

# "Broadband as Foundation for the Future"

## **The Dream of the 90s: Broadband for All**

[Image: Portlandia]

I want to start by reminding us how much hope there was in the 1990s for cities around broadband. The economic potential of "information superhighway" was just being realized. Even Homer Simpson had an Internet startup called "CompuGlobalHyperMegaNet".

Back then, cities thought they would play a dominant role in creating an affordable digital broadband infrastructure for everyone. Perhaps nowhere more visibly than here in Portland. But the telecom industry had different plans. Despite bold promises to state regulators across the country on the eve of deregulation, telcos blocked progressive municipalities at every step.

Meanwhile, the telcos rolled out their own broadband networks painfully slowly. As a result, the United States now ranks behind much of Western Europe and the tiger economies of East Asia in household penetration. And the services we do have are slower and more expensive than the nations we compete with for economic growth. You don't even need to go to Hong Kong to see this. Portland has slower and more expensive broadband at the residential level than its suburbs. For instance, Sandy, Oregon is offering 100 mgbs for \$40 per month.

But despite these obstacles, and the foot dragging and legislative shenanigans of the telcos... to cos-opt the slogan of the hit show "Portlandia" - "the dream of the 90's" - in this case universal, affordable, competitive, world-class broadband - is still alive in Portland."

## **Seeking A Balance**

[Image: diy broadband in Afghanistan]

But times are different now. Cities can hardly afford to directly invest in broadband, even if they are permitted to. Broadband is going to have to pay for itself.

But taking a long-term view of the return on public investment in broadband is crucial. We would never expect water, sewer or electric utilities to amortize themselves over five years, so why would we expect that of municipal fiber networks? Part of what's happened in that retreat from the battles of the 1990s is that American cities have become locked into this narrow-minded mindset that it's only big telcos that will ever

be allowed, or have the capital needed, to make meaningful investments in broadband infrastructure. We need to throw that out. There are still opportunities for innovation in how broadband is provided, the business model for doing so, and serving niche markets that big telcos are either unwilling or unable to provide. And stretching out the time horizon over which we finance those capital investments makes them far more realistic.

But even without new public investment, there are ways to keep moving forward. I'm fascinated by how much can be done by DIY broadband cooperatives who take a "roll your own" approach to network building. Portland's PersonalTelco Project set the bar internationally by covering the city with free public Wi-Fi. This organization and volunteer talent pool is a tremendous asset and legacy that must be part of your thinking going forward. These guys in Afghanistan are building their own networks using toolkits and techniques developed by PersonalTelco and groups like it in cities around the country.

The technology is cheap and flexible enough, and there has been so much innovation in business models. In New York, while the city would never pay for free public wireless, other custodians of public space such as business improvement districts and parks conservancies literally leaped at the chance to do so. A decade later, this model has proven its sustainability.

What's fascinating is seeing this approach being adapted to building fiber networks. While its more capital-intensive than wireless, there are groups showing that community-scale fiber co-ops are a real possibility. Remove the barriers and give them a boost when and where you can, and do it systematically.

The two most important tools cities wield in the broadband campaign are your purchasing power and your property. Both are crucial to startups. A single contract can make or break your next homegrown telco. Find a way to take some calculated risks here - it will pay off in spades in telecom competition plus local jobs. Securing co-location for wireless equipment can be a costly and time-consuming endeavor. But municipal property - from fire stations to light-poles - are ideally placed to distributing signals. Continue to expand access to these facilities, and prioritize users that are willing to invest in ways that achieve municipal goals of coverage, access, cost, and openness.

And so, I want to urge you to embrace this broadband plan and build on it.

Goals 1 and 2 of the plan address these opportunities, but their timeline can be accelerated. You can't wait until 2017 to identify future broadband clusters, and you can't wait until 2020 to leverage city assets to spur investment in those areas. That needs to start today.

The principles and actions outlined in the proposed plan are ones you can rally a broad constituency behind. But I think you need to spell it out to people in straightforward pictures - scenarios of what living and working and doing business in

Portland could look like if you follow different paths.

Start by thinking ten years into the future. What kind of city will you have if business as usual continues? What if you try something radical and it fails? What if you try something radical and it succeeds? These kinds of conversations can help accelerate that process of consensus building, when people see clearly the connections, and that more is at stake than some arcane regulatory matter.

I see this most clearly in Goal 3 of the broadband plan being discussed today. Cities are hamstrung from doing much on roadblocks on the supply side of broadband - but Goal 3 is all about stimulating demand by moving many activities in health, education and work onto broadband platforms. Between the lines, there's a vision emerging of a region where broadband becomes a tool just as important a planning and design tool as transportation and land use policy in shaping walkable, sustainable and productive communities. Push that vision further and it will be a huge competitive advantage for Portland, and reinforce everything you've done to date.

### **Wireless: The Broadband Future**

[Image: rock map mobile broadband chart]

In closing, let me re-iterate the need to reignite that dream of universal broadband from the 1990s. But at the same time, we need to move past the wired, desktop world from which it came. Because the infrastructure of the future is mobile broadband.

Of course wireless depends on a good wired base. And for a decade we've talked about how important that "last mile" of bandwidth to the home was. But increasingly, what matters most is the quality and speed of that last few hundred feet of "untethered" connectivity - to borrow a wonderful term used by the military that focuses our attention on the value not the technology. In fact, I would argue that the quality and capacity of a city's mobile broadband is so important, it will be one of the things that spells the difference between economically competitive cities and also-rans. I spend much of my time in the New York and San Francisco Bay areas, and we are just beginning to recover from the terrible havoc the iPhone wrought on our 3G service. Because AT&T mis-calculated growth in traffic so badly, and service suffered so badly, I am convinced it cost us jobs. It's hard to prove, but it is clear that the lack of mobile service in New York's subways, for instance, makes it something of a laughing stock of global cities.

There's two more important reasons you can't fail on mobile broadband.

First, it's the medium for the Internet of things, which will unlock untold economic opportunities. Connected objects and vehicles don't need wires, they need clear signals and high-speed channels. Making sure Portland has world-class mobile broadband could turn it into a leading civic laboratory for next generation technologies

of connected things - in the way that it appears Kansas City may become the lab for gigabit wired broadband, thanks to Google's commitments there. Wireless is also going to be a crucial platform for innovation in city services and government. In New York, we just launched an advanced system of programmable traffic signals over the city's public safety network. Wiring up all of those lights would have taken years and cost a fortune. We're also using wireless to instrument the water system for the first time in its century-plus existence.

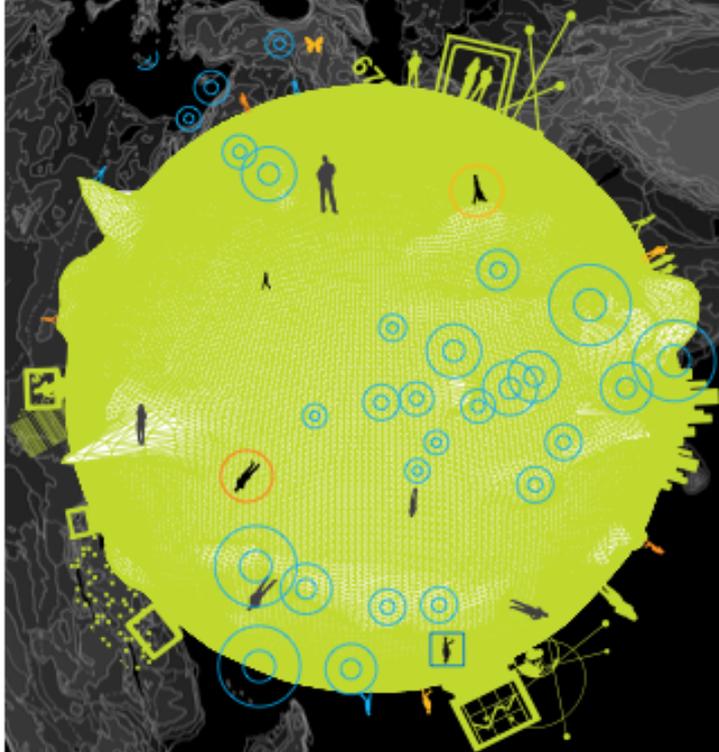
Second, and I'll close with this - mobile broadband is the infrastructure of inclusion. There's no way around it. The spread of smart mobile devices and mobile Internet use has blown away everyone's expectations about who wants broadband, and when and how they are willing to pay to use it, and it's clear that intuitive, affordable and capable mobile Internet devices have cut across the digital divide. Every minute of effort, every dollar of investment in mobile broadband will pay off more because it reaches a broader swath of your electorate.





# a planet of civic laboratories

THE FUTURE OF CITIES,  
INFORMATION, AND INCLUSION



TECHNOLOGY HORIZONS PROGRAM  
124 University Avenue, Second floor  
Palo Alto, CA 94301  
650-854-6322 [www.iff.org](http://www.iff.org)

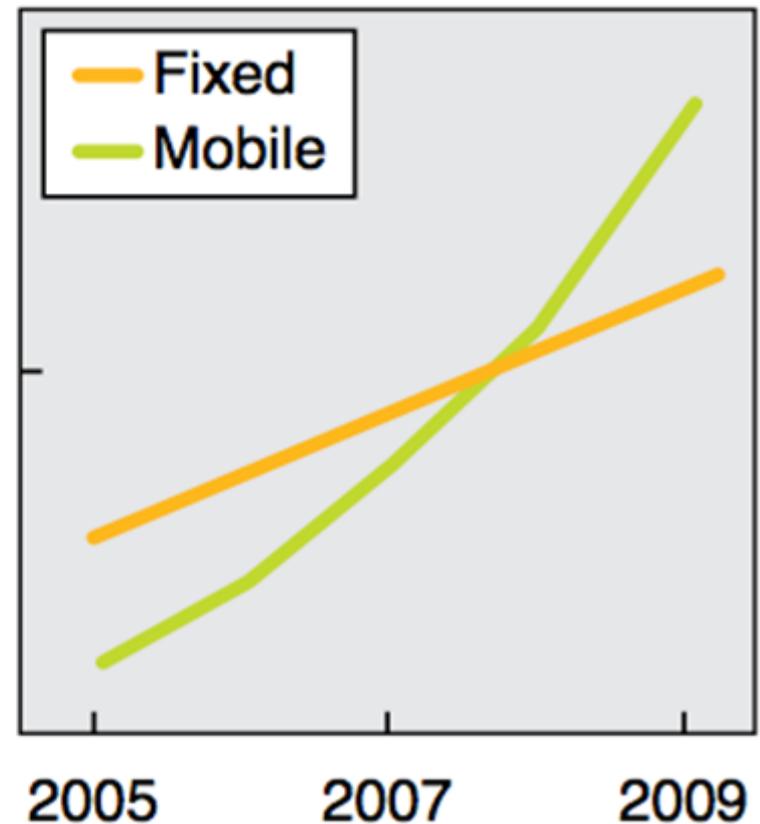
## More broadband subscribers

Millions

800

400

0



Source: ITU