn't have come without the infrastructure already being in place.

There's a network project coming to link three call centers so call overflow at one center is automatically directed to one of the others.

Some small communities don't have enough people to support a single center that's big enough to meet the company's needs, but with broadband infrastructure you can link three communities together.

Cabeza (Long Beach YMCA): Bringing businesses into an area would be my first priority. Small businesses, for example, can be enticed by the low cost of promoting themselves over a local network. But I look at this from an education perspective. Use broadband to create a skilled workforce, which gives you a second draw besides the network.

We need a Cisco or a Sony to go into low-income areas to hire and train folks. Think what this would do for the community. People are more inclined to stay because jobs are there. This sparks more changes from within to reinvent the community, and ultimately the population becomes an asset, not a liability. Fast broadband in low-income area equals academic opportunity for them. From this success they're able to advance in companies and move into a middleclass lifestyle.

Robillard (San Francisco): My immediate reaction is to encourage businesses to come in. We need businesses to partner with so we can place people after we train them. If the city can bring them in to create more jobs, maybe offer tax refunds to encourage partnerships with organizations such as ours, we can fill those jobs.

Businesses already here that haven't felt compelled to view low-income communities as a new hiring pool may not anytime soon. It's harder to get people to change patterns. If you bring in businesses with the specific intent of hiring the underserved, you'll likely get more people taken into those companies.

Esme Vos: Helping existing local businesses is key. That's the low hanging fruit. Local businesses have to compete with each other and with companies from other nearby areas. What kind of highspeed services you develop depends on the kind of business you want to keep. Some, such as those in services industry - law practices, accounting firms printing companies, have different needs than manufacturing companies. Also, local businesses are voters now.

Dickerson (MTCO): Greater effort should go towards improving existing businesses. There are a lot more things needed to attract new business than just broadband, and you have to have all or most of them in place. When companies are trying to decide between locations, some of their considerations are accessibility to transportation, labor force characteristics, a good stock of housing for potential recruits and educational opportunities. These can trump broadband in the economic development picture.

3. Can these networks lead to the increase, and eventual success, of home-based businesses?

Robillard (San Francisco): Absolutely. Training for something such as GIS [geographic information systems] is good because once you have a industry-recognized certification, you can work remotely connected from home as an independent contractor. Many jobs are project based.

Dickerson (MTCO): I have friend who makes as much as a schoolteacher selling over eBay. You see a lot of that these days. Be careful about zoning issues, though. Some places put you through a special-use process with city council that can be unnecessarily restrictive. I was a zoning officer once and had to shut down a business because of an ordinance. But this was stain glassmaker that had little adverse impact on the neighborhood.

Gallant (Timmons): I can see this after a network comes into place. Once you have it, entrepreneurs with business plans come back to agencies to see if broadband can make these plans feasible.

Goldman (Philadelphia): We've identified partner organizations dedicated to this objective and want to seed home businesses with capital and training. Many don't have a digital component, so we provide it. It's similar to what we do with individuals in welfare-to-work programs. The service groups have done the pre-screening, they have people in classes, they've completed the business training. We give them the package. Sometimes we identify funding for the technology, in other cases the organizations go for funding.

Esme Vos: Having broadband infrastructure is good, but it can't make everyone an entrepreneur. It's the character of the individual. However, if someone sees relatives or friends are successful in home businesses, then they may want to mimic them. Can you make others aware of these success stories so they're inspired to follow? Computer programmers are a natural, but also encourage people who have physical goods to sell. A lot of high-end almonds, wines and olive oils, for example, are traditionally sold through brick and mortar stores, but now you have more of these kinds of products moving to online sales. As you build networks in rural areas, determine how to carry this trend over here.

Speer (Pulaski): We believe the future of economic development is in what's called economic gardening, meaning you teach people entrepreneurial skills such as bookkeeping and business development. Then you show people opportunities in the knowledge industry, for example, that they can take advantage of from home. We're doing this now during the downturn, but if it's successful we may continue when things pick back up.

Chase (Greene County): We are seeing this happen here. People who are making \$15 an hour in their regular jobs are starting all kinds of Web-based businesses on the side that they run from their computers at home. Many of them make several thousand dollars a month in additional income. Few people are quitting their regular jobs, but that extra money is a big help given how the economy is now.

Brown (Bristol): Certainly the networks can lead to more home-based businesses, but that is a very difficult outcome to track. In my opinion, another potential outcome is more telecommuting. As costs increase for businesses such as utilities, energy and travel, the networks may allow people to work from home and be just as productive, if not more so, than they are from 9:00 to 5:00 in a business environment.

4. In what ways can muni networks facilitate the re-training of jobless individuals for the new digital and global economy?

Robillard (San Francisco): The biggest workforce re-training trend we see is with men over 40 whose entire working life has been in physical jobs such as construction, farm labor and the like. They know their body's going to wear out if they stay in their jobs. There are plenty of service jobs in low-income areas. For example, we have so many single-room occupancy buildings in the city we can push people with computer skills to be desk clerks and create a new economy.

Chase (Greene County): If you want to take the long-term view on re-training your workforce, you have to consider raising the level of basic skills of your youth. In Greene County our kids are the ones doing a lot of the adult training. But we had to get these kids ready. We put the network in place and we gave students Mac laptops, and since then there's been a 32% increase in their computer proficiency scores over the last three years.

Cabeza (Long Beach YMCA): Community tech centers have a large part to play. These resources contain a knowledge base and have a cultural connection to community. We're a go-between for parents and traditional schools, so people trust our resources. Our youth teach adults in their language, which gives our instructors more credibility and they are more effective. Funds should go into those centers that are proving they deliver value.

Speer (Pulaski): First, you make it available where adult education occurs, which for us is in career and technology centers. When a plant is closing, the centers make a direct pitch to these workers to take the courses. There's also a Web site run by the International Commission on Workforce Development (www.iswfd.org). They partnered with Microsoft to offer skills training so people can pass the Microsoft certification programs that people complete at home. By delivering computer-based training over the network to the schools, you can get teachers to use this technology for adults as well.

Esme Vos: For most classrooms today to do any serious re-training, they need broadband. People have to get online to find or exchange information and discover options even before they can begin training. And they need total time flexibility getting access in order to be effective because some may have temporary jobs or young kids. People who are planning these programs have to think outside the box in terms of how they deliver re-training because times are so difficult.

Krieger (IEDC): You have University of Phoenix and other institutions offering online courses. You can get a doctorate remotely, or you can take self-paced medical transcription courses. We have computer labs where kids can stay as long as they want.

You can try and help low-income, hard to train individuals, but you need a more structured environment and doing training online isn't going to work. You need a lot of one-on-one. For some of the re-training in certain skills people can do the information gathering and reading online, but you need hands-on activities. So using broadband for re-training really depends on the field.

IV. Question responses – moving economic development projects forward

5. Besides highspeed access, what technologies and programs need to be put into place in to impact economic development?

Rossate (Iowa): Communities need a broader understanding of how to use the access to leverage global resources, which is already done by larger firms that manage and leverage talent in India, China, etc. Smaller firms can do this by networking individuals across geographies to create a near 24-hour constant workflow that further accelerates their competitive edge.

Goldman (Philadelphia): We found it is most effective to create a package that includes computers, access and training, then partner with other nonprofits that deliver appropriate social services. You can't deal with this individually and say, 'we're just going to provide access, or that group will only worry about software programs.' That doesn't address the needs of the population. You need a comprehensive approach.

It can be complicated because of the expense. As ultra portables come on the market with almost as much power as a two- or three-year old laptop for the same price, this looks to be better option. We continue to use refurbished equipment, but people want these products to be a better solution than it really is. The capacity, costs and logistics of deploying of refurbished computers are challenges.

Gallant (Timmons): The economic development-related organizations focus on helping people learn about business, show them where the growth areas are and point them to what can be done. We focus on awareness building by putting on monthly luncheons and bringing someone in to talk about how they've used the technology. We've done workshops on e-business, telling people what to look for in Web design and created newsletters that reference online resources.

Cabeza (Long Beach YMCA): When training folks, look at the corporate standard at the time. Low-income people often get obsolete technology, so you're teaching people with technology that doesn't fit with finding a job. So we look at what is going on in corporations where the skills are needed. Presentation based software that helps you make a point, and all the Microsoft Office software. Yes, this is for management and professionals, but these are the jobs you want young people to get.

There's career-specific technology, such as graphic design, 3-D animation, special effects, movie editing and modeling software. Some teachers think it's too difficult, but the reality is students learn because this is fun for them.

Rosenbalm (Bristol): Technology such as teleconferencing will have a big impact. Partners in the effort can go beyond telecom to include the computer industry. For example, computer servers can bring private branch phone and video capabilities to businesses. We have a vendor that does VoIP, and we're offering caller ID on your TV screen.

Dickerson (MTCO): Broadband is just one portion of the total picture, of course, so you need comprehensive community planning and a commitment to implement the plans. Plans should include encouraging

entrepreneurship because companies with small workforces are the biggest supplier of jobs. The community also has to objectively look at its strengths and weakness to understand how technology helps them market their strengths to industries, and overcome the weaknesses.

Robillard (San Francisco): UPS is progressive for having an open channel of growth within the company for employees. We do projects with them because if they recruit and train those coming from our agency, our people are likely to move up the ranks. This isn't charity or welfare, it's a mutually beneficial business partnership. When you look at nonprofits today versus 10 years ago, you see this trend taking hold. Nonprofits are encouraging social entrepreneurialism by being part of the business machine.

Krieger (IEDC): We hear of people working on these ills as they try to lift people up and make sure they have access to computers. In Portland they created computer labs in community settings where there are housing projects. We opened a new library here in Oklahoma City with an impressive computer lab. You see this in many communities.

From a public policy perspective, though, these are different from economic development strategies. It's a public business driven by the model of helping their citizens. That's different from a strategy to help businesses grow. In some places the lines between these strategies got blurred. With emerging technologies, the lines become even fuzzier. Is this something communities need to have or something that would be nice to have?

6. How do communities fund these network projects given the current economic climate?

Dickerson (MTCO): We finance our wireless access business through our other services and the revenues they generate. We do this because we live here. Our customers are people we eat lunch with, who we see at football games. The financial bottom line is out-of-towners' only goal. We have financial and other goals. If you went out and found other independent telcos such as ours, they'd be doing the same as us.

Esme Vos: I think cities are going to have to wait for federal infrastructure money directly or indirectly so they can build networks and have private firms operate them, at least for 2009. The nice thing about utility companies is that they own a lot of fiber, which can be used as backhaul for wireless last-mile connectivity. What's more, they are required to manage their energy grid more intelligently. To do this utilities must be able to monitor buildings and houses, which often requires upgrading their meters and building highspeed networks. A utility can open its network to community or government use.

Goldman (Philadelphia): We're looking at having the user pay something rather than just the sweat equity model in which people get the computer free if they pass the computer skills training course. The team is running fewer key pilot projects. They're using this downturn to work with a smaller number of people to see various ways we can close the digital divide so when the economy turns around, we'll have new methods to achieve better outcomes.

Cabeza (Long Beach YMCA): Foundations will fund if you have a good outcome case, which usually follows a thorough needs assessment. We need to look at corporate donations. They could do much better, especially for projects that prove they are teaching skills that will open new markets for these corporations.

Speer (Pulaski): We funded our network with bonds when they were inexpensive. Now the revenue from the network is paying for the bond. If you're just getting in, the cost of technology has gone down, but the bond market not doing well and money is going to be harder to get. Also, municipalities trying to get money are constantly in conflict with cable industry legislatively because they perceive that we're competing with them. But my position is, this isn't about TV. They're trying to sell cable programming while we're trying to build communities.

7. What can the in-coming Obama administration do to improve the advancement of broadband network projects that improve local economies?

Rosenbalm (Bristol): A national broadband strategy will require a cross-departmental approach from Washington. The President sets the tone, the timelines and the rules for his various departments, and then you should see all the Cabinet leaders come together to make it happen. Former Gov. Mark Warner and current Gov. Kaine made broadband a priority for Virginia and have supported us, so things have progressed here very well across the state.

Krieger (IEDC): With so many people losing jobs, where is this conversation going to fit overall in terms of priority? Some of the tech ideas the administration is floating are trial balloons. They say they want to do some things, but the more pragmatic tasks will come first. What's going to benefit the voters? I don't know where the technology projects will fall. They may not rank as high as some of the other issues.

Goldman (Philadelphia): The federal policy should encourage or require incumbent telcos to provide entry-level broadband for lower prices. They don't have a culture to address the needs of lower income people as a way to build future markets. They seem to focus only on providing more services to higher paying customers. This does nothing for the lower class. Hardware vendors need similar kinds of incentives to get them reaching out to low-income communities.

Speer (Pulaski): Allow municipalities to get into the business with none of the restrictions we have. We wanted to wholesale our network services to Lawrenceberg, for example. They have no broadband and the telcos flat out refuse to build it there. We can expand our network to them and they'd save \$3 million. But by state law, we can't serve them because they're out of our area. Make telcos part of the equation, give them an incentive, but also give communities incentives.

Esme Vos: First you have to break monopoly control over copper networks so you enable other service providers to use that network, as required by the Telecom Act of 96 that hasn't been enforced.

The Federal government should fund fiber network projects in more dense areas, and have cities or states own them, which then opens up the networks for re-sale to incumbents. Incumbents would not own these local networks, but they can use and re-sell that network access.

Rossate (Iowa): Provide infrastructure funding to support demand in the areas where demand currently cannot be met. Don't spread it across all, as some areas will see little or no payback on the investment, while others have a huge demand. That infrastructure should be based on the latest technology.

Chase (Greene County): Funding should be awarded on the merits of the plan counties develop and the benefits they deliver. Don't micro manage, don't tell us that we can only service this department or that department of government. I wrote a broad-strokes plan when we applied for our grant so I could adjust to the needs of the community as they come up.

Dickerson (MTCO): The Universal Service Fund did a lot to help telephone adoption for low-income and rural citizens. Something similar for broadband could help fund community networks. We used to have multi-year grants to undertake certain activities if they benefited low-income people. Incentives through tax credits might help companies provide what's necessary for the community.

Robillard (San Francisco): We need a huge awareness campaign around the benefits of hiring more people from nonprofit technology programs because this contributes directly to the economy. I've never seen something like this come out of the federal government. It speaks to the President using the office as a bully pulpit. His ability to influence an outcome is tremendous.

8. What are the top three things a local government needs to do if they want a muni network to impact economic development?

Speer (Pulaski): First is business retention and expansion of existing businesses. There's going to come a time when the manufacturing industry, for example, will require higher broadband speed than what's available for downloading maps, blueprints and so forth. If you don't have it you're not going to keep the plants you have or get new ones. Second is workforce development and training.

Third is tourism development, which even small cities can do. I'm not talking about building a Wally World or Disneyland. This is about making your city a destination community. If you can do things with the technology that brings people from 50 or 100 miles away, this would be great. Finally there's small business and entrepreneur development from among people in the community, home-based businesses in particular.

Krieger (IEDC): Cities should think about what type of businesses they want to attract, and develop technology accordingly. One small town in the Dakotas aggressively went after call centers and business that needed highspeed telecom infrastructure. Other places looked to attract businesses that can be run from anywhere. We have companies such as those here in Oklahoma City. Some are doing Federal government work, others are in financial services.

Chase (Greene County): If you can, own the network infrastructure and have a contractor or service provider operate and maintain the network. We bought the network and lease it to the company that runs it. You might want to form another type of arrangement or a partnership with a local business. It's not a good idea if the federal government owns the network because they may try to put too many restrictions on it. This can be a detrimental to your efforts to use the network to improve your economy.

Goldman (Philadelphia): Organizations such as ours need to focus less on elected officials and more on local government agencies. Take elective politics from the equation, and you move to an economic development/human capital discussion led by groups that do long-range planning. However, without high-level political support, it is harder to get the policy and funding changes needed to take these programs wide-scale. It's a tough balancing act.

Gallant (Timmons): Don't wait for a funding program to come out. Identify your communication and related needs, and determine how many people are to be served. Then identify sources of revenue or investment within the community. If you can hit the ground running with resources of your own, you increase your chances of getting a grant.

Be sure you have business stimulation tools in place, such as workshops, as well as someone to identify where the growth areas are and will inform people how to capitalize on these. For example, mining is doing well for the foreseeable future, so any business you can build around mining will likely do well.

Rossate (Iowa): Ensure access to the network reaches those most in need, have a point of contact within the municipality to discuss with the community what can be done and create a timeline with stakeholders for implementation or use of the network.

Robillard (San Francisco): It is essential for local government to actively engage businesses in the effort, using either tax breaks or grants. Through Project Homeless Connect, the city served as the bridge via a Web site between nonprofits and the business sector. Volunteer executives, managers and workers would go to the nonprofits and we made them useful supporting our programs. Volunteers were using their respective skills to help people, not just giving away a bag of groceries.

You have to get politicians out of the four-year-election mindset to look at developing long-term relationships that help these projects. They need to realize they have the connections, visibility and capability to meet and greet with the business leaders who can play a role.

Cabeza (Long Beach YMCA): There is a generational technology knowledge gap that must be overcome. Many public officials are 50 or more years old and don't even know what their own kids are doing on computers, so they can't fully understand technology's academic or job value. These officials have to make the extra effort to learn how do you provide programs that educate people about the value of broadband to their individual lives, what resources are currently available to do this, and what has to be created. What investments need to be made?

V. In the final analysis

Viewing this report as a high-level needs assessment, it is a good preview of how broadband can drive economic development IF a national strategy is tailored to local, regional and state needs. To create the best strategy, some adjustments need to be made in how the national discussion on broadband continues, and soon.

The real deal on the broadband New Deal

It's become trendy to use New Deal imagery when talking about investing in broadband, but do not take this too far. Let's not get locked into our heads that the economic value of broadband is the jobs created building networks. For that matter, let's also avoid this push for some single monolithic, nationwide physical network that's free to the masses.

The first rule of successful technology deployment is to determine the needs of the end user, then build the best solution to address these and future needs. Feedback from participants in this report and other economic development professionals clearly reveals that communities have markedly different needs that require different types of solutions. There is no one answer, no digital I-95 or Route 66 or national Internet pipeline to meet these diverse local and regional needs.

As defined by this report's participants, the necessary technology is multi-faceted and perpetually changing, and many communities geographically challenge technology options. The Feds are too encumbered by bureaucracy and process to move fast enough and with the accuracy to meet these needs the same way President Roosevelt rolled out his New Deal.

It's how you view the challenge

Another reason a New Deal approach to national broadband strategy holds peril is the nature of the business objective, which is to use highspeed technology to create a wide range of economic outcomes.

One pillar of New Deal thinking was, create projects building highways and dams that quickly put unemployed people to work, and hope that by the time these projects were finished other jobs would be available. Focused on quick-fix infrastructure jobs as the economic outcome, the government in the 30's probably had little or no idea that the highways could generate other economic development outcomes.

With broadband, any jobs created building the physical infrastructure pale in comparison to the real economic value of these networks. Retraining unemployed workers, changing education systems to produce digital-age workers, drawing businesses into economically blighted and rural areas, and making local companies globally competitive are the outcomes you really want. The challenge is wrestling all of the elements to achieve these goals into a cohesive effective strategy.

And how you view the solution (the myth of access)

In 2006, politicians far and wide perpetuated the myth that "once we have highspeed access, we'll get [laundry list of economic benefits]." Right on their heels would be disgruntled citizens commenting along the

lines of “why take my tax dollars, let poor people use the library to get online.” Both groups were equally clueless and detrimental to advancing the broadband discussion.

Philadelphia Wireless CEO Greg Goldman and anyone who really understands the challenge knows that, for broadband to reach its full potential to impact economic development, you need a package. It's not access alone. The package is access, supporting technologies, training and some combination of public and private sector programs or services.

If the centerpiece of a national broadband strategy is a quick fix of handing money to a bunch of corporate entities to build a network of data pipes, then improving economic development long term will mostly be a pipedream. Conversely, a winning strategy is one in which the White House and Congress enact policies and tactics that help those entities best able to deliver economic outcomes.

Address the failure of free markets

Every time I hear one of the national corporations give their pedantic mantra about letting the free markets handle broadband, I want to retch. Doubly so when they go with their hands out for government subsidies. This is because of dozens of stories such as this one from Mark Meirer, IT Director for Oklahoma City, who started that city's broadband project in 2002.

“When we first realized we needed a highspeed network to improve city government workers' productivity, we went to the incumbent telco and told them what we needed. They said their cellular speeds [less than 100kbs] were fast enough and they wanted nothing to do with the project. Our network technology supplier [a global company] said mesh wouldn't work, and wanted to sell us devices that would have cost \$11,000 per police car to get the mobile access we wanted.” So Oklahoma City built and run their own 500+ square-mile Tropos wireless mesh network, which government workers effectively use to run 217 applications.

Time and again, local governments have gone to the princes of the free market for services they needed, and were ignored. When the governments went to alternative sources for technology and created their own services, those same princes fought these projects tooth and nail. In free markets, when customers want and need services that cannot be provided by one vendor, they go to another supplier or in some cases they create suppliers. Governments are customers too.

Some of the participants in this report have indeed used the market to create their broadband solutions. But they used market players that are not national incumbents. Many other municipalities need a national strategy that addresses the failure of free markets brought about by giants who don't lead, can't follow and won't get out of the way.

And the failure of free market thinking

A comment during my interview with Bob Cabeza (YMCA Long Beach) struck a chord since it amplified a point I have made frequently. In the U.S. there are millions of low-income individuals (over 65 million in 2001). As sneaker, liquor, auto and cigarette marketers will tell you, low-income folks collectively spend billions a year. So why is it that the

incumbents' and technology vendors' clever marketers haven't fully tapped into this market? Philly's muni wireless project started because incumbents weren't serving poor neighborhoods.

Here's a novel idea. Instead of writing off people with small paychecks, what if several vendors and telcos combine their smarts to drive a five-year project to raise the income levels of 10% (or more) of this population through creative broadband strategies, investments in communities and assistance from local and national government? Create a new market worth millions by raising the old market's economic status and building their brand loyalty to the companies involved.

With all of the marketing brains behind the companies that beat down government efforts to turn their economies around, it is disheartening these same companies can't think of low-income communities as potential customers. With a new way of approaching underserved communities, how many private sector companies can do well financially by doing good with true public/private partnerships?

VI. Recommendations

President-elect Obama says frequently that we're all in this economic mess together, and we'll have to work together to fix it. He's right. It's critical that we have smart policies from Washington, and smart execution at the state and municipal levels.

The recommendations that follow are for both national and local governments. They do not address specific technology because in reality, all technologies must be on the table for analysis and discussion given the diverse needs across the country. From a national perspective, Washington needs to ensure that their policies encourage all technologies get a equal shot, and that local governments have final say as to what technologies are part of the actual solutions they deploy.

All eyes on DC

1. It can't be emphasized enough how important it is that people who have a deep functional understanding of technology drive the new administration's broadband efforts. Equally as important, the voices and experience of economic development professionals need to be a key part of the team that crafts a national broadband strategy.

To move this strategy forward with tactics that address communities' need a multifaceted solutions package, those in the trenches such as Rosenbalm and IEDC's Krieger suggest the administration create a cross-Cabinet task force since successful broadband strategy must involve healthcare, education, transportation and other elements of public and private sector services.

2. We need Congressional legislation that removes barriers to local communities' ability to make decisions and implement solutions they feel are in their respective best interests. Otherwise, the progress of broadband-influenced economic development will be seriously disrupted.

3. Dramatically raise the dataspeeds that constitute broadband. As Dan Speer of Pulaski observes, "the government needs a clear policy that has working definition of broadband that's fits the reality of the 21st century. If they raised the speed that defines broadband, it would change the math of how the telcos show how much coverage they're providing." Any definition that does not require infrastructure that can be upgraded to meet ever-increasing speed requirements isn't sufficient for long-term economic impact. Furthermore, there must be requires that these speeds be symmetrical, meaning upload speeds equal download speeds.

4. While re-defining broadband minimum speeds, it will be very helpful to establish national standards for quality of service, interoperability, ease of upgrading and security (minus filtering) so there are assurances of reliability and usability across states. Both for public safety and commercial use, it is good when people can touch down in different areas and be able to access at least some local broadband capabilities.

5. Someone needs to shine a super bright light onto this reality – the giant telcos are similar to the railroads at the time airplanes and Eisenhower's new highway system were transforming transportation and personal travel. There is a better, faster, cheaper communication

technologies than the best cellular services. The promised of “better” (e.g. 4G) technology is megabucks and maybe years away, and still won’t be as good as other technologies. Broadband strategy has to reflect this. No matter how fast a train moves in 2020, it can never fly.

6. Economic stimulus dollars for broadband technology need to go primarily through state and local governments. If there are going to be tax incentives to telecom companies, these need to be tied directly to 1) telcos proving their willingness to work with local, regional and state governments, 2) a plan presented by the telcos and 3) telcos meeting plan performance criteria. How many states have given telcos billions in tax breaks, but have yet to see any meaningful broadband delivered?

7. There should be a good balance between requirements that demand communities have a solid broadband plan when applying for funds, and those that give them flexibility to choose technologies, services and implementation processes most appropriate for the locality.

Local government’s role

A lot of hope is placed on vital support coming from the new administration. But as former Philadelphia Mayor John Street said of local government in my book (*Fighting the Good Fight for Municipal Wireless*), “we’re on the ground level of dealing with the problems and challenges of local communities. Everybody knows where you live. People will come up to your door and knock on it and expect to talk to you!”

The heavy lifting to increase economic development through the use of broadband will happen in the cities, counties and states. Participants in this report offered some specific advice to local officials. I have some additional thoughts.

After the “free” municipal wireless bust, many cities dropped below the radar to develop more practical network plans. As my survey indicates, some built limited-area wireless and wired networks to increase economic development in targeted areas, while others like Oklahoma City built citywide networks exclusively for city government use.

As interest in broadband intensifies, it is time to take another look at local network efforts. Meier feels that cities should assess a business model in which they offer service providers access to muni networks at wholesale rates so they and cities can move projects forward to facilitate economic development. “While the revenue by itself may not sustain the network, it does offset some of the expense of running programs across the network. If the private sector won’t participate, this opens the door for others to drive these programs.”

It is important that local government officials and economic development agencies get on the same page in terms of what are realistic economic outcomes. One thing my 2007 and 2008 survey revealed is a difference between the expectations of outcomes between the two groups.

There’s no place like home – and the eBay economy

Both national and local officials planning broadband initiatives need to take a close look at how they can capitalize on the natural propensity for home-based businesses to spring up among underserved constituents in the wake of new broadband networks. The Internet has always given

individuals the power to increase their personal wellbeing. With the current economic challenges, this ability to give constituents a personal economic engine is too good to pass up.

Whether through incentives to financial institutions that increase micro lending, business-training programs for solo entrepreneurs or public awareness campaigns to encourage them, create an environment that fosters a "home" economy. This includes telecommuting. Though they are employees, broadband access for telecommuting can have an economic impact by its ability to attract organizations to an area.

Moving from low-income to 21st century workforce

Critics who marginalize the value of Internet access for individuals, and facetiously say "there's always the library," clearly misunderstand the process of using access to transform low-income workers into a digital age workforce. A good example of this dynamic works is the St. Anthony Foundation in San Francisco's Tenderloin District.

That city enabled low-income housing units to get free Meraki wireless networks, but doesn't have the resources to provide technology training. Access does not help people very much who have little or no prior access to Internet resources. St. Anthony's provides technology training and services to help people find and advance in jobs. However, these resources don't help unless you can get to the Internet and e-mail at other times, and libraries are of marginal value given their limited computer resources, hours and locations within poor neighborhoods. The combination of 24/7 access at home plus competent training and employment services nearby is changing this neighborhood's workforce.

Ponder replicating this positive cycle out to many neighborhoods in San Francisco, and on to numerous cities and rural areas nationwide, and you see how to create a new workforce. You also see there must be cross-departmental efforts within local and national government, as well as close public/private sector partnerships to produce this outcome. It seems government officials everywhere are in panic mode, but many answers are close at hand if they take steps this report's participants have taken.

Winning the fight one area at a time

There is no doubt funding is the fly in the digital ointment being proscribed for economic development. People are keeping their fingers crossed anticipating help from Washington for broadband projects. While events unfold there, local officials should consider doing what they can with targeted limited-reach networks.

49% of those I surveyed report they have, or plan to have, limited-reach wireless networks to address specific business or low-income communities. 40% have or plan to have limited-reach wired networks. Communities are reporting successes with these networks. San Francisco is seeing progress. Several others in this report are pursuing smaller projects they intend to expand when the economy improves. In my 2007 survey report (<http://www.successful.com/msp/snapshot-7-07.pdf>) Seattle describes their success with two limited-reach networks. Houston has 25 mini WiFi projects. The list grows.

Local and state officials need to get their voices heard in D.C., and they should have plans in place for citywide and regional initiatives. But act now in your neighborhoods. Be clear about what economic development outcomes you want to achieve. As Esme Vos states, "If there is a part of city where they want to attract new businesses, build fiber to that area. Wireless can extend from that. You want to generate real estate sales, bring in shops, target high-end firms such as medical, research and high tech? This will do it. It's hard to say definitely whether an area will succeed, but it has a much better chance with the fiber than without it."

VII. Conclusion

There you have it. Not the definitive final word on needs assessments and formulating strategies, of course. But a good take on the needs that national and local politicians should be considering if they are serious about using broadband as an economic development tool.

At the national level, it is still uncertain exactly what specific policies to expect from the new administration. Yet we have to believe that some degree of change for the better is coming. The best thing we can do in this moment is push aggressively for meaningful needs assessments that reach down into the states, cities and rural communities.

Locally, proponents of broadband are advised to keep working on initiatives if they are already moving forward. Or consider getting plans back on the drawing board for re-assessment if your community has put the brakes on these projects. Be ready to adapt and perform as developments unfold.

Whatever you do, don't give up on the vision. Bistol, VA's Rosenbalm concludes "in most communities that are successful, it's usually because there are one or two people driving the project who have a passion for the technology and a vision of what the future will look like if the community really puts the technology to work. Once you get the businesses to buy into the vision, with the general public behind the vision as well, the rest should fall into place."

For more information

About the author

For over 20 years Craig Settles' consulting services, books and workshops have helped organizations worldwide understand how to use technology to make money, save money and run a better business operation. He currently focuses on developing strategies and tactics to maximize the use mobile and broadband technologies.

Since 2005, Mr. Settles has specialized in improving government organizations' efficiency and boosting economic development through the use of broadband networks. He has authored two books, special reports, national surveys and articles on the subject.

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Fighting the Next Good Fight

A planning guide

By Craig Settles
President
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Introduction

Sometime in June we'll see the start of a nationwide mad dash for \$7.2 billion that is the down payment on a U.S. national broadband strategy. Expect this to be a highly competitive process.

Rather than try to create an insider's cheat sheet on what the rules will be and how to beat them, I synthesize over three years of experience in municipal broadband to help you lay a solid foundation for writing a strong grant proposal once we know what the rules are. Addressing the rules is essentially an exercise of reading, comprehending and adhering to a set of guidelines. It matters that you do this well. It also matters a lot that there is a credible broadband strategy plan under the covers.

Ten representatives from rural and urban areas share their experiences and insights as to what significant impacts you should expect a funded network to achieve, as well as how you can sustain a network after it's built. They address the importance of partnerships to network success, and offer advice on ways to tackle the grant applications process.

Based on this feedback and insights from the many public meetings on how the broadband stimulus bill should be implemented, I present analysis and recommendations for the steps you should take now to develop your broadband strategy and business plan. The strategy and plan should shape your grant application. These also are the blueprints to ensure the network you build meets the obligations of the granting agencies, and the expectations of community stakeholders.

Several Washington, D.C. insiders and experts in broadband networks contribute additional tips to refer to as you write your grant application. They and everyone else participating in this report bring varied and valuable perspectives on the challenge of pursuing grants and bringing broadband access into un-served and underserved communities.

The clock is ticking so let's get to work.

I. Preparing for the broadband dash for dollar\$

I venture there is not a state, city, town, hill or hamlet anywhere in America that doesn't have a group of folks constantly thinking, "\$7 billion dollars for broadband. I know we can get some of it. I know it! But how do we get it?"

It's safe to say that many may be called by the siren song of "free money," but relative to those numbers, few applications will be chosen. Once the National Telecommunications & Information Administration (NTIA) and the Rural Utilities Service (RUS) release grant disbursement rules, that picture could change. But let's work with the assumption.

There are plenty of things communities, service providers, vendors and others can do in the mean time to strengthen their proposal strategies.

These are un-chartered waters

Despite the many e-mails proclaiming their expertise in getting you the grant of your dreams, none of these claimed experts have the magic bullet for bagging the broadband grant. Not yet, anyway. Some may have more of a clue than others, but no one really knows what form(s) the grant application process will take.

There are, however, a couple of things you probably can bank on in the upcoming process. There's going to be an incredible number of applications. NTIA and RUS may or may not be adequately prepared for the onslaught. Combined with the short timeline they have to disburse funds, the pressure will be high to cut corners (legally) to push applications through the process quickly.

Since transparency is the new watchword in D.C., the best way to cut corners is to move to the side applications that don't follow to the exact letter all the rules and guidelines. Though I doubt if it will be official policy, I expect that grant reviewers will also process applications that address regions and counties within the states before they look at applications from individual towns and maybe even mid-size cities.

Expect the rules at some level to contradict each other. The broadband stimulus bill reflects a desire to generate fast results, but also lay the foundation for a lengthy process to put America on par with countries that currently lead us in broadband access. It's going to be hard, though not impossible, to do both at the same time. I believe you need well-formulated business strategies and a particularly well-written grant application to address rules that may pull you in different directions.

You can have hope, but you better have a plan

Listening to the comments at the NTIA/RUS public meetings, there were a lot of people who have valid un-met needs for broadband. The potential for transforming a lot of lives and uplifting many communities is great. However, the worthiness of their mission and the strength of people's hopes by themselves will not secure a grant. There has to be a

business plan, a technology plan and a broadband grant strategy plan that drives communities' grant application efforts.

When you read the roundtable interviews here, take note of the strategic thinking and the attention to analysis and planning. These communities have not applied for a stimulus grant yet, but most have built broadband networks of one type or another. Several have applied for grants in the past, either for the network or other technology projects. Communities that come to the table with applications based on smart plans will have a decided edge over those weak in this area.

Rugged individualism is probably not the card to play

In reading articles about the public comment period and how communities are preparing to pursue this money, it's apparent that partnerships are all the rage right now. Everyone's jockeying for pole position when the dash starts, and a major focus is on who can communities partner with for maximum effect.

These partnerships are better structured than the public/private arrangements highly touted during the muni wireless hype. For one thing, no one this time expects private sector companies to carry the whole financial load. The people driving these grant proposals are looking for partners of many sorts: community stakeholders, neighboring municipalities and counties, tech vendors, nonprofits, etc.

There are probably as many potential partner combinations as there are creative minds engaged in the process. The main focus is on who can make us more appealing to Federal agencies, which stakeholders can help us financially sustain the network and what entities can help us build the best network possible with whatever money we eventually get?

Look at the big picture when it comes to money

The good news about the broadband bill is that it has a lot of people talking about making broadband better in this country. The bad news, for some anyway, is that they're talking about grant money as if this is all they need. I read one blog in which the writer said, don't worry about a plan, just give us that money and we'll have people up and down the county doing this and making that. But the reality is, this and that costs money beyond what the grant gives you.

Communities are in big trouble if they don't do effective financial analysis, correctly identify revenue sources and appropriately plan for financial contingencies such as, what happens if we're more successful than we planned and financially implode from the new overhead costs?

Wait, but don't be idle

While many are a little anxious waiting for the grant rules, this isn't a time to sit around. There's lots of work to be done to catch up with communities that already have their plans queued up.

II. Report participants

The people selected for this report represent a cross section of the types of communities that plan to pursue broadband stimulus grants.

Casey Beard Dir, Emergency Mgmt Dept – Morrow County, OR

This rural county has a 1,500-mile combination WiFi and fiber network they hope to expand through a 10 – 18-county effort

Brian Feist, emergency services director – Cambria County, PA

Cambria trumped the state's anti-muni wireless law to build a countywide network consisting of several licensed and unlicensed wireless technologies

Dan Gallagher, President and Chairman of OpenCape

This nonprofit corporation plans to build a regional “middle mile” broadband network to cover the Cape Cod region of MA

Brent Graden, Dir of Economic Development, Prestonburg, KY

This rural community of 4,800 initially built their WiFi network to increase shoppers downtown, and now the network is citywide

Jeff Hultman, CEO, Ryan McCaigue, CTO – REW Broadband Networks

REW, this report's sponsor, offers new network infrastructure technology for communities and service providers planning broadband networks

Terry Huval, Dir of Utilities – Lafayette Utilities System

This city of 125,000 repelled incumbent telecom attacks to build a fiber network offering 10 mbps symmetrical speed, \$28/month, 50 mbps, \$58

Michael Johnson, VP of IT and Broadband – Jackson (TN) Energy Authority

This public utility for the Jackson, a city of 75,000, built and operates a fiber network with 16,000 subscribers, 20% of which are businesses

Scott Martin, Dir of Commerce and Leisure Services,
Sandie Terry, IT Director – Franklin County, VA

This 721 square mile county of 50,000 people partnered with a local wireless Internet access provider (WISP) to build a countywide WiMAX network

Mark Meier, CIO – Oklahoma City

A 550-square mile Tropos WiFi network covers this city that has both typical urban and remote rural sections within its borders

Jory Wolf, CIO – Santa Monica, CA

Wolf's IT department started with no funds and created a citywide fiber network that has built up over \$2.5 million capital budget from cost savings to the city, and revenue from service sales to businesses

III. Question responses – where are you going

To have a good grant, two issues are of major importance: 1) following the rules to the letter and 2) having a credible business plan as the core of your grant proposal. Since everyone is still waiting for the rules, it makes sense in the meantime for communities to work at addressing the business plan.

Five of the questions speak to foundation elements of a good business plan, particularly knowing what you want the network to accomplish and how you plan to make the network financially viable after building the network. I focused on the potential impact of the network on healthcare because I believe many communities can give their proposal extra impact by addressing this area.

Report questions:

1. When first deployed, where do you see (expect) the greatest economic impact of broadband networks?
2. How do you see broadband networks impacting healthcare delivery and telemedicine?
3. The stimulus bill only provides for 80% of a network buildout. How does a community complete the network and sustain its on-going operations?
4. Are there community stakeholder organizations (businesses, education, etc) that should partner with local government to pursue grants?
5. How does a community address a proposal effort that attempts to leverage several federal agencies' grants?
6. What have you found to be winning elements of a federal grant proposal? Are there tactics to avoid?

1. When first deployed, where do you see (expect) the greatest economic impact of broadband networks?

Wolf (Santa Monica): The most significant impact for government and community-based organizations is that broadband lowers the cost of doing business because they're saving a bundle of money on expensive, outmoded communication technology. Operating our network is 35% of what we used to pay for very slow T1 lines and frame relay. We couldn't support video or other high-bandwidth apps such as the traffic advisory system and traffic cameras we have now.

For businesses, their overhead drops significantly when they lease dark fiber from us and get discounted bandwidth services. Hospitals transport high bandwidth videos and data so doctors make critical decisions in just two or three minutes. Hospitals collect money faster.

These benefits happen relatively soon after fiber is turned on. We can deploy faster and more efficiently than carriers. They have approval

processes for new services and prices that take around three months. We can piggyback off of public works when they're doing street resurfacing and putting in new sewer lines to reduce construction costs.

Feist (Cambria County): We see a twofold economic benefit. Customers are getting cost savings from the traditional service providers along with more reliable service; the government is getting revenue from network services to providers to pay for the system and eventually enhance the network. So far we haven't seen an economic development impact on businesses. Our biggest influx of customers is residential because we're just now getting ISPs with services targeted to larger businesses.

Johnston (Jackson, TN): We calculate \$8 million in direct benefits coming from the lower prices we give customers compared with other communities. We have new businesses start up, and some such as those in the high tech companies expand. Several industries list fiber as a strong draw for them to locate in Jackson. However, it does take some time to get to these benefits.

Some of the immediate benefits are intangible or unpredictable as more things come online that people want to take advantage of, such as social networking. Who would have known three years ago that YouTube or Facebook would be so popular? You can't predict what's coming down the road tomorrow that we'll benefit from using. There's a fear that when you get cut off from the next big thing, you miss out.

Martin/Terry (Franklin County): Everything we're doing is the reverse of the norm of calculating specific numbers for economic impact, such 400 jobs created, or 100 businesses coming to town. It's difficult for a staff our size to easily track this kind of information. We ask does broadband help college or high school students do well in their studies, does it allow people to purchase home at the lake and work from there? We look at the many examples these questions uncover and determine that the network is a success. The value of broadband is real to us. Since we built the network we're the fastest growing county in Virginia.

Broadband is a big factor in attracting businesses. We're recruiting data centers that are between half-billion and billion-dollar projects. A new data farm might bring 50 – 60 jobs with \$75,000 - \$100,000 annual salaries. The buildings built for them are assets, and the equipment used represents significant tax revenue every 18 months when they upgrade and replace the technology.

Gallagher (Cape Cod): The Woods Hole Oceanographic Institution here is a research center with an extreme need for broadband. With it they would be eligible for research grants for as much as \$100 million. The economic impact of would be huge and felt reasonably soon with new employees. Later they would spin out a lot of new companies.

The network could also improve government services and reduce costs. 15 towns on the Cape each have their own GIS systems, so they're not sharing information. The network that links the towns isn't fast enough to support GIS. The network we envision over the Cape would enable everyone to use one more powerful data system, participate in common projects and 100 times the speed for 25% of the price.

Hultman/McCaigue (REW): We see broadband creating new jobs because you have to hire people to build and maintain the network. Before the network arrives, the community can advertise that they're offering higher speeds, which brings a certain number of jobs to the area. The ability to have people take classes remotely helps develop a better-trained workforce. Whether you have a mom & pop business run from someone's home, Native American people in isolated areas who make crafts or medium-size companies, all of them can have online stores so customers can purchase items more efficiently, and start selling to worldwide audiences.

Graden (Prestonburg): We made wireless the central part of an integrated package of activities to revitalize business in our downtown. Our wireless network, combined with 3% loans and development efforts for buildings that weren't being used, made downtown friendly for businesses. Wireless created incentives for people to come downtown.

Within three months of launching the network, 22 businesses moved in with 40–45 new jobs. This creates a cyclical effect with more people coming into downtown, which attracts more businesses. Tax revenue from here in the first year of the program went up \$111,000, mostly through new business growth. This in turn allowed us to buy an aerial fire truck, which has kept property owners and government insurance rates from rising.

Meier (Oklahoma City): The existence of the WiFi network allowed us to do things not otherwise possible. We created 42 locations with research quality weather stations to collect all kinds of weather data since we have such a high number of tornados. The University of Oklahoma has projected a \$50 - \$100 million economic impact over 10 years because of the 'Mecca effect' as scientists, weather forecasters, organizations and conferences from all over the world visit. These people will be staying in hotels, eating at restaurants, taking tours and so on.

There are a whole lot of small benefits too. We increases participation in city events since staff sells tickets with mobile devices and wireless cash registers. Inspectors give instant licensing approvals, which save several days of construction time for projects. But WiFi did not create this. WiFi created the opportunity and eventually these benefits happen. Fiber is completely different. Wireless probably won't supplant it as the preferred technology because the expectations for fiber are greater.

Beard (Morrow County): Our farmers started benefiting as soon as the network was completed. They use data that's available while in their vehicles in the fields to track market conditions and make decisions to buy or sell commodities immediately to maximize their profits. They also check the weather to increase or decrease irrigation flow.

When farmers find signs of distress or bugs, they take pictures and send them to a university to get input on how to deal with the problem and minimize damage. The network enables them to check crops' shipping status or determine which grain elevators to send them to, plus use RFID to track equipment and better manage equipment maintenance. Farmers quickly became more competitive nationally and internationally.

2. How do you see broadband networks impacting healthcare delivery and telemedicine?

Hultman/McCaigue (REW): What's real now is the ability for doctors to collaborate with medical professionals around the world. They're able to look at x-rays from remote locations and make diagnoses because broadband lets us send those files immediately. They help people who may not otherwise have access to this care. There's telemetry for home care to check in on patients remotely, such as monitoring heart rate and blood pressure, plus support medical alert devices so patients can talk to someone. All of these improve healthcare and also reduce costs.

Resistance to change, however, hinders some advances. Doctors and insurance companies could have faster access to medical records to resolve issues of billing and coverage. But until you have infrastructure in place so doctors and hospitals can take the next step, this will stay on the wish list.

Beard (Morrow County): A big challenge to providing healthcare is finding health professionals who want to live here. Telemedicine initiatives are already here to help this, but we want to expand them.

We currently have a health alert wireless network in limited area that's designed to provide support to health professionals during pandemic outbreaks, but next level we want to take this to widespread general patient care. Our consortium buildout will enable the same level of service no matter where you are in the county. In some areas we can monitor patients, and nurses can put WiFi mobile access points in vehicles so they can make house calls. Linking back to office, they can file paperwork electronically so they see more patients each day and reduce gas consumption.

Feist (Cambria County): Some of the other partners we spoke to when we originally built the network are in healthcare. We are building data radio links to outlying medical centers. We have doctors' offices affiliated with main hospitals and they want a highspeed connection to send large data files. With our fiber pathway from the NOC [network operating center] and wireless capabilities, we can offer healthcare facilities substantial audio and visual services. It's up to them as to how far they want to take it.

Wolf (Santa Monica): While patients are en route to a hospital someone can be scheduling surgery facilities in different hospitals and putting people and resources in place waiting for final decision on where the patient will end up. We could use wireless to transport data from the ambulance. People would get through the ER faster if not go directly to their ultimate treatment area of the hospital.

The network also gives hospitals more opportunities for offering specialized services. A hospital that would take two or three days to get pathology reports or test results from outside labs could decide to do these services in-house using broadband links to specialists to exchange files and digital images. In a similar way, clinics can compete with big hospitals for business, plus run business operations more effectively.

Huval (Lafayette): Telemedicine advances will improve services such as critical care for patients in our smaller hospitals. Instead of going to every patient's room, doctors can talk to patients over screen while a nurse is in the room, allowing doctors to see more patients. We have can create a video link with best heart physician or specialized hospital in the country. As the country tackles hospital data management reform, our network will give the medical community new capabilities to exchange data and improve service.

Meier (Oklahoma City): I can see voice and video applications running inside ambulances and linked to hospitals to help medical responders start early on treatment. I think it has enough value to give a return on investment. But it's not spectacular. If you say we're going to have "docs in a box" [video conferencing between patients and doctors], that has viability. It's being done today in rural areas, though not in major cities which we don't see as the target area. It makes sense trying to push this out to more rural areas. However, I'm not sure the medical community is ready to support it.

Johnston (Jackson, TN): It can do amazing things to change how people receive healthcare. Unfortunately we don't see potential capability meeting reality. The medical community isn't at that place right this minute. Some of my largest customers are hospitals because they need more bandwidth. Yet many doctors or their business managers aren't ready. No one's gone to them or patients to sell them on the idea. There's also a lack of adequate products as well as data security concerns. Somehow the insurance companies need to set up automated procedures that influence doctors to adopt new technology, and medical boards need to endorse the technology.

Gallagher (Cape Cod): We have a lot of retirees, people who are home alone and there's a rehab hospital here. This is a great opportunity to exploit. If we build a network in conjunction with the healthcare community, which is on board with our planning, they can develop apps to serve these constituents. I've seen applications for remote medical care such as monitoring when pills taken.

Though it's actually a short distance to Boston, to drive there can take three hours. Relative to the time of some medical procedures, this is very time consuming. One day you could have a surgeon in Boston operate on patients here using robotic systems. If you don't have broadband, you won't be able to participate in these advances.

Graden (Prestonburg): We have folks in our county who live in pretty remote areas we call hollows, some without water, and a lot on disability. They haven't seen a doctor in years, particularly specialists, because it's so much trouble and expense to get to one. When the weather's bad they're completely cut off.

We intend to expand our wireless out to the hollows so people can use video conferencing to talk to a doctor or medical specialist, and have at least a cursory visual examination. It's not ideal, but much more helpful than no care. I also expect medical people can visit some of these areas and be able to use laptops and wireless to search databases, consult with other physicians and introduce patients to helpful online resources.

3. The stimulus bill only provides for 80% of a network buildout. How does a community complete the network and sustain its on-going operations?

Huval (Lafayette): Understand the difference between a dream and a plan. I hear people talk with emotion about 'yeah, we can do it' and 'that's all it takes.' But it seems they don't have a plan. The business plan has a number of facets. What's the expertise of the people you're bringing to table, what are your costs and cost recovery plan? You have to do some type of marketing study. If people in the community don't want the network, the project will go in the tank. Even if you plan to borrow the 20% to complete the network, you have to show you've done this market research to determine where you'll get operating funds.

Gallagher (Cape Cod): You have to know what services can or need to be delivered to the community and what will they pay for. These could be for municipalities and schools, enterprises or small and medium businesses, wireless carriers. Where are people getting services now and where is there an opportunity that could open up? What are the issues involved with doing this? How much of the market do we think we can capture, and not necessarily by taking business from someone else? These are the factors that sustain revenues.

Wolf (Santa Monica): We pooled money we were already paying for voice and data services and used this capital to build a fiber network and implement new technology such as better switches that allowed for additional savings. This switch generated a \$750,000 in savings, all of which stayed in our fund. Ongoing savings fund other innovations, such as hotzones for free wireless access, providing our police with streaming video in their vehicles and 200 terabyte-data storage devices to store three years of data from video cameras.

We have excess bandwidth, so we can provide a large number of outdoor sites with free wireless access. We're selling dark fiber to corporations. You reach a critical mass in which the service sells on its own. When one company buys, another one buys. The network is growing all over the city using private companies' money. We generate more revenue to expand the network for our use and when all is done we own it. Our fund is self-sustaining and I have \$2.5 million in capital.

Hultman/McCaigue (REW): With government use of the network you can continue to move money into network operations based on expanding areas where you save. For example, using the network to manage utility meters saves on staff and transportation. In several cases, municipalities increase revenue by providing additional enhanced services such as digital parking pay stations that track the cars that have or have not paid. The key is layering on applications that continually raise the return on the investment in your network operations. Consider making applications available to county and state government offices in your municipality.

Beard (Morrow County): Our approach is to create a public/private partnership. The local governments should become the core tenants on the network. Businesses that currently can't get broadband will then be able to do so and at an affordable price because government use drives

down the cost of the network. The general public comes on as an additional revenue stream. It's these elements working together that ensure sustainability.

To make this blending work, you do have to understand the various stakeholders' needs. Private companies need a high level of broadband, but not everyone needs mobile broadband, maybe just farmers and delivery services. You may not find a private provider willing to deliver services to homes because they see too many potential problems, so the government may become the provider of last resort. Once you have enough capacity to cover everyone's needs, then it's just a question of coming up with fee structures that allow you afford to provide service.

Martin/Terry (Franklin County): You have to make sure service providers can make money. Our WISP has just a two-year ROI because they're receiving space on vertical assets such as government buildings in exchange for charging the county lower rates. They have 1500 residential customers as of 2008, and they'll expand this number because they did a deal with the abbey in the hills to put a tower there to extend the network's reach.

Don't expect to make a lot of money initially. Think of it this way. When a city or county puts a sewer lines down in undeveloped land, that line doesn't generate money initially but it does make development possible. You charge for various services as buildings go up and people move in. In your grant proposal, show how you're going to use the broadband infrastructure to draw businesses in, then make your operating money. Explain how it's the same as bringing in water and sewer lines because everyone is comfortable with that concept.

Graden (Prestonburg): Buy good products that rarely break down and require little maintenance by city staff. Creating partnerships rather than strict seller-buyer relationships with vendors also helps keep costs down. Use a little of the operating budget to advertise network services. Brand your product.

Create opportunities to make money. We sell ads on the Web site that our network takes people to when they log on. Everyone who pays the business license has a page on the site. For an extra \$100, we'll create an interactive Web page.

Form creative partnerships. Data Seam is a software and data solutions company in Louisville, KY. We told them that we had \$30,000 for a network services project and they decided to match this with in-kind support. They're local, so they gave us equipment that the community uses during day and company uses at night.

Meier (Oklahoma City): One major operating expense you incur with a wireless network is giving consumer general subscribers support and training if you charge for the access service. That cost increases as subscribers increase. If you don't want to have this overhead, open up the network and let people use it for free with limited speed rates. Because our network is very robust in order to support government applications and these benefits underwrite the operating expense, my costs are incredibly low to open network access to more people. The

minute I have to do account management, billing, support, etc., I doubt I can generate enough revenue to offset these expenses.

Johnston (Jackson, TN): It's typically not possible to sustain these network operations with the staff people you have in place already. You have an IT department that's good at taking care of servers, and you think, ok, they'll be good telephone guys. Sometimes the two don't match. Do a gut check before you go after stimulus money. Are you ready to do what's necessary to take a community network operation where it needs to be? You can't be nice fluffy businessperson.

Take this simple business philosophy – you have to watch pennies in an operation that's not like city government. Let's say we just borrowed \$10 million with the assumption we'll get 1,000 new subscribers every month for a year. But what if you didn't think about the price of success? If you get 2,000 subscribers a month, what do you do? You need more customer service people, more technicians. Beating your 'take plan' is counterproductive if you don't have more access to capital. This can be a problem if you can't get any more 'free' government money and you have to go to the bank for real money.

Partnering with a telco does help because you have to be ready for the different world of telecom operations. The difficulty, however, is that regardless of which telco you partner with you can have completely different goals that are at cross-purposes. The city wants to deliver services in places where it's currently not offered. The partner needs to make money. There's a reason they haven't already delivered service in that area.

Feist (Cambria County): Our broadband focus is middle mile. The key word for us is sustainability – you want to keep it up and running. Tell people what does your cell phone look like today, what will it look like in 10 years. We get money and it goes to network and to upgrades. Based budget estimate from partnerships, and savings to government. we got good figures to determine how much money to expect for products, how much for services.

IV. Question Responses – factors for a strong proposal

4. Are there community stakeholder organizations (businesses, education, etc) that should partner with local government to pursue grants?

Martin/Terry (Franklin County): Definitely. We're figuring out a lot about partnerships as we go along. As an economically stressed community we're looking at our college and the larger employers in area, such as the regional medical center, to give us guidance. They have a lot of folks doing medical records data entry, but more are working from home, which is easier for them and cheaper for the employer.

Just looking at our interaction on a Ferrum College initiative that highlighted the need for broadband, we saw the value of stakeholder involvement. Once we started to work with them, it became apparent how many businesses are not served. Polling constituents when planning the network, you get more perspective on the community's needs, plus these stakeholder groups' demonstrated commitment justifies your claims of network sustainability.

Meier (Oklahoma City): If the network is mainly to be used as a government tool, this should be a shared resource between governments and we have tried repeatedly to achieve this goal. For example, the county wants to use our network, but demands no restriction on what they use it for. Yet they want to run an application that will use up most of the network capacity. This doesn't make sense for us, so what do you do?

If the network is for all constituents, and one objective is to reach underserved communities, try to get heavy corporate network users to help provide laptops and desktops to those neighborhoods. Get the education community to support hardware giveaways with training. Lots of these partnerships make the deal work because the private sector is involved in a civic leadership role. Ask church and community centers to participate, and also get large tech companies to help people who go through these courses.

Huval (Lafayette): We haven't had a dialog yet with these groups since we've focused heavily on residential customers, but oil and gas, the medical community and education are some key stakeholders for us. You have to look at what makes the biggest impact on you community. As a whole, the ones we've identified are big influencers on our economy. Looking ahead, the water and electric utilities should become major broadband stakeholders for things such as smart grids, and when energy conservation increases in importance.

Hultman/McCaigue (REW): In many cases, it takes time to build consensus. Based on what we've seen in the legislation, Congress is looking for greatest potential impact from these grants. People need to do a good job analyzing what they can do and getting as many stakeholders as possible to buy-in. Give potential partners a simple common purpose with several specific objectives that are a part of a

broader picture. You can layer things on later with more sophisticated apps and services. Set sights low relative to bells and whistles.

Feist (Cambria County): When we initially built the network we went to educational institutions, chambers, public utilities, all of those people to create partnerships. The partnerships will stay in place as we go after stimulus grants since these constituents have a better vision of what their communities need. We want to offer the best bang for the money we're asking for, so we need to understand how stakeholders' needs relate to each other. If you address all of these with one broadband system, you can address the main principals of the stimulus.

We're working with representatives from Congress to help us partner with other counties to enhance their efforts so they won't have to start from scratch. Why re-create the wheel when we have already taken the lead.

Graden (Prestonburg): Look to your local colleges. For example, Big Sandy Community and Technical College here with 1600 students wants to promote distance learning. 80% of tests for these programs are online. You can get masters degree online. You may want to open library services or have educators promote after school programs. If broadband funded by grants can help any of these constituents, then bring them into the proposal.

If the community is going to form partnerships, you have to get the word out so people know you're looking. You also want to go to vendors and service providers to get them to become partners. If you're going to get matching grants, form public/private partnerships so government gets the money, and the private entity brings in-kind offerings that match grants with the dollar amount of these services or products.

Wolf (Santa Monica): We're already partnering with the redevelopment agency to see how can we assist their districts. They're building low-income housing and we're putting fiber in these houses, so we get financial compensation. For other developments such as business complexes and cooperatives, money is there to put in fiber, making them good potential partners.

Nationally, we're looking to partner with Cox, Cogent, British Telecom who now want to bring new business or attach their fiber with ours. We're connecting to other local government organizations such as the transportation agency that wants to bring in broadband to manage transit operations. These activities are cited as what we can do and want to do when we put these companies in the proposal.

Gallagher (Cape Cod): Open Cape already represents a large number of constituents by design: school administrators, municipalities, regional association and so on. As we develop grant requests, we're looking at all Federal agencies to see what makes sense and who can we partner with to maximize the benefits of approaching each.

We have a board made up of hospital administrators who are looking at healthcare needs. There's stimulus money for libraries, so we're working with our library consortium to see if we can apply together and have a stronger application. Another group is looking at the transportation part

of the bill and requiring the people building roads to consider putting conduits in for fiber while they build.

Beard (Morrow County): We're looking at 10 – 18 county consortium of local governments and districts within the counties. This will allow us to provide broadband to many rural areas through a shared fiber backbone and a mixed wireless/fiber redundant backbone. The last mile is mixed wireless infrastructures. Town governments, healthcare facilities and school districts are combining to pay through service fees what the grants won't cover, and then a private sector partner will sell services to other parts of population.

Most of the communities out here are similar enough with common enough problems to make it easier to address them as a whole. Counties can share each other's resources that a network requires, allowing us to build more for less. For rural communities, the only option for getting this money is to work together.

Johnston (Jackson, TN): We don't have enough of the plan laid out yet because we're still waiting for the rules, but we'll be meeting with stakeholder groups on our area before then. I'll need to deal with nine or ten different utility companies and several town councils, working with them one at a time. In my pitch to get them on board it's going to come back to lots of those intangible benefits I alluded to earlier.

5. How does a community address a proposal effort that attempts to leverage several federal agencies' grants?

Meier (Oklahoma City): In the past we've submitted to each agency, referenced the other agencies in the respective proposals, but never asked agencies to work together. This stimulus is not much more problematic than other grants. The same issues exist. You need someone writing the grant who is smart enough to structure the proposals correctly. Assume for a large project there's one agency that can support the purchase of servers, and another one will fund the software. The one agency approves Piece A, but Piece B fails to get approval. Write into the proposal language that allows you to back out of A, or not accept money until Piece B is funded from somewhere.

Martin/Terry (Franklin County): You need a team of people committed to this process. If your project has a component eligible for money from a healthcare-related agency, maybe a local medical director can play a role on the team. The same with education. Two or three items in that agency's grant program got Ferrum College excited because it would allow them to provide services beyond students to the community and businesses.

Johnston (Jackson, TN): We're going to go cross-stimulus in our request for funds. We'll approach the Department of Energy and say here are the AMI [advanced meter infrastructure] projects we're planning, and here's how our dollar multiplies if we combine this with another project. Same thing over at Health and Human Services, showing them what the hospitals will be doing and how together with the AMI funding we'll make a greater impact.

We intend to use hard numbers to define elements that are important relative to the needs of the people writing the rules. In your proposal, don't just say 'we'll help economic development.' Tell them 'here's what we've done in the past and it achieved three outcomes. If you give us x dollars, we'll build an industrial park and do these five concrete things that we have proved help economic development. We've done this before. We have these people on the ground ready to go.

Beard (Morrow County): This is like herding cats. The technology helps steer them toward a common objective, and that common goal is what gets teams together in the first place. There are only so many places to put towers for infrastructure and a limited number of technologies to choose from, which can help focus everyone's efforts. Most of the communities out here are similar enough with common enough problems to make it easier to approach the respective agencies with a proposal for the group.

Hultman/McCaigue (REW): This requires a lot of collaboration. You have to align political processes with the goals you want to achieve with broadband. Get the stakeholders to understand that there are limited financial resources and competing priorities within the community and within the Federal agencies. It's really important to get people to look at this as just the first step to get broadband up to the next level, so it's ok to compromise on some of what they want.

Local WISPs [wireless Internet service providers] you partner with could try to manipulate the grant process to their favor, so you have to balance between their needs, the needs of your communities and the requirements of the respective agencies. Hope that your projects can leverage open networks since this could help you use several service providers to implement different applications on the network that appeal to the different agencies.

Graden (Prestonburg): I go after everything at all times. However, sometimes when applying you have to list all types of grants, and you might get a lower score from some or all of the agencies you approach. So be aware of the rules. You have to know where you want to end up. Most cities have five-year plans and this proposal has to be factored in, which can help you decide which grant to pursue.

Most grants have open meetings. When you're there, talk to people who've won grants before. Sometimes I ask for them for a copy of their proposal. That probably gives you the best indicator of how to answer questions. I have whole cabinet full of grant proposals.

Huval (Lafayette): As a community owned utility, our relationship is unique. Our business plan is not based on having success at the expense of our customers or competitors. I envision asking stakeholders to give us their input on applications they want to use after doing some needs analysis with an eye on what's available now and in the future. How does what you want to do bring unique benefits? When we finish, it will be easier to determine which agencies to approach and with what type of proposal.

6. What have you found to be winning elements of a federal grant proposal? Are there tactics to avoid?

Gallagher (Cape Cod): It would help to have the rules. We'll pay close attention to the bill itself since we believe NTIA is going to define rules directly from the law. This grant is to reduce the risk to private businesses by offsetting cost of serving lower density populations. So you need to show NTIA that if they invest in you, how will your plan enable businesses to make a profit, and underserved people get service.

We'll also fall back on what we're trying to do, which is get people fully engaged in the 21st century. We're trying to write the application as we go along, but we've been working on engineering studies, business cases, how are you going to sustain networks like these over time. We'll include these with our application.

Meier (Oklahoma City): We have high success rates when we articulate ideas of substance and how exactly we're going to reach the goals established for particular grants. We're pretty straightforward about what we are or aren't going to accomplish. Money goes exactly where we said it would go and does exactly what we said it was going to do. This is not the most common approach you see in proposals. I've read some applications that are too grandiose.

Avoid overstating, what you're going to accomplish, and don't low-ball project costs. This sets unrealistic expectations at all levels within the community about where the money is going, or how much you can accomplish. Though constituents don't know anything about the process of getting the money, and some think it's 'free money.' When you promise to accomplish something but can't, people say you're incompetent. People only know this was promised and it did not occur.

Feist (Cambria County): Make sure you know the tenets of the program and what the agency wants to achieve. The best picture you can paint for that reviewer for how to reach those objectives, the best chance you have to get a grant. Assume reviewers have some background in what they're reviewing.

Have an explicit knowledge of grant guidelines and follow them to the letter. Make sure all the costs and your goals are well documented. If you want to create jobs or enhance education, explain why, how will you meet these goals? Just state the facts without embellishing and make the best argument for how much money you need.

Don't overstate your budget estimate. Make sure the project fits your community. I've seen people try to build something the community may not use, like wanting an advanced version of some technology when they don't have the basic computers. Or trying to bring in technology with the hope that someone comes in to build a business complex in the swamp when the swamp can't physically support buildings.

Martin/Terry (Franklin County): Look at the applicability of what you're proposing as it relates to the agency offering the grant. The winning ticket for one particular public safety-related grant we applied for was the fact that the county's fire and rescue operation is primarily a volunteer business. Reporting tasks, overall management and ultimately

community responsiveness were pretty tough with 16 stations. For instance, we had a person going to each station with thumb drives trying to collect data. Our proposal focused on using technology to better manage volunteers so we increase public safety.

Graden (Prestonburg): Show how you'll produce quality jobs that take advantage of broadband to create an industry. The more partner support you can demonstrate for your broadband strategy through endorsement letters or partners' direct involvement in the proposal, do it. Monetary and political support from state and Federal leaders is good.

You want to show that you're creating an infrastructure of things that stay around, such as buildings or tables and chairs. If a business leaves tomorrow, I still have the structure, so I can put another business in there. Don't put in requests for salaries, one-time fees or services that are, from a government agency perspective, temporary expenses that don't build things; that once the grant is gone, those services disappear.

Beard (Morrow County): Clearly state your objectives and keep as focused as possible. If it's for rural fire services, then continue to hammer home how the network will increase efficiency, save money and help firefighters do a better job. If your proposal's too long, it can put the reader to sleep. I try to make them as interesting as possible in a very dry format.

Be realistic. There's little point in asking beyond that amount if you know what the award limits are. But if you're writing a proposal with other counties, show where the larger request is justified because you're creating a greater collective common benefit and covering more areas. Clearly show the grant reviewer the economies of scale such as you'll use five routers instead of 20.

Hultman/McCaigue (REW): You need a good coalition of people interested in the project who commit resources to it. The project should have a broad scope that's capable of providing mobile and fixed broadband solutions to a community. It needs to address how do you get cost effective access to, and how it's going to be distributed within, that community. Once you have a good community-supported plan, address the ongoing operations and what revenue sources will sustain the network.

From their meetings it seems like NTIA and RUS don't want to entertain proposals from every little town or ISP. Your grant strategy may have to take into account the agencies may set up a state-level priority approach in which someone from state ranks all of the proposals coming in.

V. In the final analysis

While fine-tuning broadband strategy, consider this approach. Your actual grant application will focus heavily on your proposal's ability to help stimulate your local economy, and lay a foundation for advancing community broadband as part of a national strategy yet to be written. But as you develop the business plan, write it so it could be a successful venture capitalist or bank loan proposal in better economic times.

Why the mental gymnastics? First, this exercise ultimately helps you create a network that is more likely to succeed financially, and also achieve many transformative changes such as those described in this report. If you build a business plan that is so well conceived, visionary and well supported by a broad group of stakeholders it could attract serious interest from risk-averse investors, you increase your chances for a grant award from federal agencies eager to give away money.

Second, you may not get a grant. Should this happen, why let the dream die because you didn't get funding from one particular source? Some communities have been planning broadband networks for a year or more before the broadband bill, and believe they're on track to get financial support with or without the stimulus. They're the leading contenders in this dash for dollars. Those who want to succeed in bringing broadband to their communities need to use this grant process as a launch pad to cast a wide net for capturing funding and financial success.

Your proposal needs a short-term focus

There is intense pressure on NTIA and RUS staff to show short-term economic results: get money out the door quickly, produce results soon. To increase your chance to win, you must help them win. When you review answers to the first roundtable question, look at the early successes achieved by others. Use these as reference points.

Job creation is the major objective of the stimulus bill. And yes, there's an economic boost in putting people to work building networks. I would argue that, to have the greatest local job-creation impact, it's best to work with local or regional telecom companies, wireless Internet access providers (WISPs) and other providers that are closely wedded to your community. The workforce and senior management are local and revenues they collect tend to stay at home.

Many of those interviewed find that the greater short-term economic benefit though, appears to come from the sudden creation of home-based businesses, immediately opening local businesses to worldwide markets and increasing traffic into business districts. The key is to put in place awareness campaigns, training programs and a pipeline to get inexpensive computers into the community before the network goes live.

Galen Updike, Telecom Development Manager for Arizona's Government Information Technology Agency observes that, "in the first six months of a new network installation, expect that the initial economic impact to be within whatever cottage industries exist in the area and among tourist-related businesses. The arrival of broadband allows the local community

to give outsiders a new way of looking at that community. With all other things being equal, the flow of people leaving should stop. Then you should start to see one or two examples of Main Street becoming more popular, which should stop the decline of the downtown area.”

The opportunity to bring new companies into the area quickly enough for fast economic impact is credible if your plan shows you’re going to launch an aggressive marketing campaign for the network while it’s being built. Remember, Lafayette, LN closed a deal with a new company and 600 jobs while the city was still fighting legislative issues before network building started.

Another area for short-term economic impact, though it is uncertain how NTIA and RUS will view things, is the financial savings to local governments using the network to cut departments’ operating cost and improving services. The impact on government budgets and operations enhancements can be huge, and these savings/revenues can contribute to the sustainability case you must present. I wrote extensively about this in 2007 - <http://www.successful.com/msp/reports.html>. It’s trickier showing how this impacts the local economy. One could argue, for example, that the sudden increase in business activities and influx of businesses will put a severe strain on local government services that broadband can also alleviate.

Your plan should reflect long-term vision

I can’t emphasize enough about making a strong AND credible argument that you will be able to financially sustain the network you build. As Terry Huval said, you have to understand the difference between a dream and a plan. This grant is helping you to create a business, and even though (depending on who owns the network) it doesn’t have to show a profit to the same extent that a corporation might, earn at least as much money with the network as you spend operating it. This can be direct revenue, or money coming into the community that you can reasonably track as resulting from having the network.

Along with the revenue/fiscal support issue should also be your vision for how you plan to transform education, healthcare, power and general utility usage and public safety. Addressing these potentially opens the doors to more grant money.

I focused a lot on healthcare in this report because it is an area that touches everyone regardless of economic status, geographic location or political philosophy. Many of the benefits broadband brings to healthcare are in the future, and the economic benefits are not often direct. Yet healthcare reform is a top priority of the Obama administration, it will be front-page news for months to come and so many people care about the issue that you likely will score bonus points (probably unofficially) if your plan addresses healthcare in a meaningful way.

Partnerships are the center of your grant universe

Partnerships are a significant recurring theme among the people interviewed. Everyone who has successful experience with broadband knows that partnerships are the cornerstone of that success.

Identifying and working closely with various stakeholder groups are essential to defining broadband needs. Without them there is no sustainability, and even short-term economic impact is questionable. It takes a lot of work and coordination, but they help you define issues and opportunities that strengthen your efforts. Their endorsements give your proposal credibility. Stakeholders increase the number of Federal agencies that can potentially provide grants, as well as the number of financial sources that may support network operations.

You also have to cultivate an assortment of outside partners. Counties are banding with other counties. Cities definitely need to consider other municipal partners. For better or for worse, state agencies, legislators and governors are likely to become players in the grant disbursement process. Cultivate and improve partnerships in these areas now.

Communities that built broadband networks and/or pursued Federal grants before likely have relationships with Federal agencies. Tap these to get feedback for your proposal, and possible avenues to additional funds for your network. Focus heavily on the economy of scale that benefits everyone through a multi-agency project. You can begin to build relationships here for the first time, but it may be more practical to partner with communities that already have Federal connections.

Private sector companies are vital partners to bring to the table. But the private/public partnerships you see working do not treat private partners like ATM machines. As you've read here, everyone profited. These partnerships lead to the success of community networks only with open, honest negotiations that ensure their business needs and yours are fairly and sufficiently met.

The angel's in the details

It's fair to say that many people dread the grant application process because of the tedious details to address. With the broadband grant application, this won't change. However, I believe that forcing people to go through these details will create better network planning than we got during the muni wireless hype.

View the NTIA and RUS staffers reviewing these applications as similar to bankers: they have lots of money to disburse, there are more proposals than money to fund them and reviewers may have only a basic working knowledge of the many technology issues. Those adhering to every detail in NTIA and RUS guidelines have a leg up on the process.

I learned in college and later in life, it isn't always the best students, the noblest causes or the greatest products that succeed. Often the people who figure out how to best execute the boring processes of academia, political organizing or brand marketing are the winners. So I expect it to be with these grants. And that you can take to the bank.

VI. Recommendations

Balancing your needs with the government's

I've written a book (<http://www.successful.com/msp/fgfsummary.html>) and several analysis reports that address conducting effective needs analysis, so you have plenty of material from me online to help you. With the broadband stimulus grants, however, realize that your needs have to align with the mandates given NTIA and RUS on how to disburse them.

Once the rules come out, do a reality check. Does the network you and stakeholders determine you need match NTIA and RUS requirements and guidelines? Pay particular attention to agency definitions for "un-served" and "underserved." It probably won't help to argue the point if your definitions and theirs' don't agree. The agencies are running this game. Conversely, clearly state in specific terms where your needs align with NTIA/RUS rules. Don't assume "any idiot can see that we qualify." Nuance is lost on someone with stacks of applications in their In box.

Support the validity of your needs with credible analysis and strengthen it with stakeholders' endorsements. Present your case with language an average 10th grader can comprehend. Broadband is an incredibly complex collection of technologies. Even life-long techies could get lost evaluating between dozens of proposals. Giving financial data relevance for the reviewer is likewise a challenge.

Randall Schwartz, Principal Consultant with Wireless 20/20, has created a business case tool called WiROI and offers some insight on making financials comprehensive.

"By outlining the network technology and buildout requirements, services and pricing to be offered, and other potential revenues the network could generate, you can develop a financial model that shows capital needs for building the network and lets you create a realistic operating budget. Once a comprehensive model is built, software tools can perform valuable 'what if' planning analysis so you improve your application for stimulus money and other fundraising you may do."

Grab your partner and dosey doe

Communities do not all have the same combination of stakeholders that make up a dream team of proposal partners. You must do some legwork to find your best hometown team. Ideal partners are the ones who help you qualify for grants because they 1) fit the definitions of un-served or underserved whose needs broadband can meet, or 2) they can help financially sustain the network once its built. The rules will help you clarify who is in the first group. The second category of stakeholders you should cultivate now if you haven't done so already.

The business community should probably be on the top of your list since these organizations tend to need the most broadband and are willing to pay for quality premium (but fairly priced) services that address their needs. Local government is a close second. They can emulate Santa

Monica and others in using broadband to significantly reduce operations and mobile workforce management costs, and then use these savings to underwrite network operations.

Two city and county government agencies that by themselves are powerful partners are public works and public safety. Broadband applications that address either of these two areas open your grant options to Federal agencies besides NTIA and RUS, such as Homeland Security, Justice, Transportation and possibly Energy. Public works projects also allow you to reduce the cost of broadband infrastructure buildouts. Every road, bridge and public building project is an opportunity to put in broadband infrastructure at a reduced cost.

Though education got the short-changed (according to some) in the overall stimulus bill, k-12 schools, colleges and universities are viable partners. They have a huge need for broadband, which open them to various grant opportunities, plus higher learning institutions with access to tens or hundreds of megs of Internet speed are eligible for large research grants that bring huge economic benefits to your community.

Here's to your healthcare

This is an area I feel you really should address in your proposal where possible. If you have or desire a sizeable healthcare community, linking these various professionals, facilities and patients through broadband is a valuable service for which many will pay and/or seek grants to underwrite.

Broadband for healthcare is a short-term political ace card because of its high profile this year. But it's also a long-term investment for your community. Updike states that, "Telemedicine spends 70% of its budget on spectrum because it cost so much. If your network reduces this cost, money is then available for more aggressive applications such as highspeed, high-resolution video or transmitting telemetrics from monitoring equipment. I see eventually supporting home-based telemetrics so someone at home or a rest home has devices that plug into heart or blood pressure monitors."

From a local government perspective, " a broadband video link in paramedics' vehicles and save millions of dollars in legal fees from unwarranted legal suits, " states R. Lee Heath, an expert in emergency communications systems. "The ability to protect yourself, where one avoided litigation can pay for the network, exceeds the price of the application. Even if someone screws up, video evidence makes it easier to settle than to litigate for 10 years."

Reality check on the need for speed

It is accepted conventional wisdom by many that fiber is the only true broadband that will meet all of our speed needs now and into the foreseeable future. While this may be true when taken at face value, I challenge the assumption that fiber is best for everyone. In Franklin County and other places, it's not practical to build fiber everywhere. They've discovered that you can get enough wireless speed, depending

on the technology, to entice new businesses to the area and serve many constituents' needs to a level that justifies the investment.

Coming back to the NTIA staffer with 100 applications in their In box, this person wants to do the most for the most number of people while at the same time not having to review 1,000 \$10,000 proposals. If someone has a \$1 million project for a wireless network to adequately cover 75,000 constituents, and another community in the same state has a \$30 million project to cover the same number of people, I believe the (again, unofficial) tendency will be to fund the \$1 million baby and similar size projects first. Remember, this is a bill to produce short-term impacts and give people much higher levels of Internet access than they have currently. \$7 billion isn't going to buy everyone's ideal network.

Several communities have analyzed their needs, their opportunities and the technologies involved, and concluded that the best option is to get grant money to pay for what's called the "middle mile." The part of the network end users access to get online wireless or wired connections is called the last mile. All of these access points are fed to a "pipe" that aggregates traffic to send to a massive digital clearinghouse and on to the Internet. That pipe is the middle mile and it plays a huge role in the overall speed of the network.

By paying for the middle mile and having service providers come in to build and collect subscriber fees for the last mile, communities bring in faster speed to more people for the money invested. Communities also have relatively small operations cost long term because they only have to support a small number of providers, local governments and institutional customers.

Whichever way you end up going, you should really think outside the box about which technology you want to use to meet your needs, and how this technology is deployed. Short-term compromises may make sense in light of America's long-term national broadband goals.

The new KISS – keep is simple and short

I am not a grant writer, but based on the comments of the people I interviewed, my advice is to be exceptionally specific when defining your needs, explaining what you want to build, why you want to build it and what benefits you hope to derive. As my grandmother used to say, cross every "t" and dot every "i" as pertains to the application guidelines. Brevity while using words that paint vivid pictures is ideal. And do not be shy when asking for the money.

Insider tips

I asked for some grant strategy tips from a couple of people I know who work inside the D.C. Beltway and have been tracking the broadband stimulus – and community broadband in general – quite extensively. Keep these handy.

Jim Baller – President, Baller Herbst Law Group

Jim Baller is widely recognized as the nation's most experienced and knowledgeable attorney and foremost legal expert on public broadband matters. His firm helps communities in 35 states on communications matters. He is also the founder and president of the US Broadband Coalition (www.bb4us.net), a large and diverse group of organizations that is trying to develop consensus on the terms of a national broadband strategy. I'm among scores of people who read his newsletter every day (<http://www.baller.com>). Jim@Baller.com, 202) 833-1144

Here are some of Jim's tips on what to include in your proposal.

1. Obtain relevant data and make preliminary projections
2. Emphasize multiple-purpose, multiple party projects, that get 'biggest bang' for federal bucks
3. Concentrate on high-value targets – e.g., schools, libraries, medical and health care providers, colleges, community-support organizations that serve vulnerable populations, public safety
4. Develop agreements soon with potential partners
5. Emphasize affordability of the proposed services for constituents since subsidized network capital costs should lead to lower prices
6. Make sure you and everyone involved with the proposal understand what terms such as Network nondiscrimination, interconnection, un-served and underserved mean
7. Focus on getting the most speed for the largest number of constituents (e.g. fiber v. DSL or cable)
8. Understand the potential for state barriers to public entry and how you should interpret these
9. Contact and register with the various federal and state agencies you may approach for a grant
10. If your grant gets funding, meet all compliance and reporting rules

Andy Lipman – Partner, Bingham

Andy Lipman, a partner with the Bingham law firm (<http://bingham.com>), has spent 30 years developing and managing their Telecommunications, Media and Technology Group. He practices in virtually every aspect of communications law and related fields, and has been following this broadband stimulus program like a hawk. Andrew.Lipman@bingham.com, 202-373-6033

Andrew provides some tips on things you may want to avoid doing.

1. The broadband funding programs provide exciting opportunities to expand broadband access, but a project that does so without creating any jobs may have little chance of winning an award.

2. If you haven't lined up partners and contractors, do so now because you may not get funded if there's no plan to start quickly after funding and finish as soon as possible.
3. Don't ignore your business plan, operational needs and the adoption rate you need to sustain your project several years from now
4. You shouldn't assume you'll get federal or state help later, so be clear on stating alternative sources of funding
5. Even though the final legislation does not require public/private partnerships, that doesn't mean you should go it alone since NTIA and RUS may still favor those leveraging each partner's best capabilities
6. Don't assume that just any partner will work, but choose a reliable, reputable, financially sound organization.
7. Remember to make reliable, interoperable technology with adequate speeds is part of the sustainability consideration
8. Avoid proposing to build *more* network than you need because a high-end network that is unaffordable may raise concerns about sustainability and adoptability
9. Don't build *less* network than you need trying to save costs since speed is still a major consideration with the agencies, but try to strike a careful balance between speed and affordability
10. You can't ignore the policy implications of municipal networks since the economic development and private sector impacts are still hotly debated

VII. Conclusion

This report addresses just a few of the important issues in what is a multi-step process. It should be distributed to everyone working with you to prepare broadband proposals and projects to help get all involved on the same page. I often tell people that these reports are not written to give readers all the right answers, but to get them to ask a lot of the right questions so they find the best answers to address their unique situations. This is particularly true as I assist communities, service providers and vendors address a process about which a lot is still unknown.

In the upcoming weeks it's important that everyone tackling this great broadband undertaking keep a close eye on developments in D.C. with the various agency and Congressional players. You need to be prepared to act swiftly and with purpose. Now is the time for getting your ducks in a row, so don't waste it.

For more information

About the sponsor

REW Broadband Networks' mission is to provide wireless broadband services to "un-served and underserved" markets in rural America. Through strategic partnerships, this company has new technology, an experienced network deployment team and veteran wireless executive management to efficiently and effectively provide, new and enhanced services to rural community schools, public utilities/safety and health organizations. <http://rewnetworks.com>

About the author

For over 20 years Craig Settles' consulting services, books and workshops have helped organizations worldwide understand how to use technology to save money, increase revenue and run a better business operation. Since 2005, Mr. Settles has specialized in using broadband to improve government efficiency and boosting economic development within their communities. He authored two books and many special reports, national surveys and articles on the subject.

Don't miss these great muni broadband resources

Keep track of broadband stimulus developments through Craig Settles' blog – <http://roisforyou.wordpress.com>

Get valuable on-site workshops to help you stakeholders develop strategy plans for using broadband to improve economic development. Visit <http://www.successful.com/services/speaker.html>

Call 510-536-4522, e-mail craig@successful.com or visit www.successful.com/snapshot.html to get details about future Municipal Broadband Snapshot Reports. Your feedback and suggestions for future topics is always welcome.

Remarks by Jon Leibowitz
Commissioner, Federal Trade Commission
National Association of Telecommunications Officers and Advisors (NATOA)
25th Annual Conference
Washington, D.C.
September 22, 2005

Municipal Broadband: Should Cities Have a Voice?

I. Introduction

Good afternoon and thank you for that kind introduction. Let me start with the usual disclaimer that this speech does not necessarily reflect the views of the Commission or of any other Commissioner.

It is a great pleasure to be here at NATOA's 25th Annual Conference. NATOA plays a vital role representing the telecommunications needs of consumers through their local government officials. You serve a crucial function – whether at the local or state level, before the Congress or the FCC, in the courts or in the court of public opinion – offering your views on important issues affecting all Americans – such as the availability of broadband, cable competition, and Voice over IP.

Acting through many of you here today, local government has stepped up in numerous communities across America to meet the information and technology needs of its residents by providing high-speed wireless Internet access, or broadband. Unfortunately, to the detriment of consumers, many of these efforts are being stymied by the efforts of those who don't want you to compete with them.

To put this in context, imagine if Borders and Barnes & Noble, claiming it was killing their book sales, asked lawmakers to ban cities from building libraries. The legislators would laugh them out of the State House. Yet the same thing is happening right now with respect to Wi-Fi and other municipal broadband plans, and it is being taken all too seriously. In fact, although it is almost universally acknowledged that broadband access is essential to economic growth and education, phone and cable companies are lobbying furiously to prohibit municipalities from providing free or discounted broadband to their residents. So far about a half dozen states have some sort of restrictions on their books, and similar measures are being considered in many others. More troubling still, is one proposed federal law that would preempt all municipal efforts to provide Internet access.

These initiatives are a bad idea. The losers will be consumers, particularly those who may not be able to afford Internet access on their own.

I'd like to focus today on municipal broadband and discuss why it is right for consumers, why the arguments advanced by its opponents fail and, why, upon closer examination, these arguments are internally inconsistent. Finally, I'll talk a bit about the Commission's role in opposing legislation that threatens competition – we've done this, for example, in real estate, legal services, and contact lenses – and offer my thoughts on whether municipal broadband is an area that the Commission should weigh in on.

II. The Benefits of Municipal Broadband

The first question policy makers need to ask is this: why is broadband good for consumers? There are many reasons, but the most compelling is that broadband is increasingly vital to our everyday functions and to our economy. It's not just about having the ability to download a movie in almost the blink of an eye, it's about the ability for everyone – business and consumers alike – to be able to access information that is fundamental to survive, grow, and thrive into the 21st Century.

In this day and age, Internet access is even more vital than some traditional government services because the Internet is both a repository of information, like a library, and a shared public space, like a park, to which everyone should have access. However delivered, inexpensive or free high speed Internet access is essential to bridge the digital divide and boost technological literacy. High speed access, particularly wireless access, benefits students, parents, small businesses, emergency workers and anyone else who values the enhanced portability, flexibility and speed that comes from not having to be tethered to a modem. And as the *New York Times* noted just this weekend, a Wi-Fi mesh could be the most promising and reliable emergency communications technology in the wake of a disaster like Hurricane Katrina. Finally, the economic benefits of more broadband are potentially enormous: computer, hardware, software and e-commerce businesses would grow exponentially if we could increase penetration by, say, 50 percent. On these basic points – whether you're conservative or liberal, in business or in government, meat-eater or vegan – all seem to agree.

That leads to the next question: why should local governments consider offering it? The answer is simple: the private sector won't always do so. Municipal development of broadband may be the best option in some cities where many residents cannot afford the high prices of private Internet providers, or where Internet providers simply did not see enough economic incentive to provide universal coverage. It may be the only option in rural areas where phone and cable companies have not extended any service – often contending that it would be prohibitively expensive. Indeed, even the mere threat of local government entering the broadband market may entice phone and cable companies to compete in these low-income and low-density areas. Let me walk through a few brief case studies – there are many, many more out there – that illustrate why cities should have the option of offering broadband to their residents.

The most celebrated example of local government seeking to provide broadband service to its residents took place in Philadelphia where, beginning last year, the city undertook plans to

offer wireless Internet access, or Wi-Fi. The city's rationale was straightforward: many of its residents simply did not have access to broadband, and Wi-Fi service would spur economic development, attract tourists and benefit city agencies at lower cost than the current telecom infrastructure.¹ Philadelphia's chief information officer also stressed the importance of providing broadband for education – noting that while schools have heavily invested in their computer systems, only 58 percent of Philadelphia's students have Internet access at home.²

These plans, of course, were almost terminated at their inception by lobbying efforts at the state level. But fortunately, after a public outcry, reason won out (to some extent) and Philadelphia was carved out of broader state restrictions on municipal Wi-Fi in future years. Today the city is moving forward, and last month Philadelphia announced that EarthLink and Hewlett-Packard are the finalists for construction of its Wi-Fi network.³ Without getting ahead of myself, it is interesting to note that Philadelphia is turning to two highly capable private-sector companies to potentially provide this service – undermining the position of some that cities cannot provide broadband competently and the position of others that this issue breaks down as a fight between the private sector and local government. Hopefully the residents of Philadelphia – and in other major cities, like San Francisco, that are working on similar proposals – will soon have affordable access as a result of their government's efforts.

Moving from urban areas to rural communities, numerous small towns have taken steps to offer Wi-Fi service and other forms of broadband. While in some major cities there is a digital divide, in many small towns there is no divide at all: there is simply no service. Take, for example, Scottsburg, Indiana – a town of about 6,000 people – where phone and cable companies contended offering broadband service would be too costly. In Scottsburg, not only was wireless access important to residents, but it also was critical to the city's business retention efforts: several threatened to leave Scottsburg unless they could get broadband access. The city's electric utility stepped up and is now providing wireless service throughout the town. Thanks to this new telecommunications infrastructure, both business and individuals in Scottsburg have broadband access, employees have held onto their jobs, students have the same educational opportunities as their peers in the big cities, and the town is poised for additional development.

One final success story. In Lafayette, Louisiana – a small city with a population of slightly more than 100,000 – local officials sought to build an advanced network offering voice, data and video. Again, the purpose was to provide broadband services not being delivered to businesses and residents by the current provider. Not surprisingly, the incumbent phone

¹ Peter Loftus, *Philadelphia Waits for Wi-Fi*, THE WALL STREET JOURNAL, March 3, 2005.

² David Haskin, *Philly CIO: Public Wi-Fi Needed to Close Digital Divide*, MOBILEPIPELINE, January 25, 2005, available at www.mobilepipeline.com/57703505.

³ Sarmad Ali, *Philadelphia Sets H-P, EarthLink as Wi-Fi Finalists*, THE WALL STREET JOURNAL, August 29, 2005.

company raised obstacles to the plan – and more may be coming before the plan is ultimately implemented. But fortunately, in this case state law was on the side of the city, affirmatively allowing it to build out. When the phone company demanded a referendum, the public responded by clearly voicing its support for broadband: two months ago it approved authority for the city to sell bonds to finance this project by an overwhelming 62-38 percent margin.⁴

Now I am obviously a supporter of municipal broadband. And I clearly oppose attempts by telephone companies to derail it – especially by doing so in the proverbial “smoke-filled room.” But the Lafayette fight does point us toward a more appropriate way to oppose these projects: if you don’t like what a city is doing, you can always try to “throw the bums out.” It is a time tested formula for citizens to ensure that their elected leaders don’t disagree with them too often. My guess, however, is that as long as residents are educated about what the local governments are trying to do, that usually won’t happen.

Many additional cities – small, medium, and large – are considering or implementing broadband networks. (We estimate perhaps 300 municipal broadband projects at present.) They are responding to a basic lack of service, they are seeking to promote business and they are using such networks to ensure public safety, improve educational opportunities and enhance consumer welfare.

And while I don’t think a comparison to other countries is needed to justify municipal broadband, such comparisons are worth noting. According to the OECD, the United States has dropped to 12th place worldwide in the percentage of people with broadband connections. But whether or not we are losing or gaining ground, in a world that is increasingly “flat” – borrowing Tom Friedman’s term⁵ – you cannot stress enough the importance of expanding broadband access across America. This is not only fundamental for education, but also for overall productivity and competitiveness. In any event, adding another competitor to what is now largely a phone and cable broadband duopoly can’t help but move us forward and inject the market with more competition.

III. Arguments to Thwart Municipalities from Providing Broadband

There’s certainly nothing novel in witnessing incumbent providers attempting to keep new entrants out – whether it was railroads fighting off airlines, Ma Bell fighting off long distance providers or, more recently, efforts by travel agents to fend off Internet-based rivals. For many years I worked for a Senator from Wisconsin, Herb Kohl. One of the Senators he revered growing up, Phil La Follette – the son of Wisconsin’s great Progressive “Fighting Bob” and a

⁴ Lesley Cauley, *Towns Battle Big Companies to Expand Broadband*, USA TODAY, July 10, 2005, available at www.usatoday.com/money/industries/telecom/2005-07-10-bellsouth-usat_x.htm.

⁵ Thomas Friedman, *THE WORLD IS FLAT: A BRIEF HISTORY OF THE TWENTY-FIRST CENTURY* (2004).

Progressive in his own right – once introduced legislation at the behest of the state’s dairy industry to prohibit oleomargarine from being transported in interstate commerce if it was colored anything but its natural and hideous gray. So we should not be shocked to see the telephone and cable companies’ arguing against municipal broadband. The arguments they make, however, are neither illuminating nor persuasive nor consistent.

First, the cable and telephone providers maintain that supplying access to the Internet is not a proper function for local government. But municipalities already provide their residents with many services that compete with private sector counterparts, such as libraries, schools, recreational centers, police, parking, subways and buses and, in some places, electricity. Indeed, with more resources, including books, available online (sometimes exclusively), you could even make the argument that cities with limited funds would make a greater impact on education by investing in free broadband rather than by building a new library. If a city like Philadelphia or a rural community like Scottsburg wants to provide Wi-Fi to help out their low-income residents, hold onto their small businesses, or build for their children’s futures, it is properly within their purview to do so.

Second, the phone and cable companies contend that this would amount to “unfair competition” because municipalities have certain advantages over private providers, for example, lower fixed costs and no need to pay for rights of way. However, if cities do have these so-called advantages and want to pass them on to their own residents, shouldn’t they be allowed to do so? After all, that is exactly what a municipal government does when it provides public education, or hires a police force, or stocks its libraries with books that are free to borrow.

Third, phone and cable companies argue that cities would be incompetent suppliers of broadband. This is mere sophistry. If the companies truly believed this, they wouldn’t be spending tens of millions of dollars lobbying to prevent government-sponsored competition.

Should cities fail to provide satisfactory service, most consumers will stick with the private providers, and the phone and cable companies won’t lose any business. But in many rural or poor urban areas, municipal service will be the only viable option and, for them, that is clearly better than no service at all. Should cities turn out to be competent Wi-Fi providers, of course, all consumers will benefit.

Underlying the incumbents’ position is the view that regulation – in this case, in the form of state prohibitions or restrictions on municipal broadband – is necessary to protect the market. It is a somewhat surprising argument coming from the phone and cable companies. Usually with both hands on the throttle they straightforwardly argue for deregulation – and usually I support them. But here they are using sleight-of-hand: seeking deregulation for themselves yet asking states to raise barriers to competition for others.

We should stick with their general position that it’s better to compete than regulate. And we should apply that principle here.

IV. The Commission's Role

So what role can the FTC play? Put differently, why do you care what the FTC thinks? When the Commission was established in 1914, its founders – including President Woodrow Wilson – did not intend for it to serve solely as a law enforcement agency, but vested it with additional statutory authority to conduct industry-wide studies, enabling us to enhance our understanding of how markets operate for the benefit of consumers. In the words of one of the original Commissioners our “duty is quite as much to bring to light what is sound and serviceable in business as what is sinister.”⁶ We have used such authority quite effectively – particularly in recent years – through in-depth studies, hearings and workshops on a variety of topics including health care, intellectual property, and gas prices.

Consistent with the obligation to bring business practices to light, the Commission also has an advocacy function – commenting on proposed state rules and legislation that could affect competition and consumers. In recent years, the Commission has offered its views on a wide range of proposals, including attempts to restrict non-lawyers from handling real estate closings, efforts to prevent discount real estate brokers from providing lower cost services, and laws to prohibit sales of gasoline below cost.⁷ Sometimes the states don't listen to us, but often they do. In fact, earlier this year Governor Schwarzenegger cited the FTC's concerns in vetoing a drug pricing measure.

My own sense is that municipal broadband does fit within the Commission's advocacy ambit. It is all about competition. It is timely (as you know better than anyone else). There has been a tremendous amount of recent legislative activity relating to cities' efforts to provide broadband, with prohibitions on the books or under consideration in many states.

Having said that, the Commission does have limited resources, and it must judiciously decide where to invest them. We cannot dive into every issue or respond to every request for advice on the competitive effects of proposed legislation. While the Commission is not in the business of saying what model or technology may work for a particular city, or even whether broadband is right for every community, at a minimum we could provide guidance concerning

⁶ William J. Harris, Commissioner, Federal Trade Commission, *The Work of the Federal Trade Commission*, remarks before the American Cotton Manufacturers Association, Atlanta, GA, at 6, available from FTC library. See also Jon Leibowitz, Commissioner, Federal Trade Commission, *Health Care and the FTC: The Agency as Prosecutor and Policy Wonk*, remarks before the ABA/American Health Lawyers Association “Antitrust in HealthCare” Conference, Washington, D.C. (May 12, 2005), at 2-4, available at www.ftc.gov/speeches/leibowitz/050512healthcare.pdf.

⁷ See generally Deborah Platt Majoras, Chairman, Federal Trade Commission, *A Dose of Our Own Medicine: Applying a Cost/Benefit Analysis to the FTC's Advocacy Program*, remarks before the Charles River Associates “Current Topics in Antitrust Economics and Competition Policy” Conference, Washington, D.C. (February 8, 2005), available at www.ftc.gov/speeches/majoras/050208currebtopics.pdf.

the competition and consumer protection issues that state and federal legislatures may want to consider before enacting legislation in this area. But speaking solely for myself as one of four Commissioners – we are eagerly awaiting confirmation of the fifth – the interests of consumers and competition seem squarely aligned with your efforts to provide broadband.

Within the Commission, I have asked our Office of Policy Planning to think about these issues, in particular to take a look at whether we should be on record opposing attempts to restrict municipal broadband. But the Commission is a consensus driven body – so we’ll see what our policy staff and my colleagues on the Commission think collectively.

At least as important as where we come out, however, are the McCain-Lautenberg bill and the soon-to-be-introduced Barton-Dingell legislation. They would both serve the interests of consumers by barring states from prohibiting municipalities from offering broadband. I don’t know whether these bills will ultimately be enacted, but my sense is that they do confirm that the tide is turning your way and against those who would thwart competition.

To be fair, the telephone and cable industries have brought many consumers substantial benefits and choices over their years: cable companies alone have wired up nearly 25 million people to high speed Internet access. Their lobbying efforts on municipal broadband have been very effective, and they haven’t done anything to run afoul of the antitrust laws enforced by the Commission. Indeed, lobbying in general is protected by the First Amendment; cable and telephone companies do it extremely well; we all benefit from these First Amendment freedoms.

But local governments have long been laboratories of experimentation. If they want to give their residents affordable Internet access, they should be allowed to try without being foreclosed by federal or state laws – or by cable and telephone interests. Hopefully, in the end, reason will triumph and states will reject efforts to choke off these truly vital broadband initiatives. As a matter of public policy, it is just plain wrong to stifle competition in this manner.

Thank you.

Deceptive Myths About Municipal Broadband

Disinformation about public ownership is impeding progress

By Jim Baller ■ *The Baller Herbst Law Group*

In October and November of 1906, when electrification was the must-have new technology of the era, *Moody's Magazine* invited the leading advocates and opponents of municipal electric utilities to write chapters for a special issue. The opponents contributed the following chapters: "Municipal Ownership Costly and Dangerous," "Municipal Ownership a Business Problem," "Municipal Ownership a Delusion," "Municipal Ownership Uneconomic," "Why Municipal Service is Expensive," and "Municipal Ownership Always a Failure."

With the benefit of hindsight, we know that every one of these claims was wrong. More than 2,000 municipal electric utilities have thrived over the last century, contributing greatly to the well-being of their communities and America as a whole. Another 1,000 communities established their own electric utilities and then sold them to the private sector, having achieved their goal of avoiding being left behind in obtaining the benefits of electricity. In contrast to these 3,000 successful municipalities, thousands of communities that waited for the private sector to get around to them stagnated or even became ghost towns. For an extensive comparison of the early years of the electric power industry and the broadband industry today, see <http://www.baller.com/library-art-history.html>.

Now, despite the lessons of history, the major telecommunications and cable providers and their retained "experts"

have resurrected the same discredited arguments to oppose municipal efforts to accelerate the pace of broadband deployment in America. In this article, we take a hard look at the ten most common myths that the telephone and cable companies tell about municipal broadband and show that these canards are no more valid today than they were a century ago.

Myth #1: Municipalities want to compete with the private sector.

Municipalities rarely, if ever, go forward with a municipal broadband project for the purpose of competing with the private sector, even though that would arguably be a worthy goal. Rather, they step forward only when the public demands it, because the private sector is either not providing a service at all, or is charging excessive rates, providing poor service, or offering unduly limited consumer choice.

Contrary to the distorted image of wild-eyed, hare-brained municipalities that major telecommunications and cable companies try to paint, the vast majority of local officials are conservative, risk-averse and respectful of the business community, including the existing communications providers. After all, local officials live with the voters they serve, and they know that they will be judged harshly if they make major mistakes. Local officials may be overly optimistic when they begin to study the community's communications options, but the open processes that they must

use will ensure that they are well-informed by the time that they must make decisions. Major municipal communications projects always receive intensive public scrutiny, with the private sector fully engaged. As a result, such projects rarely go forward unless there are compelling reasons for them and they have a high probability of success.

Furthermore, municipalities have significantly different goals than the private sector. Private entities must meet shareholder demands for high, short-term profits, primarily from subscriber revenues. As a result, they try to milk every last dollar of profit out of their existing copper or cable facilities, and they make investments in new technologies and facilities only if, when, and where necessary. Not surprisingly, private providers typically focus on their most lucrative, high-density markets and ignore or delay upgrading rural or poor urban areas.

In contrast, local governments typically view their primary mission as enhancing the economic vitality of their community – that is, ensuring that the community will be able to compete successfully with other communities in America and abroad in attracting, retaining, and expanding businesses and jobs. Also high on the list of municipal priorities are promoting educational and occupational opportunity, ensuring affordable access to modern health care, revitalizing urban cores, facilitating digital equity, reducing traffic congestion, street cuts, and other burdens on the en-

vironment, strengthening public safety and homeland security, and fostering cultural enrichment and a high quality of life. While an advanced communications network will not itself enable a community to meet all of its goals, having such a network will give the community a huge advantage over those that do not.

In short, competition with the private sector is hardly ever the driving force behind a community's decision to develop an advanced communications system. Rather, it is usually a byproduct of the community's efforts to achieve its primary goals.

Myth #2: Municipalities, as regulators, favor their own service entities over the private companies they regulate.

Municipalities do not, and cannot, favor their own municipal service entities. Municipalities do not regulate telecommunications service providers or Internet access providers. Such regulation occurs at the federal and state levels, and even there, regulation is disappearing rapidly. Municipalities do issue franchises to cable operators, but cable franchising is governed by detailed federal standards, and when municipalities provide cable services themselves, they typically assume regulatory burdens that are as extensive, or more extensive, than the private sector's.

Municipalities also manage public rights of way and other public facilities. But federal and most state laws require municipalities to act in a nondiscriminatory, competitively neutral manner. In short, the premise underlying this myth – that municipalities have power to regulate in favor their own services – is simply false.

Myth #3: Municipalities have access to cheap financing.

While municipalities theoretically have the ability to obtain tax-free or tax-advantaged financing, these advantages are often illusory, particularly in the current financial market. In fact,

many municipalities have found that the strings attached outweigh the few basis points they can save by using tax-advantaged financing. As a result, many municipalities now use taxable financing, just like the private sector, to fund public communications projects.

Furthermore, municipalities are much smaller and have far fewer assets to back up their borrowings than the giant incumbent private-sector communications providers that complain the loudest about the supposed advantages the municipalities enjoy. While it is true that some telecommunications and cable companies are in financial difficulty, many of the large national companies, which can back investments in particular communities with the assets and revenues of the company as a whole, have a huge advantage in obtaining favorable financing. What's more, those in financial difficulty should welcome the opportunity to provide service over a municipal system as an alternative to rebuilding their own facilities.

Myth #4: Municipalities don't have to pay taxes.

Opponents of municipal broadband maintain that municipal utilities have an unfair advantage over the private sector because they do not have to pay taxes. In fact, municipal utilities make "payments in lieu of taxes" to local governments that are usually much higher than the state and local taxes that private entities pay. For example, a survey of nationwide data by the American Public Power Association showed that municipal electric utilities pay an average of 5.8 percent of their revenues to state and local governments, while their private-sector counterparts pay an average of 4.9 percent. The survey is available at <http://www.appanet.org/files/PDFs/PilotReport2002.pdf>.

In some states, the disparity is much greater. For example, the Florida Municipal Electric Association recently found that, in 2003, municipal utilities in Florida paid an average of 14.6 percent of their revenues to state and

local governments; whereas BellSouth paid 3.4 percent and Verizon paid 3.6 percent. The study is available at http://www.baller.com/pdfs/fmea_white_paper.pdf.

It is true that municipal entities do not pay federal or state income taxes, but that is so because they are non-profit organizations. At the same time, municipalities are not eligible for the billions of dollars of investment tax credits, accelerated depreciation, and other tax write-offs that often bring the effective income tax rates of private entities down to zero or less. Private-sector telecommunications providers were one of the most heavily tax-subsidized industries in America between 2001 and 2003. The nominal federal tax rate for corporations is 35%; private-sector telecommunications companies paid an average of only 7.5%. In particular, SBC ranked second and Verizon fourth among American companies in federal tax subsidies received during this period. The complete report is available at the Citizens for Tax Justice Web site, <http://www.ctj.org/corpfed04an.pdf>.

Similarly, according to data compiled by the Florida Municipal Electric Association, Florida's major local telephone companies received federal subsidies of \$83.7 million in 2004 and \$389 million in the five-year period ending in 2004 (see the Florida Municipal Electric Association article noted above for details).

Myth #5 Municipalities use public funds to cross-subsidize communications services.

The issue of cross-subsidization is full of ironies. The major telecommunications and cable companies complain bitterly that municipalities have the *potential* to cross-subsidize communications services, but for a variety of legal and political reasons, municipalities hardly ever actually do so. In contrast, the companies themselves routinely cross-subsidize their own communications services on a massive scale.

What's more, at a time when America desperately needs to accelerate the de-

ployment of advanced communications networks, particularly in the high-cost rural and urban areas that telecommunications and cable companies are not serving adequately, it is ludicrous for these companies to insist that municipalities should be barred from taxing themselves, using surplus revenues from other utilities, or using any other means that their citizens believe to be necessary and appropriate to develop such networks.

Specifically, over the last four years, the United States has sunk to 16th in the world in per capita broadband deployment. America is also falling rapidly behind in access to high capacity broadband and cost per unit of bandwidth capacity. Given the tremendous importance of broadband to America's local, regional and global competitiveness, America should be using every tool at its disposal to stimulate investment in our broadband future.

The private sector itself has begun to make this point, at least in ways that suit its own purposes. For example, an ad of the United States Telecommunications Association takes note of America's descent in its global broadband standing and calls for removal of "outdated telecommunications laws" (see <http://www.thefuturefaster.com/first/default.asp?adno=51&vndrno=9>). More specifically, the major telephone companies have repeatedly insisted that their ability to invest in broadband is tied closely to relief from their *telephony*-related obligations (that is, the duty to provide their competitors Unbundled Network Elements at wholesale rates). Also, the cable companies make no apologies for using revenues from cable television subscribers to support upgrades to make their facilities capable of supporting broadband services. In neither case do the telephone or cable companies believe it necessary or appropriate to ask telephone or cable subscribers whether they would use the broadband services that their revenues are cross-subsidizing or whether they would prefer lower telephone or cable rates. Yet, the telephone

and cable companies cannot complain loudly enough about the possibility of using municipal taxes or surplus municipal utility revenues to help support the development of advanced municipal communications networks.

If cross-subsidization is truly bad for consumers, as the telephone and cable companies claim, then it should be prohibited across the board, for both the public and private sectors. On the other hand, if cross-subsidization is a good thing, or at least a necessary evil, then we should encourage everyone to do it, including the public sector. There can be no rational basis for discriminating between the public and private sectors, particularly in the name of creating a "level playing field."

Myth #6: Municipal communications projects are likely to fail.

Echoing the false claims of a century ago, the major telephone and cable companies and their paid "experts" maintain that municipal communications projects today often fail or are likely to fail. This claim is flatly untrue. As Annie Collins, Mark Cooper, Harold Feld, Glenn Fleishman, John Kelly, Ben Scott, Esme Vos, and I have repeatedly shown, not a single example of a municipal "failure" stands up to analysis. Our point-by-point refutations of the industry's claims are collected at our website, at <http://www.baller.com/barriers.html>. The truth is that the vast majority of municipal communications projects have been successful, sometimes spectacularly so.

Myth #7: Municipalities drive investment capital out of the market.

The myth that municipal communications projects drive private capital out of the market is nonsensical on several levels. First, municipalities generally do not invest in communications projects unless the private sector has failed to do so. Thus, if municipalities did not step forward, there would be no investment at all.

Second, from the standpoint of the

financial community, it makes no difference whether a project is public or private – the financial community benefits either way. If anything, the financial community benefits more from public projects, which are less risky than private projects have been.

Third, empirical evidence shows that municipal investments increase rather than decrease private investments in a community. See, for instance, Dr. George S. Ford's study, *Does Municipal Supply of Communications Crowd-Out Private Communications Investment?* An Empirical Study, Applied Economic Studies (2005), <http://www.aestudies.com/library/crowdout.pdf>. Dr. Ford is the Chief Economist for the Phoenix Center for Advanced Legal and Economic Public Policy Studies. His curriculum vitae is available at <http://www.phoenixcenter.org/FordPCVita15Apr05.pdf>.

Myth #8: Municipal communications projects raise First Amendment concerns.

Municipal communications projects do not decrease the number of speakers or limit what they have to say. To the contrary, such projects *increase* the number of speakers who can reach the public. In fact, the availability of a municipal option will become increasingly important in the future if the giant telecommunications and cable incumbents succeed in their efforts to deny Internet service providers and others "open access" to their systems and, at the same time, continue to rely on copper and hybrid fiber coaxial technologies that are likely to have insufficient bandwidth capacity to meet America's projected bandwidth needs.

Myth #9: Municipalities have unfair access to poles, ducts, conduits, rights of way, and other public facilities.

True, all municipalities manage public rights of way and other public assets, and some municipalities operate utilities that own poles, ducts and conduits. As indicated above, however, federal and many state laws require municipali-

ties to act in a non-discriminatory and competitively neutral manner. In addition, having ready access to poles, ducts, conduits, rights of way, and other public facilities cannot be unfair if municipalities allocate their costs appropriately, as they are required to do.

Myth #10. Municipalities should not invest in risky projects when the private sector is ready, willing and able to serve the community's needs.

As already discussed, municipalities are inherently risk-averse and will rarely go forward with projects unless they address critical needs and have a high likelihood of success. The rigorous open processes that municipalities go through before making decisions on major projects further diminishes risks. Most important, the intensive due diligence reviews that lenders perform before agreeing to put their money on the line in municipal broadband projects adds an especially comforting reality check on whether a municipal broadband project is viable. For these and other reasons, no major public communications project has ever failed. By contrast, hundreds of billions of dollars of investment capital have evaporated in failed private-sector projects.

Last Thoughts

As the late two-time presidential candidate Adlai Stevenson once observed, Americans "cannot read the writing on the wall until their backs are up against it."

The time has come for all Americans, including the incumbent cable and telephone companies, to open our eyes to the consequences of America's sinking global standing in broadband deployment. If America is to recover its global leadership, we must quickly pull together, recognizing that our public and private sectors have important roles to play in this endeavor. The longer we wait, the more difficult the task will be.

We owe it to ourselves and to our children to act now, with as much can-

dor, intelligence, and courage as we can muster. ♦

About the Author

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Connecting the Public: The Truth About Municipal Broadband



Harold Feld, Media Access Project
Gregory Rose, Media Access Project
Mark Cooper, Consumer Federation of America
Ben Scott, Free Press

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Executive Summary

The President, the Congress and the Federal Communications Commission (FCC) have all identified rapid deployment of broadband networks as a national priority and a critical part of our national economic and information infrastructure. President Bush has set a deadline of 2007 to achieve broadband access for all Americans, from our most affluent suburbs to our most impoverished urban neighborhoods to our most geographically isolated rural areas.

Municipal broadband plays a critical role in making the goal of universal deployment a reality. Traditionally, local governments have proven vital in deploying necessary infrastructure. For example, local governments built municipal power systems as part of the efforts to electrify America in the first part of the 20th Century. Local governments run public transportation networks and sewage networks, maintain local roads, build schools and hospitals despite the fact that private businesses could, and in many places do, provide competing services. As broadband becomes a necessary utility for commerce, education and healthcare, hundreds of local government entities across the country have taken up their traditional role of providing needed services to residents and local businesses.

Incumbent providers have sought to prevent the entry of competing municipal systems by lobbying for legislation to stifle municipal deployments. Incumbents have sought to justify this preemption of local government by portraying municipal systems as incompetent government monopolies unfairly competing with a plethora of competitive private sector offerings. These arguments ignore the reality of broadband deployment in America today and the long history of local government involvement in deploying critical infrastructure.

As discussed in the report.

- Municipalities have a long history of building and maintaining critical infrastructure. As broadband becomes increasingly important for commerce, employment, education and healthcare, the need for local communities to have a local safety net grows. Local governments provide needed broadband services designed to address community needs. By contrast, while private enterprise does a good job of providing broadband where profitable, it does not provide timely deployment to address health, education and welfare issues. By contrast private companies, appropriately, work to maximize profit. While the profit motive often fosters innovation and deployment, it will leave vital community needs unmet unless local governments step in to fill the gap. Without the involvement of local governments, broadband deployment in the United States will continue to fall behind other developed nations – such as Canada and Korea – which permit or encourage local governments to build out broadband networks.
- Municipal networks, or even the threat of municipal entry, provide the competition necessary to keep rates low and quality of service high. Many communities have only a single provider or a cable/telco duopoly. In these communities, rates remain high and service remains poor. As the market becomes more concentrated, the threat of municipal entry becomes necessary to protect competitive services such as voice or video over IP. While an incumbent cable system or incumbent phone company has incentive to block VOIP companies like Vonage that compete with their business model, municipal systems have no such incentive. Absent federal regulation requiring network neutrality or open access, municipal systems remain the last line of defense against such practices.
- Municipal systems increase investment in local communities. Local communities with municipal systems attract new jobs and keep old ones. Communities that must wait for private sector deployment lose residents and businesses to more well-connected places.
- Municipal systems do not “crowd out” private providers any more than the New York City Subway “crowds out” private taxi cabs and car services. To the contrary, studies and anecdotal evidence repeatedly show that where municipal systems take on the expensive task of building network infrastructure, the number of private providers *increases*.

- Local governments do not favor themselves on taxes or right of ways or otherwise compete unfairly with incumbent telecommunications and incumbent cable companies. To the contrary, private incumbents enjoy a wealth of state and federal subsidies, guaranteed rates of return, regulated rates for pole attachments, etc. In addition, local telephone companies enjoyed years of regulated monopoly status to build positions of dominance they continue to enjoy. To pretend that these local incumbents, with their subsidies and regulated access, need to “level the playing field” to protect a “free market” against local government systems flies in the face of reality.
- The allegation that local governments are intrinsically incompetent and incapable of running complex broadband systems likewise defies history and the experiences of daily life. Local governments have more than a century successfully managing electric systems and telephone systems. In addition, local governments across the country manage far more complicated systems critical to health and business. People daily trust their local governments to manage their drinking water and sewage systems, remove trash, run public transportation networks, and educate their children. Broadband networks do not create any greater challenge.

At the end of the day, local governments, accountable to local citizens understand their own needs and should have the freedom to find local solutions to local problems. We should not require citizens to beg big corporations to deploy systems when these citizens have the power to take matters into their own hands. More than 200 years ago, the founders of this country decided they were citizens able to govern themselves, not subjects of a distant king. This principle of self-governance alone would justify opposition to any legislation that prohibits municipalities from serving their residents on the grounds that corporate giants should have the right to serve them instead.

Introduction

The White House has set admirable and ambitious goals for broadband in America. The President has called for “universal, affordable access for broadband technology by the year 2007.” To increase market penetration into rural areas and drive down prices to serve low-income communities, we will need highly competitive markets so that every American household has “plenty of technology choices when it comes to purchasing broadband.”¹ This is a clarion call for public policy that encourages technological innovation and sparks new competition.

Without dramatic changes in broadband policy, many towns and cities will struggle to reach the President’s benchmarks. The dominant providers of DSL and cable-modem service in the US not only fail to approach universal, affordable access in 2005, they are nowhere close. According to the most recent report from the National Telecommunications Information Administration (NTIA), only 20% of American households have “high speed” access, even when defined generously as a mere 200 kbps. More recent estimates suggest that this may have risen to 30%, but the vast majority of Americans still do not have broadband.² By contrast, over 40% of American homes do not have Internet access of any kind. Although Internet uptake rates have risen in recent years, the pace of growth is leveling off. Moreover, low-income and minority communities are far less likely to have broadband access.³ Today, over half of all households with incomes above \$75,000 per year have broadband at home, while half of all households with incomes below \$30,000 do not have any form of Internet access at home.⁴

Finally, with regard to deployment in traditionally underserved communities, those communities most in need of government policy to enjoy access to broadband, our nation continues to do poorly. Low-income and minority communities are far less likely to have broadband access than high-income white communities.⁵

These results fly in the face of our national communications policy. For three quarters of a century, the Communications Act has defined a successful communications policy as fostering ubiquitous, affordable service available on a nondiscriminatory basis in competitive markets.⁶ The penetration of phone service of over 90% for a quarter of a century in this country,⁷ as compared to penetration rates in most of the rest of the world, was widely touted as an example of our success as a nation and as critical to maintaining a unified society in which all had access to a technology critical for health, safety, and economic advancement. The 1996 amendments to the Act embraced this traditional definition of success, extended it to advanced telecommunications services, and added that service should be available to all sectors of society in all geographic areas on an equitable basis. This is essentially the President’s message today.

Unfortunately, the telco/cable duopoly that the current administration relies upon for universal deployment, and at present accounts for 98% of broadband connections, is failing miserably to accomplish this goal. Rural areas are disastrously underserved—roughly half as many Internet households have broadband compared to urban dwellers. Almost half of all non-Internet households report that they have no service because it is either not available or too expensive.⁸ The network is neither ubiquitous nor affordable, and there are very few providers to choose from. In the President’s native Texas, there are 16

¹ White House, “A New Generation of American Innovation,” April 2004, http://www.whitehouse.gov/infocus/technology/economic_policy200404/innovation.pdf

² Pew Internet & American Life Project *Trends 2005* (2005), Chapter 4 shows little increase in adult Americans who use the Internet since late 2003, when the NTIA data was last collected (p. 59). It also shows that broadband in the home has increased by about 50% since late 2003 (p. 62), suggesting an increase from 20% overall penetration to 30%. Arbitron, *Internet and Multimedia 2005: The ON-Demand Media Consumer* (2005), p. 5 concludes that half of all households who have the Internet have broadband. With household penetration stable at about 60%, this suggest 30% penetration of broadband.

³ NTIA, “A Nation Online,” September 2004, <http://www.ntia.doc.gov/reports/anol/>, The Pew numbers indicate that 56% of households

⁴ Cooper, Mark, *Expanding the Digital Divide and Falling Behind in Broadband* (Consumer Federation of America and Consumers Union, October 2004),

⁵ NTIA, “A Nation Online,” September 2004, <http://www.ntia.doc.gov/reports/anol/>

⁶ Communications Act of 1934, as amended, Section 1.

⁷ U.S. Bureau of the Census, *Statistical Abstract of the United States: 2004-2005*, Table 1120.

⁸ NTIA, “A Nation Online,” September 2004, <http://www.ntia.doc.gov/reports/anol/>

counties with no broadband service at all, and 93 with only a single provider.⁹ Nationally, the United States has fallen to 13th among industrialized nations in deployment of broadband.¹⁰ Small wonder that local governments have taken the initiative to explore an alternative – municipal broadband.

In the last 18 months, hundreds of local governments have begun exploring how to provide high-speed broadband through municipal or community networks, either directly or in partnership with others. From Cerritos, California to Scottsburg, Indiana to Philadelphia, Pennsylvania, the idea is catching on. Whether building a wireless system, installing fiber directly to homes, or exploring broadband over power lines – or some combination of these options – local communities are finding they can get better service for less money if they do it themselves. A new industry of equipment makers and service providers has emerged to partner with these local government initiatives. The success stories are piling up, filling the gaps in the marketplace with innovation and ingenuity.¹¹ Without these municipals systems, it is clear that the gaps in the market will persist and low-income and rural communities will be left behind.

Incumbent Local Exchange Carriers (ILECs) and cable operators (MSOs) have responded aggressively to shut down municipal competitors in the marketplace. The prospect of a broadband service provider with public service values, low-cost technologies, and a business model designed to offer universal, affordable access poses a potent threat. Rather than improve their own service, the ILEC and MSO lobbyists have been dispatched to dozens of statehouses to push legislation to obstruct or prohibit municipalities from offering broadband services or partnering with private sector providers. Paradoxically, the incumbents argue that public sector broadband is both an unfair competitor *and* obviously an inferior service doomed to failure in the market. Spirited opposition has arisen to take on the industry lobby and protect the rights of local communities to choose their broadband future. These efforts take great strength from the success of municipal and public/private broadband systems as they exist today, and they look forward to an American market for high-speed connectivity that is both affordable and universal.

A great deal of misinformation has been injected into this debate by industry “fact sheets” and white papers by think tanks funded by corporate partisans.¹² This paper will therefore address not merely the positive benefits of municipal networks, but will also counter the arguments raised by incumbents and their proxies.

Government’s Proper Role in Providing Public Services

A traditional role of government has been to provide essential services to citizens when competitive markets fail to do so.¹³ The reasons underlying the emergence of municipal telecommunications providers are strikingly similar to those that gave rise to publicly-owned electric utilities at the turn of the century. Publicly-owned utilities first emerged in small towns that were unable to attract private providers. In the late nineteenth century, electricity was seen as more of a novelty than a necessity, but soon it came to be viewed as an essential commodity directly linked to a community’s economic survival. Many rural communities were left with the choice of forming a government-owned electric utility or being left in the dark.¹⁴ Similarly, high-speed Internet access, while viewed as a novelty only a few years ago, has become an essential service.

Broadband access has become increasingly essential to economic growth, healthcare, and education. Underserved and over-charged, rural towns and urban neighborhoods that don't have affordable broadband lose jobs. Their children suffer a serious disadvantage in college or in the workforce, where fluency with

⁹ Claudia Grisales, “Municipal Broadband Faces Limits,” Austin American-Statesman, 2 March 2005, <http://www.statesman.com/> [see <http://www.freepress.net/news/7082> for an archived copy.]

¹⁰ ITU Internet Reports, 2004, <http://www.itu.int/osg/spu/newslog/2004/09/15.html>

¹¹ See, New America Foundation, “Profiles of Municipal and Community Broadband Networks,” February 2005, http://www.newamerica.net/Download_Docs/pdfs/Doc_File_2245_1.pdf

¹² See for example: “Not in the Public Interest – The Myth of Municipal Broadband,” New Millennium Research Council, February 2005, <http://newmillenniumresearch.org/archive/wifireport2305.pdf>

¹³ Steven C. Carlson, *A Historical, Economic, and Legal Analysis of Municipal Ownership of the Information Highway*, 25 Rutgers Computer and Tech. L. J. 1, 24 (1999).

¹⁴ *Ibid.*

computers and the Internet is increasingly assumed as a matter of course. Rural towns without broadband cannot take advantage of new breakthroughs in tele-medicine or the economic opportunities created by telecommuting. Even in crowded urban areas, the availability of broadband can vary from one neighborhood to another, stranding one neighborhood on the wrong side of the “digital divide” while two, three or even four broadband providers serve their neighbors.

Municipalities have a valuable role to play in filling this gap, continuing the tradition of providing necessary services for citizens and stimulating local businesses. Municipalities across the country have invested public money in convention centers, roadways, health clinics, and community colleges, not to make money, but to bring business opportunities, healthcare, and education to their citizens. They should have the same opportunity to offer public hotspots and broadband access. In its *Third Advanced Services Report*, the FCC found that most places outside of major metropolitan areas do not have multiple advanced telecommunication service providers.¹⁵ In areas where competition exists, business and residential consumers have realized the benefits of lower costs for such services that their counterparts in single provider areas have not.¹⁶ In such an environment, it makes little sense to prohibit municipalities from providing a competitive yardstick against which to measure service furnished by incumbents and from providing citizens access to essential telecommunications services that would otherwise be unaffordable or unavailable.

The histories of other distribution technologies, such as the roadways, railroad, telegraph, and telephone have repeatedly demonstrated the importance of public involvement to ensure full access at reasonable prices. These principles have been embodied in public law. Communications networks have been subject to particularly rigorous obligations because they involve speech and expression. The Communications Act of 1934 modeled our national policy for telephone and telegraph services on the same principles of common carriage and non-discrimination used to regulate railroads fifty years earlier.

Most importantly, the Communications Act set forth a vision of universal access by all the people of the United States to communications technologies critical to health, safety, quality of life, and economic development. Section 1 of the Communications Act (as amended) proudly proclaims our national policy on telecommunications:

*[T]o make available, so far as possible, to all people of the United States, without discrimination on the basis of race, color, religion, national origin or sex, a rapid, efficient, nationwide and worldwide wire and radio communications service with adequate facilities at reasonable charges.*¹⁷

As our economy goes digital, with commerce moving online and telecommunications converging with mass media, the principle of nondiscriminatory access to a ubiquitous, affordable communications network becomes more important than ever. Municipal broadband systems, while not a substitute for common carriage and non-discrimination requirements, can help to spur deployment and provide needed services to all. Many of the countries that are now ahead of us – such as Canada and South Korea - have used municipal systems as one important element in their broadband strategy.¹⁸ As a nation, we cannot afford to cut off any successful strategy if we want to remain internationally competitive.

Given this environment, it is not surprising that federal policymakers, including President Bush, have had warm words of praise for municipal broadband. Recognizing the possibilities for municipalities to serve residents and stimulate economies with municipal broadband, the President said: “Imagine if you're the head of a chamber of commerce of a city, and say, gosh, our city is a great place to do business or to find work. We're setting up a wi-fi hot zone, which means our citizens are more likely to be more productive than the citizens from a neighboring community. It's a great opportunity... [T]his is a very exciting opportunity for the country.”¹⁹ FCC Commissioner Michael Copps seconded this message: “I think we do a

¹⁵ *Third Advanced Services Report* at ¶ 97.

¹⁶ *Id.*

¹⁷ 47 USC 151.

¹⁸ See, Birgitta Forsberg, “The Future is South Korea,” *San Francisco Chronicle*, 13 March 2005, <http://www.sfgate.com/cgi-bin/article.cgi?f=/c/a/2005/03/13/BROADBAND.TMP>; Michael Geist, “Let towns, cities provide cheap, everywhere broadband,” *Toronto Star*, 28 Feb 2005,

http://www.thestar.com/NASApp/cs/ContentServer?pagename=thestar/Layout/Article_Type1&c=Article&cid=1109547019316&call_pageid=971358637177&col=Columnist1036500183695

¹⁹ The White House, *A New Generation of American Innovation* (April 2004),

grave injustice in trying to hobble municipalities. That's an entrepreneurial approach, that's an innovative approach."²⁰ Rep. John Peterson (R-PA), the Co-chair of the Congressional Rural Caucus, has expressed his concerns about the failure of the broadband market: "The high-speed Internet is vital for any business that wants to compete in today's global marketplace, and the lack of affordable broadband is a tremendous roadblock to economic growth in rural America. Broadband technology enables hospitals and health care providers to greatly improve patient care in rural areas, and is critical for improving our rural way of life." He affirmed his support for the municipal right to offer broadband at a recent meeting of the Rural Caucus.²¹

The federal government has already begun pumping millions of dollars of funding into publicly owned broadband networks through grants from the now-defunct Technology Opportunities Program at NTIA, Rural Utility Services funds, and grants from the Department of Homeland Security for municipal public safety networks.²² Further, the FCC's adoption of final rules for BPL technology in October 2004 has opened the opportunity for municipal electric companies to increase their role as alternative providers of broadband service to their communities. Restrictions or prohibition of municipal networks at the state level will make this investment in America's future wasted tax dollars.

The White House, FCC, NTIA, DHS and prominent Congressional leaders have a strong case behind their support for public sector broadband as the answer to our digital divide problems.

The Benefits of Municipal Networks

Municipal Networks Offer Public Service Priorities

No one questions the power of private industry operating in a competitive market to bring goods and services to consumers. Doubtless, for-profit companies will continue to roll out broadband offerings and innovations. Nevertheless, while recognizing the importance of private entrants, policy makers must also recognize their limitations. Private companies operate solely on the basis of profit motives. They have fiduciary obligations to stockholders to maximize their profits. While the profit motive often produces competition and innovation that benefits consumers, it provides no guarantee that private companies will fulfill vital public needs. The decisions of private companies may be economically rational in terms of the advantages accruing to the firm and its stockholders, but there are equally important economic and social needs and benefits completely absent from their calculations. Municipal communications networks operate with a "public motive" not a "profit motive." As one recent study aptly put it: "While a profit-centric view may be good business, it is obviously not good for communities forced to endure substandard education, poor health care, and a sluggish economy."²³

Municipal networks are an open and accountable public service, operating at a level of government at which extensive participation by local residents is relatively easy. These networks meet vital community needs unmet by incumbent service providers and they are responsive to community input in a way that large and often distant private firms are not. A private provider may eschew low-income customers, balk at offering non-profit service to schools and city offices (including public safety), or leave a rural community isolated for years before the market develops an interest. A public network embraces these arenas as central to the mission of universal, affordable access. For example, in Jacksonville, FL, the city's electric utility is partnering

http://www.whitehouse.gov/infocus/technology/economic_policy/200404/innovation.pdf

²⁰ Qtd in Jim Hu, "Why our broadband policy's still a mess," *CNet*, 28 February 2005,

http://news.com.com/Why+our+broadband+policys+still+a+mess/2008-1034_3-5590929.html

²¹ Comm Daily CITE. Peterson's quote is taken from the press office of the Rural Caucus, see:

<http://www.house.gov/johnpeterson/ruralcaucus/crcnews/2004releases/111704telecomforum.htm>

²² Assistant Secretary of Commerce for Communications and Information Michael D. Gallagher, "Bucks for Broadband Summit," http://www.ntia.doc.gov/ntiahome/speeches/2005/KY_01122005.ppt (January 12, 2005); NTIA, U.S. Department of Commerce, Public Telecommunications Facilities Program Federal Funding Opportunity FY2005, http://www.nita.doc.gov/ptfp/attachments/FFP_Notice_05.html#DLAN (January 25, 2005).

²³ "The Case for Municipal Broadband in Florida," Florida Municipal Electric Association, March 2005, http://www.publicpower.com/telecom_study/telecom_report_2005.pdf, 5.

with the Nemours Children's Clinic to offer tele-medical services to low-income families with asthmatic children. The program is funded in part by a forward-thinking grant from the NTIA.²⁴

Broadband has become increasingly important to healthcare, education, and other public services. But a municipality cannot trust to the profit motive to ensure service of these vital needs. For the incumbent broadband provider, hospitals, schools, and other public services are seen purely as sources of revenue. It has no interest in making investment decisions about providing services to such institutions except the monthly payment received for provision of service. If the incumbents decide that your school, your hospital, your community fails to generate the revenue they want, they will not invest in broadband infrastructure and you will be left with no broadband service. Private firms are profit-driven, not altruistic. It is naïve to expect that they will take into account a community's desire to avoid poor health care, substandard public education, or the flight of under-served businesses by upgrading to broadband unless they are able to extract enough revenue to meet their profit expectations.

By contrast, municipal networks are attentive to a wide range of community needs and interests precisely because they are owned by and accountable to the public they serve, and they can take these needs and interests into account in a way that private providers are incapable of by their very nature. They do not merely provide an alternative to private broadband providers; they often provide service which private providers are unwilling or unable to make available and which would not be provided if not for municipal investment.

Municipal Networks Expand Service and Lower Rates

Private companies look at broadband service only in terms of the bottom line. If meeting a community's needs is not sufficiently profitable to the private telecommunications firm, that community's needs will not be met.

Municipal networks have often been the technology of last resort for rural communities where private businesses do not consider it sufficiently profitable to deploy. This is a serious problem in many rural areas where backhaul tariffs and the absence of competition leads to extremely high rates or no service at all. According to a recent report by the Iowa Utilities Board, over 25% of Iowa's rural and non-rural communities do not have a broadband provider. Two-thirds of rural Iowa and over half of non-rural Iowa have either one market provider or no service.²⁵ Where service is available, prices are high. Many Iowa towns must endure residential DSL prices up to \$169.95 per month for 1 mbps or the bargain rate of \$99.95 for 768 kbps of download speed.²⁶ In Iowa towns like Adair, Fontanelle, Milo, Prescott, and St. Ansgar, this is the only option.²⁷

This situation is not unusual. Over 90 Texas counties have only a single service provider. High prices are the norm there as well. In Texas towns like Kerrville, Boerne, and Fair Oaks, 1 mbps of download speed from the local WISP costs \$166.39 a month.²⁸ In La Grange, TX, 512 kbps of DSL connectivity costs \$79.99 per month.²⁹ In Goldthwaite, TX, 768 kbps costs \$105.90 per month.³⁰

Municipal networks have stepped into these circumstances to offer a solution. There are dozens of examples of municipal networks (wired and wireless) that have deployed successfully in pursuit of expanding service and lowering consumer rates.³¹ For example:

²⁴ "The Case for Municipal Broadband in Florida," Florida Municipal Electric Association, March 2005, http://www.publicpower.com/telecom_study/telecom_report_2005.pdf, 9.

²⁵ "Assessing High-speed Internet Access in the State of Iowa," Iowa Utilities Board, December 2004, <http://www.state.ia.us/government/com/util/reports.html>

²⁶ See the pricing charts for Iowa Telecom DSL service: <http://www.iowatelecom.com/residentialservices/article.asp?id=220&PID=108&GPID>

²⁷ These towns are all served by Iowa Telecom DSL according to their coverage list: <http://www.iowatelecom.com/PDFs/DSL%20Available%20021705.pdf>; and they are also listed in the IUB report as towns with only one-service provider.

²⁸ See: <http://www.beecreek.net/htmls/services.htm>

²⁹ See: <http://www.coloradovalley.com/cvtvnet/dslfaq.htm#Cost>

³⁰ See: <http://www.centex.net/internet.php3>

³¹ See: Esme Vos, "Muniwireless Report," March 2005, <http://www.muniwireless.com/archives/000609.html>

- Allconet, a consortium of the Allegheny County, Maryland government, the local board of education, the public library system, and the City of Cumberland, serves a community which had no other options, having been refused a high-speed network by their regional telecommunications provider. The second phase of Allconet's deployment provided broadband access to more than ninety percent of Allegheny County businesses and more than eighty percent of residents.³²
- In Kutztown, Pennsylvania, the city created a fiber-optic wide area network to provide its residents, businesses, schools, and government buildings with super high-speed connectivity. Nestled in between three larger cities and home to a university campus, Kutztown has enjoyed the benefits of attracting new business with its high-tech communications system that offers voice, video and data. As rural areas increasingly compete for economic development dollars, Kutztown has lowered cable television and telephone rates and offered state-of-the-art broadband to its residents.³³
- The City of Scottsburg, Indiana, found similarly in 2002 that private telecommunications providers were unwilling or unable to provide the broadband service necessary to prevent relocation of major local businesses. The city, which is also Scott County's municipal electric utility, created the Citizen's Communication Corporation to create and manage a municipal network which now provides broadband access to more than ninety percent of the county's residents.³⁴
- In Granbury, TX (pop. 6000), city officials have partnered with a local ISP and a wireless equipment vendor to deploy a Wi-Fi network that covers 26 square kilometers. The city's network will be shared by public safety (police, fire and emergency services), government services (building inspection and meter reading) and residential customers. This type of public/private partnership is a model that has attracted city planners in hundreds of other communities nationwide.³⁵

The success of these examples does not mean that all municipalities must deploy their own networks, or that private networks should be banned in favor of monopoly government networks. It does, however, demonstrate the tremendous harm to the public of prohibiting municipal networks, even if private companies are available to provide service. Prohibiting municipalities from deploying broadband networks, or prohibiting them from expanding existing networks, removes a necessary provider and a valuable potential competitor to the private sector. Banning or restricting municipal networks, therefore, will condemn many communities to substandard service and economic backwardness merely to insulate incumbents from the prospect of competition.

Municipal Networks Increase Investment in Local Economies

Municipal networks have been invaluable in providing broadband service crucial to retaining private sector jobs in many communities. The municipal network was established in Scottsburg, Indiana as a result of demands for broadband access from two major local employers who threatened to relocate if the city could not obtain high-speed access. The case of Cooper-Standard Automotive in Auburn, Indiana, a company whose jobs were retained when the city administration decided to establish a municipal fiber-optic network is similar.

Like concerns appear at the root of the decision of several small Wisconsin communities—Sun Prairie, Waupaca, Jackson and Reedsburg—to deploy wireless and fiber optic networks. Project UTOPIA (Utah Telecommunications Open Infrastructure Agency), a consortium of eighteen cities, banded together to

³² "County-Wide Wireless Broadband in Allegheny, Maryland," *Muniwireless.com*, 10 May 2004, <http://www.muniwireless.com/archives/000324.html>; See also, <http://www.allconet2.com/>

³³ See synopsis in "Community Broadband: Separating Fact from Fiction," American Public Power Association, January 2004, <http://www.appanet.org/legislative/index.cfm?ItemNumber=9964> 34-35.

³⁴ See: "Scottsburg, Indiana Wireless Network Saves the Community," *Muniwireless.com*, 29 April 2004, <http://www.muniwireless.com/archives/000315.html>; See also, New America Foundation, "Profiles of Municipal and Community Broadband Networks," February 2005, http://www.newamerica.net/Download_Docs/pdfs/Doc_File_2245_1.pdf

³⁵ See: "Granbury Texas Unwired," *Muniwireless.com*, 19 October 2004, <http://www.muniwireless.com/archives/000474.html>

establish a municipal broadband network, also arose in part from the likelihood that local employers would relocate from an area historically poorly served by private telecommunications providers.

Furthermore, there is good evidence that the establishment of municipal networks does far more than just retain existing jobs. A 2003 study, comparing Cedar Falls, which has a municipal network, and neighboring Waterloo, Iowa, which has only private broadband providers, reported that Cedar Falls set a record for construction investment in 2002—over \$100 million despite an economic downturn. Meanwhile, Waterloo suffered its lowest total in eight years, coming in at \$53 million.

Although the implementation of Cedar Falls' Communications Network is relatively young, Cedar Falls is already reaping economic and community benefits. There may be no single thing more important in a community's efforts to achieve economic well-being than to grasp the role that telecommunications plays in creating meaningful jobs, enhanced education and world class healthcare. Now, more than ever, the direct link is evident between advanced communications and productivity and economic development.³⁶

The general economic stimulus provided to private firms by the existence of municipal networks, thus, extends considerably beyond the stimulation effect such networks have on CLECs. Indeed, as internet access becomes available in public spaces, it acts as a powerful incentive to draw people to local businesses. The person surfing the web in the local park rather than at home will get coffee from the local coffee shop instead of from their kitchen, and may decide to drop in at the local bookstore. In this regard, municipal access becomes the equivalent of other municipal improvement projects designed to lure shoppers downtown. Finally, to the extent local businesses save on their communication costs it frees money for other investments.

As an added bonus, all of the revenue thus generated is kept local. Unlike a network managed by a distant corporation with centralized, outsourced call centers, local networks and the businesses they benefit create local jobs and increase local tax revenues.

Municipal Networks Increase Competition in Highly-Concentrated Broadband Markets

Broadband “competition” for most Americans consists of one cable company and one telephone company. In many places, there is not even a choice between the two.³⁷ Even where they happen to meet in the marketplace, they do not behave in a competitive manner. Oligopoly market control cannot and will not yield the consumer benefits of true competition. When cable networks sell high speed Internet service, they offer only themselves as an ISP. When the telephone companies sell DSL, they bundle it with their local voice service. Both cable companies and telcos are very selective in where they make their more advanced services available— focusing on wealthy neighborhoods and raising questions as to when, if ever, they will deploy in poorer (and therefore less profitable) neighborhoods.³⁸ Because competition has been feeble, prices have remained high and expanded deployment has not materialized, prompting the need for more competition and consumer choice.

In addition to monopoly or duopoly on the retail level, the number of wholesale sellers of internet transport is rapidly shrinking from competitive levels to unhealthy levels of concentration. Consolidation of large corporations which control key elements of the Internet backbone continues apace with the proposed acquisition of AT&T by SBC and of MCI by Verizon. In particular such consolidation presents a clear threat that such dominant private telecommunications actors could leverage smaller broadband providers by the rates they set for access to the backbone. These firms are seeking to have the obligation to provide interconnection and carriage on just, reasonable and nondiscriminatory rates, terms and conditions eliminated. Moreover, such dominant firms would be positioned to use their ability to bundle a large range

³⁶ Doris J. Kelley, "A Study of the Economic and Community Benefits of Cedar Falls, Iowa's Municipal Telecommunications Network," working paper (October 2, 2003), 12-13.

³⁷ Such as the situation in Iowa cited earlier where 2/3 of rural communities and _ of non-rural communities have only one service provider.

³⁸ W. David Gardner, "Broadband 'Redlining' Issue Raised In Fiber Deployment" 11 February 2005, <http://www.advancedpipeline.com/ipbusiness/60400223>

of telecommunications services to effectively make it impossible for rivals to compete. This is particularly problematic for those small and mid-size cities that are not located near high-capacity inter-city lines and have limited POPs with high tariffs to choose from as middle-mile connections. In an environment of increasingly vertically-integrated incumbents, public owners of infrastructure will play a critical role in keeping backhaul rates competitive.

We have already seen the myth of competition exposed in what has followed the 1996 Telecommunications Act. The act presupposed that the Baby Bells would lease local facilities and equipment to competitors, including other regional Baby Bells and long-distance providers, who would then offer the public rates set by real competition. Instead, the Baby Bells essentially colluded, refusing to compete on each other's turf in order to protect their own, and initiated a campaign in Washington to modify the rules on network access pricing which eventually drove even giants like AT&T and MCI from the market and into mergers with the dominant Baby Bells. Internet consolidation is poised to repeat this process, threatening to put decisions not merely about who gets broadband service and at what price, but also about what services will be carried on broadband in the hands of a smaller and smaller set of huge private firms.

The recent experience of Vonage Holdings, Inc., is a cautionary tale for those who believe that competition is vital to ensure delivery of technological innovation to the public. It points to the vital importance of keeping networks open for the introduction of competitive technologies. In February of 2005, Vonage found that ILEC networks were blocking its voice-over-internet-protocol (VoIP) service, making it impossible for Vonage customers to make calls and forcing them back into the hands of the ILEC telephone exchanges.³⁹ Although the FCC intervened, the power and willingness of incumbent networks to use control over the physical layer to control content and applications are troubling. VoIP technology is in its infancy and hardly represents an immediate threat to the dominant telephone carriers. The fact that ILECs have chosen to use their control over data streams to attempt to block this technology at its inception sends a clear warning that the incumbents intend to use their dominant position as broadband service providers to forestall technologies which may threaten other sectors of their business in the future. Even more serious is the implication that incumbents will be able to cut side-deals with some broadband content providers which will privilege their content over that of competitors and exclude other content providers entirely from the marketplace.

Municipal networks provide an important alternative to the oligopolistic tendencies inherent in telecommunications provider consolidation. In an environment where dominant private firms are able to restrict competitors' and content providers' access to subscribers the existence of publicly-owned, unrestricted-access municipal networks becomes a guarantee that content providers will continue to have free access to the public. Further, the existence of open access public networks will serve as a deterrent, serving consumers the considerable advantages of access to applications and content that private sector competitors could choose to block.

There is an additional, often overlooked, benefit which municipal networks provide. It is inherently dangerous to a democracy for all of its telecommunications infrastructure to be held in the hands of unelected and unaccountable private actors with no obligation to behave in a nondiscriminatory manner. Municipal networks by their nature answer directly to the local community and their policies are subject to scrutiny and modification by public action, if need be at the ballot box. The preservation of a system of mixed public and private ownership of telecommunications infrastructure is essential to maintaining the free flow of information unfettered by the economic interests of dominant private actors.

Finally, municipal networks advance the goals of closing the digital divide and providing universal adoption. A recent study of European broadband provides extraordinary evidence for the importance of increasing competition in the marketplace.⁴⁰ The study concludes that broadband take-up rates increase in direct proportion to the decrease in market concentration. The study found a 40% correlation between the level of high-speed take-up and the amount of competition between different access providers. Further, the study saw a stronger, 72% relationship between the rate of change in the level of market concentration and the rate of change in the take-up rate. Over time, the study found that for every 1% decrease in market concentration, there is a 3% increase in broadband take-up. The implications of this study for municipal

³⁹ Jonathan Krim, "FCC Probes Blocking of Internet Phone Calls," *Washington Post*, February 17, 2005.

⁴⁰ Richard Cadman and Chris Dineen, "Broadband and i2010," Strategy and Policy Consultants Network, Ltd, 21 February 2005, http://www.spcnetwork.co.uk/uploads/20050221_broadband_analysis.pdf

entry into the broadband market are striking. As public sector players enter the market as wholesalers of infrastructure or retail access providers, the market will experience an increase in broadband consumers. The faster competition heats up, the faster the President's goal of universal access will be realized.

Indeed, anecdotal evidence suggests that even the threat of municipal entry will prompt incumbents to deploy new services or lower rates to stave off public networks. In the Tri-City area of Chicago, for example, the local municipalities have twice held a referendum on whether to construct a shared municipal broadband network. Although the referendum was twice defeated (after an enormous public relations campaign mounted by SBC and Comcast), both commercial providers have worked to improve their service to mitigate the local concerns that caused the municipalities to propose building networks in the first place. Because the broadband market remains, essentially, an ILEC/cable duopoly, only the threat of municipal entry can provide the competitive pressure to force the incumbents to lower prices and increase quality of service.

FACT vs. FICTION: Exposing the Myths of the Anti-Municipal Lobby

In the wake of the Supreme Court case dealing with municipal broadband—*Nixon vs. Missouri Municipal League*⁴¹—the lobbyists for the incumbent cable and telecom industries have descended on state capitols. Although the Court said merely that states *could* restrict or prohibit public broadband, the lobbyists have campaigned that they *should* and *must* prohibit them. This is despite clear evidence in the judicial and regulatory record that municipalities have strong merit as broadband providers.

For example, in the so-called *Missouri Preemption Order*, the FCC found that public entry into broadband markets would advance the pro-competitive goals of the federal statute:

The Commission has found that municipally-owned utilities and other utilities have the potential to become major competitors in the telecommunications industry. In particular, we believe that the entry of municipally-owned utilities can further the goal of the 1996 Act to bring the benefits of competition to all Americans, particularly those who live in small or rural communities. We emphasized this fact in our August 2000 report on the deployment of advanced services...Our case study is consistent with APPA's statements in the record here that municipally-owned utilities are well positioned to compete in rural areas, particularly for advanced telecommunications services, because they have facilities in place now that can support the provision of voice, video, and data services either by the utilities, themselves, or by other providers that can lease the facilities. We are also encouraged by the comments of Missouri River, which states that it is comprised of municipally-owned utilities that serve communities with populations of less than five thousand people in Iowa, Minnesota, North Dakota and South Dakota, and that its members have installed fiber optic facilities that they could use to provide telecommunications services in markets where there are currently no competitive alternatives.⁴²

The Supreme Court's opinion in *Nixon v. Missouri Municipal League* did not alter this analysis or pass negative judgments on municipal entry. Rather, the case turned on a narrow question of statutory interpretation. The Supreme Court found that when Congress created Section 253(a) of the Communications Act, and generally to preempt the Missouri barrier to municipal entry, but

The Court explicitly noted that its decision was not a ruling on the merits of municipal entry. To the contrary, The Court found that the municipalities "have at the least a respectable position, that fencing governmental entities out of the telecommunications business flouts the public interest;" that the Commission had "denounced the policy behind the Missouri statute;" and that three of the five commissioners had written separate opinions "to the effect that barring municipalities from providing telecommunications substantially disserved the policy behind the Telecommunications Act."⁴³

The campaign of the incumbents to persuade state legislatures to ban municipal networks is directly contrary to the stated policy goals of the federal government. It seeks to denying consumers the social and

⁴¹ 541 U.S. 125 (2004).

⁴² *In the Matter of the Missouri Municipal League*, 16 FCC Rcd 1157 ¶10 (2001) (footnotes omitted).

⁴³ 124 S.Ct. 1555, 1560, 2004 U.S. LEXIS 2377 (2004).

economic benefits which the federal government foresees from rapid broadband deployment on all fronts using a broad mix of suppliers. It robs local communities of their right to democratically decide the shape and character of their digital communications future. The incumbents would rather see a sensible national policy thwarted, residents denied the opportunity for broadband service in less profitable communities, and federal tax dollars wasted than tolerate anything which impedes their plans to completely dominate broadband service so they can charge the highest rates the market will bear.

Nine states have seen legislation introduced this year that would seriously restrict or prohibit municipalities from offering broadband service: Colorado, Florida, Iowa, Illinois, Indiana, Nebraska, Oregon, Tennessee, Texas, and West Virginia. Proponents of local control, competition, and public sector entry into the communications market have mounted a considerable counter-challenge. Legislation has been defeated in Indiana. In most of the other states, the debate has been heated and the end result remains uncertain.⁴⁴ Though little light has been shed upon them, fourteen states had restrictions to municipal networking in place before this year.⁴⁵ Some of these states now look to pile on further obstacles to keep municipalities out of the broadband market.

Arguments Against Municipal Entry Have No Merit

Incumbents and their supporters have attempted to justify these legislative assaults through a variety of arguments. These arguments range from outright falsehoods, to misguided half-truths, to paternalistic red-herrings. These companies have thrived on a diet of monopoly pricing and public subsidies, including cash bribes to serve poor neighborhoods and rural areas, regulated access to public rights of way on favorable terms, and regulated rates to attach to the electric poles of power companies. Suddenly threatened with genuine competition from municipal systems, incumbents would rather regulate than compete. They have commissioned a number reports from think tank scholars – famously described by one commentator as “sock puppets of industry”⁴⁶ – designed to support the proposition that state governments should preempt local governments from deploying broadband systems.

Briefly, the incumbents have argued that municipalities should not provide broadband networks because (a) municipal systems have no place in a free, capitalist marketplace; (b) municipalities “crowd out” more efficient private players from offering competitive services, thus stunting the deployment of broadband and associated services; (c) municipalities do a poor job managing complex systems and will squander tax payer dollars; and, (d) municipal systems do not really provide a bridge over the “digital divide,” but primarily benefit middle class residents with laptops and small businesses that could easily pay for the same services from commercial provider. This paper debunks each of these objections in turn.

The “Free Market” Argument.

As an historic matter, it is simply false to claim that public enterprise has no place in a free market. To the contrary, municipalities provided electricity and telecommunications services in the last century under similar circumstances as many propose to deploy broadband today. Nor is it fair to say that a free market exists in telecommunications. Most Americans remain served by a single telephone company and a single cable company in their franchise area. Despite all the talk of convergence and new technologies, the telephone and cable companies have substantial market power because they face very little competition, and can use their monopoly voice or video revenues to subsidize broadband build out and force consumers to buy expensive bundles that further subsidize the network.

⁴⁴ For more information, see: <http://www.freepress.net/communityinternet/>

⁴⁵ See: <http://www.appanet.org/files/PDFs/TelecomFlyer.pdf?sn.ItemNumber=9965&tn.ItemNumber=10000>

⁴⁶ Glenn Fleishman, “Sock Puppet Talks, Unravels,” *WifiNetNews*, 8 March 2005, http://wifinetnews.com/archives/cat_sock_puppets.html

Furthermore, these private companies have insisted on a host of public subsidies as a condition of providing broadband – ranging from regulatory relief to access to rights of way to direct subsidies paid out of the public treasury. Nor do they pay their fair share of taxes. A recent study by the Florida Municipal Energy Association shows that private providers in fact pay *less* in taxes than municipally owned systems, while receiving *more* in state and federal subsidies.⁴⁷ This hardly constitutes a free market in which municipalities should not dare to tread for fear of distorting outcomes based on competition. Rather, it is the incumbents that would rather regulate than compete.

Incumbents are merely one set of government-subsidized broadband providers trying to eliminate competition from any other government-subsidized source. For years incumbent telephone companies have received billions of dollars in federal and state subsidies ILECs and cable companies have received exclusive geographic franchises from state and local governments and have accrued huge competitive advantage over other providers by virtue of longstanding government-protected monopolies. Exclusive licenses frequently continue to protect their spectrum.

It is duplicitous to suggest that the incumbents represent the “free market” against “government-subsidized” municipal networks. Incumbents are incumbents precisely because they have had the weight and resources of government to back them up for years. Furthermore, they have had backing from those levels of government - the federal and state - which are least pervious to direct participation by local residents. Municipal networks, funded by the public and accountable to the public, represent a balance to the domination of telecommunications infrastructure by huge corporations which have long enjoyed substantial government subsidy. Banning or restricting municipal networks will end this effort to create a level playing field.

The “Crowding Out” Argument.

Rather than rushing in to crowd out successful private broadband networks, municipal networks often represent a last resort by cities and counties desperate to serve their residents and keep jobs that would otherwise leave for better connected areas. For many, the choice lies not between municipal networks and private networks but between municipal networks or nothing.

Even urban areas may experience broadband famine in place of the broadband feast perpetually promised by the incumbent providers. A recent report showed that, outside of Manhattan, broadband connectivity remains expensive, non-competitive, and unavailable in many locations.⁴⁸ If even New York City can experience a broadband shortage in the absence of municipal systems, every city needs to consider whether to rely exclusively on private industry to serve the needs of its residents and businesses.

Beyond this anecdotal evidence, however, a recent study discussed below provides empirical evidence that municipal systems *stimulate* competitive entry by private telecom providers, rather than crowd them out. A study by George S. Ford (Applied Economic Studies, Inc.) prepared for the Florida Municipal Electric Association looked at whether municipal broadband systems stimulated competitive offerings by private companies or crowded such offerings from the market. The study found that the number of private competitive entrants rose significantly if municipalities deployed networks as compared to those local exchanges where municipalities did not deploy networks. “In fact, municipal construction of communications networks expands the number of private firms serving the same market by more than 60%. In this study, no evidence was found to support the argument that municipal communications systems limit private investment.”⁴⁹

The argument that municipal systems somehow monopolize or retard the development of better, private systems is therefore demonstrably wrong. To the contrary, municipal systems arise when the private market

⁴⁷ The Case for Municipal Broadband in Florida,” Florida Municipal Electric Association, March 2005, http://www.publicpower.com/telecom_study/telecom_report_2005.pdf,

⁴⁸ Jonathon Bowles, “Is There a Broadband Gap for Businesses In Brooklyn?” Center for An Urban Future 10 January 2005, http://www.nycfuture.org/content/reports/report_view.cfm?repkey=149&search=1

⁴⁹ “The Case for Municipal Broadband in Florida,” Florida Municipal Electric Association, March 2005, http://www.publicpower.com/telecom_study/telecom_report_2005.pdf, 10.

fails to keep pace with local needs, and stimulates new private entrants that offer ever more services at lower prices.

Incumbents frequently claim that the entry of municipal networks into provision of broadband service inhibits private investment by displacing private firms from the market. Conversely, advocates of municipal networks put forward the argument that such networks stimulate additional private investment. The crowding-out hypothesis and its implications are aptly summarized:

One of the principal arguments against municipal provision of communications services is that this public investment will “crowd out” private investment. The logic is straightforward: if we view that market is capable of sustaining N firms, then the entry of a municipality will displace (at least) one private firm. While intuitively appealing, the argument is exceedingly naïve when applied to the communications industry. Entry into the communications industry typically requires large sunk investments in fixed assets that render non-trivial scale economies. In many cases, therefore, the municipality will be the only entrant for some communications services or in particular geographic areas, since the expected return may not be sufficient to warrant the investment by a private firm. Or, the municipality may be the only competitor to a monopoly private firm in cases where additional entry may be precluded absent the positive spillovers available to the municipality. So, in many cases, municipal entry may have no effect on private entry, but it may be an important element of a well-functioning communications market.⁵⁰

Similarly, the stimulation hypothesis predicts:

...in many cases, the investments made by the public sector may increase private investment since municipally run communications networks typically provide wholesale access to key components of telecommunications infrastructure. Like the unbundling obligations of the 1996 Telecommunications Act, this wholesale access to fixed and sunk assets promotes entry. So, there is a plausible argument that municipal entry may actually encourage private firm entry and investment.⁵¹

A recent study by George S. Ford (Applied Economic Studies, Inc.) uses data provided by ILECs and CLECs to the Florida State legislature to test the validity of the crowd-out and stimulation hypotheses empirically. The study measures the mean effect of the provision of a communications network by a city with municipally-supplied electricity on private telecommunications firms, using data on CLEC activity obtained from the Annual Report to the Florida Legislature on the Status of Competition in the Telecommunications Industry in Florida (2004), Appendix B, testing both the crowd-out and stimulation hypotheses. The author concludes:

The model predicts that cities that self-supply electricity have approximately 7 fewer CLECs..., on average, than do similarly situated cities without municipal electricity operations (a 30% reduction). Within the group of cities self-supplying electricity..., those cities with communications networks... average about 10 more CLECs..., other things constant (a 63% increase). Relative to cities that do not have municipal electric operations, municipalities operating both electric and communications networks... have on average about three more CLECs (a 13% increase) than similarly situation cities with municipally-supplied electricity.... Our empirical model provides no support for the crowding out hypothesis..., but strong support for the stimulation hypothesis... Other things constant, the empirical model indicates that municipally operated communications lead to a 63% increase in CLEC count relative to other cities supplying their own electricity, and a 13% increase in CLEC count relative to cities with privately-supplied electricity.⁵²

This empirical refutation of the crowding-out hypothesis and confirmation of the stimulation hypothesis is particularly compelling because it is based on data which the ILECs and CLECs themselves provide to the Florida state legislature. When the incumbents' own data is subjected to rigorous economic analysis, the claim that municipal networks crowd out private broadband investment is shown to be baseless and the evidence is made plain that such municipal networks in fact stimulate private investment.

⁵⁰ George S. Ford, “Does Municipal Supply of Communications Crowd-Out Private Communications Investment? An Empirical Study,” Applied Economic Studies, Inc., Working Paper (2004), 2.

⁵¹ Id.

⁵² Ibid., 7-8.

The “Incompetent Municipality” Argument

Hoping to capitalize on a distrust of public enterprise, incumbents have pushed this argument forward, relying primarily on some anecdotal evidence of municipal systems that went over budget or have not yet achieved profitability. Many of these so-called failures have been debunked by a definitive study on the economics of municipal systems put out in March 2005 by the American Public Power Association.⁵³ A second study by Free Press has further demonstrated that many of these so called “failures” are among the most successful municipal networks in practice.

If anything, the attempts by incumbents to use profit as the sole yardstick of failure demonstrates why municipalities must have the freedom to act. As discussed above, local governments have broad concerns for their residents. Hospitals are successful if they bring healthcare to poor people, even if they need public subsidies. A convention center is successful if it brings business to the downtown, even if it goes over budget. While cost and quality of service are clearly important to monitor, profitability cannot become the sole yardstick for success.

Even assuming that some municipal systems (like some private systems) will fail, this ignores the growing number of municipal successes. Systems such as One Cleveland, UTOPIA, and Kutztown offer speeds unmatched by the cable companies or the ILECs. In addition, the century long record in the power industry also refutes this claim. Municipal utilities have supplied power to consumers for over a century, engaging and integrating new technologies and exploring new public service opportunities.⁵⁴

The sweeping claims that municipally-owned providers of services are inherently unable to manage complex networks and remain dependent on tax subsidies are therefore demonstrably nonsense. Municipal electric utilities have been examined in approximately a dozen studies. John Kwoka’s comprehensive review of these studies finds no support for the tax subsidy claim.⁵⁵ Findings on costs and prices are mixed, but the most frequent finding is that municipal providers pass lower costs through to the public in the form of lower prices.⁵⁶

Broadband networks are no more complicated to manage than municipal power systems, municipal telephone services, sewage systems, subways, or other complex system local governments routinely manage daily. Because we have grown used to government supplying these services efficiently – even though the private sector could supply them as well – we forget the complexity behind these systems. Yet millions of Americans rely on “incompetent” local governments to manage systems critical to health, safety and welfare involving far more complex intermeshing of employees and technology than managing a broadband system.

The argument that municipal supply of services like broadband is inefficient because government supply of services is inefficient and, thus, introduces economically-impeding inefficiencies into a community's economy more generally, is frequently deployed by incumbents. However, a considerable empirical literature on public provision of utilities indicates that public provision is more efficient than private provision.⁵⁷ There is no reason to believe that the implications of these empirical results will not also apply

⁵³ John M. Kelly, “Paying the Bills, Measuring the Savings,” APPA, March 2005, <http://www.appanet.org/files/PDFs/PayingtheBills.pdf>

⁵⁴ See: “Community Broadband: Separating Fact from Fiction,” APPA, January 2004, <http://www.appanet.org/legislative/index.cfm?ItemNumber=9964>

⁵⁵ John Kwoka, *Power Structure: Ownership, Integration, and Competition in the U.S. Electricity Industry* (1996); John Kwoka, *Governance Alternatives and Pricing in the U.S. Electric Power Industry*, 18 J.L., Econ. & Org. 278 (2002).

⁵⁶ Kwoka, 1996.

⁵⁷ T.H. Bruggink, “Public Versus Regulated Private Enterprise in the Municipal Water Industry: A Comparison of Operating Costs,” *The Quarterly Review of Economics and Business* 22 (1982), 111-125; J. Foreman-Peck and M. Waterson, “The Comparative Efficiency of Public and Private Enterprise in Britain: Electricity Generation Between the World Wars,” *The Economic Journal* 95 (1985), 83-95; P. Byrnes, S. Gross Kopf, and K. Hays, “Efficiency and Ownership: Further Evidence,” *The Review of Economics and Statistics* 68 (1986), 337-341; W.J. Hausman and J.L. Neufeld, “Property rights Versus Public Spirit: Ownership and Efficiency of U.S. Electric Utilities Prior to Rate-of-Return Regulation,” *The Review of Economics and Statistics* 73 (1991), 414-423; S. Renzetti and D. Dupont, “Ownership and Performance of Water Utilities,” *Greener Management International*, No. 42 (2003), 9-19.

to municipal provision of broadband service. Furthermore, these arguments directed at the lack of public sector incentive to maximize efficiency fail to consider that economic organizations can be motivated to achieve efficiency for reasons other than profit. Thus, municipally-owned utilities that are providing basic necessary services can be just as strongly motivated to achieve efficiency in order to achieve output maximization.⁵⁸

We need look only as far as the evidence of existing municipal networks to judge their success in reaching the goals of expanding service, reducing rates, and attracting consumers. As of May 2004, 128 communities across the nation had installed fully operational FTTH communications networks. Ten were offered by municipalities. However, those ten served nearly a third of the homes passed by FTTH. "One reason is the nature of the municipal offering; once technology trials have passed, municipalities typically commit to serving the entire community with FTTH, not just neighborhood-sized "greenfield" deployments." These municipal networks are not only popular in the towns that enjoy them, but the exposure of a broad consumer base to high speed broadband drives innovation and demand for universal service elsewhere.⁵⁹

Ron Sege, CEO of Tropos Networks, a popular vendor of wireless broadband equipment, challenges those who label public networks as doomed-to-failure to confront the evidence:

The facts show, quite simply, that these networks are *today* giving citizens and businesses the low-cost broadband access they want, are saving lives, making first responders more productive, improving the efficiency of municipal workers and much more. No matter whether municipal broadband wireless networks are provisioned by a city or a carrier, regardless of whether their purpose is improved public safety, stronger economic development, or more broadband Internet access, they are working.⁶⁰

Incumbent broadband providers frequently tout themselves as technological innovators in comparison to municipal networks, which they portray as retarding innovation and freezing existing technology in place. Nothing could be further from the truth. Municipalities usually deploy more robust and extensive networks than private providers. For example, the FCC has determined that municipal networks deploy far more fiber-to-the-home connections than the incumbents which have focused primarily on older fiber-to-the-curb technology.⁶¹ Furthermore, municipal networks have far outdistanced the incumbents in their adoption of wi-fi and broadband-over-power-line (BPL) technologies. Indeed, incumbent providers have a history of leveraging existing networks into technological obsolescence before making new infrastructural investments. When this history is combined with decisions of incumbent providers to reduce capital investment budgets, delay rates of deployment, and adopt less advanced fiber-to-the-curb technology rather than fiber-to-the-home, it is clear that the incumbent providers themselves are a major factor in restricting technological innovation in broadband service. This point is clearly underscored by the way in which restriction on municipal power companies deploying BPL networks would cripple adoption of this technology. Restricting or banning municipal networks will only further impede important advances in development and deployment of new technology.

Finally, while it is no doubt true that some municipal enterprises will fail, the same is true of many businesses. The possibility that a muni system might fail is no reason to deny citizens the right to a municipal system any more than the state should deny municipalities the right to set up hospitals because they might not make a profit.

⁵⁸ Henry Hansmann, *The Role of Nonprofit Enterprise*, 89 Yale L.J. 835 (1980); Richard Steinberg, *Nonprofit Organizations and the Market*, in *The Nonprofit Sector: A Research Handbook* (Walter W. Powell ed., 1987); Burton A. Weisbrod, *Institutional Forms and Organizational Behavior*, in *Private Actions and the Public Good* (Walter W. Powell and Elizabeth Clements eds., 1998).

⁵⁹ Sharon E. Gillett, "Municipal Trends," *Broadband Properties*, September 2004, http://www.broadbandproperties.com/2004%20issues/sept04issues/Gillett_Municipal_trends.pdf

⁶⁰ Letter written by Ron Sege to the Texas legislature, available at: <http://www.muniwireless.com/reports/docs/MunicipalWirelessFacts.pdf>

⁶¹ Review of Section 251 Unbundling Obligations of Incumbent Local Exchange carriers, et al., FCC Docket Nos. 01-338, 96-98, and 98-147, Report and Order, FCC 03-36 (rel. August 21, 2003).

The “No Digital Divide” Argument

As a final argument, opponents of municipal systems argue that such systems do not really benefit those in need of connectivity. Given the paucity of broadband available in many rural and some urban areas, this argument rests on little factual evidence. To the extent those making the argument rely on whether some form of broadband – as defined in 1998 by the FCC as 200 kilobits per second – is accessible at some price in a geographic region,⁶² this misses the point. Whether broadband is unavailable or unaffordable, the digital divide is no less real. Moreover, the disparities in technological access exacerbate existing social problems.⁶³

Others argue that while a digital divide may exist, the true beneficiaries of municipal networks are businesses and middle class residents that could easily pay for private services. Certainly everyone benefits with a municipal network. But it is hardly a reason to prohibit municipal networks because many residents and businesses will enjoy it. To the contrary, the ability of municipal networks to accomplish many purposes – provide connectivity to the poor, stimulate small businesses, attract people to downtown shops and parks – are among the great strengths of municipal broadband systems.

Consider, by way of analogy, the New York City subway. The city heavily subsidizes it, allowing anyone to travel on it any distance for a flat fee. It is a terribly complex system employing thousands and requiring constant maintenance and upgrades. Furthermore, the city swarms with cabs and private car services? Should the government offer this subsidized subway system when private alternatives abound?

Obviously, the City of New York finds it worthwhile to do so. In fact, they rejected a switch from flat rate to metered pricing, despite the fact that such a system would have improved profits. The presence of a good mass transit system brings people downtown to shop. It alleviates crowding on the roads. It goes places private cabs and car services won't. And, despite being subsidized by tax revenues, it hasn't driven private car services out of business.

⁶² The FCC, for example, looks to see if any broadband service is available anywhere in the zip code, regardless of price or general availability.

⁶³ NTIA, “A Nation Online,” September 2004, <http://www.ntia.doc.gov/reports/anol/>

Conclusion

As broadband becomes a necessary utility, local governments must remain free to play their traditional role as a safety net for their residents and businesses. Just as municipalities provided power a century ago when private companies did not move fast enough, so to will local governments provide broadband in a timely manner.

Incumbent providers, grown lazy on a steady diet of public subsidies and monopoly rents, have done their best to cast this as a debate between efficient private competitors and inefficient government monopolies. But it is the incumbents that would rather regulate than compete. They resist municipal entry not because it is incompetent – no one resists incompetent competitors – or because it is unnecessary. Rather incumbents resist municipal entry because they recognize the ability of local government to offer a genuine competitive alternative to a high priced monopoly or duopoly services.

At the end of the day, local governments, accountable to local citizens, understand their own needs and should have the freedom to find local solutions to local problems. We should not require citizens to beg big corporations to deploy systems when these citizens have the power to take matters into their own hands. More than 200 years ago, the founders of this country decided they were citizens able to govern themselves, not subjects of a distant king. This principle of self-governance alone would justify opposition to any legislation that prohibits municipalities from serving their residents on the grounds that corporate giants should have the right to serve them instead.