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# No More Excuses: The Real Facts About America's Broadband Market

## A Summary Analysis Prepared for the Minnesota Ultra High Speed Broadband Task Force

**By S. Derek Turner, Research Director, Free Press, February 2009**

I was asked to review the December 19, 2008, analysis and presentation to the Minnesota Ultra High Speed Broadband Task by Scott Wallsten of the Technology Policy Institute. His presentation concluded "Relax. We're OK . . . There is no crisis . . . (and) if you want to increase broadband adoption, focus more on low income people than rural areas."

Is there a "broadband problem" in America, or in Minnesota? If you believe the TPI presentation, the answer would be "no."[1] According to his testimony, international comparisons showing the U.S. falling further and further behind should be dismissed. Market forces in the U.S., he believes, are working properly and will deliver the services we need when we need them.

However, the reality is far different. The Free Press found that the major critiques leveled particularly at OECD data simply fall apart upon closer examination. The coordinated attempt to "shoot the messenger" cannot hide critical failures in the U.S. broadband market. Our European and Asian counterparts are outperforming us because they have policies that foster vigorous competition in the broadband marketplace, offering consumers more choice, faster speeds and lower prices.[2]

One notes with interest that the task force in Minnesota was formed to "make recommendations to the governor and the legislature regarding the creation of a state *ultra* high speed broadband goal (emphasis added) and a plan to implement that goal. Testimony the task force has already heard from Bret Swanson of the Center for Global Innovation about the coming exaflood of data is persuasive. An industry which did not anticipate an invention such as YouTube, which virtually overnight became 7% of all U.S. Internet, must now prepare for the inevitable demand for a Hi-Def YouTube, which would require an amount of data equal to the entire U.S. Internet traffic in 2007.

Policymakers should understand what is fact and what is spin in this debate. While each task force member represents different interests, it is important that the task force remember that what is best for any one interest or provider is not necessarily best for the *public* policy and advancement for the state.

This Summary Analysis offers a counterpoint to those who would excuse away America's broadband problem. The simple fact is that international rankings do matter. This is not just a point of pride. Each spot the United States slips represents billions in lost producer and consumer surplus, and potentially millions of real jobs lost to overseas workers.

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[1] It should be noted, for the record, the institute Mr. Wallsten represents, is funded in part by Comcast. By way of disclosure, the Free Press is a national, nonpartisan organization working to reform the media. It does not take money from industry groups or government sources.

[2] See "Shooting the Messenger," Myth vs. Reality: U.S. Broadband Policy and International Broadband Rankings, Free Press, July 2007.

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**Myths and Realities About U.S. Broadband Performance**

**Myth #1:** *The OECD rankings are misleading, because they measure broadband subscribers per capita, which hides the true level of household adoption in countries that have high average household populations, like the United States.*

**Reality:** While the OECD and ITU do measure per capita broadband penetration, the data undeniably shows a decline in overall U.S. broadband performance in the past several years (measured in other metrics such as speed and price). But even if you measure it per household -- like the critics want – the U.S. *still trails far behind other leading nations.* According to the leading private telecommunications research firm Point-Topic, among the 30 OECD nation's, America ranks 15th in household broadband adoption. **Among all the world's nations, the United States is 24th.**

**Myth #2:** *The U.S. household broadband penetration is higher than that of most European and some Asian countries.*

**Reality:** The data for this assertion presented to the MN Broadband Task Force by Scott Wallsten is based on a comparison of five completely different studies: each with differing methodologies and margins of error, rendering comparisons meaningless and misleading. For example, because of a smaller median sample size the EC survey has a much higher margin of error than the Pew poll, making comparisons between the U.S. and top performing EU countries inconsequential.

Moreover, data from Point-Topic and the International Telecommunications Union (ITU) shows that **as of April 2007 there are nine EU countries with higher levels of household broadband adoption than the United States.** And a comparison between the EU as a whole and the U.S. is not valid, as the EU includes a number of poor developing-economy nations, such as Romania and Latvia.

**Myth #3:** *The OECD and FCC "can't count" business lines. Both missed approximately 77 million business lines that if counted, would vastly improve the U.S. broadband penetration ranking.*

**Reality:** Here Wallsten compares the FCC's count of business lines with a U.S. Census Bureau survey of individuals that asked if they had broadband access at work. Wallsten states that the FCC is missing 77 million business lines. His first error is in his counting: he says the FCC only accounts for 5 million business lines, when the actual total is just under 50 million.

But he made another crucial error: conflating users with connections. The simple explanation for the difference between the U.S. Census Bureau and FCC (or OECD) data is that most businesses purchase one very high capacity connection or "line", which is then shared between all users in an office. This discrepancy has no consequences for the OECD or other international comparisons, as business "connections" are counted in the same manner for each country. Furthermore, a workplace broadband connection is not an adequate substitute for a connection at home. Personal use of the Internet is often prohibited at the workplace. Neither would it be appropriate to bring family members to the office to access the network.

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**Myth #4:** *Though the international comparisons show that citizens in other countries are able to purchase 100Mbps connections for the same price as American's pay for 1Mbps connections, results from speedtest.net show that the citizens in these other countries are not actually receiving these high speeds.*

**Reality:** The fact is consumers in countries like Japan, South Korea, Sweden, the Netherlands, and France are paying far less for far faster services, and they are getting what they pay for. Wallsten relies on unscientific samples of user-generated speed tests conducted at the Web site speedtest.net to illustrate that speeds in most of these countries are within range of those delivered in the U.S. However, there is one critical flaw in this approach: the servers used by speedtest.net to conduct these tests are not capable of properly testing the speeds of very high-speed connections. Thus, we would expect to see the result Wallsten presents, and should ignore it. The thriving applications market in countries like Japan indicates that the broadband services in these countries are indeed capable of delivering the very high speeds that they advertise.

**Myth #5:** *The fact that the U.S. is near the top of other international "technology readiness" rankings indicates that there is no reason to worry about our broadband market.*

**Reality:** It is true that the U.S. ranks high in international comparisons that account for more factors than just the availability and adoption of broadband technology. But the divergence between the international rankings that measure our "network readiness" and the rankings of our actual networks is a prime illustration of the costs of America's broadband problem.

For example, America ranks fourth in the WTO's "national network readiness" index. But only four of the sixty-eight factors that comprise this ranking have anything to do with actual residential use of broadband. The rest of the factors are the precise ones that make the U.S. the global economic powerhouse that it is -- and these very factors are exactly why we expect to be doing so much better on measures of broadband deployment, adoption, and quality (price per unit of speed).

For example, there is a high availability of venture capital in the States; we have freedom of the press; we have patent laws that are vigorous in their protection of intellectual property; we do have a large number of research scientists and engineers working at well funded academic institutions; we have a robust business sector that uses personal computers and mobile phones; and many of our governmental agencies have an online presence.

Because of all these factors, we certainly expect the U.S. to score high on an index of "network readiness." This is why the U.S. "broadband problem" is so frustrating -- American's will make great use of technology, but only if they have access to it. Simply put, our continued high ranking in these various ICT "readiness" indices and our continued low ranking in the broadband price and penetration indices points to the large economic and social losses America suffers because of our lack of a coherent broadband policy.

But Minnesotans don't need international comparisons to tell them what they already know.

The simple fact is that much of the American broadband market is an uncompetitive duopoly, one where consumers pay too much for too little. Lowered prices and competition exist only "for a limited time only" to get consumers locked into longer-term bundled packages without price guarantees. Prospects can be even bleaker for those Americans living in rural areas, apart from those very few communities with exceptional leadership.

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Outside of the Twin Cities, consumers are "lucky" if they have one broadband option. Those broadband options, on average, are slower and more expensive per megabit of service, with few exceptions. Even if the U.S. were at the top of the rankings, it wouldn't change the fact that Minnesota's largest telecom provider, Qwest, is insufficiently capitalized to deploy the kind of world-class communications services that are needed for the citizens of the state to effectively participate in the 21st Century digital economy. Yet, other providers in other states are finding a way to deploy those services.

This point is central, and deserves great emphasis. The Task Force must ask and answer the basic question: what are the long-term prospects for the Minnesota broadband market?

To answer that question, we should look at the future deployment plans of the state's largest carriers. Analysts note that while Comcast has made significant speed improvements of up to 50 Mbps, they are expensive per megabit compared to our international competitors, they are not synchronous speeds enabling two-way video and real time data exchange, and Comcast's service territory is virtually entirely in the Twin Cities metropolitan area, doing nothing for the rest of the state. But what the cable company doesn't discuss is that these services are shared between entire neighborhoods. As broadband users embrace "always on" technologies that requires constant delivery of high speeds, the shared natures of the cable trunk and branch infrastructure will become apparent -- users will not come close to receiving the level of service that they are paying for.

As Brian Whitton, Verizon's executive director for technology explains, cable companies that rely on DOCSIS 3.0 technology are also losing standard cable channels to make room for high speed Internet:[3]

> "With channel bonding, two are more channels originally allocated to carry broadcast video to customers are cleared to free up capacity for services such as high-speed Internet. This technique consumes bandwidth from cable's broadcast video capacity in those neighborhoods where DOCSIS 3.0 is being provided. By deploying DOCSIS 3.0 and channel bonding, many of the cable companies' existing customers are adversely impacted because the channels seized for DOCSIS come at the expense of video channels that their customers will no longer get unless they upgrade to a more costly video product line. it is not a new data networking tool. It's a low-tech response to a high-tech demand. Its still gives cable a limited capacity network that forces them quickly to choke off throughput or take other management measures."

Phone company offerings for the immediate future boast at best 20Mbps downstream and 0.9Mbps upstream service, utilizing copper, not fiber, for the "last mile" connection. 0.9Mbps upstream services are already antiquated by today's standards. Thus, going forward, consumers in other states will be enjoying far better quality services than those that will be available to Minnesotans.

So, while valid international comparisons are important for informing public policy decisions, their validity is less important for Minnesota, which is poised to fall behind other U.S. states, unless policy-makers significantly raise the bar.

**In conclusion, the broadband problem is real**; we need national and state broadband policies that foster competition, deployment and adoption.

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[3] Behind Cable's 3.0 DOCSIS Claims, Eric Rabe, *Broadband*, January 29, 2009.

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All of the excuses offered to explain away America's performance on the international broadband stage cannot hide the reality that many countries continue to deploy and adopt broadband at a higher level than the United States. Because of sound public policy, the citizens in these countries actually enjoy a competitive broadband market.[4]

This is perhaps best illustrated not by adoption rankings, but by the value of the connections in other countries relative to the U.S. Among the 30 OECD nations, the U.S. ranks 18th in the lowest cost/highest value broadband offering ($2.83 per Mbps). The U.S. ranks 14th in the average advertised broadband speed (8.9Mbps). And the U.S. has some of the most expensive broadband in the world, with 21 other OECD nations having lower average broadband monthly subscription prices.

| Country | Lowest Cost Available Broadband ($/Mbps, in US$ PPP) | Country | Average advertised broadband download speed, Mbps | Country | Average Subscription Price, USD, PPP |
|---|---|---|---|---|---|
| Japan | $0.13 | Japan | 93.7 | Finland | $31.18 |
| France | $0.33 | France | 44.2 | Germany | $32.22 |
| Sweden | $0.35 | Korea | 43.3 | Switzerland | $32.69 |
| Korea | $0.37 | Sweden | 21.4 | United Kingdom | $33.34 |
| Finland | $0.42 | New Zealand | 13.6 | Sweden | $34.00 |
| Australia | $0.94 | Italy | 13.1 | Japan | $34.21 |
| New Zealand | $1.05 | Finland | 13.0 | Denmark | $34.34 |
| Germany | $1.10 | Portugal | 13.0 | France | $36.70 |
| United Kingdom | $1.24 | Australia | 12.1 | Netherlands | $39.06 |
| Portugal | $1.24 | Norway | 11.8 | Ireland | $40.41 |
| Greece | $1.41 | Luxembourg | 10.7 | Korea | $40.65 |
| Denmark | $1.65 | United Kingdom | 10.6 | Italy | $41.09 |
| Luxembourg | $1.85 | Germany | 9.2 | Greece | $41.77 |
| Netherlands | $1.90 | United States | 8.9 | Belgium | $46.08 |
| Italy | $1.97 | Canada | 7.8 | New Zealand | $48.66 |
| Spain | $2.27 | Spain | 6.9 | Turkey | $50.04 |
| Norway | $2.74 | Greece | 6.6 | Austria | $50.08 |
| United States | $2.83 | Hungary | 6.4 | Luxembourg | $50.84 |
| Switzerland | $3.40 | Belgium | 6.3 | Canada | $51.07 |
| Belgium | $3.58 | Czech Republic | 6.0 | Australia | $52.26 |
| Canada | $3.81 | Denmark | 6.0 | Portugal | $52.61 |
| Austria | $4.48 | Switzerland | 5.5 | United States | $53.06 |
| Hungary | $4.67 | Netherlands | 5.3 | Norway | $55.74 |
| Ireland | $4.72 | Slovak Republic | 5.2 | Poland | $56.57 |
| Iceland | $4.93 | Austria | 4.9 | Hungary | $57.22 |
| Poland | $6.47 | Iceland | 4.9 | Iceland | $57.92 |
| Slovak Republic | $9.38 | Poland | 4.2 | Mexico | $72.20 |
| Czech Republic | $9.70 | Ireland | 3.0 | Slovak Republic | $79.61 |
| Turkey | $15.75 | Mexico | 1.7 | Czech Republic | $88.91 |
| Mexico | $18.41 | Turkey | 1.4 | | |

*Source: OECD*

Simply put, I think we can do better. I wish the Minnesota taskforce and policy makers well as they seek to prepare Minnesota for a competitive future. If you remember your name, and set the bar high, I'm confident you will deliver a broadband vision to be proud of.

[4] At least one Swedish city has 80 providers to choose from.

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