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**Lopez, Donna**

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**From:** Saul Tannenbaum [saul@tannenbaum.org]  
**Sent:** Tuesday, February 25, 2014 2:12 PM  
**To:** City Council  
**Cc:** Lopez, Donna  
**Subject:** The Case for Municipal Broadband in Cambridge  
**Attachments:** CambridgeMunicipalBroadband.pdf

To the Honorable, The City Council,

Attached, please find a position paper I've written outlining the case for Cambridge to explore building a municipal broadband network.

The free market has manifestly failed in providing the sort of network connectivity Cambridge needs for its innovation economy to continue to thrive. It has, as well, failed in providing access for those who are unable to pay.

Cambridge, with its robust fiscal health, its thought leaders at Harvard and MIT, its innovators, and its social just advocates is uniquely positioned to lead on this issue.

I invite you to read the attached, or read it online here:  
<http://www.cctvcambridge.org/CambridgeMunicipalBroadband>

The online version includes a timeline of all Council actions over the last decade, none of which has had any lasting impact. It's time to do better.

Respectfully,

Saul Tannenbaum  
16 Cottage St.

cc: Donna Lopez, City Clerk, for inclusion in the City Council record

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Read [CambridgeHappenings.org](http://CambridgeHappenings.org), a daily Cambridge news summary, curated from fresh, local sources.

# The Case for Municipal Broadband in Cambridge

In Cambridge, as in most of the United States, the free market has failed to provide broadband service that meets the needs of a thriving, innovative city. It has, as well, failed to provide service to the economically less fortunate, adding yet another barrier to the climb up the economic ladder. When the market failed to provide ubiquitous electrical and phone service, the government stepped in to address those market failures. It's time for Cambridge to step in and provide municipal broadband, building a state-of-the-art network and using Cambridge's vast wealth to subsidize service for those who can't afford to pay.

## **The State of Internet Connectivity in Cambridge**

Broadband in Cambridge is offered by a single monopoly provider, Comcast. While the City has tried to solicit other broadband providers, none are interested. As Susan Crawford, currently a Visiting Professor in Intellectual Property at the Harvard Law School, documents in her book "Captive Audience: The Telecom Industry & Monopoly Power in the New Gilded Age" large telecommunications companies have effectively divided markets in ways that avoid competition. Verizon, which has halted all new investment in its FIOS fiber optic network, and AT&T control the wireless market. In the wired broadband market, Comcast has announced that it is buying its largest rival, Time-Warner Communications, asserting that this won't harm competition because they serve none of the same customers. Analysts are unanimous in concluding that this merger is about broadband, not cable television. With even less competition, Comcast will have no incentive to upgrade its broadband systems from coaxial cable installed a decade ago to modern, faster fiber optic systems, nor is there any pressure for Comcast to compete on price.

## **The Digital and Economic Divide in Cambridge**

Lost in the image of Cambridge and its vital innovation economy is its economic underclass. While average per capita income in Cambridge grows, its poverty rate remains unchanged. According to the City Council's Neighborhood and Long Term Planning Committee, 30% of Cambridge Housing Authority residents don't have home internet access. The Cambridge school system, which has limited information on this topic, reports somewhat lower numbers. But it's not hard find examples, such as the Cambridge Rindge and Latin student who is a member of the high school robotics team but who has trouble doing homework because of lack of internet access at home. Maps of poverty in Cambridge show the tragic irony that Cambridge's poorest areas are adjacent to Kendall Square, an area that is creating vast, internet-fueled wealth. But the

opportunities that are presented by Cambridge's thriving innovation economy are largely closed to those who don't have internet access.

## **Cambridge's Past Attempts to Bridge the Divide**

In 2005, the Cambridge City Council unanimously adopted an order requesting the City to "devise a plan to close the digital divide by making wireless internet access (wi fi) available throughout the city" calling the internet almost as essential as the telephone. In 2006, the Cable TV, Telecommunications and Public Utilities Committee of the Council was told by City Chief Information Officer Mary Hart of an "exciting" plan to use MIT-developed "mesh" technology in the Newtowne Court Housing Project and that the City had established a "Digital Divide" committee. That equipment has since been installed, abandoned, replaced, and abandoned again. However bad that sounds, it was even worse. Network routers were placed in peoples' apartments without any explanation of what they were for or why they were placed there. Thus, people returning home found unexplained devices with blinking lights, installations they viewed with suspicion.

Remarkably, despite the lack of attention by the City, the Digital Divide committee has continued to meet and some of its members have been active in Newtowne Court this winter, working to revive, once again, this network installation.

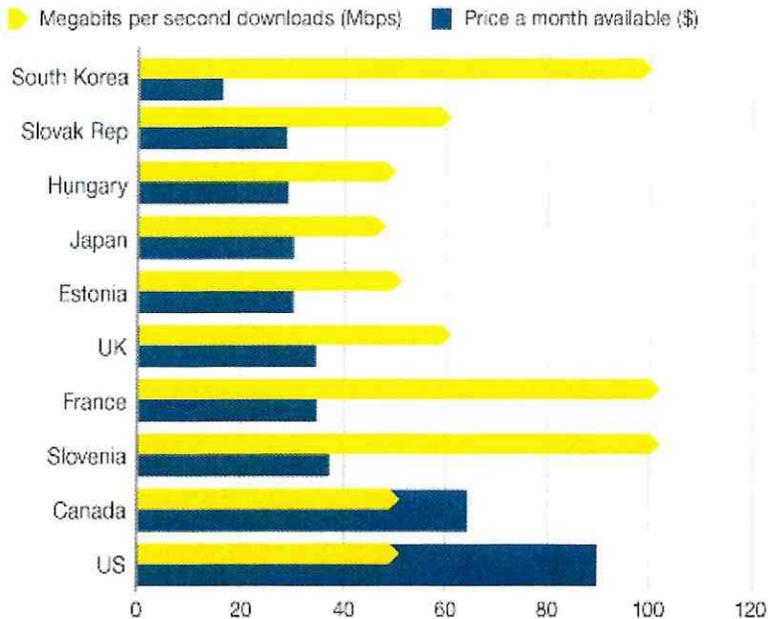
## **The State of the Broadband Industry**

This year has already seen two developments that do not bode well for broadband customers. In January, a Federal judge struck down Federal Communication Commission regulations that required net neutrality, the principle internet providers must treat all internet traffic equally. In February, Comcast announced that it was buying its largest rival, TimeWarner.

It's not as if America's broadband industry is providing a first class product. According to data collected by the The Organisation for Economic Co-operation and Development and reported by the BBC broadband in the US "costs nearly three times as much as in the UK and France, and more than five times as much as in South Korea."

## Countries with high-speed broadband

45 megabits per second or more



Note: \$ reflects cost of living (purchasing power parity)

Source: OECD

Source: BBC

With the end of net neutrality and the consolidated power it will have after acquiring Time-Warner, Comcast will have unrivaled market influence. It was only 2011 that Comcast acquired NBC/Universal, a merger that, too, was criticized for the excessive power it would give Comcast. How Comcast uses this power can be seen through the Olympics, the rights to which Comcast owns through NBC. All Olympic events can be streamed over the internet, but only if you subscribe to cable TV. With the end of network neutrality (and restrictions placed on Comcast with the NBC merger), Comcast could degrade network traffic associated with competitors or simply block it. Comcast streaming services, for example, compete with Netflix. There will be nothing stopping Comcast from degrading Netflix service unless you and/or Netflix pays a fee to Comcast. We've seen where this all ends. It's called Cable Television, a product that is hated for its bundling of channels to maximize revenue. And we see repeated public disputes between cable TV operators and content providers where the cable operator is perfectly willing to drop popular programming and endure the public relations issues until they negotiate more favorable terms. Absent renewed regulation, there is nothing to stop Comcast from bring these profit-maximization tactics to the Internet.

## Municipal Broadband

Almost 400 communities in the United States have chosen to build their own municipal networks, with 89 of those bringing fiber optic cable directly to each home. Leverett, a rural town in western Massachusetts, recently built its own network when no internet provider was willing to invest in infrastructure that would serve the community. While

they chose a different subscription model, if they had chosen a flat fee, they estimate they'd have charged users approximately \$60/month. Chattanooga Tennessee, the largest municipal broadband network serving a city of 170,000, charges \$70/month for a 1 gigabit connection. That's a level of service unavailable from Comcast, at any price.

While municipal broadband must sound resoundingly socialist, it has support from at least one conservative. Reihan Salam, who blogs about domestic policy for The National Review wrote in response to end of network neutrality that he "would feel more comfortable if the U.S. were more open to alternative arrangements, like municipal broadband networks."

## **Why not Cambridge?**

When Cambridge officials have been asked about municipal broadband, they point to attributes that communities who have invested in this infrastructure have that Cambridge does not. Chattanooga, for example, had a municipal electric power system on which to base municipal fiber. But Cambridge has its own attributes, unmatched by any municipality.

Cambridge enjoys robust fiscal health, one of 33 municipalities to have AAA bond rating, as well as one of the lowest property tax rates in the state. In Harvard and MIT, it has local institutions which, besides having built out their own extensive networks, have some of the best thinkers on the future of the Internet. It has Kendall Square, said to be the most innovative square mile in the world, innovation that depends on the Internet. It is a community that could bring together a unique coalition of innovators and social justice groups, whose interests can be aligned by a plan to develop a modern network for Cambridge that includes access for all.

## **The Way Forward**

A search of the City Council database shows 17 policy orders requesting the City establish city-wide wifi access, or wifi access in certain locations, investigate municipal broadband, and, most recently, create some unspecified public/private partnership for network access in Newtowne Court.

The Council signals that it's serious about an issue not by passing orders. Rather, it holds Committee hearings, engendering discussion and attention from City staff. Unless a Councilor or Councilors demonstrate they are prepared to invest their own time, there is little reason for City staff to take them seriously. There's little evidence that Councilors have been prepared to invest time in this issue since Henrietta Davis spearheaded Digital Divide issues a decade ago. Thus, it's no surprise that, despite 17 Council orders, there's been effectively no progress.

Cambridge does have an established method of tackling complex, controversial planning issues. It appoints an external body, composed of residents, experts, and stakeholders

who engage in a public process. In cases where the City has neither the expertise nor resources to address an issues, this is accompanied by an appropriation of funds to employ consultants. That's what should happen next.

City Manager Richard Rossi should appoint a commission composed of experts, residents and scholars, the innovation community and the social justice community and charge them with developing a municipal broadband proposal for Cambridge. That proposal should include:

- A basic engineering proposal for building a municipal broadband network
- A business model that includes funding, cost recovery, and subscription structure that provides Internet service regardless of the ability to pay
- A governance structure for the operation of the network

The City Council should appropriate sufficient funds for this commission to use experts when it comes to engineering and cost estimates as well as developing a financial plan that leverages, but does not sacrifice, the City's fiscal health.

Once the commission has prepared its report, the City Council would have in front of it the best thoughts about how Cambridge can preserve network freedom for all and keep our innovation economy thriving. As the City's policy setting body, it can then hold hearings and choose whether or not to proceed.

In the Friday, February 21st Boston Globe, Susan Crawford writes about municipal networks that "Cities are where the action is. And Boston, our city of new ideas, should be leading the charge." While correct about the former, Cambridge should prove her wrong about the latter. We are, after all, the city where the idea of a global computer network was first conceived. With all due respect to our friends across the river, Cambridge can and should be leading the charge.