In the American Recovery and Reinvestment Act of 2009 (Recovery Act), Congress directed the Commission to create a national broadband plan by February 17, 2010, that seeks to “ensure that all people of the United States have access to broadband capability.” Among other things, the Commission is to provide “an analysis of the most effective and efficient mechanism for ensuring broadband access by all people of the United States;” “a detailed strategy for achieving affordability of such service and maximum utilization of broadband infrastructure and service by the public;” an evaluation of “the status of deployment of broadband service;” and “a plan for use of broadband infrastructure and services in advancing . . . national purposes,” including those related to health care, education, public safety and homeland security, job creation/worker training, and civic participation/community development.

Issues related to providing broadband access to people with disabilities are an integral part of the national broadband plan that we are preparing, including each of the specific components identified above. To build on the record we have received so far from the NOI and the first workshop on “Disabilities Opportunities” held on August 20, 2009, we have scheduled a second workshop entitled “Broadband Accessibility for People with Disabilities: Barriers, Opportunities, and Policy Recommendations.” This full-day workshop will be held on October 20, 2009.

The goal of this follow-up workshop is to identify and record with specificity: (i) accessibility and affordability barriers faced by people with disabilities in accessing broadband capabilities; (ii) opportunities that broadband can present for people with disabilities; and (iii) policy recommendations to address the barriers to broadband for people with disabilities and maximize the opportunities related to broadband for people with disabilities.

2 Id. at § 6001(k)(2)(A).
3 Id. at § 6001(k)(2)(B).
4 Id. at § 6001(k)(2)(C).
5 Id. at § 6001(k)(2)(D).
We would like to plan this workshop as collaboratively as possible with all of those who have a
stake in ensuring that broadband is accessible and affordable to people with disabilities, including those in
the disability community, network and service providers, equipment manufacturers, software producers,
content providers, technologists, academics, representatives from trade associations and non-profits, and
representatives from tribal, local, state and federal governments.

To do so, we have listed tentative panel topics and questions on which we would like to get
feedback. We invite suggested modifications to the panel topics, additional questions, and suggested
speakers and ask that these comments be submitted as soon as possible. We also invite specific answers
to the questions below by the comment date set forth above, which will help us gather as much
information as possible in advance and narrow the focus of the workshop accordingly. For example, to
the extent that stakeholders are able to submit information about the barriers and opportunities in advance,
the workshop itself could be more focused on policy recommendations that build from this data.
Furthermore, we invite participants to suggest materials that will help us and all of the workshop
participants to understand better the topics presented (both new materials and citations to the record in
this docket and other dockets).

In addition, we will be posting a blog post for each tentative panel set forth below and invite
comments relating to both workshop planning and policy issues through that format as well. The panel
blog posts can be accessed by going to “blog.broadband.gov” and clicking on the new subcategory
“disabilities access.” Finally, we also encourage those who wish to initiate other ideas related to
broadband access for people with disabilities that are not covered in the blog posts to go to
“broadband.ideascale.com” and click on “accessibility for people with disabilities.”

In conjunction with the panels, there will be exhibits of assistive technologies that are used by
people with disabilities to access broadband technologies as well as universally designed mass market
broadband technologies that can be used by people with disabilities. We invite comment on how to
structure these exhibits and what technologies we should exhibit through any of the processes identified
above.

Broadband Accessibility for People with Disabilities Workshop II: Barriers, Opportunities
and Policy Recommendations

Tentative Panels and Questions

1. Accessiblity and Affordability Barriers Faced by People with Disabilities. This panel
will discuss barriers to broadband accessibility and affordability for (i) people with hearing
disabilities; (ii) people who are blind and have vision disabilities; (iii) people with speech
disabilities; (iv) people who are deaf-blind; (v) people with mobility disabilities; and (vi)
people with intellectual disabilities and social communication disabilities, including autism.

    a. People with hearing disabilities. Of the estimated 33.3 million adults who experience
difficulty hearing,\(^6\) how many use broadband? Are there any statistics about children
who experience difficulty hearing and their use of broadband? What are the biggest
concerns relating to the accessibility of broadband for this community? Is
affordability a major concern for this community? How often do people with hearing
disabilities find that material that they would like to access on the web is
uncaptioned? Are there certain kinds of websites that are more likely to contain

\(^6\) Coalition of Organizations for Accessible Technology (COAT) Comments at 5 (citations omitted).
uncaptioned material? As people who are deaf and with hearing disabilities are transitioning away from using TTYs, are state equipment distribution programs providing support for Internet Protocol (IP)-based equipment used by people who are deaf or have hearing disabilities? 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? What percentage of mass market consumer broadband equipment and devices contain the accessibility features that people who are deaf or have hearing disabilities need to access broadband? In general, is the marketplace more responsive or less responsive to accessibility concerns than in the past? What broadband applications have the potential to benefit the hearing disability community the most? Will more outreach to those in this community help spur broadband use? If so, are there some effective mechanisms or networks to do so?

b. People with vision disabilities. Of the estimated 22.4 million adults who experience significant vision loss, how many use broadband? Are there any statistics about children with significant vision loss and the percentage that use broadband? What are the biggest concerns relating to the accessibility of broadband for this community? Is affordability a major concern for this community? How many people with vision disabilities need a screen reader or text-to-speech software to access the Internet? How many people use this technology in the United States today? For how many people with vision disabilities is the cost of screen readers and other assistive technologies a barrier to using the Internet? Do any state equipment programs provide assistive technologies for people with vision disabilities? 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? How often do people with vision disabilities find that web content is inaccessible? Constantly? Frequently? Occasionally? Are there certain kinds of websites that are more likely to be inaccessible? How much is video description used on the web? What percentage of mass market consumer broadband equipment and devices contain the accessibility features that people who are blind or have vision disabilities need to access broadband? In general, is the marketplace more responsive or less responsive to accessibility concerns than in the past? What broadband applications have the potential to benefit this community the most? Will more outreach to those in this community help spur broadband use? If so, are there some effective mechanisms or networks to do so?

c. People with speech disabilities. Of the estimated 2.6 million people who have difficulty speaking, how many use broadband? What are the biggest concerns relating to the accessibility of broadband? Is affordability a major concern for this community? Do state equipment distribution programs provide support for assistive technologies used by people with speech disabilities, such as augmentative and alternative communication (AAC) devices? Are these technologies available in mainstream devices used to access broadband? If so, is there an additional cost to the consumer? How much? What percentage of mass market consumer broadband equipment and devices contain the accessibility features that people with speech disabilities need to access broadband? How many people with speech disabilities use

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7 See COAT Comments at 14-15.
8 Id. at 5 (citations omitted).
9 Id.
IP Relay Telecommunications Relay Service (TRS) to access telephone services? Are there IP-based “speech-to-speech” technologies being developed? How many more low-income people who have speech disabilities would have access to these services if they were able to use Universal Service Funds to pay for broadband as a means to have access to telephone services?10 In general, is the marketplace more responsive or less responsive to accessibility concerns than in the past? What broadband applications have the potential to benefit this community the most? Will more outreach to those in this community help spur broadband use? If so, are there some effective mechanisms or networks to do so?

d. People who are deaf-blind. Of the estimated 42,000 to 700,000 deaf-blind individuals in the United States,11 how many use broadband today? Do any state equipment distribution programs provide accessible technologies used by people who are deaf blind? Given the fact that assistive technologies used by people who are deaf-blind cost approximately $5000 to $10,000,12 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?13 How much would this cost? What are there additional barriers to access that are unique to people who are deaf blind relating to web content, equipment, services, networks, software, and technical support? Could people who are deaf-blind benefit from IP-based TRS? What broadband applications have the potential to benefit this community the most? Will more outreach to those in this community help spur broadband use? If so, are there some effective mechanisms or networks to do so?

e. People with mobility disabilities. Of the estimated 25 million people with mobility disabilities,14 how many use broadband today? What are the biggest concerns relating to the accessibility of broadband? How prevalent are physical barriers that make it difficult to access schools, libraries, community centers, and public facilities where people access broadband? Is affordability a major concern for this community? What are the assistive technologies used by people with mobility disabilities? Do state equipment distribution programs provide support for these assistive technologies? Are these technologies available in mainstream devices used to access broadband? If so, is there an additional cost to the consumer? How much? What percentage of mass market consumer broadband equipment and devices contain the accessibility features that people with mobility disabilities need to access broadband? How many more people who have mobility disabilities would have access to broadband if the equipment they needed to access broadband were subsidized through state equipment programs or other public funds? In general, is the marketplace more responsive or less responsive to accessibility concerns than in the past? What broadband applications have the potential to benefit this community the most? Will more outreach to those in this community help spur broadband use? If so, are there some effective mechanisms or networks to do so?

10 See COAT Comments at 14–15.
11 Id. at 4 (citations omitted).
13 See Id.; see also Elizabeth Spiers (American Association of the Deaf-Blind (AADB)) Comments, Workshop Transcript at 131–32.
14 Wireless Rehabilitation and Engineering Research Center (RERC) Comments at 4 (citations omitted).
f. People with intellectual disabilities and social communication disabilities, including autism. How many Americans have intellectual disabilities and social communication disabilities, including autism? Of these, how many use broadband? What are the biggest concerns relating to the accessibility of broadband? Is affordability a major concern for this community? What are the assistive technologies used by people with intellectual and social communication disabilities? Do state equipment distribution programs provide support for these assistive technologies? Are these technologies available in mainstream devices used to access broadband? If so, is there an additional cost to the consumer? How much? What percentage of mass market consumer broadband equipment and devices contain the accessibility features that people with intellectual and social communication disabilities need to access broadband? How many more people who have intellectual and social communication disabilities would have access to broadband if the equipment they needed to access broadband were subsidized through state equipment programs or other public funds? Could people with intellectual disabilities and social communication difficulties benefit from using IP-based TRS? In general, is the marketplace more responsive or less responsive to accessibility concerns than in the past? What broadband applications have the potential to benefit this community the most? Will more outreach to those in this community help spur broadband use? If so, are there some effective mechanisms or networks to do so?

2. Technological Barriers and Solutions
This panel will discuss technological barriers, solutions, and costs as they relate to broadband networks, services, equipment, software, content, and tech support.

a. Broadband networks and services. Commenters have noted the importance of seeking “to stay ahead of technology rather than reacting to technological developments and trying to retrofit technology.” As a general matter, what technical issues do we need to consider as we formulate policy recommendations? Some commenters have advocated for a new “functionally inclusive infrastructure” which would build accessibility features directly into the broadband infrastructure. Please discuss more about how such an infrastructure would be built. How much would it cost? Should the National Broadband Plan include specific policy recommendations relating to the “functionally inclusive infrastructure”? What are the technical issues that we need to consider as we formulate policies related to “improv[ing] access to 9-1-1 for a growing segment of the population, including the deaf, hard of hearing, and deaf-blind, and individuals with speech disabilities, who are increasingly communicating with non-traditional text, video, and instant messaging communications services, and who expect those services to be able to connect directly to 9-1-1 systems?” Are there other technical issues relating to networks and services affecting the accessibility of broadband on which we should focus?

15 Telecommunications for the Deaf and Hard of Hearing (TDI) Comments at 5.
17 National Emergency Numbering Association (NENA) Comments at 3.
b. Broadband equipment, software, content, and tech support. On what technical issues relating to equipment, software, content and tech support affecting the accessibility of broadband should we focus? One commenter noted that one of the biggest challenges that manufacturers face is the lack of “interoperability of various pieces of the continuum of the ecosystem for broadband”\textsuperscript{18} Please describe in more detail what these challenges are and what steps need to be taken to address these challenges. What policies would promote “openness” and ensure that assistive technology (AT) vendors are not locked out of closed systems?\textsuperscript{19} What are the technical challenges related to ensuring that AT equipment is compatible with broadband equipment and software\textsuperscript{20} – and that sufficient tech support is available to help consumers navigate the interaction between these devices? How much accessibility should be incorporated in mass market equipment through universal design principles and how much accessibility should be gained through assistive technologies? What are the technical issues related to making broadband media accessible and what are some of the innovations that will be necessary to make user-generated content accessible?\textsuperscript{21} 

3. **Furthering National Purposes and People with Disabilities**

Representatives of and advocates for the disability community and other experts will discuss the potential for broadband to further health care, education, public safety and homeland security, job creation/worker training, civic participation/community development, and other national purposes for people with disabilities.

a. Health care. One commenter suggested that the “National Broadband Plan include a direction that the Health IT standards and funding be highly cognizant of the needs of people with disabilities.”\textsuperscript{22} We seek further comment and discussion on this issue. Are there certain health care applications that are particularly beneficial for people with disabilities? One commenter suggests “wearable medical monitoring devices now under development will enable millions of chronically ill homeowners to remain in their homes while their condition is remotely monitored 24/7.”\textsuperscript{23} Another states that “real-time videos on the Internet allow doctors to make visual assessments of patients and programs that have been established to provide psychiatric assistance to people living in areas without therapists.”\textsuperscript{24} What policies are needed to spur the development of these and other health care applications?

b. Education. Are there certain education applications that are particularly helpful to people with disabilities? Does Bookshare, the world’s largest accessible digital library of scanned material for people with vision and reading disabilities, provide a useful model for those seeking to use broadband to further educational opportunity for people with disabilities?\textsuperscript{25} What policies are needed to develop and further the distribution and use of “accessible educational media, accessible distance learning applications, and accessible school-home integration programs”?\textsuperscript{26} 

\textsuperscript{18} Mary Brooner (Telecommunications Industry Association (TIA)) Comments, Workshop Transcript at 37. 
\textsuperscript{19} See Jim Fruchterman Comments, Workshop Transcript at 61–65. 
\textsuperscript{20} See Janina Sajka Comments, Workshop Transcript at 79–84. 
\textsuperscript{21} See Larry Goldberg Comments, Workshop Transcript at 70–74. 
\textsuperscript{22} Id. at 94–95. 
\textsuperscript{23} AHGA (AHGA) Comments at 4. 
\textsuperscript{24} World Institute on Disability (WID) Comments at 2; see also Wireless RERC Comments at 17–19. 
\textsuperscript{25} See ZeroDivide Comments at 7; Jim Fruchterman Comments, Workshop Transcript at 64. 
\textsuperscript{26} See Center for Accessible Technology and Inclusive Technologies (CAT&IT) Comments at 11.
c. Public Safety and Homeland Security. Are there certain public safety and homeland security applications that are particularly helpful to people with disabilities? What policies are needed to “allow users to send and receive public safety and homeland security messages in voice, real-time text, and video for sign language”?27 What interfaces need to be available for those with cognitive disabilities?28 What policies do we need to adopt to ensure that 9-1-1 services, including location capabilities, are accessible to people using wireless broadband services?

d. Job creation/worker training. Are there certain job creation/worker training applications that are particularly helpful to people with disabilities?29 One commenter, citing a study showing that increased broadband Internet access could lead to the creation of 273,000 jobs, stated its belief that “universal broadband Internet access combined with new assistive technologies will provide everyone with a spinal cord injury or disease an opportunity to work and earn a living.”30 Another commenter stated that “Proyecto Vision and DB101 provide information that assist people with disabilities obtain and maintain employment – but only those who have access to the Internet can use these tools.”31 We seek comment on the potential of broadband to further opportunities in teleworking, job creation, and worker training for people with disabilities.32

e. Civic Participation/community development. Are there certain civic participation/community development applications that are particularly helpful to people with disabilities? What actions are needed “to assure the accessibility of [civic participation] platforms and applications”?33 We seek comment on the potential of broadband to further opportunities in civic participation and community development for people with disabilities.

4. Federal, State, Local, and Tribal Resources to Make Broadband Accessible and Affordable to People with Disabilities

This panel will discuss funding and other resources at the federal, state, local, and tribal level that promote or could promote broadband accessibility and affordability for people with disabilities.

a. Federal Resources. What federal resources are available or could be available to fund broadband access and equipment for people with disabilities? Are there projects that could promote accessibility for people with disabilities that could be funded with grants and loans from the Department of Commerce’s National Telecommunications and Information Administration34 and the Department of Agriculture’s Rural Utilities Service? Are there programs at the Department of Labor, the Department of Education, Housing and Urban Development, Health and Human Services, and Department of Interior that could provide funding for broadband services or equipment for people with disabilities? What are the potential sources for federal

27 Id. at 10.
28 Id.
29 See Chuck Wilsker (TeleWork Coalition) Comments, Workshop Transcript at 97–100.
30 National Spinal Cord Injury Association (National Spinal) at 2.
31 WID at 2.
32 See also NBP Public Notice #3, question 3.j.
33 See CAT&IT Comments at 10.
34 See, e.g., IT/TA RERC Comments at 17 (stating that broadband stimulus funds are being sought through NTIA’s BTOP program to initiate the development of a functionally inclusive infrastructure).
research funding that could promote broadband accessibility and affordability? What resources are available to help better coordinate federal data collection relating to broadband usage by people with disabilities? What resources might be available through the Census Bureau, the Bureau of Economic Analysis, the Bureau of Labor Statistics, the National Center on Health Statistics, and the Interagency Committee on Disability Research? What lessons can we learn from programs that currently serve to promote broadband accessibility and affordability for people with disabilities?

b. State, Local, and Tribal Resources. What state, local, and tribal resources are available to fund broadband access for people with disabilities? What state equipment distribution programs provide equipment that can be used by people with disabilities to access broadband? Are there model programs that could be replicated elsewhere? Are there potential state, local, and tribal resources that promote research or provide other support to promote broadband accessibility?

5. Policy Solutions and Recommendations Panel
This panel will represent a wide variety of stakeholders and will discuss specific policy recommendations that should be included in the National Broadband Plan. Among other things, the panel will discuss whether additional legislative and regulatory action is needed to address accessibility and affordability challenges; what non-regulatory actions the FCC could or should take to promote accessibility to broadband by people with disabilities; and what actions other federal agencies, state, local and tribal governments, industry and industry consortia and other national and international industry/consumer/government consortia, the disability community, consumer groups, and other non-profits should take to promote accessibility.

a. Additional Legislative and Regulatory Action Relating to the Accessibility and Universal Service Provisions in the Communications Act. What additional legislative and regulatory action is needed to address accessibility and affordability challenges? Should Congress require that the same kinds of accessibility regulations that have applied to telecommunications and media in the past be applied to broadband? 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? Are there any differences between telecommunications and broadband accessibility which may affect whether regulation is effective and efficient? How successful have the captioning regulations been? To what extent should captioning requirements be applied to Internet content, including user-generated content? To what extent should video description requirements be applied to Internet content? To what devices should closed captioning decoder and video description capability requirements be applied? To what extent can Emergency Alert System (EAS) requirements be applied to Internet content? What reforms should be made to the Interstate TRS Fund, particularly as it relates to the funding of Video Relay Service (VRS)? 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? 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

35 See CAT&IT Comments at 6.
36 See Karen Peltz Strauss Comments, Workshop Transcript at 107.
distribution programs to ensure that there was a comprehensive broadband assistive technologies program in each state? 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?

b. Other Legislative and Regulatory Action. What additional funds, including research funds, should Congress appropriate to promote access to broadband for people with disabilities? What actions are necessary to promote open standards and interoperability between broadband technologies and assistive technologies? What is the best mechanism to ensure that meaningful data about broadband usage by people with disabilities is collected and analyzed? Can this be done by the FCC pursuant to the Broadband Data Improvement Act or in conjunction with other agencies? What additional action should other agencies take relating to the implementation and enforcement of current laws? Should DOJ apply the provisions of the ADA to companies selling products on the Internet? Should the Department of Education do more to apply the protections of the Individuals with Disabilities Education Act to services that are provided over the Internet? Should the accessibility requirements that are applicable to the procurement of electronic and information technology by federal agencies be more broadly required? What legal and regulatory actions are needed to implement an “overarching accessibility principle”? How would an “Accessibility Impact Statement” be effectuated?

c. Non-regulatory Actions. What non-regulatory actions should the FCC take to promote the accessibility and affordability of broadband for people with disabilities? What kinds of outreach activities should the Commission engage in? Are there some broadband accessibility issues that may be better addressed in an interagency forum? Please provide examples. When might it be appropriate for the Commission to facilitate consumer-industry agreements or participate in consumer-industry standards forums? Should the Commission make more information available to the public about the complaints it receives related to broadband accessibility? What non-regulatory actions are needed by other federal, state, local, and tribal agencies to promote accessibility to broadband by people with disabilities? 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. What role can the disability community, consumer groups, and other non-profits play to promote and ensure accessibility?

This matter shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s ex parte rules. See 47 C.F.R. §§ 1.1200, 1.1206. Persons making oral ex parte presentations are reminded that memoranda summarizing the presentations must contain summaries of the substance of the presentations and not merely a listing of the subjects discussed. More than a one- or two-

37 See Rosaline Crawford (National Association of the Deaf (NAD)) Comments, Workshop Transcript at 104.
38 Id. at 104–05.
39 See Jenifer Simpson (American Association of People with Disabilities (AAPD)) Comments, Workshop Transcript at 89–94.
sentence description of the views and arguments presented generally is required. See 47 C.F.R. § 1.1206(b). Other rules pertaining to oral and written ex parte presentations in permit-but-disclose proceedings are set forth in section 1.1206(b) of the Commission's rules, 47 C.F.R. § 1.1206(b).

All comments should refer to GN Docket Nos. 09-47, 09-51, and 09-137. Please title comments responsive to this Notice as “Comments—NBP Public Notice # 4.” Further, we strongly encourage parties to develop responses to this Notice that adhere to the organization and structure of the questions in this Notice.

Comments may be filed using (1) the Commission’s Electronic Comment Filing System (ECFS), (2) the Federal Government’s eRulemaking Portal, or (3) by filing paper copies. Comments filed through the ECFS can be sent as an electronic file via the Internet to http://www.fcc.gov/cgb/ecfs/ or the Federal eRulemaking Portal: http://www.regulations.gov. Generally, only one copy of an electronic submission must be filed. In completing the transmittal screen, commenters should include their full name, U.S. Postal Service mailing address, and the applicable docket or rulemaking number. Parties may also submit an electronic comment by Internet e-mail. To get filing instructions for e-mail comments, commenters should send an e-mail to ecfs@fcc.gov, and should include the following words in the body of the message, “get form.” A sample form and directions will be sent in reply. Parties who choose to file by paper must file an original and four copies of each filing.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail (although we continue to experience delays in receiving U.S. Postal Service mail). All filings must be addressed to the Commission's Secretary, Office of the Secretary, Federal Communications Commission.

- The Commission’s contractor will receive hand-delivered or messenger-delivered paper filings for the Commission's Secretary at 236 Massachusetts Avenue, N.E., Suite 110, Washington, D.C. 20002. The filing hours at this location are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes must be disposed of before entering the building.

- Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to 9300 East Hampton Drive, Capitol Heights, MD 20743.

- U.S. Postal Service first-class mail, Express Mail, and Priority Mail should be addressed to 445 12th Street, S.W., Washington, D.C. 20554.

People with Disabilities: To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer and Governmental Affairs Bureau at (202) 418-0530, (202) 418-0432 (TTY).

For further information about this Public Notice, please contact Elizabeth Lyle at (202) 418-1776.

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