

Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of)
Broadband Accessibility for People)
with Disabilities – Workshop II) GN Docket Nos. 09-47, 09-51,
Barriers, Opportunities, and Policy) 09-137
Recommendations)
_____)

Comments of the Rehabilitation Engineering Research Center
on Telecommunications Access

Judith E. Harkins, Co-Principal Investigator
Gregg C. Vanderheiden, Co-Principal Investigator
RERC on Telecommunications Access

c/o Gallaudet University
800 Florida Avenue, NE
Washington, DC 20002

and

Trace Center
University of Wisconsin-Madison
2107 Engineering Centers Bldg.
1550 Engineering Dr.
Madison, WI 53706

Of counsel:

Karen Peltz Strauss
KPS Consulting
3508 Albemarle Street, NW
Washington, DC 20008
202-363-1263

October 6, 2009

SUMMARY

The Rehabilitation Engineering Research Center on Telecommunications Access submits these comments in response to the Federal Communications Commission's request for additional information on access to broadband by people with disabilities. These comments primarily focus on the need for the National Broadband Plan to propose actions that will safeguard the ability of all Americans with disabilities to access broadband technologies. While lack of sufficient market influence by this community means that many of these actions will have to be legislative or regulatory, additional outreach and research will also be needed to expand adoption and use of these services within this population. The RERC also encourages the support of a national effort to build access accommodations directly into the nation's infrastructure - through a new *National Public Inclusive Infrastructure* – so that basic access is available to everyone, regardless of socioeconomic status.

TABLE OF CONTENTS

Introduction.....	1
1. Accessibility and Affordability Barriers Faced by People with Disabilities..	2
2. Furthering National Purposes and People with Disabilities.....	7
3. Policy Solutions and Recommendations.....	8
a. Additional Legislative and Regulatory Action Relating to the Accessibility and Universal Service Provisions in the Communications Act.....	8
b. Other Legislative and Regulatory Action.....	15
c. Non-regulatory Actions.....	18
Conclusion.....	22

Before the
Federal Communications Commission
Washington, DC 20554

)

In the Matter of)
Broadband Accessibility for People)
with Disabilities – Workshop II) GN Docket Nos. 09-47, 09-51,
Barriers, Opportunities, and Policy) 09-137
Recommendations)
_____)

Comments of the Rehabilitation Engineering Research Center
on Telecommunications Access

Introduction

The Rehabilitation Engineering Research Center on Telecommunications Access (RERC-TA) submits these comments in response to the Federal Communications Commission’s (FCC or Commission) Public Notice seeking additional information about providing broadband access to people with disabilities.¹ The RERC-TA is a joint project of Gallaudet University and the Trace Center of the University of Wisconsin, Madison, funded by the National Institute on Disability and Rehabilitation Research of the U.S. Department of Education. The RERC-TA previously submitted comments in response to numerous FCC proceedings on broadband-related issues, including comments submitted on the National Broadband Plan (NBP) on July 21, 2009. In the comments submitted herein, the RERC-TA will summarize some of the points made earlier in answer to the specific questions raised in the Public Notice, and focus primarily on the policy issues raised by that Notice. These comments only contain answers to questions on which the RERC-TA can offer some level of expertise; other questions are simply omitted from these comments.

¹ *Comment Sought on Broadband Accessibility for People with Disabilities, Workshop II: Barriers, Opportunities, and Policy Recommendations*, NBP Public Notice #4, DA 09-2080, GN Docket Nos. 09-47, 09-51, 09-137 (September 18, 2009) (“Public Notice”).

1. Accessibility and Affordability Barriers Faced by People with Disabilities.

Question: What are the biggest concerns relating to the accessibility of broadband for people with disabilities?

Response: The following are the most significant barriers (in addition to problems of availability and affordability) confronted by people with disabilities when accessing broadband capabilities:

- inaccessible user interfaces on IP-based equipment that prevents individuals from manipulating functions or controls;
- inaccessible website design – e.g., web content with graphics and other designs that are not accessible to Braille or screen readers; lack of capability for captioning or video description on video posted on the web.
- inaccessible website content (e.g., lack of closed captions or video description);
- security concerns that lead organizations to take preventive action that has adverse affects on accessibility, and that overrides accessibility needs (e.g., blocking video communications)
- lack of reliable and interoperable real-time text for live conversation and emergency access.
- public locations offering Internet access that are physically inaccessible or that offer computers without assistive technology or customized configurations needed by people with disabilities;
- lack of easily available information about accessibility solutions, including a lack of accessible training on how to use those solutions
- lack of prompt technical support to fix accessibility features or assistive technologies (e.g., waiting weeks to have a Braille display fixed that is needed to access a computer)
- lower speech quality in VoIP transmissions, resulting from attempts to maximize bandwidth usage

Question: Is affordability a major concern?

Response: Yes. Despite remaining access issues noted above, broadband has become the basic pipeline for communications for many people with disabilities but monthly costs are far higher than plain old telephone service has been. The income level of people with disabilities overall

is lower than that of the general population. Adaptive hardware and software needed to access IP-based equipment and content are often very expensive and can create an additional barrier to broadband access for people with disabilities who have low incomes. Affordability of assistive technology is probably the biggest concern for people who are deaf-blind. The Deaf-Blind Communicator, for example, can cost up to \$8000.

Question: How often do people with hearing disabilities find that material that they would like to access on the web is uncaptioned?

Response: Although some video programming distributed by larger programming distributors (e.g., Hulu, CNET) is captioned, the vast majority of IP-based programming remains uncaptioned, even when it is repeat programming that previously was shown with captions on traditional television.

Question: How much is video description used on the web?

Response: Video description is virtually absent from the web.

Question: Are state equipment distribution programs providing support for Internet Protocol (IP)-based equipment or assistive technologies used by people who are deaf or have hearing disabilities, people with vision disabilities, or people who are deaf blind?

Response: Existing state equipment distributions vary widely in terms of the type of equipment that they distribute and the eligibility requirements that they impose on their residents. Because many states do not collect funding from IP-based voice communication service providers, they typically do not distribute specialized customer premises equipment needed by people with disabilities to access the Internet. Rather, generally states that have these programs continue to distribute older forms of technology that are tied to the public switched telephone network, despite the increasing reliance of their state residents on IP-based technologies. In some cases, this is because state law requires that the distributed equipment be able to link to 9-1-1 – yet text access to 9-1-1 via IP is practically nonexistent. With respect to equipment for people who

are deaf-blind, while most state programs do provide at least some equipment, not all are familiar with the needs of deaf-blind people, or are knowledgeable about the equipment that needs to be distributed to this population – again, this varies considerably from state to state.

Questions: How many more low-income people who are deaf and have other hearing disabilities would have access to broadband services if they were able to use Universal Service Funds to pay for these services as a means to have access to telephone services? How many more people with vision disabilities would have access to broadband if public funds were used to subsidize the specialized equipment used by people with vision disabilities? Given the fact that assistive technologies used by people who are deaf-blind cost approximately \$5000 to \$10,000, how many more people who are deaf-blind would have access to broadband if the assistive technologies for the deaf blind were subsidized with public funds?

Response: While the exact number of low income individuals who would benefit from universal service subsidies for broadband-based telephone services is difficult to predict, with over 30 million Americans who have hearing loss, 10 million who have vision disabilities, and an additional several hundred thousand who are deaf-blind, it is estimated that even if a fraction of these individuals who are both low income and in need of IP-based communications services received such subsidies, millions of Americans would benefit. The percentage of such individuals will be even higher among older Americans who are less likely to be employed and more likely to have hearing and/or vision loss. Additionally, because the incidence of unemployment is so high within the deaf-blind community, it is estimated that as much as 70 to 80 percent of that population would be able to use this technology if it were made more available and affordable.

Question: In general, is the marketplace more responsive or less responsive to accessibility concerns than in the past?

Response: While there may be a greater awareness of the needs of people with disabilities in our society, it remains difficult for the disability community to exert sufficient market pressure to get technology companies – who are trying to make their products and services most

appealing for specific segments of the mass public – to devote the time and resources necessary to produce accessible products and services for disability populations.

Question: Will more outreach to those in this community help spur broadband use? If so, are there some effective mechanisms or networks to do so?

Response: Yes. Various types of outreach and education are necessary, as follows:

For consumers with disabilities: More needs to be done to educate people with disabilities about the ways that broadband services can improve their lives. Many such individuals may not be aware of the huge potential that broadband services has to help them and are therefore reluctant to pay the high costs associated with these services. Outreach is needed to educate these unserved communities about the ways that broadband can enhance their independence, help them get jobs and education, and improve their productivity on a daily basis. In addition, outreach is needed to inform people with disabilities that accessibility solutions exist for them. Without such outreach, many who have confronted accessibility barriers when trying to access high speed Internet services will continue assuming that there is nothing that can be done to assist them. Even those individuals who may be aware that accessibility solutions do exist report that they do not know where or how to get the specific technology that they need, how to get training to use it, or how to get technical support after acquiring it.

For some of these individuals, placing notices and articles in organizational newsletters and distributing information through disability clubs and associations will be suitable. Many others, however, may not be “culturally” attuned to accessibility issues because they are not part of a community of people with disabilities, and therefore may not have networks or organizations to whom they may turn for information about broadband access. For these individuals, mainstream media announcements will be needed.

For manufacturers and service providers – It is critical to educate companies that produce broadband equipment and services about the needs of people with disabilities so that they are aware of the importance of making their products and services more accessible to this population.

For public Internet sites – Outreach to community centers, libraries, and other public locations that provide broadband services to the public are needed to educate these facilities about the accessibility needs of patrons with disabilities.

Question: Could people who are deaf-blind benefit from IP-based TRS?

Response: According to the American Association of the Deaf-Blind, much depends on the vision and hearing loss and communication style of the individual. There are various possible scenarios:

- Deaf or hard of hearing people who use ASL and have low but some vision could use existing video relay services (VRS). Such individuals could sign to the interpreter and if they have enough vision, see responses if the interpreter wears contrasting clothing, uses a dark background, and signs, fingerspells and interprets numbers more slowly and clearly.
- Deaf and hard of hearing people with low vision could also use a text relay service on a computer by adjusting the font and background.
- Deaf and hard of hearing individuals who can sign but have little or no vision could sign directly to the interpreter and have the relayed response typed back to a Braille display, if available to and usable by that deaf-blind person, so long as the FCC permits this type of communication.
- Deaf-blind people who know Braille could also use text-based relay services and receive responses on their computer if it is equipped with a Braille display or some means of Braille use.
- A fully deaf-blind person who uses tactile sign language and does not read Braille or have access to expensive Braille devices, would not be able to use existing forms of TRS unless he or she has an in-person interpreter or communication facilitator who can sign what the VRS or TRS communications assistant says.

A key consideration in the provision of TRS for people who are deaf-blind is that

Braille TTY is still a primary technology for deaf-blind persons, but this means that these individuals are now cut off from sighted deaf friends and family who have abandoned TTYs and the public switched telephone network. Moreover, as noted above, current FCC policy may prevent using two types of relay service on a single call. This underscores the need to have deaf-blind people on the same IP network as deaf community members.

2. Furthering National Purposes and People with Disabilities²

The following is a summary of some of the extraordinary benefits of broadband services for people with disabilities:

- An “always on” connection enabling fast access to all types of information, applications and support, 24 hours/7 days a week;
- The ability to level the playing field by allowing everyone to use the same tools for access to employment (for applications, job advancement), education (for homework assignments, distance learning), civic functions (for web-based government proceedings, information distributed by government agencies), and other opportunities;
- The ability to send real-time text, data, and video at the same time, which allows individuals to use the communication mode that best suits them, reduces the need for relay services as an intermediary in conversations, enables the provision of IP-based captioned telephone services, and facilitates emergency access in next generation E-9-1-1 systems;
- A system that allows accessibility to be built into online content, for example, through sign language, captioning and video description;
- High speeds that facilitate the use of sign language over clear video communications so that people who are deaf and who use signing as their primary mode of communication can communicate over relay services or with remote interpreters for in-person communications; and
- Shorter waiting times that increase productivity and independence and reduce frustration for people with intellectual and mental disabilities;
- Text-based IP relay services from any portable device that can access the Internet, including cell phones and PDAs

² Note that this is Section 3 of the Public Notice.

3. Policy Solutions and Recommendations³

a. Additional Legislative and Regulatory Action Relating to the Accessibility and Universal Service Provisions in the Communications Act.

Question: What additional legislative and regulatory action is needed to address accessibility and affordability challenges?

Response: Laws are needed to ensure that as broadband technologies march forward, people with disabilities are not left behind. These laws can focus on the following:

- Federal policies to ensure full and equal access to broadband equipment and services by requiring universal design as a first approach. Building access directly into broadband infrastructure and technologies will ensure that all consumers, regardless of socioeconomic status, are included in a timely and effective fashion. Among other things, the NBP should support total conversation – the combination of voice, real-time text and video on a phone call. This will ensure that all individuals with disabilities will be able to connect with others and communicate using methods that are best suited to their needs without barriers created by firewalls or other network obstructions. For example, such policies should require:
 - VoIP services to offer a user option – at no increased cost – for individuals with hearing loss or speech disabilities to obtain speech quality that is at least as good as speech quality provided over the public switched telephone network
 - The availability of reliable and interoperable real-time text wherever there is speech. This will assist:
 - People who need to have live conversations in an emergency
 - People who are deaf or hard of hearing and do not know sign language
 - People who are hard of hearing and use text to supplement speech either in the form of captioned telephony or by having people compliment their speech conversations with text when terms are not understood or detailed information, such as a phone number or address, needs to be conveyed
 - People with speech disabilities who must either use text to communicate or must supplement their speech with text when they cannot be understood
 - People who are deaf-blind and who must communicate in text so that it can be converted into tactical form
 - People who are deaf-blind and who have enough vision or hearing or speech to be able to use some speech coupled with text
 - Sufficient broadband speeds and bandwidth to provide support for video communications

³ Note that this is Section 5 of the Public Notice.

- Federal policies to ensure compliance with all federal nondiscrimination laws, including section 508 of the Rehabilitation Act, 255 of the Communications Act, the Telecommunications Accessibility Enhancement Act, Title IV of the Americans with Disabilities Act, and provisions of the Individuals with Disabilities Education Act requiring educational access; and
- Federal policies that create financial incentives for consumers to use broadband services, including the use of Lifeline and Link-up subsidies and support for the distribution of specialized customer premises equipment to people with disabilities.

Question: Should Congress require that the same kinds of accessibility regulations that have applied to telecommunications and media in the past be applied to broadband?

Response: Yes. Although a number of accessibility laws were enacted in the 1980s and 1990s to require access to television and telephones (e.g., for closed captioning, hearing aid compatibility, relay services and general access to equipment and services) these laws generally apply to technologies that are rapidly being replaced or supplemented by broadband-based technologies. To ensure that people with disabilities are not afforded second-class status as our nation migrates to the next generation of electronic communications (a process that is nearly completed), new legislative requirements continuing these disability protections are needed. Moreover, the need to safeguard the ability of this population to access Internet-based and digital technologies will intensify in the coming years, as the nation's growing senior citizen population increases the number of Americans with vision, hearing, cognitive and mobility disabilities. Most importantly, it is critical for accessible design to be incorporated into these new technologies early on, when the cost and effort associated with doing so remains small, rather than later, when expensive retrofitting would be required. Fortunately, digital and Internet-based technologies depend largely on software, making this more affordable than ever before. In addition, various technological advances, including increased processing power, memory capacity, disk storage and longer battery lives, can facilitate accessibility in new generations of products where this once was not feasible.

Question: How successful have the regulations promulgated under Section 255 of the Communications Act and the Hearing Aid Compatibility (HAC) Act been in achieving accessibility to telecommunications equipment and services?

Response: Section 255. Implementation of Section 255 has been ineffective and inadequate.

The lack of outreach to the covered community about their rights under this law, coupled with a lack of effective implementation and enforcement by the FCC, has allowed companies to routinely build telecommunications products and services that are not accessible even though some accessibility features are not difficult to implement. Part of the problem stems from the complaint process used at the FCC, which generally relies on informal complaints to police compliance. Little effort has been made to actively monitor the behaviors of companies and even when consumers do file Section 255 complaints, their issues are largely ignored – for example, nearly 30 informal complaints were brought by blind consumers over two years ago to obtain accessible cell phones; none of these were resolved. Alternatively, informal section 255 complaints are resolved by satisfying the immediacy of the problem, such as getting a company to return a deposit or getting an extension of a deadline to return a phone. Such quick fixes do not rectify the underlying problem by, for example, requiring that a product be made accessible.

Response: Hearing Aid Compatibility. Current rules on HAC for wireline phones were developed through a highly successful negotiated rulemaking process conducted in the 1990s, while HAC rules for wireless phones were developed through an industry-consumer consensus process that also proved to be very effective a decade later. It is gratifying to be able to report that all wireline phones (and nearly all cordless phones) are now HAC, and that consumers with hearing loss are now in a far better position to find HAC wireless phones than they were before the FCC promulgated its current HAC rules. However, it took from 1973 – when a small

consumer group called the Organization for Use of the Telephone first began the movement to restore hearing aid compatibility to landline handsets – until 1996, when FCC promulgated its final wireline HAC rules, for all such handsets to become accessible to hearing aid users. Moreover, for the ten year period after digital wireless technologies were first rolled out to the American public (beginning in the mid-1990s), these phones remained largely inaccessible to people who use hearing aids or cochlear implants. This put these individuals at a severe disadvantage, forcing them to rely on more expensive and less efficient analog wireless plans long after most of the public had switched to sleek digital services. In order to ensure that individuals who use hearing aids and cochlear implants are not left out again, it is critical for the FCC to use its ancillary jurisdiction to carry over the protections now afforded under existing HAC laws to handsets used with broadband communication technologies.

Question: Are there any differences between telecommunications and broadband accessibility which may affect whether regulation is effective and efficient?

Response: For either industry, the disability community is unlikely to be able to exert the market pressure necessary to obtain accessible products and services without regulation. In order for all companies to be treated equally, regulation needs to be applied evenly across both industries.

Question: How successful have the captioning regulations been?

Response: The captioning regulations have been very successful to the extent that they now apply to nearly all televised programming. However, a petition filed with the FCC in 2004 by several consumer groups, seeking standards of quality, real time captioning for all local news programs, and various other improvements to these rules has yet to be decided by the Commission. In addition, hundreds of petitions seeking exemptions from the captioning rules remain outstanding.

Question: To what extent should captioning requirements be applied to Internet content, including user-generated content?

Response: Over the past few years, web-based video programming has expanded at an astonishing rate. Unfortunately, the vast majority of video programming posted on the Internet is not captioned, and we are seeing history repeat itself: a new technology arrives and people with disabilities are left out. At a minimum, captions should be required on the following:

- Pre-produced video programming that has already been captioned to achieve compliance with FCC closed captioning regulations;
- Live television programming that must be captioned in compliance with FCC closed captioning regulations;
- New web-based video programming generally considered comparable to programming that must be captioned under FCC closed captioning regulations.

Captioning of IP-based video programming is technically feasible, as demonstrated by various websites that already offer this form of access. The FCC can play a role in helping industry to develop an industry-wide standard, so that there can be consistency across various authoring systems and platforms, and a common data format for content providers to use in adding captions to web-based material, similar to the standard for line 21 (CEA-608) for analog transmissions and DTVCC (CEA-708) for digital transmissions.

Question: To what devices should closed captioning decoder and video description capability requirements be applied?

Response: The Decoder Circuitry Act of 1990 (Decoder Act)⁴ requires television receivers with screens measuring at least 13 inches to have built-in decoder circuitry designed to receive and display closed captions. In addition, FCC rules require captioning capability on computers equipped with television circuitry that are sold together with monitors that have viewable pictures measuring at least thirteen inches in diameter to display captions, digital television sets

⁴ 47 U.S.C. §§303(u); 330(b).

with screens measuring 7.8 inches vertically, and stand-alone DTV tuners and set top boxes, regardless of the screen size of the monitors with which they are sold. However, despite the fact that the Decoder Act also requires the FCC to ensure that closed captioning services continue to be available to consumers as new video technology is developed, it does not specifically require smaller video programming devices to be able to display closed captions. What this means is that while the rest of the American public is able to watch television and Internet-based video programs on their PDAs, computers, MP3 players, and even cell phones, people who rely on captions are – with only a few exceptions as provided by certain companies that are voluntarily offering this form of access⁵ – unable to do the same. Consumers with hearing loss want the same access to modern electronic devices that show video programming as their hearing peers. This is not only important for entertainment purposes; it is also critical for emergency responsiveness.

Question: To what extent can Emergency Alert System (EAS) requirements be applied to Internet content?

Response: While there may be some limits in pushing the content of emergency alerts to different Internet devices, to the extent these messages can be pushed through, they can and should be sent, received and provided to end users in completely accessible forms that include visual, auditory and text formats.

Question: What reforms should be made to the Interstate TRS Fund, particularly as it relates to the funding of Video Relay Service (VRS)?

Response: Insofar as IP-based service providers benefit substantially from the use of their services by IP-based text and video relay users, it would be fair for these providers to also have to contribute to the funding support of IP-based relay services.

⁵ For example, Apple's iPod, iTouch and iPhone can each display closed captions.

Question: Should IP-based TRS be used to provide “functionally equivalent” telephone services to people who are deaf-blind and people who have communication disabilities such as autism? Would Section 225 have to be amended to do so?

Response: The goal of the Americans with Disabilities Act is to ensure that all Americans have the communications access necessary to allow them to be productive and independent citizens. To the extent that the FCC has open proceedings on the provision of relay services to populations that have still not been served by these services, it should complete these proceedings after receiving feedback from the affected communities. The RERC-TA does not believe that a legislative amendment is necessary to issue regulations that will ensure telecommunications access for people with various disabilities.

Question: Should the Commission consider funding VRS equipment through a separate mechanism? Is there a mechanism in which the federal government could partner with state equipment distribution programs to ensure that there was a comprehensive broadband assistive technologies program in each state?

Response: A federal-state partnership program that distributes IP equipment – i.e., a program that is separate from telecommunications relay service compensation – for individuals otherwise unable to afford such equipment would help enable the acquisition of IP-based equipment by many individuals who are presently unable to afford such equipment. More than 25 years ago, in the Telecommunications for the Disabled Act of 1982 (TDA), Congress spoke to the importance of ensuring that people with disabilities have the communication tools they need to effectively use communication services.⁶ At that time, Congress authorized the continued subsidization of telephone equipment with telephone service revenues, noting that if this population lost telecommunications access because this equipment became unaffordable for them, the costs to society would be much greater than the costs of continuing to subsidize specialized products. Recognizing the limitations of the competitive market as a means for

⁶ P.L. 97-410, 94 Stat. 2043 (1982), codified as amended at 47 U.S.C. §610 (1988).

driving disability access, Congress went on to rely on the Communication Act's universal service obligation for allowing the continued subsidization of such specialized equipment:

Disabled persons who are unable to afford the full costs of [specialized] equipment will lose access to telephone service. This would disserve the statutory goal of universal service [and] deprive many individuals of the opportunity to have gainful employment . . . The costs of such lost access, including impairment of the quality of life for disabled Americans, far exceed the costs of maintaining service that the current system allows telephone companies to include in their general revenue requirements.⁷

Question: Could universal service funds be used to supplement state funds for broadband assistive technologies? Under what circumstances should people with disabilities be eligible for universal service funds?

Response: The RERC-TA does believe that universal service funds could be used to supplement state funds for broadband assistive technologies, through a new, federal-state equipment distribution program that could be overseen by the FCC. Eligibility for such equipment could be based on income and need, as determined through a rulemaking proceeding.

b. Other Legislative and Regulatory Action.

Question: What actions are necessary to promote open standards and interoperability between broadband technologies and assistive technologies?

Response: Interoperability between mainstream technologies for text and video formats has not happened without mandated support. Indeed, market forces alone have proven ineffective to achieve such interoperability and without legal mandates, interoperability between broadband technologies and assistive technologies is also not likely to occur. Such mandates must include specific standards that will, at a minimum, enable assistive technologies to be usable with broadband technologies for individuals that must rely on these technologies for access.

⁷ H. Rep. No. 888, 97th Cong., 2d Sess. 3-4 (1982) (TDA 1982 House Report).

Question: What additional action should other agencies take relating to the implementation and enforcement of current laws?

Response: Section 508 of the Rehabilitation Act requires all federal agencies to procure and maintain electronic, telecommunications, and information technologies that are accessible to federal employees and members of the general public. Yet because this statute is rarely enforced, and dependent on employees risking their employment status by complaining, federal agencies routinely produce websites, videos, and electronic informational materials that are not accessible to people with disabilities. As part of its National Broadband Plan, the federal government should devise a means of significantly improving implementation and enforcement of Section 508 to the extent it requires accessible broadband technologies, within all federal agencies. To this end, consideration should be given to conducting an ongoing and open assessment of federal agency actions, which is made publicly available and updated regularly, to allow open monitoring of how each agency is doing with respect to its Section 508 obligations. This would serve two functions. First, it would allow agencies to know where they stand with respect to other agencies, and provide incentives to imitate other agencies that might be excelling in particular areas. Second, it would allow the public to have access to information at any time about the extent to which a particular agency is complying with its accessibility obligations. Consistent with this approach, members of the disability community should have an opportunity to evaluate products and services used with broadband services that are being considered for procurement by federal agencies. If members of the public were permitted to analyze the accessibility of particular IP products and services, they would be able to lend their expertise in a way that would benefit both agencies and the consuming public.

Question: What legal and regulatory actions are needed to implement an “overarching accessibility principle”?

Response: The Telecommunications for the Disabled Act set as federal policy the goal of ensuring communications access for all Americans with disabilities. When Congress addressed this matter in 1982, it unequivocally stated:

Persons with normal hearing may be unable fully to appreciate the pervasiveness of the telephone both in commercial transactions and personal contacts. The inability to use this instrument, except through an interpreter, is not only a practical disability but a constant source of dependency and personal frustration. Conversely, the ability independently to use the telephone may enable persons with other severe handicaps . . . to lead self-sufficient lives in regular contact with society. *The Committee believes that making the benefits of the technological revolution in telecommunications available to all Americans, including those with disabilities, should be a priority of our national telecommunications policy.*⁸

While bold in its intent at the time it was proclaimed, many in both government and industry have forgotten this call for full accessibility. It is critical that the National Broadband Plan reiterate this priority with clarity and purpose, recognizing that accessibility is more easily and effectively incorporated during early design stages. Retrofitting products and services that are already deployed can be burdensome and expensive. To this end, the NBP should establish the following as basic objectives:

- People with disabilities should have full and equal access to broadband services and equipment, as well as broadband content, in accordance with the ADA, Section 508, and other federal nondiscrimination laws. Such access should be available from home, work and any other location to which these individuals might travel.
- Federal policies should promote the development of universally designed broadband products and services that ensure redundant means of installing, accessing, interfacing with, and operating broadband features and services. For example, this would include alternatives to touch screens, graphical icons, text, and pointing devices needed to make broadband services accessible to and usable by people who are blind or have low vision.
- Federal policies should promote building accessibility directly into the nation's broadband infrastructure through a new *National Public Inclusive Infrastructure* (NPII) to ensure basic access by people of all socioeconomic levels. This would include support for the development of free and open source access features that would be distributed through the NPII alongside commercial assistive technologies. Combined, these would ensure that people without resources had at least basic features sufficient to

⁸ TDA 1982 House Report at 4-5.

provide them access to IP-based information, services, communities, etc. that is equal to their peers without disabilities.⁹

- The federal government, through its agencies, executive and legislative branches, should serve as a model of accessibility by ensuring full and equal access to its electronic, information technology and telecommunications products, systems and output.
- Where universal design is not possible, federal policies should ensure compatibility with specialized software and adaptive equipment commonly used by people with disabilities to achieve broadband access.
- Allow individuals with disabilities who are eligible for the low income universal service program to choose whether to use their Lifeline and Link-Up subsidies for broadband telephone service and equipment hook-up or for public switched telephone network (PSTN)-based telephone connections.
- Federal regulations should specify the video and real-time text formats that must be supported where devices or systems connect to the devices or systems of other companies so that interoperability is possible.
- Set high broadband speeds sufficient to accommodate dynamic media, the clear transmission of sign language, audio description soundtracks, interactive communications, and where applicable, emergency services in all of the modes used by people with disabilities.
- Establish policy to ensure that access features or information that accompany such features are not stripped in transmission or transport.
- Require web content providers to use available standards and guidelines to enable people with disabilities to access the content that they produce.

c. Non-regulatory Actions

Question: What non-regulatory actions should the FCC take to promote the accessibility and affordability of broadband for people with disabilities?

Response: There are various steps that the FCC can do to promote the accessibility and affordability of broadband for people with disabilities. First, the FCC can engage in outreach to educate this population about the many benefits that broadband has to offer these

⁹ See comments submitted in response to this Public Notice by the Rehabilitation Engineering Research Center on Universal and Information Technology Access for more detail on this proposed infrastructure.

individuals. Included in such materials should be information about the various nondiscrimination laws, such as Sections 225, 255, and 508, that provide individuals with rights to access broadband and/or telecommunications services. Second, the FCC should create a clearinghouse of information on the availability of accessible products and services and accessibility solutions pertaining to broadband services and equipment. Such clearinghouse could be created in consultation with the Architectural and Transportation Barriers Compliance Board, the National Telecommunications and Information Administration, trade associations, and organizations representing individuals with disabilities. It should be made publicly available on the Commission's website and by other means, and should include an annually updated list of products and services with access features.

The FCC should be provided with funding and authority to conduct research to better assess the extent to which people with disabilities have adopted and are using broadband by looking at:

- the rate of broadband subscribership among communities of people with disabilities;
- the affordability of broadband services for this population;
- the affordability of assistive and adaptive technologies to use broadband;
- barriers to broadband subscribership by these consumers;
- applications and services likely to be used by people with disabilities (e.g., video telephony for people who are deaf);
- economic and social benefits of providing people with disabilities with broadband services; and
- reasons older Americans fail to adopt or abandon broadband technology as they acquire disabilities, focusing especially on usability/accessibility issues

Question: Are there some broadband accessibility issues that may be better addressed in an interagency forum?

Response: Yes. It would be useful to have interagency forums for the following:

- Compliance with Section 508 – It would be helpful for each federal agency to know how other agencies are achieving compliance with this law to compare solutions for

difficult issues – for example the provision of video communications for people who are deaf against competing agency concerns for security and privacy.

- Emergency access – Next generation E-9-1-1 issues cross multiple federal agencies. Most important for people with disabilities will be to ensure that the new systems that are created provide real-time text, video, and audio output of text messages, so that everyone can fully participate in and benefit from the newly created systems.
- Compliance with the Americans with Disabilities Act (ADA) – There are a number of provisions in the Department of Justice (DOJ) regulations implementing the ADA that involve the provision of telecommunications access, including emergency access. As DOJ moves forward in its present efforts to update these rules, it needs to consult with the FCC, the National Telecommunications and Information Administration, and other relevant federal agencies to ensure that its new rules reflect the most current telecommunications technologies. In addition, interagency efforts will be necessary to ensure that the new ADA rules – to the extent that they address websites and other broadband-related issues – conform to the principles of the NBP as the federal government moves ahead in implementing this Plan.
- National Public Inclusive Infrastructure Implementation – The input of various agencies will be needed for implementation of this new concept, which will provide for free basic access features to be made available to people with disabilities. Collaboration will be needed, based on each agency’s mission, on matters concerning funding for the NPPI, research into effective access approaches, and other related implementation matters.

Question: When might it be appropriate for the Commission to facilitate consumer-industry agreements or participate in consumer-industry standards forums? Please provide more information about roles industry and industry consortia and other national and international industry/consumer/government consortia and standards setting groups can play and how effective these efforts are.

Response: Industry-consumer forums and consortia have been effective in the past, but are even more effective when there is FCC oversight. Some past examples that were successful include:

- Hearing Aid Compatibility (HAC) Negotiated Rulemaking Committee – proposed recommendations that ultimately were used to revise the FCC’s HAC wireline rules in the mid-1990s
- Telecommunications Access Advisory Committee – proposed section 255 guidelines that became the basis for the FCC’s existing section 255 regulations

- Alliance for Telecommunications Industry Solutions – developed a consensus for the current FCC HAC rules for wireless handsets
- Telecommunications and Electronic and Information Technology Advisory Committee – proposed revisions to current guidelines on Sections 508 and 255 that are now being used by the Architectural and Transportation Barriers Compliance Board to develop new guidelines for these laws

There are a number of future areas where consumer-industry efforts would be appropriate:

These include, but are not limited to:

- Development of industry-wide standards, protocols and procedures needed for the inclusion of closed captioning and video description on video programming shown on the Internet; and
- Development of technical standards, protocols and procedures needed to enable apparatus used for receiving or displaying video programming over the Internet to be capable of making the apparatus functions necessary for the receipt, display, navigation or selection of video programming accessible to and usable by people who are blind or have vision loss.

Question: Should the Commission make more information available to the public about the complaints it receives related to broadband accessibility?

Yes. As part of open government, the Commission should reveal information about all accessibility complaints submitted as well as resolutions achieved, to the fullest extent permitted by law. In addition, the Commission needs to consider that while the overall population of people with disabilities is large (e.g., counting all people who have some degree of hearing loss), people experiencing individual disability barriers (e.g., people who are deaf-blind) is small. There should be a weighting system for complaints based on the proportion of the overall population represented, so that problems of people with disabilities do not continue to be washed out by the much larger number of complaints received by the general population on other matters.

Question: What non-regulatory actions are needed by other federal, state, local, and tribal agencies to promote accessibility to broadband by people with disabilities?

Response: All governmental agencies should take the following steps:

- Eliminate accessibility barriers from all government-sponsored broadband services;
- Require government contractors and recipients of government grants to guarantee the accessibility of their broadband applications and content;
- Evaluate accessibility in government audits and other oversight activities conducted on government-distributed broadband grants (e.g., the stimulus grants and public computer center capacity broadband grants);
- Provide financial support for building accessibility directly into the information infrastructure so that basic access features are available at all public computing sites and to consumers regardless of socioeconomic level;
- Create discount rate schemes and other financial incentives for consumers to use broadband services, including the use of low income (e.g., Lifeline and Link-up) or modified requirements in payment plans (e.g., longer payback terms);
- Create business incentives to promote broadband access and affordability, for example through tax deductions and credits;
- Encourage broadband adoption and use by fostering and funding collaborative efforts with disability advocacy groups and disability-related service providers as partners in marketing, consumer education, training and broadband learning initiatives;
- Assess gaps in broadband adoption and use in individual communities, and work with local community groups to close those gaps.

Conclusion

It is critical for the FCC to make recommendations in the National Broadband Plan that address the broadband needs of all Americans with disabilities – including those of us who are part of our rapidly aging population. The above proposals offer considerable guidance to ensure that these individuals can effectively use broadband services and equipment to communicate, live independently and be productive.

Respectfully Submitted,

/s/

Judith E. Harkins, Co-Principal Investigator
Gregg C. Vanderheiden, Co-Principal Investigator
RERC on Telecommunications Access

c/o Gallaudet University
800 Florida Avenue, NE
Washington, DC 20002

and

Trace Center
University of Wisconsin-Madison
2107 Engineering Centers Bldg.
1550 Engineering Dr.
Madison, WI 53706
(608) 262-6966

Of counsel:



Karen Peltz Strauss
KPS Consulting
3508 Albemarle Street, NW
Washington, DC 20008
202-363-1263

October 6, 2009