

Silicon Valley Advisory

November 29, 2009

VIA E-Mail and U.S. Mail

The Honorable Lawrence E. Strickling
Assistant Secretary for Communications and Information
National Telecommunications Information Agency
Herbert C. Hoover Building (HCHB)
U.S. Department of Commerce / NTIA
1401 Constitution Avenue, N.W.
Washington D.C. 20230

RE: Prioritizing Technology Innovation in BTOP

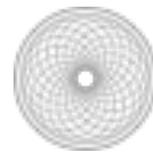
Dear Assistant Secretary Strickling:

First, I want to commend the NTIA for its achievements thus far in administering Round One of the Broadband Technology Opportunities Program (BTOP). The NTIA has shouldered a monumental task in delivering billions of dollars in public funds, in record time, for a wide variety of projects. Business people know first-hand that it's difficult to implement a mere several million-dollar budget, even within a well-established operational structure, methodology, and ample time frame. In the case of BTOP there was no such luxury, and much of the process and priorities were created and disseminated to the public in a short time frame. So we appreciate the staffers who hit the road for weeks, fielded endless questions in the workshops and subsequent e-mails, and helped applicants reach the final "submit" button. They have been delivering on this historic challenge for the betterment of our economy and country.

Re-Focus On ARRA Purposes

Despite the heroic efforts of the NTIA staff in recent months, enough time also has passed for Silicon Valley observers to consider ways in which the NTIA could enhance the program so that it makes the most effective use of taxpayer funds. Our comments center on issues that we believe are not adequately reflected in the current BTOP application guidelines and, on first examination, are not meaningfully represented in the Round One applicant pool. These issues relate to ARRA's requirements that the BTOP should:

- 1) Create the greatest number of high-value, sustainable American jobs;



- 2) Fund investments that increase economic efficiency by spurring technological advances; and
- 3) Fund investments in infrastructure that will provide long-term economic benefits.

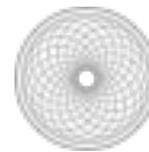
Thus far, the typical infrastructure projects proposed in Round One seem to fall short of meeting these ARRA standards in that most actually do the opposite. We believe that they:

- 1) Fail to create sustainable, high value, jobs for Americans;
- 2) Do not increase economic efficiency by spurring technological advances, but rather act as temporary subsidies for expiring broadband technology platforms and business models; and
- 3) Cannot produce long-term economic benefits.

We appreciate that the NTIA has done extremely well thus far given the circumstances, but the ultimate success of the program still depends upon your marshalling of the candidates and the funds. The BTOP program as it is currently developing may end up failing to satisfy the statutory purposes set forth in the ARRA due to some crucial missing pieces in the application process. It is our hope that, by providing this candid feedback, the NTIA can fine-tune its priorities and grading scheme to adhere more closely to the goals of our President and Congress, and do so before Round One funds are awarded and Round Two applications are solicited.

For instance, the Round One application process clearly lacked well-reasoned metrics and analysis that would allow the NTIA to identify the applicants who would create the greatest “bang for the buck”. To ensure that the ARRA’s requirements are met, the NTIA should consider metrics and analysis addressing:

- 1) Cost per broadband user created by the project;
- 2) Cost per broadband use (hours) created;
- 3) Cost per immediate job created (shovel ready jobs / immediate hires);
- 4) Cost per job revenue created (whether we would be spending more to create the job than the job would pay over its likely life);
- 5) Cost per subsequent jobs created (the potential “eBay effect” – eBay created a platform that subsequently created thousands of new jobs as people used the platform to serve additional economic needs);

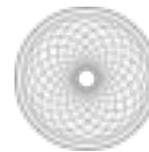


- 6) Destructive costs to incumbents who have already invested in a particular market and who will have their investments devalued by the subsidized, less effective competitor;
- 7) Direct cost benefits for government or anchor institutions (such as a free, perpetual license to these institutions to use the broadband technology infrastructure);
- 8) Potential for waste (e.g., spending \$10,000 per household replacing copper with fiber when developing a faster DSL chipset could do the job for \$1 per user);
- 9) Opportunity cost of funding failed or expiring “me too” business models at the expense of funding true innovation (those with new technology, scalable, coast to coast utility, ability to generate the “eBay effect”);
- 10) Sustainability of the new jobs (e.g., what happens to the installer of fiber after the fiber is installed?); and
- 11) Ability for the investment to pay for itself in terms of GDP, export potential, and other “return on investment” metrics that any investment made with U.S. taxpayer borrowed funds must meet prior to disbursement.

While we applaud the NTIA’s efforts to reach out and serve those who have been left on the wrong side of the digital divide, we also owe it to our country to stay true to the ARRA purposes and ensure the highest and best value for these dollars. To put it in some perspective, there are currently an estimated 26.9M U.S. citizens out of work according to current unemployment figures (U-6 Figure, Bureau of Labor Statistics 11/06/09). We do not want to be in a situation 12 or 18 months hence when 7.2 billion dollars have been spent, but the permanent jobs created are in the tens of thousands rather than a potential hundreds of thousands.

The High Value Role Of Broadband Technology Development

A great number of applicants may have laudatory intent, for example to bring internet service to some small community, but these types of “infrastructure” projects alone will not result in the best investment of public funds. And yet the NTIA must distribute these funds in a short time. Therefore, it will be critical that a higher proportion of funds be made available for “pure play” broadband technology developments in order to honor the purposes of ARRA and satisfy BTOP goals of reaching unserved and underserved areas, vulnerable populations, anchor institutions, public safety entities, and stimulate demand for broadband, economic growth and create jobs. Of course there are compelling infrastructure proposals, but not even the best of these can match the long-term job creation potential or economic and social benefits to be derived from a landscape-changing technology. A broadband technology (such as software, chipsets, or web platforms) can be ramped up quickly and used by millions of existing and prospective broadband users. With this scal-



ability comes tremendous value for the populations that ARRA and BTOP seek to serve, while at the same time ensuring a sensible return on investment for the U.S. taxpayer.

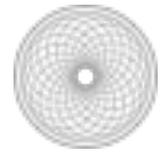
Put simply, broadband technology development can help more people. A single computer center or fiber loop is analogous to the funding of one boat for a fisherman – it is certainly a very good project for that one person. By comparison, however, true technology innovation serves as a rising tide that will help all of the existing boats out there and encourage the building of new boats where needed. In this sense, technology innovation really is the best tool for serving all communities – rich and poor, rural and urban, coast to coast. As such, one “pure play” project could impact not just 500 households (a typical fiber project), but a million – and at a fraction of the cost. Furthermore, a broadband technology development not only creates jobs in the U.S., but also can be applied in foreign markets as a “Made In America” exported good or service.

Finally, broadband technology actually can save the U.S. taxpayer money and provide greater broadband services to those currently lacking them. For example, take the case of one such infrastructure project, the removal of copper wire for fiber in rural areas. In a typical community, such an exercise can cost many thousands of dollars per household – and at the end of the day only serves a very small percentage of citizens. But what if the NTIA funded a technology that allows broadband service providers to use existing copper networks at true broadband speeds (+20 Mbps upstream and downstream) without replacing with fiber? This could have the effect of converting millions of copper users to broadband without the cost of new fiber. Such transformative “pure play” technologies can be made a reality with modest support from the NTIA.

Cost Per New Subscriber & New Job Analysis

Too quickly do people forget that our stimulus funds are all borrowed. It is fundamental to any investment predicated on borrowed funds that the return on investment will justify the debt shouldered. To this end, the BTOP program needs to invest in “highest and best uses” whenever apparent. Although the BTOP decision process touched on this point, I am not sure the application sufficiently emphasized this aspect.

For instance, in the Sustainable Broadband Adoption application process (and reflected in the Broadband Infrastructure and Public Computer Center categories as well), there was only one question on “Sustainable Broadband Adoption Total Cost Per New Subscriber”. This is certainly a great question -- possibly the most important question from a taxpayer perspective. But there was no follow-up such as cost per job created, cost per job revenue created, or NPV comparison of costs and benefits, and certainly the decision process would be better off with more such information. And, as it turns out, most of the applications we’ve reviewed on the NTIA website probably answered this one question in hun-



dreds or thousands of dollars per new subscriber (e.g., a \$5M application to install fiber to enable broadband to 500 homes = \$10K per home). This is no surprise, as a great number of these projects are infrastructure projects that lay fiber or build towers in unserved and underserved areas – which is not a low-cost exercise.

Recommendations to the NTIA

In light of the foregoing, we would encourage the NTIA to:

- 1) Fine-tune its economic benefit analysis for the best possible use of these funds.
- 2) Provide strong support for scalable broadband technology programs, as they often show the greatest return on investment and can benefit the largest numbers of unserved and underserved populations. Specifically, we hope the NTIA will use its discretionary powers to reallocate significantly more funds to “pure play” broadband technology development programs and specifically to increase the allocation for Sustainable Broadband Adoption projects to a minimum 33% of BTOP funds.
- 3) Create several “priority baskets” for funding for broadband technology projects that can credibly provide broadband access and services (a) that reach users for under \$10 per person or (b) that can create more job revenues over the life of the project than the cost of the project.

BTOP is an historic opportunity for our government to change people’s lives through investing in better technology. Given the importance of these funds, if the NTIA will focus closely on real cost-effective scalability, then the inclusion of more technology innovation projects will indeed contribute to the highest and best use of taxpayer funds. Technology innovation is unbiased, and reaches all unserved and underserved Americans equally, regardless of geographic location.

Again, Mr. Assistant Secretary, we thank you and your staff for your hard work and commitment to this program, and for allowing the public to comment honestly on its priorities.

Sincerely yours,

Thomas Sachson