

**Before the
DEPARTMENT OF COMMERCE NATIONAL TELECOMMUNICATIONS AND
INFORMATION ADMINISTRATION
and the
DEPARTMENT OF AGRICULTURE RURAL UTILITY SERVICE
Washington, D.C. 20230**

In the Matter of)
)
Implementation of Section 6001 of the American)
Recovery and Reinvestment Act of 2009)
)
Implementation of Title I of the American) RUS Docket No. 090309298-9299-01
Recovery and Reinvestment Act of 2009)

COMMENTS OF THE CITY OF SEATTLE

I. INTRODUCTION

The City of Seattle submits the following comments in response to the Request for Information (RFI). Seattle also endorses and signed comments supplied by the National Association of Telecommunications Officers and Advisors (NATOA) in response to this same proceeding.

I. EXECUTIVE SUMMARY

Seattle files separate comments to underscore the importance of three issues: the definition of underserved, NTIA primacy in grant decision making, and local governments' role as eligible recipients. The City of Seattle believes that the definition of "underserved" must take into account a variety of factors. Network speeds actually experienced by the end user during peak usage times should be the basis for determining any standards for speed, and we urge the NTIA to set standards at least to the levels of our competitors in Europe and Asia to ensure future needs can be met. In addition, underserved should also consider other factors such as affordability,

access and whether network management practices unreasonably inhibit users from maximizing the potential of their Internet connection.

Seattle also believes that the NTIA should be the sole decision maker in awarding grants under the American Recovery and Reinvestment Act of 2009 (the “Act”). The role of State governments should be advisory but not determinative.

Finally we believe NTIA should consider significant ARRA funding of broadband projects proposed by local governments, particularly those that have undertaken the steps necessary to identify their broadband needs and have developed concrete plans to meet those needs but lack the necessary funds to implement them.

II. A VARIETY OF FACTORS SHOULD BE CONSIDERED IN DETERMINING THE DEFINITION OF UNDERSERVED, INCLUDING ACTUAL SPEEDS EXPERIENCED BY THE END USER DURING PEAK TIMES

Seattle strongly believes that neighborhoods and communities served only by copper-based last mile connections to the premises should be included within the definition of “underserved” for the following reasons:

1. As Seattle’s Telecommunication Innovation Task Force discovered over five years ago¹, the assumption that cable modem and DSL networks deliver adequate Broadband service is incorrect. Cable’s Hybrid Fiber/Coaxial (HFC) networks and the phone company’s DSL counterparts are unable to keep pace with growing bandwidth demand. These companies offer theoretical maximum speeds, which are always subject to network congestion and distance limitations. These networks were originally designed as single-purpose networks for video and voice, respectively and were not designed to support emerging high capacity, symmetrical applications. While cable and telco engineers have

¹ www.seattle.gov/btt

taken incremental steps to prolong the life of these networks, they are already “tomorrow’s bottlenecks,” as predicted by a 2002 study by the Department of Commerce².

2. The speeds advertised by these carriers are theoretical and are seldom achieved. For example, in the case of cable, despite the improvements of DOCSIS 3.0, which cable operators are touting as capable of providing 100 million bits-per-second (Mbps) and more, the fact remains that users must share the available bandwidth at each node. The more users log on simultaneously, the slower the Internet connection. A 2008 technical audit of the Comcast cable system in Seattle revealed an average 900 homes are passed per node. Therefore any given user would only realize a fraction of the marketed speeds during peak times. Due to these technical limitations, cable companies must always qualify quoted speeds as “up to”, which renders advertised speeds meaningless. Clearly Seattle, while a major center of technology, but with only cable modem and DSL service, is underserved in relation to cities in the US, Europe and Asia with more advanced fiber-to-the-premises networks.

In the case of phone company networks, DSL and ADSL2+ networks can reach theoretical maximum speeds of “up to” 24 Mbps downstream under ideal conditions (and after substantial monthly payments by subscribers). Actual speeds are also a fraction of the advertised speeds, particularly as distance from the telephone company central office increases, and upstream speeds are usually below 1 Mbps at best. The services offered over DSL and cable lack symmetry or robust upstream bandwidth. Cable’s HFC technology is almost all downstream. Cable operators still dedicate only about five

² “Understanding Broadband Demand: A Review of Critical Issues.” Office of Technology Policy, U.S. Department of Commerce, September 23, 2002.

percent of their available spectrum to upstream transmissions, which severely limits new, upstream applications such as high definition video conferencing or telework .

III. OTHER CONSIDERATIONS:

1. **Affordability.** Even where some Internet service is available, communities should be considered underserved if that service is not affordable. In Seattle a small business owner was quoted the following prices for several tiers of service: 3/3Mbps (that is, 3 Mbps upstream and downstream) @ \$380/month; 5/5 Mbps @ \$720/month; and 10/10 Mbps at \$995/month. These prices are a barrier to service and Broadband adoption and affect the ability of our small businesses to expand, hire more workers and generate increased economic activity. Minimal residential cable internet service costs approximately \$60 per month for “up to” 12 Mbps downstream (and significantly lower upstream speeds). Because of these price differences, the divide between neighborhoods with less expensive and more robust, symmetrical broadband, and these Seattle neighborhoods continues to grow.

In comparison, consumers in various Asian and European countries enjoy 100 Mbps symmetrical service for \$40 per month. In areas of France, consumers can obtain 100 Mbps down and 50 Mbps in the upstream, unlimited international telephone calls and 100 television channels (including High Definition channels) for the equivalent of \$42 per month. We strongly urge NTIA to consider affordability as a factor not only for determining the definition of “underserved” but also for assessing the merits of each grant application.

2. **Accessibility.** Even where service is available, communities are underserved if service is not accessible. Even where service is nominally available according to

providers and “broadband maps”, and consumers can pay, they may not be able to actually acquire usable service. Residential and business consumers, even in major urban areas like Seattle are often unable to obtain DSL at their premises even though their neighbors can, due to lack of available cable plant or distance from the central office. Cable modem coverage also has accessibility issues. Cable television plant was originally installed to serve residential customers and cable’s infrastructure to support cable modem service does not necessarily extend into business areas.

3. Speeds limited by network operators. Even where service is available, communities are underserved if use of the service is limited by network operators or providers and when communications are throttled. A consumer is also underserved where network owners impose arbitrary bandwidth caps. Such caps are becoming more and more common, in our experience, based on complaints to the City of Seattle’s Cable Office.
4. Technology Literacy: Any area with a high percentage of populations (usually low income and vulnerable people) that are unable to adopt broadband through disability, or lack of affordable Internet service or access to computers will likely lack technological literacy. People in these areas are not able to avail themselves of available services might be provided and are also underserved.

As a specific example, consider Seattle’s Central District area. This area and its residents are underserved in several respects. While Seattle is considered by many to be a technology leader, this section of the city with approximately 40,000 residents has long suffered from underinvestment in general, and specifically in communications infrastructure. According to 2000 Census data and a statistically valid Technology Indicators Survey completed in January of

2009³ this area contains the densest concentration of people living below the poverty level in the city and is designated by the State of Washington as a Community Empowerment Zone. Despite the high poverty levels, residents of this area currently pay the highest prices for broadband service in Seattle while receiving the slowest network speeds and lowest levels of reliability. The Central area has less than half the penetration of cable subscribers than in other parts of the city (25% v 67%); cost is cited as the major reason.

³ Population and Broadband Access and Adoption Factors in Seattle

The Central District Franchise Area contains a higher concentration of populations most in need of help obtaining affordable Internet and the computers and training necessary to take advantage of broadband services. Here are a few statistics about this area and the need in these populations in Seattle. The overall population data is from the 2000 census. The data on disparity in technology access and literacy are based on a 1000 household random telephone survey completed for the City of Seattle in January 2009.

Population profile of the Central District Franchise Area (based on aggregated census blocks):

- The concentration of African Americans is almost 3 times that of the city overall (23.2% v 8.3% citywide)
- More than two-thirds (68.7%) in the area are people of color.
- Latino or Hispanics represent 8.5% in the franchise area vs 5.3% overall in the city.
- There is a higher population in poverty (18.8% in the franchise area vs 11.8% citywide).
- The overall household income is lower (49.6% have household incomes less than \$35,000 compared to 38% citywide).

Technology profile: These are some of the disparities found for populations in Seattle where a larger proportion are represented in the Central District franchise area:

- People making under \$30,000 are only two-thirds as likely to have home Internet as those with household income above \$40,000.
- People with no college education are more than 20% less likely to have home Internet service.
- Only two-thirds (69.6%) of African-Americans have a computer at home v 92.2% of Caucasians
- Only half (50.2%) of Latino/Hispanic households have a computer at home.
- Less than half (44.6) of the Latino/Hispanic households and only about two-thirds (66.6%) of African Americans have Internet at home compared to almost 90% of Caucasians.
- Of those without computers 32.1% cited cost as the reason
- Of those without Internet at home over 18.3% cited cost as the reason.

Value of higher speed service: Over three-fourths of residents felt it would be valuable to have significantly faster Internet service.

When asked what one thing, if anything, would improve your Internet service the most, price was named first (47%) followed by speed (26.7%)

The Central District area is served by Broadstripe, a small cable operator that has filed for bankruptcy protection, and by the ILEC Qwest, which is severely undercapitalized relative to its rivals Verizon and AT&T. Qwest has not included this area among those slated to receive new Broadband infrastructure investment. The current copper based networks from these providers are woefully inadequate and will never keep pace with the area's communication needs. The high prices charged for mediocre performance levels are a major barrier to Broadband adoption. Broadstripe offers "up to" 10 Mbps downstream for about \$50 per month in a bundled package. Residents complain about lost packets, high latency, slow network speeds and frequent, long outage periods. Broadstripe does not market Video on Demand service and provides only a handful of HD channels. Given its bankruptcy filing we do not expect major improvements. Qwest's speed maximum is "up to" 7 Mbps and less than 1Mbps in the upstream for about \$45 per month. These quoted speeds are rarely achieved. Qwest has no plans to offer its own video service. Both are closed networks, with no competition. The residents of this economically and socially disadvantaged area have no choice and no hope for better service in the future.

IV. ALL FINAL DECISIONS FOR AWARDING GRANTS MUST BE MADE SOLELY BY THE NTIA. THE STATES SHOULD HAVE A CONSULTATIVE ROLE, THEIR ADVICE SHOULD NOT BE DETERMINATIVE

The NTIA must assert its primacy in decision making, and limit the role of States to commenting on which grant proposals should receive funding. States should not be allowed to rank proposals. There is an inherent conflict of interest in States having any role in decision making since States are also eligible applicants under the Act and may be submitting proposals for their own projects, thereby competing against local governments for the same funding. The NTIA must make clear that it will make the sole decisions over which entities receive funding. We are not opposed to the NTIA granting some small weight to State recommendations for funding but

such advice should not be determinative of the outcome. Rather, any State recommendations should be part of broader criteria for evaluating grant proposals. Every applicant and application deserves equal treatment based on the merits of their proposal.

Seattle also believes that the NTIA should reject calls to create a formal State role in evaluating grant proposals. Such action would create an expensive and unnecessary layer of State bureaucracy with associated administrative cost. A State review will delay getting money to communities ready to begin deployment of broadband facilities and institute programs for broadband adoption and digital literacy. The Act permits the NTIA to spend over \$150 million on administrative costs and believe that such a sum is adequate for the purposes of NTIA evaluation and decision making. Using a portion of that funding for State administration reduces the amounts available to hard pressed communities trying to deliver services.

V. FUNDING CRITERIA UNDER THE BTOP SHOULD REFLECT A STRONG PREFERENCE FOR PROPOSED PROJECTS FROM LOCAL COMMUNITIES THAT HAVE CONDUCTED EXTENSIVE ANALYSIS TO DETERMINE THEIR BROADBAND NEEDS.

Section 6001(e) of the Act states local governments are expressly permitted to apply for and receive NTIA broadband grant funding. NTIA acknowledges this in the RFI. NTIA should work to ensure that no barriers are laid before local governments as they work to participate in and benefit from this program. Local elected officials are well positioned to evaluate the infrastructure and economic development tools needed to sustain viability, encourage growth and ensure the unique needs and specific interests of local communities are addressed. We believe the NTIA should give strong preference to communities which:

- Have taken concerted steps to ascertain their broadband communications needs;
- Have conducted extensive feasibility analyses, engineering and market studies;

- Have developed concrete, “shovel ready” projects that could be implemented but lack adequate funding.

VI. . CONCLUSION

Thank you for the opportunity to comment in this proceeding. Seattle and other local governments will gladly assist the NTIA in ensuring that the benefits of broadband accrue to all of our citizens and that we begin to make the strategic investments necessary to bring next generation Broadband capability to the United States.

Respectfully submitted,
Bill Schrier, CTO
City of Seattle
April 10, 2009