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**Testimony for FCC *en banc* hearing at Carnegie Mellon University
on broadband and the digital future**

Scott Wallsten*

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* Vice President for Research and Senior Fellow, Technology Policy Institute. Contact scott@wallsten.net.

Thank you for inviting me to testify today.

I will make the following points. Broadband deployment and growth in the United States is strong, and we compare favorably to the rest of the world, despite conventional wisdom. There is no crisis and no apparent market failure. We can take the time to come up with an intelligent national broadband policy to ensure continued investment and innovation in this critical infrastructure.

A national broadband policy should:

First, obtain better data. We can do this through household surveys by the U.S. Census and business surveys by the Bureau of Economic Analysis.

Second, inventory and rigorously analyze the many state and federal broadband programs that already exist. That way we can learn what works and what does not.

Third, remove barriers to entry by new platforms.

Fourth, decide whether increasing broadband adoption is a policy goal. If it is, focus primarily on low-income *people* rather than on rural *areas*.

Finally, subject any major proposal to a cost-benefit test: can it be expected to yield net benefits to society?

I'll elaborate on these points, and more detail is available in [my paper](#) available on our website, www.techpolicyinstitute.org.

Broadband deployment and growth in the United States is strong. According to the Pew Internet & American Life Foundation, 55 percent of American households had broadband connections in April 2008, up from 51 percent six months earlier. This puts us probably between 7th and 9th place globally, approximately the same as Japan, and ahead of the UK, France, Germany, and every large country except Korea.

But even those numbers probably understate the true status of broadband: they reflect only residential connections. The FCC and OECD tallies appear to miss about 72 million business broadband connections. While other countries also have uncounted business connections, for reasons I explain in my paper, the U.S. has the largest share of uncounted business connections among OECD countries.

Even if all this is true, then why, you might ask, is our OECD rank in wireline broadband steadily declining?

The answer is that the OECD rank is based on connections per capita, which is not an appropriate measure when each household will purchase only one connection **regardless** of the number of people who live in the house.

And because each household needs only one wired connection, countries with larger households, like the U.S., Japan, and even Korea, will ultimately have fewer connections per capita than will countries with smaller households, like Norway and Denmark. In other

words, because more people share each connection in countries with larger households, those countries will have fewer connections per capita even if households are connected.

In short, the change in per capita broadband rank is a statistical anomaly having to do largely with differing household sizes across countries, not with broadband investment or policy.

Short of implementing a one-child-per-household policy, our per capita rank—at least for wired connections—will not improve.

The correct measure for comparing adoption of any good or service that comes one per house is the number per household, not the number per capita.

And, as I mentioned, according to that metric we are doing fine.

Mobile broadband, though not yet a perfect substitute for wired broadband, is growing especially quickly. By June 2007, there were 35 million wireless broadband subscribers. That was more than a year ago—even in the last week more than 1 million people purchased 3G iPhones.

And mobile subscribers here actually use wireless broadband. The Nielsen Company recently reported that Americans are the most intense users of mobile broadband among 16 countries they studied, including the UK, France, and Germany. I should note that the Nielsen study does not show that U.S. wireless broadband leads the world; it does not. For example, Japan was not among the 16 countries Nielsen studied; I suspect Japanese consumers lead the world by far. Nevertheless, the data clearly show that wireless broadband availability and use are both growing at extraordinary rates.

Broadband speeds in the U.S. are also increasing. Data from speedtest.net, which measures actual broadband speeds as opposed to advertised speeds, show an average US speed of about 5.8 Mbps, consistent with speeds reported by the FCC. Japan, Sweden, and probably Korea, are the only OECD countries with appreciably higher average speeds.

I am not arguing that everything in the U.S. is perfect or that the U.S. leads the world. Neither is true.

Instead, this information shows that there is no crisis. We can take a deep breath and make intelligent policy decisions, being careful not to derail the good progress we're making.

To ensure continued improvement, a national broadband policy should focus on the following points.

First, obtain good data. There is broad agreement on this point, but mapping and counting, which have been the focus of policy proposals so far, are at best only part of the solution. Good data will also come from surveys.

In 2007 the U.S. Census included questions about broadband in its annual Current Population Survey. Not only do those surveys provide us with useful information on connections per household, they allow us to match broadband information to geographic and demographic variables.

This survey has other advantages, as well. It requires no cooperation from broadband providers and is already conducted by the U.S. Census. We should encourage the Census to continue including its valuable questions on broadband in its future Current Population Surveys.

In addition, we know little about business broadband. To this end, the Bureau of Economic Analysis, which already collects vast quantities of business and productivity data, may be able to gather broadband data useful for policy.

Second, because competition is key to continued investment and innovation, we should continue to remove barriers to entry by new broadband platforms. That means, for example, continuing to make spectrum available for high-valued uses, and relaxing rules such as access to rights-of-way that can impede entry by new competitors.

Third, inventory and evaluate the large number of broadband programs and policies that already exist. These range from the federal Rural Utility Service, which had already invested about \$6 billion by 2006 on broadband, to a large number of initiatives at the state level. Almost no empirical research has evaluated whether those programs have been effective.

Fourth, focus on low-income people rather than on rural areas. The 2007 Census data show us that while a rural-urban adoption gap exists, the income gap is much larger/more serious. 80% of households with annual incomes of at least \$100,000 have wired broadband, while only 35% with incomes of \$35,000 and less subscribe.

Low-income people would surely be better off with cash rather than a broadband subsidy, but if the policy goal is to increase adoption, then focusing on connecting low-income people rather than rural areas is likely to be more effective.

To the extent that some rural areas may be underserved, consider a new initiative in West Virginia. Under a new law, a provider can apply for a subsidy to build in an unserved area. After the application is submitted, other companies have 60 days to also submit applications. The state can then award a grant to the firm that requests the smallest subsidy. This reverse auction has the advantages of using a market mechanism to reveal the true minimum subsidy sufficient to attract investment in an unserved area while also not benefiting any particular provider.

Finally, perform cost-benefit testing on any major proposal. Every regulatory agency that is not considered independent must show what problem a rule is intended to solve and conclude that the proposed regulation is likely to yield net benefits to society. Given the importance of the Internet, proposals likely to affect this dynamic sector should be given the same rigorous scrutiny.

I believe this approach can ensure a dynamic broadband future that yields the most benefits to us all.

I look forward to your questions. Thank you.