

Municipal Wireless-Just the Facts, Please!

By Ron Sege, CEO of Tropos Networks

The phenomenon of municipal wireless is so new that few people are in a position to have the facts. Having provided the wireless routers used in more than 135 metro-scale broadband wireless (or Wi-Fi mesh) networks around the world, Tropos Networks has direct experience and thus relevant facts that so far have been lacking in this public policy discussion. Our customers include not only municipalities, but also service providers and carriers.

Recently, interested parties who do not have experience or relevant facts have weighed in on the public policy discussion of whether municipalities should participate in rolling out low-cost, high-speed broadband wireless networks. Their arguments have muddied the discussion, because they have relied on incorrect assertions, emotion and dogma, not on what's verifiable. Without the facts in hand, bad public policy decisions, at the state and federal level, are likely to be made.

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. With the facts in hand, let's develop policies at the state and federal level that encourage the development of broadband wireless networks at every turn, not ones that stifle their creation. Consider the following from our customer experiences:

FACT: Municipal wireless networks make broadband available to customers not currently using DSL or cable.

The citywide Wi-Fi network in Chaska, MN, owned and operated by chaska.net, a city-owned ISP, offers residents broadband Internet access speeds (>1Mbps, symmetrical) at dial-up prices (\$16/month). More than 25% of the homes in Chaska subscribe to the service, less than five months after it was turned on. No taxpayer funds were used to construct the network. Rather, chaska.net financed the capital investment needed for the project (less than \$600,000) with four-year equipment certificates. Chaska.net projects that it can fund the network's operating costs, pay the interest and repay the principal from subscriber revenues, with plenty of room to spare. In fact, the take rate for this service already exceeds chaska.net's most optimistic assumptions, making it highly probable that payback will be sooner than expected. Anecdotal evidence suggests that most of chaska.net's customers did not previously subscribe to the DSL or cable broadband services available in town. Instead, they were dial-up customers, unwilling or unable to pay the fees charged by other broadband providers. Chaska residents are voting with their pocketbooks and they are voting for municipal wireless.

FACT: Municipal wireless networks contribute to lower crime rates.

New Orleans, LA, is well underway with installing a unique citywide public safety video surveillance network using a metro-scale Wi-Fi mesh network. According to City officials, in the initially deployed areas, the innovative combination of high end camera technology, Wi-Fi mesh, motion detection and other elements reduced the murder rate by 57% in six months and auto theft by 25%. Citizens report feeling safer as a result of the cameras. More than 160 churches, Neighborhood Watch groups and other civic organizations have signed up to “Adopt a Camera” (<http://www.iseecrime.com>). The city is rapidly expanding the network to cover the majority of the city in the months ahead as a result, with hundreds of cameras scheduled to be deployed by summer. By working closely with law enforcement and Homeland Security, leveraging Wi-Fi mesh networking technology and integrating several other key technologies, the City of New Orleans has rapidly deployed a unique new law enforcement tool at relatively low cost on a network that can serve double duty for first responder data communications.

FACT: Municipal wireless networks are a valuable public safety tool.

Mobile access to driver’s license, gang and Amber-alert databases, as well as in-field report writing, submission and retrieval over a metro-scale Wi-Fi mesh network also contributes to improved public safety. Police officers in San Mateo, CA now spend 8,000 or more additional hours a year out on their beats, because metro-scale wireless mesh networks free them from wired network connections in the office. Safer citizens and more productive first-responders reap the benefits of this new technology.

FACT: Municipal wireless networks help lower costs and improve service with public works departments.

In Corpus Christi, TX, a metro-scale Wi-Fi mesh network is automating utility meter reading to cut costs and improve service. Using the system, the city is now reading 73 water meters per second - compared to minutes per meter using the old manual process. The city also plans to enable their building inspectors to use the network, a move city planners project will cut up to one month out of an average four-month construction cycle by speeding inspections and approvals.

FACT: Municipal wireless networks are a tool for economic development.

In St Cloud, FL, a metro-scale Wi-Fi mesh network, built with public economic development funds, is providing downtown businesses with low-cost broadband access, which helps improve their bottom lines. This leaves the businesses with more money to spend in the local community. More cash spent in St. Cloud means more jobs and more growth, a direct benefit tied to the metro-scale Wi-Fi mesh network.

FACT: Municipal wireless networks help bridge the digital divide.

In Philadelphia, PA, more than 30 citizens per day log into and use the network installed around Love Park downtown. These are not just business travelers logging on to check their e-mail from back home. These users are also from low-income families in Philadelphia who use the network to do schoolwork and research after school hours. In fact, such Internet access provides the city with better educated citizens, which means more productivity, more economic development and less crime in the long-run.

FACT: Municipal wireless networks provide abundant bandwidth that improve city management and keep taxes lower than they would be otherwise.

San Mateo, Corpus Christi and other municipalities project that these networks will provide more bandwidth than city workers will consume. In these times of tight budgets, they intend to sell this excess bandwidth to the public to help pay for the initial installations, fund geographic expansion and cover operating costs. In fact, such efficient use of city resources is fiscal prudence, not fiscal irresponsibility.

FACT: Municipal wireless networks represent one of the most effective strategies to meet national economic objectives regarding ubiquitous broadband connectivity.

The U.S. currently stands 13th in world per-capita availability of broadband. The fastest, lowest cost and simplest way to increase broadband availability is to encourage wireless network deployment, which does not require that streets be dug up, does not require big tax subsidies for expensive fiber optic cables and devices, and does not require complex RF engineering or expensive consumer devices such as cellular phones and set-top boxes. Once installed, such networks provide the benefits of broadband to multiple constituencies simultaneously. The fact is that in less than five months after ground-breaking, 18,000 citizens in Chaska enjoyed access to broadband for less than the price of one high-priced home in town.

FACT: Municipal wireless networks, like DSL and cable, require government cooperation.

Municipal wireless is no different than others forms of broadband in that local government intervention and cooperation are required to enable the service. DSL is delivered over wiring installed using rights of way often acquired by eminent domain. Cable modem services run over systems installed under local government franchise. Even when built by private service providers and carriers, wireless services often require similar city cooperation so that broadband wireless devices can be mounted on city assets such as streetlights and traffic signals. Previous public-private collaboration brought important new services to citizens or reduced their costs. Municipal wireless offers the same promise today.

FACT: Municipal wireless networks do not equate to government handouts.

Contrary to popular belief, most proposed municipal wireless networks do not plan to offer free service and many are not city funded, owned or operated. A variety of business models are in use or under consideration. The network in St Cloud, FL is publicly funded with economic development money. The Chaska network was funded with a debt instrument, is city-owned and operated, and offers service for a fee. Other cities are looking at forms of public-private partnerships including allowing service providers to use city rights of way and agreeing to serve as an anchor tenant in exchange for low-cost accounts for use by city workers, allowing service providers to lease capacity on municipally owned and operated wireless networks, sharing installation costs with private entities in exchange for service and revenue sharing and providing capital to for-profit and non-profit entities in exchange for an ownership stake.

FACT: Municipal wireless networks will become more capable and relevant, even as they become more affordable over time.

To date, over 100 million Wi-Fi client devices have been shipped. Wi-Fi has gotten 25x faster since its introduction in 1997 and will get faster still in the next few years. Wi-Fi is already connecting a wide variety of end-use devices: laptops, PDAs, security cameras, traffic management systems, meter-readers, location sensors, cell phones and much more. New technologies such as WiMAX are totally complementary to Wi-Fi, easily integrated and will only add to the value of municipal wireless networks as they are implemented. Therefore, fears that such new technology will quickly make municipal wireless networks installed today obsolete are simply unfounded. To the contrary, they will only make these networks better and better.

In conclusion, reasonable people can use the facts outlined above to discuss the different models that municipal governments, service providers and carriers may employ in providing the benefits of broadband Internet access for their citizens and customers. What is becoming more and more irrefutable is the fact that wireless broadband networks provide many benefits worldwide. It is also a fact that those who stand to lose the most in the current debate - those market participants who have not innovated sufficiently to provide such beneficial new services - are the very ones making the loudest emotional arguments against the deployment of municipal wireless networks. Now that we have the facts, rather than slow down this beneficial phenomenon, let us adopt policies that aggressively embrace and encourage it.