

**THE ADA AND ENTERTAINMENT TECHNOLOGIES:
IMPROVING ACCESSIBILITY FROM THE MOVIE
SCREEN TO YOUR MOBILE DEVICE**

HEARING

OF THE

**COMMITTEE ON HEALTH, EDUCATION,
LABOR, AND PENSIONS**

UNITED STATES SENATE

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

ON

EXAMINING THE AMERICANS WITH DISABILITIES ACT AND ENTERTAINMENT TECHNOLOGIES, FOCUSING ON IMPROVING ACCESSIBILITY FROM THE MOVIE SCREEN TO YOUR MOBILE DEVICE, INCLUDING S. 555, TO AMEND THE AMERICANS WITH DISABILITIES ACT OF 1990 TO REQUIRE CAPTIONING AND VIDEO DESCRIPTION AT CERTAIN MOVIE THEATERS, AND S. 556, TO AMEND TITLE 49, UNITED STATES CODE, TO IMPROVE THE ACCESSIBILITY OF ENTERTAINMENT PROGRAMMING PROVIDED BY AIR CARRIERS ON PASSENGER FLIGHTS

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MAY 14, 2013
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THE ADA AND ENTERTAINMENT TECHNOLOGIES: IMPROVING ACCESSIBILITY FROM THE MOVIE SCREEN TO YOUR MOBILE DEVICE

TUESDAY, MAY 14, 2013

U.S. SENATE,
COMMITTEE ON HEALTH, EDUCATION, LABOR, AND PENSIONS,
Washington, DC.

The committee met, pursuant to notice, at 2:40 p.m. in room SD-430, Dirksen Senate Office Building, Hon. Tom Harkin, chairman of the committee, presiding.

Present: Senators Harkin and Alexander.

OPENING STATEMENT OF SENATOR HARKIN

The CHAIRMAN. The Senate Committee on Health, Education, Labor, and Pensions will come to order.

The title of the hearing today is, “The Americans with Disabilities Act and Entertainment Technologies: Improving Accessibility from the Movie Screen to Your Mobile Device.”

Earlier this year, we celebrated the 25th anniversary of the appointment of Gallaudet University’s first deaf president, Dr. I. King Jordan. This historic appointment, the product of the “Deaf President Now” student protests—I might add led by Greg Hlibok, who is sitting right there. You still look as young as you were then, Greg. Thanks for being here—but that movement was a catalyzing moment for the deaf community and for the disability community more broadly. Keep in mind, we were then working on the Americans with Disabilities Act, and the Deaf President Now student movement gave a real life and energy to getting the ADA through. As President Jordan said in his acceptance speech, the deaf community would, “No longer accept limits on what we can achieve.”

Two years after the Deaf President Now protest, I had the distinct honor to lead the Senate in passing the Americans with Disabilities Act, which expanded President Jordan’s message to the cross-disability community. Armed with the ADA, the American disability community would likewise “no longer accept limits” on what they can achieve.

Today’s hearing creates an opportunity for our committee, which has primary jurisdiction over the ADA, to examine how technology has evolved since the law’s passage in 1990, and the degree to which our national policies regarding equal access have kept up with the ever-changing field of technology.

(1)

On a personal level, as the younger brother of Frank Harkin, who was deaf, and as a long-time advocate for captioned content, I am concerned that in the second decade of the 21st century, Americans who are deaf and hard of hearing continue to have difficulty accessing captioned versions of movies, videos, and other entertainment content on an equal basis with their hearing peers.

Similarly, I know that my friends in the blindness and low vision communities continue to have difficulties obtaining video description of entertainment content; that is, where a narrator describes what is happening on the screen for viewers who cannot see the screen, again, on an equal basis with their sighted peers.

Now, there is no question that we have made progress in the areas of captioning and video description in the past couple of decades, and we will hear about some of that today. But I also wanted to use this hearing to identify the remaining gaps to equal access, and the most effective strategies to fill those gaps moving forward.

Earlier this year, I introduced two bills to address egregious gaps that I have personally noticed as a movie lover and as an air traveler. These bills are designed to allow Americans with visual or hearing impairments to enjoy going to the movies and watching in-flight entertainment through captioning and video description, just as they can at home.

I might just add I just flew from California to here yesterday, and so, you get these little movie devices you can watch movies on. There must have been, I would say probably 25 to 30 to 40 different movies on there. Two were captioned. Now, any time I go to get a DVD from Netflix or something, every one of them is captioned. I can get old movies, old classic movies, all the old John Wayne movies are all closed-captioned now. I can get the captioning right on my DVD. If I can do that, you are telling me they cannot put that on the devices in the airplane? Well, as I said, two of them were captioned; the rest were not.

The two bills, one is S. 555, that is the CINEMA Act to amend Title III of the ADA to require movie theater complexes with two or more screens to make captioning and video description available for all films at all showings.

The second bill, S. 556, would require air carriers to make captioning and video description available for visually displayed entertainment programs carried on commercial flights.

Today, we will hear from our two leading Federal enforcement agencies, the Department of Justice and the Federal Communications Commission, along with consumers, a social entrepreneur, and a representative of theater owners. They will give us their perspectives regarding what is being done to improve accessibility and how best to address the ongoing challenges to realizing the vision of the ADA in these new, emerging technologies that we have.

I very much appreciate the written testimony that has been submitted. I look forward to hearing from all of you today.

I will yield now to our Ranking Member, Senator Alexander.

OPENING STATEMENT OF SENATOR ALEXANDER

Senator ALEXANDER. Thanks, Mr. Chairman.

Tom Harkin spent his nearly 40 years in Congress addressing the challenges facing individuals with disabilities, and this is a

part of that today, and I am glad to be a part of the hearing. It builds on his legacy for fighting for inclusion, and it focuses on the arts and entertainment access to it, removing those barriers will make productions such as the Grand Ole Opry, movie theaters, and others more accessible to more people.

We want to see what can be done to increase accessibility to people in all walks of life. In a country as diverse as ours, the best way to increase entertainment opportunities for individuals with disabilities is to ensure that the private sector and Government are working closely together.

I am proud of some good examples in Tennessee. The American Foundation for the Blind, for example, recently presented the Regal Entertainment Group, based in Knoxville, with an Access Award for its work to improve movie theater accessibility. Regal Entertainment operates one of the largest theater circuits in the United States, more than 400 theaters offering the Sony Entertainment Access System. Congratulations to Regal.

The System is available for any individual that wants captioning or descriptive audio, and the System is not visible or audible to other moviegoers.

Other businesses, other organizations such as Vanderbilt University, are taking the lead helping to make entertainment and other enriching cultural endeavors more accessible for individuals with disability. Vanderbilt hosts the Tennessee Disability Pathfinder, a statewide clearinghouse of disability-related resources. This includes Tennessee art and music programs across the State for individuals with disabilities.

Since 1994, the Vanderbilt Kennedy Center has sponsored exhibits of art by individuals with disabilities to highlight their diverse range of talent.

I look forward to hearing more from witnesses about how we can work together, public and private, to improve accessibility of entertainment technology from the movie theater to mobile devices.

The CHAIRMAN. Thank you very much, Senator Alexander.

Again, I apologize for starting late, but we thought we were going to have a vote. I was over there too.

Senator ALEXANDER. Yes.

The CHAIRMAN. I thought we were going to have a vote.

Senator ALEXANDER. I think not.

The CHAIRMAN. I do not think we are going to have a vote, so hopefully we can move ahead without interruption.

For our first panel, we will hear from Ms. Eve Hill, Senior Counselor to the Assistant Attorney General for civil rights at the U.S. Department of Justice, Civil Rights Division. She is responsible for the oversight of their disability rights enforcement. She has worked on a myriad of issues including the United Nations Convention on the Rights of Persons with Disabilities, accessibility of Web sites and digital technology, and enforcement of Olmstead Community Integration requirements.

We will also hear now from Karen Peltz Strauss, Deputy Bureau Chief for the Federal Communications Commission's Consumer and Governmental Affairs Bureau. As Deputy Bureau Chief, Ms. Strauss oversees the FCC's Disability Rights Office. Ms. Strauss is

an expert on issues concerning telecommunications and television access for people with disabilities.

We are pleased to have both of you here as our lead-off witnesses, and then I will introduce our second panel after we finish with this.

Both of your statements will be made a part of the record in their entirety. We will start with Ms. Strauss. Let's go from left to right, Ms. Strauss and then Ms. Hill.

Welcome back to the committee. You have been here before. Appreciate you coming back. Please proceed.

STATEMENT OF KAREN PELTZ STRAUSS, DEPUTY CHIEF, CONSUMER AND GOVERNMENTAL AFFAIRS BUREAU, FEDERAL COMMUNICATIONS COMMISSION, WASHINGTON, DC

Ms. STRAUSS. Thank you. It is nice to be back.

Good afternoon, Chairman Harkin, Ranking Member Alexander, and members of the committee.

Thank you for the opportunity to address the Federal Communications Commission's efforts on accessible communications technologies.

We often take advantage of the ease with which we can communicate and get information. Communication technologies truly have the power to transform our lives by allowing us to find jobs, get educated, make purchases, and enjoy entertainment. When technology is successful for people with disabilities, it can break down not only physical, but attitudinal barriers and bridge gaps.

However, when there are obstacles to technology, the consequences can be dire. Opportunities for growth and independence are cutoff, as are the tools needed to improve one's self-sufficiency.

I have been fortunate to have worked on efforts to expand disability access to communication technologies for the past 30 years, and over this time, have watched the same patterns of events repeat themselves: a new technology is introduced. It is not accessible to people with disabilities because they lack the market strength to convince companies to incorporate access. The Government steps in and the industry typically willingly provides the necessary access.

The good news is that once incorporated, access benefits not only people for whom it was originally designed, but the general public. Captioning is the best example of this. It is now routinely used by children and adults learning to read as a first or second language, and virtually everyone who goes to noisy gyms or restaurants.

The bad news is that access usually comes far later than when the technology was first introduced into the mainstream. People who are deaf waited nearly 70 years to regain some access to the movies after the talkies came in 1927. People who are blind had enjoyed access to computers and TV sets in the 1980s, but then lost that access with the introduction of graphics and onscreen menus. People who are hard of hearing had to wait at least 10 years after the introduction of digital cell phones before they could use them with hearing aids.

The lack of access to television followed the same path. Television not only provides entertainment, news, and public affairs, it

more indirectly exposes Americans to cultural mores and societal norms.

I remember while working at Gallaudet in the 1980s, a deaf woman came into our legal clinic upset that her medical tests came back negative. Not being able to watch TV with caption, she had not become acquainted with the terminology of medical shows. She was unaware that a negative test was actually a good thing. Without captions, people with hearing loss were excluded from a marvelous innovation that had radically altered the way that hearing Americans acquired information and hearing children could learn about potential role models who could influence their lives.

In the 1970s, we got our first taste, literally, of television with open captions on "The French Chef" with Julia Child. But it was not until the 1980s that closed-captioning on TV truly took off. I am proud to say that the FCC played a role in this effort by authorizing the use of line 21 technology in 1976.

But the only way to watch captions at that time was with a standalone decoder, which was expensive, difficult to find, and hard to set up. As a consequence as you know, Senator, by the close of the 1980s, relatively few of the devices had been sold, and the lack of a sizable market made TV producers and advertisers question their captioning investment.

With the future of captioning threatened, the Government stepped in, first with the Television Decoder Circuitry Act of 1990, requiring captioning capability on all TV sets with screens 13-inches or larger, and again in 1996, with closed-captioning mandates.

The FCC quickly implemented each of these laws, and our rules now require closed captions on nearly all new English and Spanish language TV programs, and allow viewers to tailor captions to their individual needs by controlling the font, color, size, and other features.

We also have rules that specifically require both visual and audio access to information about emergencies on TV. The importance of such access cannot be overstated. Consider not having access to information about the recent hurricanes in the East, September 11th, or the Boston bombings.

But at the turn of the century, it became clear that the above laws were not keeping up with evolving digital and Internet technologies. The new innovations promised enormous opportunity for the American public, but again threatened to create new barriers that could leave people with disabilities behind if they did not include access features.

To prevent this, and recognizing that the marketplace was not likely to protect such access, in 2010 Congress passed the 21st century Communications and Video Accessibility Act, or the CVAA. Under the new law, the FCC has put into place a series of mandates to ensure the accessible design of emerging communication technologies.

Our new rules require a captioned program shown on TV to retain captions when re-shown on the Internet, and require nearly all video devices of any size, including computers, laptops, tablets, and even smartphones to be capable of displaying captions. They also require some video description on certain TV networks, and cable

and satellite channels, as well as the ability for Americans who are blind or visually impaired to access video description and emergency information on the secondary audio streams of video devices.

We also have new rules requiring access to all types of advanced communication services and products, as well as to Web browsers on mobile phones. Finally, we have a new program that distributes successful communication and information technology to people who are both deaf and blind, a segment of the population that previously had been ignored by Federal communications policy. And we are not done.

We are now working on rules that will be released in October to ensure that controls and onscreen menus on TV's and set top boxes are accessible to people who can't see. We will also adopt rules to make it easier to activate accessibility features on video devices.

In conclusion, over the past decade, Federal policy has recognized the importance of communication technologies as tools of learning, independence, and social integration. Tomorrow's technologies are likely to continue to hold tremendous promise in terms of increased productivity and empowerment for people with disabilities.

The FCC takes seriously its challenge now and in the future, to ensure that our accessibility policies keep up with these emerging technologies. We will continue our efforts to ensure that, as directed by Congress, access is included as products and services are designed so that people with disabilities are not left behind, and so that we can avoid the need to retrofit later on, which can be expensive and burdensome and typically is not as effective.

To achieve our goals, we will continue to seek out the assistance and the collaboration of industry and consumer stakeholders to build mutually agreeable solutions.

Thank you for the opportunity to appear before you today. I would be happy to answer any of your questions.

[The prepared statement of Ms. Strauss follows:]

PREPARED STATEMENT OF KAREN PELTZ STRAUSS

INTRODUCTION

Good afternoon Chairman Harkin, Ranking Member Alexander, and members of the committee, thank you for the opportunity to appear today to address the Federal Communications Commission's (FCC or Commission) regulatory efforts on closed captioning.

I have been asked to speak today about my experiences and work with respect to captioning, video description and other accessible technologies, and how evolving accessible communications technologies can have an impact on improving access for people with disabilities. I would like to begin with two very brief stories. During the 1980s, while I was working for Gallaudet University's National Center for Law and Deafness, a legal service clinic for people who were deaf or hard of hearing, a deaf client came in, upset with the news that her routine medical tests had come back "negative." At the time, TV offered little in the way of closed captioning, and so, unlike hearing viewers who had heard the phrase countless times on medical TV shows, she was unaware that a "negative" test result was a good thing. Around the same time, a deaf college student sought our help after a run-in with the police. Not having ever been able to watch crime shows with captions, he was unaware that he had a right to an attorney. By the time he came to our law offices, he had already signed a document waiving that right.

We often take advantage of the ease with which we can acquire information and may not always stop to think about how the ability to get such information—often with the click of a button—facilitates so much of what we do in our daily lives. But the general lack of access to television shows, from the inception of TV in the 1950s, to the mid-1990s took its toll on Americans who were deaf or hard of hearing. As

television began to flood the homes of Americans in the 1960s and 1970s, it not only provided entertainment; it informed hearing viewers about critical news and public affairs information, and more indirectly, exposed Americans to the cultural mores and societal norms of the times. But people with hearing loss who did not have access to this medium missed out on the medical terminology of Dr. Kildare and Marcus Welby, M.D. They lacked the opportunity to learn legal jargon and courtroom procedures on Perry Mason. And, if they were children, they weren't able to benefit from the newscasts, dramas, and even comedies that regularly introduced their hearing peers to professions to which they could one day aspire. In all, without captions, people who were unable to hear the soundtrack were excluded from a marvelous technology that was radically altering the way that hearing Americans acquired their information.

Communication technologies have the power to transform our lives in many positive ways. When technology is accessible for people with disabilities, it can bridge gaps, opening doors to jobs, education, recreation, and the commercial marketplace. By way of example, accessible broadband technologies can help level the playing field for people who cannot see, hear, or easily get around, and thereby break down not only physical, but attitudinal barriers for people with disabilities. However, when accessibility is forgotten or ignored, and physical or technical barriers create obstacles to technological innovations, the consequences can be dire. Without access, people with disabilities are prevented from having the tools they need to improve their productivity and self-sufficiency. Opportunities for growth and independence are cut off, access to Internet commerce is denied, and even exercising one's civic responsibilities can become a challenge.

At times, new innovations that are not accessible do not only deny the ability to use a future service or product; they inadvertently take away access once enjoyed. This occurred with the introduction of the "Talkies" in 1927. Prior to that time, people who were deaf or hard of hearing routinely accompanied their hearing relatives and friends on evening excursions to the silent movies shown on the big screen. But when Hollywood added audio tracks to their visual presentations, the new "talking" films enhanced movie-going for hearing Americans, but created a new barrier for those who had been relying on text to understand movie plots. Twenty years passed before Emerson Romero, the deaf brother of actor Caesar Romero, attempted to restore this lost access by splicing subtitles between the frames of new films. A few years later, using a more advanced technique that etched open captions right onto a film's finished print, a small enterprise called Captioned Films for the Deaf that operated out of Hartford, CT, began distributing Hollywood movies to schools for the deaf around the country. In 1959, this program was assumed by the U.S. Department of Health, Education and Welfare's (HEW) Bureau of Education, which for many years, authorized the production, acquisition and distribution of captioned theatrical, documentary, and educational films and media equipment to schools and deaf organizations around the country.

While, in this manner, some commercial movies were again made available to people with hearing loss (though no longer in cinema houses), television in the 1950s and 1960s remained entirely inaccessible to people who were deaf or hard of hearing. This began to change in 1971, when HEW contracted with Boston's public television station, WGBH, to produce open captioned reruns of its most popular program, *The French Chef*, with Julia Child. One and a half years after the program was first aired with captions on August 6, 1972, deaf viewers also had the opportunity to watch an open captioned version of President Richard Nixon's second inauguration only a few hours after it aired to the rest of the public, on January 20, 1973.

The use of open captions began to afford some access to viewers who were deaf or hard of hearing, but the television industry's general resistance to this technology, which did not allow individual viewers to turn captions on and off, prompted television networks, engineers, educators, consumers, and the Federal Government to explore other strategies for making television visually accessible. These efforts culminated in the development of closed captioning, achieved by inserting captions—in the form of an electronic code—into line 21 of the 525 lines making up the vertical blanking interval of analog television pictures. Many television network executives and producers liked the new "closed" method because it allowed captions to be turned on only by people who wanted to see them. As a result, it enabled expansion of their viewing audiences to people who could not hear, without potentially losing viewers who didn't want to use captions.

In December 1976, after receiving significant support for the Line 21 technology, including encouragement in the form of a letter from President Gerald Ford, the FCC amended its rules to authorize broadcasters to voluntarily use the new technology for the provision of closed captions. This action paved the way for ABC, NBC,

and PBS to enter into an agreement a few years later, to provide 16 to 20 hours of closed captioned television programming each week. The agreement also called for Sears to oversee the production and sale of standalone television decoders, needed at the time for caption viewing. In the years to come, CBS also began captioning, and the U.S. Department of Education, which had since assumed responsibility for the Federal captioned film program, took on the role of distributing Federal grants to help provide financial support for captions on television.

As a result of these various efforts, the 1980s witnessed considerable growth in the number of closed captioned television programs, especially during the evening hours on broadcast channels. However, the sale of caption decoders remained stagnant. Although introduced in 1980, 8 years later, only 200,000 decoders had been purchased. Fearing that the small viewing audience might hurt captioning efforts, concern began to grow that the future of captioning was in jeopardy. Without a sizable market, some predicted that television producers and advertisers would pull back on the funding support they had been contributing to add captions to their programs. A "Catch-22" ensued: producers grew increasingly reluctant to invest money into captioning new television shows until they witnessed a growth in decoder sales, while consumers remained hesitant to spend hundreds of dollars on decoder equipment until more television programs became captioned.

This was not the first time, nor would it be the last, that people with disabilities would not be able to exercise sufficient market strength to achieve access to a new communications technology. Although the number of people with disabilities in the United States is said to hover around 50 million, each individual disability group—i.e., individuals who are deaf, blind, mobility disabled, etc.—typically has not been large or strong enough to exert the market pressures needed to incentivize industry to include accessibility features in their products and services. Often lower incomes that are common within the disability community and the need for expensive and hard-to-find adaptive equipment have exacerbated the problem—that is, without the expendable income to buy new-to-the-market products or the physical ability to use them without assistive devices, people with disabilities often have not been able to exert the necessary influence to convince companies to incorporate accessible features. Often, when market forces have failed in the past, the government has stepped in with regulatory measures to ensure that people with disabilities have the access that they need. It had been for this reason that the Department of Education had been providing assistance in the form of captioning grants. However, because these funds only covered a portion of total captioning costs, the lack of market incentives for the television industry to continue contributing its share signaled the possible need for additional Federal action.

In order to determine next steps, in 1989, the Department of Education conducted an assessment of the benefits of its continued investments into captioning services. The survey confirmed that deaf viewers and parents of deaf children strongly supported captioning as a critical means of acquiring information that was essential to full participation in American society. But it also revealed that many, if not most, Americans who were deaf or hard of hearing remained unaware of the availability of decoders, including where to buy them (at the time, there were few closed captioned advertisements on TV and the Internet did not yet exist). In addition, it confirmed that, at approximately \$200 per device, consumers considered the decoders too expensive for the limited programming choices available, and many found this equipment too complicated to connect to their television sets. When it became clear that a better means of providing consumers with easy access to closed captions would be necessary to sustain the service, Congress responded with bipartisan legislation, the Television Decoder Circuitry Act of 1990, which directed that all television sets manufactured or imported into America with screens 13 inches or larger had to be capable of decoding and displaying closed captions as of July 1993. The goal of this "Decoder Chip" bill was to encourage programmers and producers to include closed captions on more of their television programs in order to benefit from the expanded audience. As chief sponsor of the legislation, Senator Harkin, in his opening remarks, affirmed the bill's importance, noting that television was a pervasive means of sharing information in our society, and therefore a vital link to our world. In 1991, the FCC implemented the new law in a timely fashion, with the adoption of performance and display specifications that defined the color, placement, size, font, and intelligibility of the line 21 captions.

Prior to passage of the Decoder Chip bill, some in the electronics industry had resisted the law's provisions. However, shortly after the legislation was enacted, industry quickly came on board with an enthusiastic response by several companies that recognized the potential for a new market of individuals who might buy their television devices. By November 1991, scarcely a year after the legislation was adopted and well before the implementation deadline, Zenith demonstrated its ea-

gerness to get a jump on these new purchasers with the release of five decoder-equipped TV models. And as the deadline of July 1993 neared, the Electronics Industry Association (EIA) launched a nationwide campaign called "CaptionVision" at electronic trade shows, stores, and in mainstream publications, which suggested to the public that closed captioning could benefit far more than the community for which these services were originally designed, and revealed the industry's intent to tap huge new markets of television viewers who wanted to be able to "read" television. EIA's marketing efforts were in full swing at a kick-off event for the new legislation held at Gallaudet University on July 1, 1993, at which large screen televisions blared the music of Michael Jackson and Paula Abdul, accompanied by captions that beat to the timing of their music. Against this backdrop were eye-catching posters that demonstrated the expanded benefits of closed captioning: One had a magician pointing to magic words announcing "Your Kid's New Reading Tutor," another touted the ability to learn English quickly "in the privacy and comfort of [your] homes." Yet another targeted sports enthusiasts who wanted to follow every play, even "when noisy relatives, including loud Uncle Leo show up for dinner during the big game." Another EIA poster, proclaiming that "CaptionVision is for Everyone!" was correct in its prediction; in the years that followed, this accessibility feature, originally intended for people with hearing loss, became ubiquitous in bars, gyms, and other noisy public places. This was just one of many times that a technology or feature created to provide accessibility for the disability community, proved to be beneficial to the public at large.

Although some increase in the number of closed captioned programs did occur on broadcast television by the time the Decoder Act became effective in 1993, the percentage of basic cable television shows with captions still hovered around only 5 to 10 percent. As it became increasingly clear that the promises of larger audiences would not be sufficient to motivate these programmers to caption their shows, Congress again stepped in, this time with mandates for television programs to be shown with captions. Specifically, the 1996 amendments to the Communications Act directed the FCC to adopt rules requiring new television programming to be fully accessible through the provision of closed captioning and to maximize the accessibility of older television programming. In response, the Commission adopted comprehensive mandates that set forth a schedule of deadlines for the provision of closed captioning on English and Spanish language television programs. In addition, the Commission adopted new rules in 2000 to ensure that digital television receivers would be capable of displaying closed captions. Those rules created specifications that took advantage of new digital technologies to allow users to tailor captions to their individual needs, by controlling the font, size, color, opacity, and other captioning features.

As a result of the FCC's rules, since January 2006, all new, non-exempt English language programming, defined as analog programming first published or exhibited on or after January 1, 1998, and digital programming first aired on or after July 1, 2002, have been captioned. In addition, since January 1, 2008, 75 percent of English language "pre-rule" programming, which was first shown before January 1, 1998, and digital programming first shown before July 1, 2002, have been subject to the captioning requirements. Spanish language programming was given a longer period for compliance—January 1, 2010 for all new, non-exempt programming and 75 percent of pre-rule programming by January 1, 2012. The Commission's rules exempt certain categories of programming from these requirements, including overnight programming, local non-news programs without repeat value, non-vocal music, programs on new networks, and advertisements under 5 minutes. In addition, channels producing annual revenues under \$3 million need not spend any funds to caption their programs (although they still have an obligation to pass through video programming already captioned), and no video programming provider need spend more than 2 percent of its prior year's gross revenues on captioning expenses. Finally, individual exemptions may be granted upon a showing that the provision of closed captioning is economically burdensome to a covered entity.

In 2000, the Commission also adopted rules specifically governing access by people with hearing and vision disabilities to televised information about emergencies, where such information is intended to further the protection of life, health, safety, and property. In these rules, the Commission established, without exception, requirements for all programming distributors to provide access to critical details about emergencies that are provided during newscasts, whether regularly scheduled or those that interrupt programming. Time after time, Americans have been witness to the importance of having such information—whether during bouts of extreme weather, such as tornadoes in the mid-west and the recent hurricanes in the northeast—or during severe public disturbances, including the events of September 11, 2001 and the more recent Boston bombings. One can hardly imagine not having in-

stantaneous access to information during such events—information that is needed to instruct viewers on taking necessary precautions. Most recently, as noted below, the Commission expanded its emergency information access rules even further, to require audio access to emergency information provided visually during non-news-cast programming—e.g., provided through on-screen crawls.

TWENTY-FIRST CENTURY COMMUNICATIONS AND VIDEO ACCESSIBILITY ACT

While the above regulatory measures made significant strides in providing people with disabilities with the information tools needed to achieve full access to video programming during the 1990s, more recently it became clear that these laws were not keeping up with evolving digital and Internet technologies. As with earlier technological advances, these new innovations promised enormous opportunity for the American public, but threatened to create new barriers that could leave people with disabilities behind if they did not include accessibility features. To prevent this from occurring, and with the recognition that the competitive marketplace was not likely to protect such access, in 2010, Congress stepped in with the passage of the Twenty-First Century Communications and Video Accessibility Act (CVAA) to address the accessibility challenges of these emerging technologies. The new law lays out a series of directives for the Commission to ensure the inclusion of accessibility features during the design and development of these new innovations, so that costly and burdensome retrofits are not needed later on. The remainder of this testimony provides a summary of the FCC's implementation of these new CVAA requirements.

Captioning of Internet Programming

On January 12, 2012, the FCC adopted rules setting forth a schedule of deadlines that require closed captioned programs shown on television to be captioned when shown on the Internet. The following deadlines, adopted by the Commission, apply to video programming that is newly added to the distributor's inventory of Internet video programming:

- September 30, 2012: Prerecorded programming that is not “edited for Internet distribution” must be captioned when delivered via Internet protocol if it has been shown on TV with captions since September 30, 2012. This applies to television programming that has not been substantially edited before being posted to the Internet. Examples of substantial edits include deleting scenes or altering musical scores.
- March 30, 2013: Live and near-live programming must be captioned when delivered via Internet protocol if it has been shown on television with captions since March 30, 2013. Near-live programming is defined as video programming that is performed and recorded less than 24 hours before being shown on television for the first time.
- September 30, 2013: Prerecorded programming that is substantially edited for Internet distribution must be captioned if it is shown on TV with captions on or after September 30, 2013.

Extended deadlines apply to captioned television programming that is already in the video programming distributor's or provider's inventory before it is shown on television with captions. The compliance timeline for these distributors requires closed captions on such programming as follows:

- Within 45 days after the date it is shown on TV with captions on or after March 30, 2014 and before March 30, 2015;
- Within 30 days after the date it is shown on TV with captions on or after March 30, 2015 and before March 30, 2016; and
- Within 15 days after the date it is shown on TV with captions on or after March 30, 2016.

Display of Captioning on Equipment Used to View Video Programming

On January 12, 2012, the Commission adopted rules implementing the CVAA's requirements to expand the types of video apparatus that are required to display closed captions. These rules expand the Decoder Chip Act's mandate for captioning capability (which had only required captions to be displayed on equipment that receives or plays back video programming using a picture screen of 13 inches or larger) to equipment with screens smaller than 13 inches, if doing so is technically feasible and achievable with reasonable effort or expense. In addition, if achievable with reasonable effort or expense, equipment that records video programming must either enable the display of closed captions or pass through closed captions to the equipment used to view the programming. Viewers must also be able to turn on and off the closed captions as the video programming is played. The equipment rules are applicable to both physical devices designed to receive and play back video programming, including smartphones, tablets, personal computers, and television set-top

boxes, as well as software integrated into devices that was installed by the manufacturer before the equipment is sold or that the manufacturer requires the consumer to install after the equipment is purchased. The rules further require covered devices to enable consumers to take advantage of the display specifications first adopted in the Commission's digital receiver regulations, namely the ability to adjust the color, size, fonts, opacity, and other caption display features. Finally, the rules require interconnection mechanisms (for example, cables) that carry information from a source device to consumer equipment (for example, a television set) to be capable of conveying the information necessary to permit or render the display of captions to viewers. Equipment manufacturers must comply with these new rules by January 1, 2014.

Video Description

In 2000, the FCC issued video description rules that followed up on a study and report authorized by the 1996 amendments to the Communications Act. In 2002, although a Federal court overturned these rules for lack of authority, some video programming providers, including CBS, PBS, TNT, and Fox continued to provide video description voluntarily. In October 2010, the CVAA authorized the Commission to restore the original video description rules, which the Commission put back into effect on July 1, 2012.

The restored video description rules require local TV station affiliates of ABC, CBS, Fox, and NBC located in the top 25 television markets to provide 50 hours per calendar quarter—approximately 4 hours per week—of video-described prime time and/or children's programming (programming directed to children 16 years or younger). Any programming aired with description must always include description if re-aired on the same station or MVPD channel. The rules also apply to the multi-channel video programming distributor systems with more than 50,000 subscribers, with respect to the top 5 non-broadcast networks, presently: Disney Channel, Nickelodeon, TBS, TNT, and USA. The list of covered non-broadcast networks will automatically update every 3 years, based on Nielson ratings for the prior year. Individual exemptions from the video description requirements may be granted upon a showing that the provision of video description is economically burdensome to the covered entity. The compliance date for mobile DTV broadcasts is delayed until October 8, 2013.

The video description requirements will be extended to local TV station affiliates of the covered national networks that are located in the top 60 television markets beginning July 1, 2015. Per the CVAA's directive, during the summer of 2013, the Commission will begin conducting an inquiry, and thereafter reporting to Congress on (1) the availability, use, and benefits of video description and (2) the technical and operational issues, costs, and benefits of providing video description for video programming delivered using Internet protocol. Based on the results of this report, the Commission may increase the total hour requirement for described programs by 75 percent, up to 7 hours per week. A subsequent report by the Commission is due to Congress 9 years after the CVAA's enactment, on the types and amount of video described programming available, the costs, benefits, and uses of such programming, and the need for additional described programming in designated market areas outside the top 60 markets. In 2020, the Commission will have additional authority, based on the findings, conclusions, and recommendations contained in this report, to phase in the video description regulations for up to an additional 10 designated market areas each year, so long as the costs of implementing the regulations are reasonable for program owners, providers, and distributors in these additional markets.

Televised Accessible Emergency Information

As discussed above, since 2000, the Commission has had in place rules to require televised emergency information to be visually accessible to people with hearing disabilities. Those rules also have required aural access for people with vision disabilities to emergency information provided on newscasts, both regularly scheduled or those that interrupt regular programming. On April 8, 2013, pursuant to the CVAA, the Commission adopted new emergency information requirements for broadcasters, MVPDs, and any other distributor of video programming that delivers programming directly to the home, to provide an aural presentation of emergency information that is provided visually in non-newscast programming (i.e., typically through crawls that appear at the bottom of the screen during regularly scheduled programming) on a secondary audio stream. The rules further require that covered entities use an aural tone to precede the emergency information on both the main program audio and the secondary audio stream, and that such emergency information must super-

separate all other programming on that secondary stream. The rules will require compliance 2 years from the date of publication in the *Federal Register*.

Other Video Apparatus Requirements

On April 8, 2013, the Commission adopted rules requiring apparatus designed to receive, play back, or record video programming transmitted simultaneously with sound to support secondary audio streams, so that these streams can be used to provide video description and accessible emergency information to people who are blind and visually impaired. The new requirements, which apply as well to removable media players and mobile digital television apparatus, allow the use of text-to-speech technologies and require compliance 2 years from the date of *Federal Register* publication of the rules.

In addition, by October 2013, the Commission is directed to adopt rules requiring that user interfaces on digital apparatus and navigation devices used to view video programming be accessible to and usable by individuals who are blind or visually impaired. Among other things, this will require access to on-screen text menus and other visual indicators. Finally, the CVAA requires the promulgation of rules requiring that these devices provide easy activation of accessibility features that is "reasonably comparable to a button, key, or icon." The Commission is presently working on the rulemaking that will address these issues.

Requirements for Mobile Phone Internet Browsers

On April 26, 2013, the Commission adopted rules implementing a CVAA requirement for mobile phone manufacturers and mobile service providers that include or arrange for the inclusion of an Internet browser on their mobile phones to ensure that the functions of the included browser are accessible to and usable by people who are blind and visually impaired, unless doing so is not achievable. These rules will ensure that people in these communities are able to use such browsers for any purpose, including accessing video programming.

CONCLUSION

Over the past few decades, Congress has adopted numerous directives to ensure that people with disabilities have access to emerging video programming technologies. The FCC has taken seriously its responsibility to ensure that these directives are timely and effectively implemented, beginning with the adoption of specifications for captioning decoders in TV sets in the early 1990s, to our more recent implementation of the CVAA's comprehensive provisions requiring access to video programming by both people with vision and hearing disabilities. We are proud to note that we have met every one of the CVAA's tight rulemaking deadlines, as reflected in the Biennial Report to Congress submitted on October 5, 2012. See <http://www.fcc.gov/document/cvaa-report-congress>.

The Federal policy reflected in these many proceedings acknowledges that video programming can serve as a tool of learning, independence, and social integration. Tomorrow's video technologies are likely to continue to hold tremendous promise in terms of increased productivity, self-sufficiency, and empowerment for people with disabilities. Our challenge both now and into the future will be to make sure that our accessibility policies keep up with these emerging technologies. Incorporating access early on, during the design and development of products and services, ensures that people with disabilities are not left behind, and avoids the need to retrofit these offerings later on, which can be expensive and burdensome, and often not as effective. To achieve our goals, we will continue to seek out the assistance and collaboration of industry and consumer experts and stakeholders. Over time, we have seen increased consensus on mutually agreeable solutions among these interested parties, as reflected in various consumer-industry forums and advisory bodies that have helped us craft our video accessibility rules in recent years. We will continue working with stakeholders as technologies continue to evolve, to enhance our understanding of the needs of consumers and the way that these needs can best be addressed by innovative and competitive industries.

The CHAIRMAN. Thank you very much, Ms. Strauss, for that testimony, and thanks for the little history lesson there too.

Now, we turn to Eve Hill. Welcome back again. You have been here before, welcome back, Ms. Hill, and please proceed.

STATEMENT OF EVE L. HILL, SENIOR COUNSELOR TO THE ASSISTANT ATTORNEY GENERAL FOR CIVIL RIGHTS, U.S. DEPARTMENT OF JUSTICE, CIVIL RIGHTS DIVISION, WASHINGTON, DC

Ms. HILL. Thank you, Chairman Harkin, Ranking Member Alexander, and members of the committee.

It is really an honor to be here today to talk to you about accessibility of entertainment technologies.

As you know, the Civil Rights Division of the Justice Department enforces the Americans with Disabilities Act, and the ADA prohibits discrimination on the basis of disability in many areas of civic and social life including entertainment.

As digital technology continues to advance, so too must our efforts to ensure that individuals with disabilities are not marginalized in the digital world. Emerging technologies have the potential to open doors for people with disabilities and can provide them the means to achieve the goal of full, equal, and truly integrated access to American life. But technological advances have the potential, also, to leave people with disabilities behind if those technologies are not made accessible. For us, these are not just barriers, they are civil rights issues.

Although Congress in 1990 did not foresee the myriad, rapidly developing technologies that are being used today to deliver entertainment, Congress clearly intended for the ADA to apply to those technologies. As the House Committee on Education and Labor stated at the time,

“The types of accommodation and services provided to individuals with disabilities should keep pace with the rapidly changing technology of the times.”

The Internet plays a critical role in many aspects of the daily lives of Americans. Increasingly, Government entities and public accommodations, including entertainment providers, are providing their goods and services through Web sites. But Web sites are not always designed to be compatible with the assistive technologies that people with disabilities use to access them.

The Department has long taken the position in litigation and settlements that Web sites with public accommodations including entertainment providers that operate solely on the Internet are covered by the ADA and are required to be accessible.

Just recently, the Department filed statements of interest in *National Association of the Deaf v. Netflix* in which the plaintiffs alleged that Netflix failed to caption the videos on its streaming online videos. And the court agreed that Netflix is a place of public accommodation, and soon after, the case settled. Netflix has now announced that it will make all its online videos accessible by 2014.

This year, the Department anticipates publishing notices of proposed rulemaking to ensure that the ADA's requirements for equal access to the Web sites of covered entities are fulfilled.

Now, going to the movies is an important social and cultural experience. Movies are a major source of entertainment in the United States. Movie theaters draw more people than all theme parks and major U.S. sporting events combined. According to the Supreme Court, movies are a significant medium for the communication of

ideas, and may affect public attitudes and behavior in a variety of ways. Just as importantly, movies form the basis of our water cooler talk and lunchtime conversations.

But millions of people with sensory disabilities have been left out of this shared cultural experience. The ADA prohibits discrimination by movie theaters. They must provide auxiliary aids and services when needed to ensure that people with disabilities can enjoy their movies unless it would result in an undue burden or fundamental alternation.

Technology, such as closed movie captioning and audio description, are available to make movies accessible. In fact in recent years, as the movie industry has moved from analog to digital formats, more movies are being provided and made with closed movie captioning and audio description. In addition, more movie theaters have added the capacity to show captioned and audio-described movies. And as Senator Alexander noted, Regal has announced that it will provide captioning and audio description at 6,000 screens, and we applaud these efforts.

However, not every movie theater company is equipping its movie screens with captioning and audio description. Whether a person with a sensory disability can go to the movies depends on where she lives. And even when theaters have accessible technologies, many limit the showings of accessible movies to particular times of the day or week.

In July 2010, the Department issued an advanced notice of proposed rulemaking on potential regulatory changes to specify the requirements for accessible movies, and the Department is now preparing for the next stage in those rulemaking efforts.

The Department has also been focused on ensuring accessibility to a critically important part of entertainment and education: reading. Electronic books hold great potential to place people with disabilities on equal footing with others when it comes to reading, but that goal will only occur if e-book readers have text-to-speech capabilities and if electronic texts are properly coded.

To that end, the Department of Justice has reached settlement agreements with several colleges and a public library to ensure they do not exclude people with disabilities by using inaccessible e-book readers.

Technology is not only a way to see an event online or in a movie theater, but it is also the gateway to live events very often. In the past, many private venues and ticket sellers have not provided people with disabilities an equal opportunity to purchase tickets to accessible seating.

As of March 15, 2011 revised ADA regulations now require venues to sell tickets for accessible seats in the same manner and under the same conditions as ticket sales for non-accessible seats including online and over the phone.

Thank you very much for the opportunity to highlight the Department of Justice's work in this really important area. We will continue to use all the tools the Justice Department has to realize the goal of the ADA and to ensure people with disabilities have full and equal access to entertainment technology.

[The prepared statement of Ms. Hill follows:]

PREPARED STATEMENT OF EVE L. HILL

Chairman Harkin, Ranking Member Alexander, and members of the committee, it is an honor to appear before you today to discuss the accessibility of entertainment technologies. The Civil Rights Division enforces the Americans with Disabilities Act of 1990 (“ADA”). The ADA is a comprehensive, broad-reaching Federal law that prohibits discrimination on the basis of disability in many areas of civic and social life—including entertainment. As technology continues to rapidly advance in the digital age, so too must our efforts to ensure that individuals with disabilities are not marginalized in the digital world.

During prior testimony before this committee, I noted the critical juncture that people with disabilities are facing in this country. The pace of technological change is remarkable; each day brings a new reminder of how fast technology is developing and how quickly old technology becomes obsolete. Emerging technologies have the potential to open doors for many people with disabilities, and can provide them the means to move closer to the goal of full, equal, and truly integrated access to American life. But cutting-edge technological advances also have the potential to leave people with disabilities behind if the entities that develop, manufacture, and offer that technology do not make their products and services accessible.

This is especially true in the context of entertainment, where so much of the industry relies on technology to develop and distribute its products and services. If movies that are streamed through the Internet are not captioned, people who are deaf are shut out. If electronic books cannot be read by screen readers, people who are blind are shut out.¹ If kiosks selling tickets to sporting events are not built with the proper features, people with a variety of disabilities are shut out. These aren’t just barriers; these are civil rights issues.

A bi-partisan majority in Congress passed the ADA, 42 U.S.C. § 12101, *et seq.*, in 1990, and President George H.W. Bush signed this landmark civil rights legislation into law. The statute mandates the elimination of discrimination on the basis of disability in all areas of American civic and economic life. The Department of Justice is responsible for enforcing and implementing Titles II and III of the ADA, which cover State and local government entities and private businesses, respectively. We also enforce Title I of the ADA against State and local government employers that discriminate on the basis of disability.

Although Congress, in 1990, could not have foreseen the rapidly developing technology used by entities to deliver entertainment, Congress clearly intended for the ADA to apply to these technologies. When considering the bill that ultimately became the ADA, the House Committee on Education and Labor stated:

“that the types of accommodation and services provided to individuals with disabilities, under all of the titles of this bill, should keep pace with the rapidly changing technology of the times.”²

This position has been echoed by the Justice Department through the regulations the Department has promulgated under the ADA and the cases the Department has filed to enforce the ADA. My testimony will address the work that the Justice Department is doing and has done through its rulemaking authority and its enforcement of the ADA to ensure that entertainment technologies are, and remain, accessible for people with disabilities.

I. WEB SITE ACCESSIBILITY

When the ADA was enacted in 1990, the Internet as we know it today did not exist. Today the Internet plays a critical role in the daily personal, professional, civic, and business life of Americans. Increasingly, government entities and public accommodations are providing goods and services to the public through Web sites.

Being unable to access Web sites puts individuals at a great disadvantage in today’s society, which is driven by a dynamic electronic marketplace and unprecedented access to information. On the economic front, electronic commerce, or “e-commerce,” often offers consumers a wider selection and lower prices than traditional, “brick-and-mortar” storefronts, with the added convenience of not having to leave one’s home to obtain goods and services. For individuals with disabilities who expe-

¹ Many individuals with vision disabilities use an assistive technology known as a screen reader that can convert visually delivered content on the Internet into an audio form; however, the visually delivered content must be properly formatted and structured for the screen reader to work effectively. For instance, a screen reader or similar assistive technology cannot “read” an image. Thus, when images appear on Web sites there is no way for an individual who is blind or who has low vision to know what is being depicted unless the Web site operator provides additional information describing what is depicted in the image for screen readers to read.

² H.R. Rep. No. 101-485, pt. 2, 101st Congress 2d Sess. 108 (1990).

rience barriers to their ability to travel or to leave their homes, the Internet may be their only way to access certain goods and services.

On the social front, the Internet has become a fast, easy, and cost-effective way for many people to access entertainment. Taking advantage of the Internet's instantaneous commerce, entertainment providers distribute movies, television shows, books, music, and other content through Web sites. The Internet has literally transformed the way that entertainment distributors do business and how Americans access entertainment.

Millions of people have disabilities that affect their use of the web—including people with visual, auditory, physical, speech, cognitive, intellectual and developmental and neurological disabilities. People who have difficulty using a computer mouse because of mobility impairments, for example, may use assistive technology that allows them to control software with verbal commands. People who are deaf may rely on captioning to make streaming content accessible. People who are blind may use screen readers to convert visually delivered content on the Internet into an audio form. But Web sites are not always compatible with those assistive technologies and technological adaptations do not always provide what is necessary for people with disabilities to access them.

The Department has long taken the position that Web sites of private entities that are public accommodations,³ including entertainment providers that operate solely on the Internet, are covered by the ADA and are required to be accessible. The Department has reached settlements with a number of entities to bring their Web sites into compliance with the ADA, including Web sites serving the entertainment industry.

In September 2011, the Department entered into a settlement agreement with Freemantle Productions, Inc., and CBS Broadcasting, Inc., regarding the television show, *The Price is Right*. Among other things, the settlement requires *The Price is Right* to modify its Web sites to ensure that people with disabilities can access information about the television show and how to obtain tickets.

Similarly, in December 2012, the Justice Department entered into a settlement with the Cavaliers Operating Company, LLC, concerning Quicken Loans Arena. Under the settlement, the Cavaliers Operating Company is required to ensure that its Web site is accessible for people with disabilities. Because of the settlement, patrons with disabilities will be able to find seating and purchase tickets for sporting events and concerts online.⁴

Because video programming over the Internet is fast becoming the dominant means of delivering movies, television shows, and other entertainment offerings to the American public, the Department has taken steps to ensure that video programming Web sites are also accessible. In October 2011, the Justice Department filed a Statement of Interest in *National Association of the Deaf, et al., v. Netflix, Inc.* (D. Mass.), a case in which the plaintiffs alleged that Netflix failed to provide captions for many of its "Watch Instantly" Internet-based streamed movies, in violation of Title III of the ADA. In its brief, the Justice Department argued that Title III of the ADA applies to Netflix's "Watch Instantly" videos and that the court had subject-matter jurisdiction over the plaintiffs' claims.

In May 2012, the Department filed a second Statement of Interest in the case. The Department again argued that Netflix is a public accommodation under title III, even if it has no physical structure where customers access its services. The court agreed with the Department's position and soon thereafter the case settled, with Netflix announcing that it will make 100 percent of its online streaming videos accessible by 2014.

In addition, the Department is engaged in rulemaking to ensure the ADA's requirements for equal access to the programs, services, goods and activities of title II and title III entities are fulfilled. The Department has issued an Advance Notice of Proposed Rulemaking ("ANPRM") on the accessibility of information and services on the web, and has solicited public comment on this issue. The public comment period closed on January 24, 2011; the Department received approximately 440 public comments and is currently reviewing them. The Department anticipates publishing

³Under title III, a public accommodation is a private entity that owns, leases, leases to, or operates a place of public accommodation. A place of public accommodation is defined as a facility whose operations affect commerce and falls within 1 of 12 enumerated categories, including places of lodging, establishments serving food or drink, places of exhibition or entertainment, sales or rental establishments, and service establishments.

⁴The World Wide Web Consortium, or the W3C, the main international standards organization for the World Wide Web, has developed accessibility standards—such as the Web Content Accessibility Guidelines 2.0—that have become the standard in the technological industry for making Web sites and content accessible. The W3C continues to build upon these important initiatives, including information to help mobile application developers build accessible products.

separate Notices of Proposed Rule Making addressing Web site accessibility pursuant to Titles II and III of the ADA in calendar year 2013.

II. MOVIE CAPTIONING AND VIDEO DESCRIPTION

The Justice Department has also been working on issues involving the accessibility of movies shown in theaters to people with disabilities. Going to the movies is a quintessential American experience. In any given month, over 56 million adults (roughly 26 percent of the adult population) make a trip to a movie theater to take in a movie. *Experian Marketing Services, 2010 American Movie-Goer Consumer Report*, available at <http://www.experian.com/blogs/marketing-forward/2010/02/20/2010-american-movie-goer-consumer-report/> (last visited Apr. 2, 2013). Going to the movies is also an important social experience, especially for teenagers and young adults. And while teenagers and young adults are more likely to go to the movies than older adults, adults over 50 outnumber young adults when it comes to raw number of moviegoers. *Id.* Moreover, going to the movies is also an important part of the American family experience. Long holiday weekends offer the movie industry some of the biggest box office sales as families gather for the holidays and head out to the theaters together.

Despite the recent economic downturn, movies continue to be a major source of entertainment in the United States. In 2012, moviegoers in the United States and Canada bought a record \$10.8 billion in movie tickets, with the largest number of tickets (1.36 billion) sold in 3 years. *Theatrical Market Statistics*, Motion Picture Ass'n of Am. 4 (2012), available at <http://www.mpa.org/Resources/3037b7a4-58a2-4109-8012-58fca3abdf1b.pdf>, (last visited May 9, 2013). Movie theaters continue to draw more people than all theme parks and major U.S. sporting events combined. *Id.* at 10.

Movies are a part of our shared cultural experience, “water cooler” talk, and the subject of lunch-time conversations. The Supreme Court observed over 60 years ago that motion pictures “are a significant medium for the communication of ideas” and “may affect public attitudes and behavior in a variety of ways, ranging from direct espousal of a political or social doctrine to subtle shaping of thought which characterizes all artistic expression. The importance of motion pictures as an organ of public opinion is not lessened by the fact that they are designed to entertain as well as to inform.” *Joseph Burstyn, Inc. v. Wilson*, 343 U.S. 495, 501 (1952).

When individuals with sensory disabilities have the opportunity to attend movies that they can actually understand through the use of captions or audio description, they are exposed to new ideas and gain knowledge that contributes to their social development and their communication skills.

According to 2010 census data, 7.6 million people experienced a hearing difficulty (defined as experiencing deafness or having difficulty hearing a normal conversation, even when wearing a hearing aid). Of those individuals, 1.1 million reported having a severe difficulty hearing. In addition, 8.1 million people reported having some degree of difficulty seeing (defined as experiencing blindness or having difficulty seeing words and letters in ordinary newsprint, even when normally wearing glasses or contact lenses). Of those individuals, 2.0 million reported they were blind or unable to see. See U.S. Census Bureau, U.S. Dep't of Commerce, P70-131, Americans With Disabilities: 2010 Household Economic Studies 8 (2012), available at <http://www.census.gov/prod/2012pubs/p70-131.pdf>. For people aged 65 or older, Census data indicated that 10.8 percent had difficulty hearing (as defined in the census), and 9.8 percent reported having difficulty seeing (as defined by the Census). *Id.* Hearing and vision loss are highly correlated with aging, and as the U.S. population ages,⁵ the number of individuals with hearing or vision loss is projected to increase significantly. Research indicates that the number of Americans with a hearing loss has doubled during the past 30 years. See *The Prevalence and Incidence of Hearing Loss in Adults*, Am. Speech-Language-Hearing Ass'n, available at http://www.asha.org/public/hearing/disorders/prevalence_adults.htm (last visited Apr. 2, 2013). Experts predict that by 2030, severe vision loss will double along with the country's aging population. See *Aging and Vision Loss Fact Sheet*, Am. Found. for the Blind, available at <http://www.afb.org/section.aspx?FolderID=3&SectionID=44&TopicID=252&DocumentID=3374> (last visited Apr. 2, 2013). This increase will

⁵The percentage of Americans approaching middle age and older is increasing. The 2010 Census found that during the decade spanning 2000 to 2010, the percentage of adults aged 45 to 64 years increased by 31.5 percent while the population aged 65 and over grew at a rate of 15.1 percent. By contrast, the population of adults between 18 and 44 grew by only 0.6 percent. *Age and Sex Composition in the United States: 2010 Census Brief 2* (2011), U.S. Census Bureau, U.S. Dep't of Commerce, C2010BR-03, available at <http://www.census.gov/population/age/>.

likely lead to a corresponding increase in the number of people who will need captioning or audio description. It is critical that these individuals are not shut out of an emblematic part of our culture.

Title III of the ADA prohibits public accommodations, such as movie theaters, from discriminating against individuals with disabilities, 42 U.S.C. 12182(a). Among other things, covered entities must take “such steps as may be necessary to ensure that no individual with a disability is excluded, denied services, segregated or otherwise treated differently . . . because of the absence of auxiliary aids and services” unless they can show that doing so would result in a fundamental alteration or undue burden. 42 U.S.C. § 12182(b)(2)(A)(iii). Auxiliary aids available to movie theaters to make their theaters accessible include assistive listening systems, closed movie captioning, and audio description. The ADA title III regulations specify that movie theaters must provide assistive listening systems and a specific number of assistive listening devices to make movies accessible to people with hearing loss.

There are many different types of technology that help make movies accessible. Closed movie captioning displays the written text of the dialog and other sounds or sound making to those individuals who request it. When requested, the captions are delivered via individual captioning devices used by patrons at their seats. Audio description is a technology that enables individuals who are blind or have low vision to enjoy movies by providing a spoken narration of key visual elements of a movie, such as actions, settings, facial expressions, costumes, and scene changes. Audio description fills in information about the visual content of a movie where there are no corresponding audio elements in the film. The oral delivery of the script is transmitted to the user through infra-red or FM transmission to wireless headsets.

In recent years, as part of the conversion of the movie industry from analog to digital formats, more movies are being made with closed movie captioning and audio description. Movie studios appear committed to making their movies accessible to individuals with sensory disabilities, and the Department commends their efforts. In addition, more movie theaters have added the capacity to show captioned and audio described movies. We applaud such efforts and encourage other movie exhibitors to follow suit. As digital cinema technology has advanced, the options and methods available for exhibiting movies with captioning and audio description have also expanded. Members of the industry, manufacturers, and other interested parties worked together to ensure interoperability of digital cinema components through standards adopted by the Society of Motion Picture and Television Engineers (SMPTE), so that products that provide captioning and audio description would be compatible with the various digital cinema systems available for purchase and use by movie theaters. For this and other reasons, in digital cinema systems it is much easier and far less costly to exhibit movies with captioning and audio description.

However, not every movie company has announced plans to equip its movie screens with captioning and audio description, so the ability for persons who are deaf or hard of hearing or are blind or have low vision continues to depend upon where they live.⁶ In addition, even when theaters have the capability to offer captions and audio description, they don’t do so at all screenings. Many theaters limit showings of movies with captions or audio description to particular times of the day or week.

In July 2010, the Department issued an ANPRM seeking public comment on potential revisions to the regulations implementing the ADA relating to the exhibition of movies with closed captioning and audio description by theater owners or operators. The ANPRM did not propose any specific regulatory language or provisions. Instead, the ANPRM solicited input from the public on various issues, including: possible compliance and implementation schedules; industry-wide progress on conversion to digital cinema; status of consensus standards for digital cinema; captioning and audio description equipment; and, costs and benefits of potential revisions to the ADA regulations. The public comment period on the ANPRM closed in January 2011. There was a great deal of public interest with over 1,100 comments received from a broad spectrum of stakeholders, including theater owners and operators, persons with disabilities, trade organizations, and advocacy groups. The Department is in the process of reviewing public comments received in response to the ANPRM and preparing for the next stage in its rulemaking efforts.

⁶For example, persons who live in smaller cities served only by smaller regional movie theater chains are far less likely to have access to captioning and audio-described movies than individuals with disabilities who live in California, Arizona, or any of the major cities with theaters operated by Regal or Cinemark.

III. DEPARTMENT OF JUSTICE E-BOOK COMPLAINT RESOLUTIONS

The Department has been keenly focused on ensuring accessibility to a critically important form of entertainment and education—reading. The emergence of electronic books holds great potential to place individuals with disabilities on equal footing with others when it comes to reading. But that goal will only occur if the e-book reader is equipped with text-to-speech capabilities, and if the electronic texts are coded with structural data and text descriptions of images. The Department is working to ensure that covered entities that use e-readers to deliver information or provide an experience insist on using accessible equipment that will provide persons with disabilities an equal opportunity to participate in their programs, services or activities.

The Justice Department has worked hard to ensure that electronic books of all kinds are accessible to people with disabilities. In 2010, the Department of Justice reached settlements with six colleges to ensure that they do not exclude students with disabilities by using inaccessible e-readers. Under the settlements, the colleges must ensure that whatever technology they deploy provides students who are blind the same information, the same interactions, and the same services as sighted students with substantially equivalent ease of use.⁷

Similarly, in August 2012, the Justice Department reached a settlement with the Sacramento Public Library, which had adopted a program of lending inaccessible e-book readers to its patrons. Under the settlement, the library is required to purchase at least 18 accessible e-book readers to ensure that people who are blind can participate in and benefit from the program.

IV. ACCESSIBILITY ISSUES IN ELECTRONIC AND INFORMATION TECHNOLOGY EQUIPMENT

Each day, it becomes increasingly more difficult to go to the movies, attend a sporting event, rent a movie, check out a book, or see a concert without successfully interacting with electronic and information technology (EIT) equipment. Accessible EIT equipment is often critical to an entity's ability to provide a person with a disability equal access to its goods and services. Individuals with disabilities must have an equal opportunity to use EIT equipment, such as kiosks, interactive transaction machines, point-of-sale (POS) devices, and automated teller machines (ATMs).

Among the EIT equipment being used by entertainment providers are kiosks and POS devices, which provide a wide range of services, including information sharing, purchasing, ticketing, and accessing the Internet. Unfortunately, many of these emerging technologies have been developed without accessibility in mind, even though accessibility features like talking kiosks are available. Often, with the advent of touch-screen technology, customers are required to enter data using a flat screen while reading changing visual information and instructions. Persons who cannot see the flat screen must rely on other people to enter their information, including their personal identification numbers. Individuals with disabilities who engage in financial or other transactions should be able to do so independently and not have to provide third parties with private information, such as a personal identification number. And with the right technology, this can be achieved.

The Department has addressed the accessibility of EIT equipment in several contexts, including in museums. In July 2010, for example, the Department announced a settlement with the entity that owns and maintains Mount Vernon Estate & Gardens in Alexandria, VA, a facility on the National Register of Historic Places. Among other modifications, Mount Vernon agreed to modify the controls of its interactive exhibits so that they are usable by visitors with mobility disabilities, to provide closed captioning for its films, and provide walk-in audio-described devices for tours. Similarly, in June 2008, the Department reached a settlement with the International Spy Museum, which requires that all computer interactive programs be accessible to people with disabilities.

The Department is also addressing these issues through its rulemaking authority. In its 2010 ANPRM on equipment and furniture, the Department focused on, among other issues, the accessibility of fixed and non-fixed EIT equipment. The Department received more than 400 comments in response to its ANPRM and is currently reviewing these comments.

⁷Following on the heels of the settlements, the Assistant Attorney General for Civil Rights at the Justice Department and the Assistant Secretary for Civil Rights of the Department of Education wrote to college presidents throughout the country emphasizing that the use of inaccessible emerging technologies in the classroom violates the ADA.

V. TECHNOLOGY AND ACCESS TO EVENTS (TICKET SALES)

In the past, many private venues, ticket sellers, and distributors have not provided people with disabilities an equal opportunity to purchase tickets for wheelchair-accessible seats. Whereas the general public is usually able to directly and immediately purchase tickets for non-accessible seats through Web sites and other services, people with disabilities have struggled—and many times failed—to reserve wheelchair-accessible seating.

As of March 15, 2011, revised regulations issued by the Justice Department require venues that sell tickets for assigned seats to implement policies to sell tickets for accessible seats in the same manner and under the same conditions as all other ticket sales. Specifically, tickets for accessible seats must be sold during the same hours; through the same methods of purchase (by telephone, onsite, through a Web site, or through third-party vendors); and during the same stages of sales (pre-sales, promotions, general sales, wait lists, or lotteries) as non-accessible seats.

VI. CONCLUSION

Thank you for the opportunity to highlight all of the work the Department is doing in this important area. We will continue to use all of the tools the Justice Department has to realize the mission of the ADA and to ensure that people with disabilities have full and equal access to entertainment technologies.

The CHAIRMAN. Thank you, again, Ms. Hill, for your testimony. As I said, both of your statements will be made a part of the record in their entirety. We will start our questions here.

Ms. Hill, let me start with you. In your written testimony, and a small part of your spoken testimony, you talked about the importance of movie-going in the American culture, and the size of the U.S. population that experience hearing and visual impairments.

Given the large and growing size of the consumer markets that would benefit from both captioning and video description, why do you think the entertainment content producers haven't been more aggressive in going after these markets?

I guess I could also ask Ms. Strauss also, from your vantage point, the FCC, how do you see the various industries that you interact with in terms of their interest in the sensory disability community as a market?

Ms. Hill, that is a big market out there. I said to one of my friends in the entertainment industry, after that showing of "Lincoln" we had over here. I said to Mr. Spielberg, "You know, there are millions of Americans who don't go to movies." He wanted to know what I was talking about. I said, "Millions of people like me that are hard of hearing." I said, "I love going to the movies." I don't go to movies anymore; I have to wait until they come out on DVD and I get the subtitles. I can watch them then, but I would like to go to a theater like I used to. And there are millions of Americans that love that experience.

Why haven't they been more aggressive? I mean, it would just seem to me that this is a huge, untapped market out there. Do you have any ideas on that? I am sure I will ask Mr. Fithian that too when he gets up here.

Ms. HILL. I am hesitant to speak for the movie producing industry or the movie theater industry.

I do think many producers have really begun to welcome this market. Some evidence indicates that major movie producers are now captioning most of their films, and rightly so, because as you said, older Americans, in particular, are more likely to go to the movies, and are more likely to have hearing and vision disabilities.

And then, I think they are recognizing this increased market because of the development of the new technologies to provide closed movie captioning and audio description in ways that, with the transition from analog to digital technology, make them lower cost and very effective.

It has brought home the fact that opening their doors to this market, the benefits of it substantially outweigh the costs.

The CHAIRMAN. Ms. Strauss, any thoughts on this?

Ms. STRAUSS. I would agree that advancing technologies, and especially the ability to incorporate access through software, has dramatically changed the landscape for accessibility, as compared to decades ago, when we had to rely on hardware. New software and the flexibility of being able to incorporate software more cheaply and more readily have certainly encouraged the industry to provide more access.

We have noticed that implementation of the CVAA has occurred even faster than many of the deadlines. And that the collaborative efforts with consumers, between industry and consumers, have increased.

But if you would not mind, I would like to tell a little story about something that happened in the past that you may remember.

What we have noticed in the past is that very often, industry may be initially reluctant to regulation, naturally. However, once the accessibility laws are passed, we find that they embrace.

As an example, in 1993, when the Television Decoder Act was going into effect, there was a celebration at Gallaudet University, a press conference. And if you recall at that event, the electronics industry released or actually announced its caption vision promotional campaign. And this campaign focused, not on captions for people with hearing loss, but rather focused on captions as a way of attracting new markets who wanted to read TV.

All over the room, blaring to the beat of Paula Abdul and Michael Jackson were captions beating, showing on the screen, large screen TV's. And posters were around the room announcing, "Your kid's new reading tutor," and the ability to learn English quickly in the privacy and comfort of your home. And sports enthusiasts, who wanted to follow every play, even when noisy relatives including loud Uncle Leo, showed up for dinner right before the big game.

And I remember looking around and thinking, "I don't see anything about people with hearing loss or people who are deaf and hard of hearing." What had happened was the industry found the market, and we have seen this time and time again with so many technologies.

I cannot really speak to the movie industry, it is not within our jurisdiction or expertise, but it seems that they will too find the market.

The CHAIRMAN. Don't forget "Sesame Street," they picked up on that too as English as a second language when learning Spanish and English for kids. They picked up on that right away. Well, my time has kind of run out.

Senator Alexander, go ahead.

Senator ALEXANDER. Obviously captioning has come a long way from the silent movies.

But for either of you, as you look ahead and think about the evolution of captioning as emerging technology evolves, what do you see for the future?

Ms. STRAUSS. Actually, we see a very bright future because, again, software companies have far more flexibility and are not locked into particular technologies to be able to provide access.

It seems like a day doesn't go by that a new technology is not created. For example, some captioning agencies now use speech recognition with corrective technologies. They have alternative ways of providing captions.

In addition, the other major movement that we see is the shift to the Internet. While there is a lot of captioning on TV now, I think that the community is going to be looking more to the Internet to get more captioning as well.

Senator ALEXANDER. What about video description? What about the future of video description for individuals who are blind, who have low vision? What do you see looking ahead there?

Ms. STRAUSS. Do you want me to take that? OK, so video description is more in its infancy than captioning, of course. The FCC's rules only require approximately 4 hours of programming on the major national networks, the 25 top affiliates of those networks, and 5 cable and satellite channels.

Senator ALEXANDER. Just exactly how does that work? Describe video description, the experience.

Ms. STRAUSS. Video description inserts narrative into the natural pauses of a television or a movie program. If you are watching a movie, let's say, and there is a pause in the audio, a person who is blind or visually impaired, won't know what is going on.

For example, if it is a mystery and it is near the end of it, and the example I sometimes like to use is a man is walking across, perhaps, with an axe to do some damage to somebody else. A blind person may not know what is going on, and so the video description would fill-in the gaps.

My guess is that video description will continue to evolve just as captioning did, and probably as it is used more, also the costs will come down and the technologies will improve.

Senator ALEXANDER. What can you do to encourage these developments without stifling technological creativity? How do we keep the Government from having too heavy a hand here?

Ms. STRAUSS. Well, one of the things that CVAA does is, it makes very clear that we are not to lock-in the industry into any particular technology.

We have always taken the position that it is more important to look at the end goal and to achieve accessibility, but to let the industry figure out how to achieve it.

One of the things that we have done with the implementation of the CVAA that has worked wonderfully is that we have convened advisory committees where industry and consumers have come together and reached mutually agreeable solutions. That has allowed everyone to sit around the table for months at a time sometimes, and work together to understand the consumer needs, understand the industry restraints, and let the industry engineers attack the problem.

Senator ALEXANDER. I noticed that one of you mentioned that something was going to take place, I think you did Ms. Hill, in 2014. Do you take into account allowing a reasonable amount of time to get to where you want to go?

One of the things I have noticed over the years in Government is that, I think a lot of solutions would be so much easier when Government requires changes in the private sector, to ask the private sector what a reasonable period of time would be. I see this in environmental rules all the time. I usually come down on the side of clean air, but as long as we are going to get where we want to go, waiting another year or two, so that we don't clog up the pipeline or so that it does not distort costs, or so that it allows reasonable business planning. That seems to me to be a sensible thing to do.

Do you try to do that as you do your thinking, and Ms. Hill, you do your enforcement work?

Ms. STRAUSS. That is a cornerstone of our policymaking. Every rule that we have ever developed allows for a reasonable amount of time for implementation.

A very good example are the closed-captioning rules that set out a 12-year deadline, a 12-year schedule of benchmarks that needed to be met for the implementation of English and Spanish language programming.

Every one of these CVAA rules that we have promulgated, also we have gone to the industry and we have said to them, "How much time do you need?" And they have been very happy with the amount of time we have given them.

Ms. HILL. And similarly at the Department of Justice, in our advanced notice of proposed rulemaking on movie captioning in particular, we asked what the implementation dates should be and how long folks needed to implement them, and those have been in place already. Those started in 2010.

Time has passed since then, we recognize the advancements that have been made. And we still want to make sure that in order to achieve the consistent access and not stifle innovation, we want the requirements to be flexible enough to just get working solutions, not regulating a specific working solution, and giving people time to get them implemented. So people can be assured when they show up at the movies, once the effective date is in place, they can know this is going to be available for them.

Senator ALEXANDER. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Alexander.

I just want to followup on the Netflix in 2014. I had wondered about that and why it was going to take them that long, because when I get Netflix, all my Netflix are captioned with English subtitles, and a bunch of other subtitles. I can pick and choose whichever one I want. It would seem to me that their on-demand movies are digital.

Why couldn't they just provide that? Why do they have to wait until 2014? That is what I do not understand.

Ms. HILL. Well, they are rolling it out, and not everything that Netflix was showing online in their watch instantly videos was created for television. It may not have come with the captioning already, and some things were created specifically for Netflix. I am

not going to advertise specifically for Netflix content, but those needed to be added. There were different pieces. I think a substantial number of them are already being captioned in response to that settlement agreement.

Ms. STRAUSS. In addition, our rules only require 75 percent of programming first exhibited or shown on TV before 1998 to be captioned. And some of the Netflix series are older than that.

The CHAIRMAN. Oh, I see.

Ms. STRAUSS. They might not have it.

The CHAIRMAN. They have got to go back and re-caption them.

Ms. STRAUSS. Right.

The CHAIRMAN. I see.

Ms. STRAUSS. Again, a wonderful example of a company that has stepped forward with eagerness and enthusiasm to provide accessibility.

The CHAIRMAN. You are talking about this company?

Ms. STRAUSS. Netflix.

The CHAIRMAN. Netflix.

Ms. STRAUSS. Yes, kudos to Netflix because they are stepping forward to go beyond what the regulations require.

The CHAIRMAN. I understand, again, following up with Senator Alexander's question about the audio devices for blind and sight impaired. We do have a pretty good loop technology now anyway for people who are hard of hearing, so it has been my understanding that that technology is pretty well developed. All that needs to be done is for the recording of what people are seeing.

Ms. HILL. Right.

The CHAIRMAN. But we have the systems sort of in-place for that. Am I somewhat right?

Ms. HILL. That is right. And all or most of the assisted listening devices that are already required to have in movie theaters, usually have a second channel, and that could be used for audio description.

The CHAIRMAN. Sure. The logjam, if there is one, is just getting the video description.

Ms. HILL. Right.

The CHAIRMAN. It is not in delivering it.

Ms. HILL. Correct.

The CHAIRMAN. That is what I thought. A little bit more technology involved in terms of hearing impaired, in terms of reading the captions and stuff. I think we will get into that after a bit with some of our other panelists.

Well, listen, again, thank you both very much, and thank you both for your great leadership in two areas that come together here both FCC and the Department of Justice.

Thank you very much.

Ms. STRAUSS. Thank you.

Ms. HILL. Thank you.

The CHAIRMAN. Now, we will go to our second panel.

Starting from left to right, Mr. John Fithian, president and CEO of the National Association of Theatre Owners. I did not realize it was called "NATO" before.

In his position, Mr. Fithian serves as the chief spokesperson for theater owners before public officials and the press.

Then we will hear from Ms. Betsy Beaumon. Ms. Beaumon is the vice president and general manager of the Literacy Program at the Benetech Initiative. During her time at the Literacy Program, she has overseen the ongoing expansion of Bookshare, an online accessible library service and has over one-quarter million users.

Then we go with Mr. Brian Charlson, who is the current chairman of the Information Access Committee of the American Council of the Blind. In his role as chairman, Mr. Charlson examines the accessibility of a myriad of technologies, commercial or specialized, for individuals who are blind.

Mr. Andrew Phillips is policy counsel for the Law and Advocacy Center at the National Association of the Deaf. In his role as counsel, he is responsible for providing analysis, recommendations, and counsel to the NAD on policy issues affecting deaf and hard of hearing people across the United States.

Thank you all for being here. Each of your statements will be made a part of the record in their entirety.

I think I am supposed to start with Mr. Phillips and then work down this way. Mr. Phillips, I am going to recognize you first, and please proceed as you so desire.

STATEMENT OF ANDREW PHILLIPS, POLICY COUNSEL, LAW AND ADVOCACY CENTER, NATIONAL ASSOCIATION OF THE DEAF, SILVER SPRING, MD

Mr. PHILLIPS. Good afternoon, Chairman Harkin, Ranking Member Alexander, and distinguished members of the committee.

My name is Andrew Phillips. I am the policy counsel for the National Association of the Deaf. In this role, I am responsible for the NAD's work on Federal legislation and the rulemaking processes within various Federal agencies.

The NAD represents over 48 million deaf and hard of hearing Americans. I am also a deaf person who enjoys watching movies and shows on television, on the Internet, and elsewhere.

I consider myself lucky to have been born in the early 1980s, and to have come of age after the passing of the Americans with Disabilities Act of 1990, as well as other Federal laws mandating access for people with disabilities.

However, even to this day, I am often reminded that I am not completely welcome in mainstream society because I am deaf. For my oral testimony, I will focus on the deaf experience in movie theaters and on planes.

I remember going to movies with my family when I was young. Even though no captions were available, my mother would sit next to me in the theater interpreting everything that was said. She very much wanted me to be able to enjoy the theater experience with family and friends.

Other times, I was not as fortunate and would go to the movies without somebody who could interpret. I have memories of my uncle telling me the plots of movies before we went into a theater so that I could at least try to figure out what was going on while watching the movie. Luckily for me, I had a pretty good imagination and usually made up my own story.

I actually remember re-watching some movies later on with captions, and being disappointed by how dull the movies turned out to be.

[Laughter.]

As I entered my teens, some theaters in my area began showing movies with open captions. Deaf and hard of hearing people would pour into these very limited showings. The open caption showings usually came at the end of the movie's theater run and during nonpeak hours, such as Sunday afternoons.

It really bothered me that I could never see the new movie my brother was raving about until months later, nor could I take a girl to the movies on a Friday night date.

Thanks to legal efforts and their effects over time, movie theaters started showing captioned movies in their run, more frequently, and during peak showing times. However, many theaters have now abandoned open captioned showings in favor of providing closed captioning through the use of assistive devices provided by the theaters.

The devices vary. Some display captions on portable screens, held up by a stand that fits in the cup holder, while others display captions on special glasses worn during the movie. While these devices have been a blessing for some individuals, they are neither comfortable nor easily usable for many deaf and hard of hearing people.

However, theaters usually determine what kind of access to provide without consulting deaf and hard of hearing people, and they only provide one option. I personally have had bad experiences with these assistive devices, shifting my gaze between the captions so close to my eyes, and the screen so far away, it sometimes gives me headaches.

I, along with many in the deaf and hard of hearing community, miss the open caption showings and wish for the same easy access to movies in theaters that we can create at home. In digital theaters, open caption display capability is built-in to the digital projector, thus making it possible to turn captions on easily at the request of a patron.

Now, to turn to in-flight entertainment. Air travel has long been one of the most frustrating experiences for me as a deaf person. It is maybe the only place where watching an uncaptioned program is my only choice of entertainment.

If I am at home and something is not captioned, I can change the channel. If I go to a movie and it is not captioned, I can leave the theater. But on airplanes, no matter what is offered, nothing is captioned and I have no option but to stay. Unlike the other passengers, I must either bring my own entertainment or cope with programs I cannot understand. There is no other place where the lack of accessibility is so blatant and where I feel so sharply the sting of my exclusion from the mainstream.

It is especially disappointing that so many airlines continue to deny deaf and hard of hearing passengers access on behind the seat screens when many of the programs have already been captioned on television or in theaters.

Further, when flying internationally on other countries' airlines, I often can watch movies with English subtitles. Why is it that I

can enjoy access on other countries' airlines, but on American carriers, I cannot have such access?

The technology to provide captions on these behind the seat screens is already available. A few United Airlines flights currently provide captioned live television programming. In an age when many smartphones support captions, there is no reason why airlines cannot also support captions on their devices.

I continuously remind myself of how lucky I am to have grown up as a child of the ADA, as I enjoy far better access than deaf and hard of hearing people before me, or than those in many countries around the world.

We in the United States have come far just over the course of my lifetime, but we have farther to go, and I hold hope for the future, believing that together, we can make the world fully accessible for people with disabilities.

A friend of mine once told me that the disability group is the only minority group that anybody might join at any time. An accessible world benefits all of us. We never know when one of our family, or friends, or even we ourselves may need accessibility solutions.

Thank you for the opportunity to testify before you today. I look forward to answering any questions and comments you may have.

[The prepared statement of Mr. Phillips follows:]

PREPARED STATEMENT OF ANDREW PHILLIPS

SUMMARY

Andrew Phillips' May 14, 2013 testimony discusses access for deaf and hard of hearing people in four specific areas of entertainment: movie theaters, television, on-line video programming, and in-flight entertainment. For his oral testimony, Phillips plans to focus on movie theaters and in-flight entertainment.

1. *Movie Theaters*: Phillips sheds light on the issue through the lens of his own life as a deaf person, telling how his mother interpreted movies at theaters for him when he was a child, but when there was nobody to interpret, he was completely left out. With time, theaters started offering more and more open captioned showings which he enjoyed. However, in recent years, many theaters have stopped offering open captioned showings and instead provide assistive captioning devices. Many deaf and hard of hearing people enjoy these devices, but some like Phillips finds them uncomfortable. He explains that in digital theaters, it is easy to activate captions and this option should be offered.

2. *Television*: Phillips discusses how many shows were not captioned when he was younger but now the Telecommunication Act of 1996 requires that virtually all television content to be captioned. He mentions however that there are a few exceptions and calls for universal captioning on television. Phillips also advocates for quality standards for television closed captions.

3. *Online Programming*: Phillips explains his experience watching online content and that the 21st Century Communications and Accessibility Act of 2010 requires full length programming first shown on television with captions and later online to be captioned. However, he highlights some weaknesses such as not covering video clips posted online of television programs or online programs that have never been shown on television.

4. *In-Flight Entertainment*: Phillips discusses how there is no access for deaf and hard of hearing people to in-flight entertainment on almost all airlines, though the technology to do so is available.

Phillips wraps up with a discussion about how captioning content and supporting captions on different devices is far easier and cheaper today than it was during the 1990s when many captioning laws were passed. He sees no reason why more devices and content cannot be captioned. Phillips expresses hope for making the world more accessible to people with disabilities and we never know who may need these accessibility solutions.

Good afternoon Chairman Harkin, Ranking Member Alexander, and distinguished members of the committee. My name is Andrew Phillips. I am the policy counsel for the National Association of the Deaf (NAD). In this role, I am responsible for the NAD's work on Federal legislation and the rulemaking processes within various Federal agencies. The NAD represents over 48 million deaf and hard of hearing Americans. I am also a deaf person who enjoys watching movies and shows, on television, on the Internet, and elsewhere.

I consider myself lucky to have been born in the early 1980s and to have come of age after the passing of the Americans with Disabilities Act of 1990 (ADA) as well as other Federal laws mandating access for people with disabilities. However, even to this day, I am often reminded that I am not completely welcome in mainstream society because I am deaf.

GOING TO THE MOVIES

I remember going to movies with my family when I was young even though no captions were available. My mother would sit next to me in the theater interpreting everything that was said—she very much wanted me to be able to enjoy the theater experience with family and friends. Other times, I was not as fortunate, and would go to the movies without somebody who could interpret. I have memories of my uncle telling me the plots of movies before we went into a theater so that I could at least try to figure out what was going on while watching the movie. Luckily for me, I had a pretty good imagination and usually made up my own story. I actually remember re-watching some movies later on with captions and being disappointed by how dull the movies turned out to be.

As I entered my teens, some theaters in my area began showing movies with open captions. Deaf and hard of hearing people would pour into these very limited showings. The open captioned showings usually came at the end of the movie's theater run and during non-peak hours such as Sunday afternoons. It really bothered me that I could never see the new movie my brother was raving about until months later nor could I take a girl to the movies on a Friday night date.

Thanks to legal efforts and their effects over time, movie theaters started showing captioned movies earlier in their run, more frequently, and during peak showing times. However, many theaters have now abandoned open captioned showings in favor of providing closed captioning through the use of assistive devices provided by the theaters. The devices vary: Some display captions on portable screens held up by a stand that fits in the cup holder, while others display captions on special glasses worn during the movie. While these devices have been a blessing for some individuals, they are neither comfortable nor easily usable for many deaf and hard of hearing people. However, theaters usually determine what kind of access to provide without consulting deaf or hard of hearing people and they only provide one option. I personally have had bad experiences with these assistive devices—shifting my gaze between the captions so close to my eyes and the screen so far away sometimes gives me headaches. I, along with many in the deaf and hard of hearing community miss the open captioned showings and wish for the same easy access to movies in theaters that we can create at home. In digital theaters, open caption display capability is built into the digital projector, thus making it possible to turn captions on easily at the request of a patron.

My friends who live in rural areas tell me that it's much harder to find accessible showings there, as the large theater chains, which are the most likely to provide access, rarely service their area.

WATCHING TELEVISION

Thanks to the phase-in requirements of the Telecommunications Act of 1996, virtually all television content is closed captioned. However, this was not the case for me growing up. I can clearly remember my mother sitting next to the television, interpreting the O.J. Simpson freeway chase and news reports about the Gulf War where a member of our family was serving in the U.S. military. With recent laws, I have been able to watch nearly anything on television. However, the 1996 captioning rules carry exemptions that continue to limit access. Deaf and hard of hearing organizations have been advocating for the end to many of these outdated exemptions, calling for universal captioning of televised content. For instance, late night programming distributed between 2 a.m. until 6 a.m. is exempted as well as advertisements of more than 5 minutes, and some live news programming in areas that are not part of the top 25 media markets.

Additionally, television captioning often contains errors such as typos, timing delays, or missing words that render the message incomprehensible. We have little recourse to determine the intended statement. I'm sure you can imagine the confu-

sion created when the caption reads “Iran” instead of Iraq, or when the captions lag so far behind what is being said that it’s impossible to figure out who’s speaking and in what context. The NAD and other consumer organizations have been calling for captioning quality standards since 2004 and earlier.

WATCHING ONLINE PROGRAMMING

In recent years, we have witnessed the massive growth of streamed online programming. When these shows first became available online, practically none were captioned. I felt transported back to the late 1980s and early 1990s—only I was at college and no longer had my mom around to interpret. Many deaf and hard of hearing people contacted these video programming distributors and pleaded with them to caption their streamed content. Some added captions; but many did not.

With the passage in 2010 of the 21st Century Communications and Video Accessibility Act (CVAA), full-length programming first shown on television with captions and later online must be captioned online as well. We are enjoying tremendous growth in the accessibility of online programs and are able to watch them on smart TVs, computers, tablets, smart phones, and gaming consoles. However, the FCC exempted video clips taken from full-length programs on television and displayed online. This means that many videos shown on major news Web sites are not captioned because they are considered clips of full-length programs.

Like so many people my age, I prefer getting my news online. Increasingly, I run into these uncaptioned video clips which leaves me trying to lip-read news anchors—a difficult, if not impossible task. Some preliminary research that is being done by several deaf and hard of hearing organizations and two academic institutions has found that the vast majority of segmented news programming (70 percent) and news video clips (77 percent) shown online are not captioned, denying deaf and hard of hearing people access to critical news programming such as of the Boston marathon bombing coverage. It’s ridiculous that these clips are not captioned on the Internet, given that almost all of them were captioned when shown on television. There is no reason not to require a showing of the same captions on the Internet.

On top of this, we are seeing more and more online-only programming that has never been shown on television. Several online video programming distributors are already offering or have plans to offer online-only TV shows. Such programming is not currently required to show captions under the CVAA.

IN-FLIGHT ENTERTAINMENT

Air travel has long been one of the most frustrating experiences for me as a deaf person. It is maybe the only place where watching an uncaptioned program is my only choice of entertainment. If I am at home and something is not captioned, I can change the channel. If I go to a movie and it is not captioned, I can leave the theater. But on airplanes, no matter what is offered, nothing is captioned and I have no option but to stay. Unlike the other passengers, I must either bring my own entertainment or cope with programs I cannot understand. There is no other place where the lack of accessibility is so blatant, and where I feel so sharply the sting of my exclusion from the mainstream.

It is especially disappointing that so many airlines continue to deny deaf and hard of hearing passengers access on behind-the-seat screens when many of the programs have already been captioned on television or in theaters. Further, when flying internationally on other countries’ airlines, I often can watch movies with English subtitles. Why is it that I can enjoy access on other countries’ airlines, but on American air carriers, I cannot have such access? The technology to provide captions on these behind-the-seat screens is already available—a few United Airlines flights currently provide captioned live television programming. In an age when many smart phones support captions, there is no reason why airlines cannot also support captions on their devices.

While accessibility solutions often cost extra money, evolutions in technology have greatly reduced the price of providing and supporting captions. For instance, at the time Congress initially required televisions to be equipped to display captions, this could be achieved only through built-in circuitry that added to the price of the television set. However today in many devices the decoder chip has been replaced by a simple software program that often can be downloaded over the Internet at no additional cost. It also used to be that the captions displayed in movie theaters had to be printed on the specific reel used for showing the movie, but today the digital format used in most theaters allow captions to easily be added as well as turned on/off. In short, it has never been cheaper or easier to provide captions or to support captions in products, and we can anticipate the cost of providing accommodations to decrease as the demand for them persists.

I continuously remind myself of how lucky I am to have grown up as a child of the ADA, as I enjoy far better access than deaf and hard of hearing people before me or than those in many countries around the world. We in the United States have come far, just over the course of my lifetime. But we have farther to go, and I hold hope for the future, believing that together we can make the world fully accessible for people with disabilities. A friend of mine once told me that the disability group is the only minority group that anybody might join at any time. An accessible world benefits all of us, and we never know when one of our family and friends—or even we ourselves—may need accessibility solutions.

Thank you for the opportunity to testify before you today. I look forward to answering any questions and comments you may have.

The CHAIRMAN. Thank you very much, Mr. Phillips.
And now, Ms. Beaumon. Welcome, and please proceed.

STATEMENT OF BETSY BEAUMON, VICE PRESIDENT AND GENERAL MANAGER, LITERACY PROGRAM, THE BENETECH INITIATIVE, PALO ALTO, CA

Ms. BEAUMON. Chairman Hawkins, Ranking Member Alexander, and members of the committee.

Thank you for the invitation to present my testimony today. I am Betsy Beaumon, and I lead the Global Literacy Program at Benetech. We are in Silicon Valley, and we apply technology to pressing social issues.

We currently provide accessible books to over one-quarter of a million people, primarily U.S. students, through our Bookshare service, which is the largest online source of accessible print materials.

It is my intention to address the impact of disruptive change brought about by technology on accessibility in entertainment and cultural media.

Technology is allowing us to realize the true potential of legislation and to partner with industry to the benefit of many users even beyond those users with disabilities who are the intended beneficiaries of the work.

We, at Benetech, are nonprofit social entrepreneurs. We look for gaps in services where mainstream market is failing some of the people who need them. These are hallmarks of all of our global literacy initiatives, which also include Route 66 literacy, a tool for teaching adolescents and adults to read, and the Diagram Center, an R&D center focusing on making images and graphics accessible to all.

Today, I would like to focus on lessons we have learned in three areas: legislation, funding, and industry partnerships.

We have directly experienced how legislation can open the field to new ideas. Bookshare is able to exist because of the Chafee amendment. This is an exception in U.S. copyright law that allows authorized entities to create and distribute accessible versions of copyrighted books to qualified users without publisher permission.

This 1996 legislation, which included digital text as an accessible format, paired with the introduction of the World Wide Web a few years earlier, really set the stage for the birth of Bookshare in 2002, causing the first major shift in the field for over 50 years.

But how can legislation complement rapidly changing technology? It has been clear that legislation must support unmet needs such as making accessible books available to people with dis-

abilities, and also pave the way for innovation around providing what is needed.

An example of this, allowing small, noncommercial players to innovate when the market is not, such as in supplying textual descriptions for images in books that convey critical information visually.

However, we have also seen that it is best to focus on the kind of results we want to have, such as all people having books they can access rather than trying to legislate specific technologies or formats which will change faster than the laws can keep up. And when legislation works, like Chafee or the ADA, it needs to be used as a model to serve those not yet benefiting.

Our hope is that our full collection of nearly 200,000 Bookshare books will soon be available to print-disabled users around the world once the proposed Treaty for the Blind before the World Intellectual Property Organization is passed and ratified. Assuming that the provisions in this treaty are comparable to those of our Chafee amendment, this will be a significant step forward for people with print disabilities in the rest of the world, while allowing us to serve our U.S. users better at the same time.

We also understand the valuable role of Government from a funding perspective. Our Bookshare funding from the Department of Education Office of Special Education Programs has allowed a great idea to go from a small offering to a major service benefiting students across the country. Because we receive this funding through a competitive process, Federal funding drove innovations that resulted in a more cost-effective and a higher impact program delivering over 15 times the impact per dollar of earlier methods.

Finally, industry partnerships are crucial for making innovative social enterprises a success at scale. At Bookshare, we work with the publishing industry, so that accessibility is increasingly easy for them. This has led to a stunning fact: today, over 80 percent of the 3,000 books added each month to the Bookshare library come directly from publishers for free and typically with international rights. It becomes as easy as pushing a button at a company such as Ingram for books from a publishing partner to flow to Bookshare at the same time they go to iTunes or Amazon. That is immediate access, just like everyone else.

As we look to the future we want, it is that all content producers—from publishers to teachers—are producing accessible content in their normal course of business without needing to go through a service like Bookshare. We want all materials that are born digital to be born accessible.

In order for this content to work for users, however, accessibility must also be end-to-end addressing every link in the chain, not only created as accessible content, but delivered and consumable in a fully accessible manner. In such efforts, all the players must continue to innovate, continually looking to disrupt our own field.

In closing, we have significant opportunities to do things right across the media landscape for people with disabilities. One of our student members told us,

“This access to books has given me a wonderful opportunity to flourish despite my disability. I can enlighten my mind, enliven my spirit, and in a way, experience what I never could.

In this world in which I am at an inherent disadvantage, I may participate and one day, perhaps, contribute to its betterment.”

Today’s technology challenges us to keep the spirit of the ADA in front of technology development and its impact on life and learning in America. While all Americans can benefit from access technologies such as descriptive text, Americans with disabilities require it and must not get left behind when available technology can be applied to solve it in the most innovative country on earth.

Thank you.

[The prepared statement of Ms. Beaumon follows:]

PREPARED STATEMENT OF BETSY BEAUMON

SUMMARY

At Benetech, we apply technology to pressing social issues. Our Bookshare service, which is the largest online source of accessible print materials, stands at the crossroads of literacy, access for people with disabilities, software, and digital publishing, currently providing accessible books to over a quarter of a million people, primarily U.S. students. Bookshare was a disruption that changed the game and that allows many more people to receive the accessible materials they need. We are social entrepreneurs, and we look for gaps in services to the people who need them most, where the mainstream market is failing. There are many parallels between our sector and the entertainment industry.

Industry partnerships are crucial for making approaches like this a success. At Bookshare, we work with those in the publishing industry so that we can accept the most common digital file types and can operate with their existing distribution chain so that accessibility is, increasingly, easy for publishers. This is all part of our belief that in the future, all content producers should be producing accessible content in their normal course of business. In order for accessibility to truly serve users, accessibility must be end to end, created accessible, delivered accessibly, and consumed accessibly.

We have directly experienced how legislation can open the field to new ideas. For books, the Chafee amendment enabled entities like Bookshare to operate. But how can legislation complement rapidly changing technology? It’s been clear that legislation must support the unmet need (e.g., that accessible books be available to people with print disabilities) and also pave the way for a range of groups to innovate around providing what’s needed (e.g., allowing small, non-commercial players the ability to provide content in the proper formats when the market is not, such as image descriptions). It’s also critical to avoid trying to legislate specific technologies or formats, which will change faster than the law can keep up.

We also understand the value of the government from a funding perspective. Our funding from the Office of Special Education Programs has allowed a great idea to go from a small offering to a major service, benefiting students across the country. Because we received this funding through a competitive process, Federal funding drove innovations that resulted in a more cost-effective and higher impact program.

In closing, we have significant opportunities to do things right across the media landscape for people with disabilities. Today’s technology challenges us to keep the spirit of the ADA in front of technology development and its impact on life and learning in America. While all Americans can benefit from access technologies such as descriptive text, Americans with disabilities require it, and must not get left behind when available technology can be applied to solve it in the most innovative country on earth.

Chairman Harkin, Ranking Member Alexander, and members of the Health, Education, Labor, and Pensions Committee, my name is Betsy Beaumon, and I lead a team in Silicon Valley that applies technology to underserved communities. Specifically, my program stands at the crossroads of literacy, access for people with disabilities, software, and digital publishing, currently serving over a quarter of a million people, primarily U.S. students, through our Bookshare service. As social entrepreneurs, we look for gaps in services to the people who need them most, to where the mainstream market is failing. Through our projects, including Bookshare, the world’s largest accessible digital library, Route 66 Literacy, a literacy teaching tool,

and the DIAGRAM Center, an R&D center focusing on the accessibility of images, we have been reminded of the value of bringing a fresh, innovative perspective to bear on difficult challenges. At the same time, it has been through diving in deeper, expanding our offerings in response to the needs of our users, and pulling in other experts, that we have found a path to scaling the benefits. We have learned that addressing every link in the chain is of critical importance.

We've directly experienced the value of legislation that opens up the field to new ideas. But how can legislation complement rapidly changing technology? It's been clear that legislation must support the unmet need (e.g., that accessible books be available to people with print disabilities) and also pave the way for a range of groups to innovate around providing what's needed (e.g., allowing small, non-commercial players the ability to provide content in the proper formats when the market is not, such as image descriptions). It's also critical to avoid trying to legislate specific technologies or formats, which will change faster than the law can keep up.

Finally, our program is a great example of the valuable role of the government from a funding perspective. Our funding from the Office of Special Education Programs has allowed a great idea to go from a small offering to a major service, benefiting a quarter million students across the country. Yet, because the competitive funds allowed us to propose the best approach, they encouraged a level of innovation that is benefiting many more users, including qualified adults.

It is my intention to address the impact of disruptive change, brought about by technology, on accessibility in entertainment. In this realm, technology is allowing us to both realize the true potential of legislation, and, increasingly, to partner with industry to the benefit of many users, even beyond those with disabilities who are the intended beneficiaries of the work. In order to take a longer view of entertainment and cultural media, I'll focus primarily on a medium with a longer history, an extremely active present, and a hopeful future, where there may be some instructive parallels: reading.

HISTORY OF ACCESSIBLE BOOKS FOR ENTERTAINMENT IN THE UNITED STATES

Well before the invention of braille in 1824 by 15-year-old Louis Braille, people were trying to work out technologies (such as wooden blocks) that might enable people who were blind and visually impaired to read. After all, reading was and is the primary gateway to education, civic engagement, and entertainment. By 1931, the program that became the National Library Service for the Blind and Physically Handicapped (NLS/BPH) was established, to carry out the Pratt-Smoot Act, to provide books for blind adults.¹ It didn't take long before technology enabled a leap into a new medium. By 1933, in addition to a uniform braille code for English, the American Foundation for the Blind (AFB) had led the field into the beginnings of reproducible talking books, in the form of 33 rpm records, following on the success of the commercial recording industry. Some of the initial recordings first included in the NLS collection, for the entertainment and civic involvement of adults, included multiple Shakespeare plays and core U.S. historical documents such as the Declaration of Independence and Lincoln's Gettysburg Address. By this time everything was talking, including all movies, which was one giant leap for the industry and one sizable step backward for people who were deaf and hard of hearing, who had lost the inherent captioning of silent films.

Recorded human audio continued to evolve with new content and new listening devices, as well as new groups producing materials. For the next 40 years or so, there were developments in technology and process that chipped away at the cost to produce recordings, including volunteer recording models and the eventual use of digital recording and playback technology. However, executing these services remained very expensive and slow relative to commercial publishing models, leaving citizens with print disabilities at a severe disadvantage in educational settings and in life, where a best-selling novel might be available 1 to 2 years after everyone else had read it.

DISRUPTION: TECHNOLOGY CHANGES THE GAME AND LAYS THE GROUNDWORK

As with records in the 1930s, the use of digital text itself had started well before it was used for entertainment for people with visual impairments. Computers were becoming ubiquitous in the late 1980s, setting the stage for innovators like George Kerscher and Jim Fruchterman. George Kerscher's Computerized Books for the Blind showed that one could obtain and supply books in digital text and Jim

¹Library of Congress, *NLS: That All May Read*, 2012, http://www.loc.gov/nls/about_history.html.

Fruchterman's Arkenstone showed that even printed books could be scanned by blind people independently and read aloud. In 1996, the Chafee amendment was passed, which is a codified exception in our copyright law that allows authorized nonprofit entities, such as Bookshare, whose primary mission is to serve people with disabilities, to create specialized, accessible versions of copyrighted books without the need to request permission from publishers and then distribute them freely to people with print disabilities. This legislation, which included support for digital text, along with the introduction of the World Wide Web a few years earlier, set the stage to create, distribute, and read accessible books in a whole new way, as it put power to create accessibility into the hands of people with disabilities and the organizations that serve them.

The Bookshare library was born out of a combination of these technologies and legislation, causing the first major shift in the field for over 50 years. The cost and time involved in delivering an accessible book for pleasure reading soon began to drop with the evolution of an industrial strength platform, as well as ensuring that reading tools and other parts of the delivery chain were included in the model. Commercial applications for text-to-speech (TTS) voices, such as GPS technology giving turn-by-turn directions, improved the listening experience at ever lower costs. Meanwhile, the same text files were used to deliver digital braille on demand, creating a level of availability for braille that was simply unheard of.

The Bookshare platform soon became a go-to source of entertainment for thousands of adults with print disabilities, who, for the first time, were able to engage in activities such as browsing through lots of books to decide which to read. In 2007, the Bookshare for Education award marked another major turning point. The significant economies of scale meant dramatically improved quality, timeliness, and ease of access for U.S. students. The project delivered double what it promised; serving over 200,000 students, while delivering over 3,000,000 book downloads. Among those downloads are many books that were downloaded for supplementary reading, and reading for fun, because when reading is no longer an impossible chore, it's entertaining. This tendency toward excessive reading seems particularly pronounced in users of mobile tools—from braille displays to iPhones, which weren't even invented when this award began.

Bookshare has made a significant impact on the lives of our members and their families. Parents are relieved of a large part of the burden that used to fall upon them to make sure that their child has the books that they need for their education. Our tools allow students with print disabilities to learn alongside their non-disabled peers, as they are able to receive their textbooks in a version that they can access at the beginning of the school term. Additionally, they are able to read using mainstream technology, such as smart phones and tablets, rather than using traditional, clunky assistive technology devices that set them apart as different. One of our student members told us:

"This access to books has given me a wonderful opportunity: to flourish despite my disability. I can enlighten my mind, enliven my spirit, and, in a way, experience what I never could. In this world, in which I am at an inherent disadvantage, I may participate, and, 1 day perhaps, contribute to its betterment."

INDUSTRY PARTNERSHIPS: MAKE IT EASIER TO DO THE RIGHT THING

As an organization scanning copyrighted content and providing it to a growing group of users, the relationship with the dominant commercial players in the space, publishers, has had its difficult moments. However, there are two factors that have significantly turned this around: we reach out regularly to form partnerships built on trust and understanding, and we leverage the latest technology to make it easy to work with us. This has led to a stunning fact: today, over 80 percent of the 3,000 books added each month to the Bookshare library come directly from publishers, for free and typically with international rights.

Our hope is that our full collection of nearly 200,000 Bookshare books will soon be available once the Treaty for the Blind sponsored by the World Intellectual Property Organization is passed and ratified. Assuming that the provisions in this treaty are comparable to those of our Chafee amendment, this will be a significant step forward for people with print disabilities in the rest of the world as they will gain the same rights to receive books in accessible formats that exist in the United States. Passage of the treaty would also more easily facilitate the international transfer of accessible books to this population, thus increasing our capacity to serve them.

In most other countries, through rights from our partners and a small but growing amount of open content, Bookshare users have access to over 90,000 digital titles (vs. almost 200,000 in the United States). Just 4 years ago, this international

number was under 10,000. Bookshare's collection is leap-frogging the online collection of primary libraries for people with print disabilities in other highly developed countries, who remain centered heavily on older formats such as human audio recordings, and often do printed braille distribution and other services: RNZFB in New Zealand: around 11,000 books²; RNIB in the UK: more than 25,000 books and images³; Vision Australia: over 25,000⁴.

Our hope is that our full collection of nearly 200,000 Bookshare books will soon be available once the Treaty for the Blind sponsored by the World Intellectual Property Organization is passed and ratified. Assuming that the provisions in this treaty are comparable to those of our Chafee amendment, this will be a significant step forward for people with print disabilities in the rest of the world as they will gain the same rights to receive books in accessible formats that exist in the United States. Passage of the treaty would also more easily facilitate the international transfer of accessible books to domestic users, thus increasing our capacity to serve them.

What are the key aspects of making it easier for publishers? The first is format: digital text is increasingly the distributed format (vs. PDF image files), and we accept the most common publishing standards as acceptable input formats. The second is distribution: by working with their distribution chain, we provide an easy path to implement the decision to work with us. It has become as easy as pushing a button at a company such as Ingram for books from a publishing partner to flow to Bookshare at the same time as they go to iTunes or Amazon.

FOCUS END TO END: IT HAS TO BE BORN ACCESSIBLE, DELIVERED ACCESSIBLY,
AND CONSUMED ACCESSIBLY

As we look to the future we want, it is that all content producers are producing accessible content in their normal course of business. The third approach to making it easier and cheaper to include accessibility is to provide tools, guidelines, and services to help, leveraging other commercial tools and players whenever possible. And in these efforts all the players must continue to innovate, continually looking to disrupt our own field.

The publishing industry is learning about disruption on a grand scale right now, as the shift to e-books, mobile devices, and fully digital production changes everything they do. They are following the film and recording industries into a digital future. The opportunities for fully digital new content to be "Born Accessible" are huge, and, as with other media, building it in from the get-go is the best approach. That means authors describing images or producers describing video wherever possible.

However, accessible content that gets lost in an inaccessible distribution channel, or delivered to an inaccessible device (or venue) is not usable by a person with a disability. Therefore, even the best content isn't enough. In the e-book world it means working with distributors and the makers of reading tools to make sure those tools are fully accessible to use, and fully support the accessible content. In education this has been supported by the tools makers' desire to provide their tools where accessibility is a requirement.

BOOKS AND MOVIES: GETTING MORE ALIKE

At its most basic technical level a digital file is a digital file, whether it's an e-book, a movie, or a combination. The line defining what is a book is blurring, as these combinations increase. In e-books full accessibility includes accessible images, accessible math, and accessible video, where videos require captioning and description, just as in the video entertainment industry. Both books and videos are distributed either initially or eventually online, often through the same retailers, many of whom have either captive streaming applications or specialized readers/players. Theaters are not currently a channel for books, while audio (only) books are now available on some airplanes.

As in movies, the challenge of accessibility in rich, digital books involves adding new content to describe visual elements, or encoding existing content, such as math, in a new way, similar to encoding dialog in a new way for movies. In both industries

²Royal New Zealand Foundation of the Blind, *Library*, 2010, <http://www.rnzfb.org.nz/members/library>.

³Royal National Institute of Blind People, *RNIB Audio Book Service-Talking Books*, 2013, http://www.rnib.org.uk/livingwithsightloss/reading/services/talkingbooks/Pages/talking_books_daisy.aspx/.

⁴Vision Australia, *Talking Books*, 2012, <http://www.visionaustralia.org/living-with-low-vision/library/books-and-resources/talking-books>.

in the United States there has been some success, with a lot more work to be done. Just as we at Benetech are applying innovative technology in a quest for the easiest, least expensive approaches for publishers and their partners to include these elements, there are projects underway looking at ways to similarly change the game in video description and captioning. The Carl and Ruth Shapiro Family National Center for Accessible Media (NCAM) at WGBH and Smith-Kettlewell are two organizations working at the forefront of these approaches. Under the Department of Education, Office of Special Education Programs (OSEP) funding, our DIAGRAM project is leveraging the experience of both groups in multimedia while looking at new ways to provide image access, and the VDRDC (Video Description Research and Development Center) out of Smith-Kettlewell is keeping DIAGRAM approaches in mind for video description.

It is my hope that some of the best technologies and operating models employed in making digital books and videos accessible can lead directly to answers in one of the fastest growing arenas for both entertainment and education: interactive games and simulations.

AN INTERNATIONAL PERSPECTIVE

In contrast to a relatively limited application of technological innovation in accessible e-books outside the United States, at least one other country has taken a lead in providing accessible television for consumers who require video description (which they refer to as audio description, "AD"), the United Kingdom. In the UK all public broadcasters offer AD services on traditional TV, transmitting 23.1 percent of programs with this feature in 2012. Including commercial stations, 65 TV channels are required to carry at least 10 percent of their broadcasting with AD, many exceeding 30 percent, some more than 40 percent. (Source: Ofcom).

The Royal National Institute of Blind People (RNIB) has been a major player in this work, with strong government funding to work in conjunction with the other critical parts of the value chain, and strong consumer support from Ofcom, the regulatory agency much like the FCC in the United States. This includes the set top boxes, movie theaters, and talking TVs. As with e-books, all of those links in the chain must be accessible and in sync for a successful, scalable offering.

In closing, we have significant opportunities to do things right across the media landscape for people with disabilities. Twenty-five years ago bold new universal design ideas like curb cuts were embedded into the law, to the benefit of all. Today 21st century technology challenges us to keep the spirit of the ADA in FRONT of technology development and its impact on life and learning in America. While all Americans can benefit from access technologies such as descriptive text, Americans with disabilities require it, and must not get left behind when available technology can be applied to solve it in the most innovative country on earth.

The CHAIRMAN. Thank you very much, Ms. Beaumon.

And now, Mr. Charlson, we will turn to you. Please proceed, Mr. Charlson.

STATEMENT OF BRIAN CHARLSON, CHAIR, INFORMATION ACCESS COMMITTEE, AMERICAN COUNCIL OF THE BLIND, WATERTOWN, MA

Mr. CHARLSON. Thank you very much Chairman Harkin, and Ranking Member Alexander, members of the committee.

I want to thank you for an opportunity to come here and speak to you today. My remarks are going to be a little bit more extemporaneous than others here today partly because I am a late adopter of Braille, but I also love Braille and don't think that any technology outweighs its advantages. I use the same technology I first used when I was blinded at the age of 11, a talking book machine. Though instead of records spinning around with a needle resting against it to bring the voice of a narrator to my ears, I now rely more on digital playback devices and synthetic speech. The fact of the matter still is that I have access to this information as a result of technologies.

In addition to being the chairman of the American Council of Blind Access Information Committee, I am also a director of technology at a place called The Carroll Center for the Blind in Newton, MA where I have been working with blind and visually impaired children and adults over the past 28 years, teaching them to use these technologies to gain access to education, employment, and daily living.

One of the things that first brought these issues of access to the video world to me was I happened to move to Massachusetts where there was a little organization called WGBH, public television, and the same people who brought us closed-captioning said, "Well, maybe we can bring television to the blind as well."

I was asked to serve on a focus group there and with great people, both in the industry and in the community, we were able to develop audio description, or then called DVS, Descriptive Video Service, into something that was both high quality and had the potential to give us the quantity of material that our sighted peers had.

I want to talk to you a little bit about my theater experience over the years. The first movie I ever saw in a public theater was "Titanic," and the name really does apply to the experience of sitting in the theater, having that incredible sound system wrapped around me, sitting there with both blind friends and sighted friends, experiencing a movie that the world itself referred to as, "an experience, not just going to the theater."

The last movie I had the privilege to go to the theater to watch was "Les Miserables," and I have to say that I am just as moved today by the fact that I am sitting there enjoying it with everybody else in the theater as I was when I saw "Titanic" that first time.

Over the course of those years, a number of different technologies were put in place to try to bring that audio description to me: infrared, FM systems, even systems where the signal was actually in the flicker rate of the video as it was passing across the screen in front of me.

Luckily, the theaters in the Boston area have been early adopters of these technologies, and while there were times when I showed up at the theater to find out that the content arrived in a format that was not supported by the technology in the theater, I nonetheless came back time and time again until such time as those were available to me.

I see in the future the time when I am going to be able to not go into a theater and expect that the theater is providing the technology, but that I have it in my own hand. In front of me, I have my iPhone which, enabled with speech, allows me to watch things like Netflix movies. Alas, at this point, not with the audio description track.

Or, my iPad mini which allows my low vision friends to be able to get a larger image that they could take this into the theater and hold it in front of them in order to get access to things in a magnified way where they can bring the image to their face rather than having to sit in the front row and crane their necks throughout the performance. Again, this is a matter of bringing your own technology.

There is another experience I want to bring to your attention, and that has to do with flying on an airplane. As my deaf colleague mentioned before, we are kind of a captive audience once we get on a plane. With me, the only way I have been able to deal with that is to bring my own technology. It is not unusual to be behind the line as I go through the security lines and I have got three bins in order to spread out all the different technologies that I bring on-board, instead of being able to have access to that screen on the back of the seat in front of me.

For me, it is not, though, just a matter of access to the content with audio description. It is access to the menus that allow me to interact with them. I recently flew on that beautiful Dreamliner to Tokyo and then onto Bangkok. And when it came time for me to push the button to call the flight attendant to give me an idea where the restrooms were relative to where I was sitting, it turned out there was no button for me to push. It was an onscreen experience that was inaccessible to me. Why, I also found out from my co-riders that day that I was expected to make a meal choice, again, onscreen in a manner that is not accessible to me.

Over the course of the past 6 months or so, I have traveled from East Coast to West Coast at least eight times, and seven of those eight times, the same experience was true. Don't think that it is just a matter of the Dreamliner and the latest technology that creates these kinds of problems.

I bring my own technology with me, and I am also very aware that it is not always my life. You know, there are as many different kinds of blind people as there are different kinds of sighted people. I happen to not have any children, but I have many friends who are blind who do have children and they want to interact with that movie to see what their children are seeing when they go to the theater. They want to interact with that back of seat screen in order to control what their kids are watching while they are flying across country. Again, it is a matter of equal access, not extra access.

Now, the last thing I would like to mention to you is what the future holds and, of course, this is online. Whether it is on the cloud, or an application on my desktop that accesses information that is over the Internet, I need full access to that experience.

Currently, one of the worst experiences that a blind person can have on the Internet is attempting to access media to be able to know which control is the pause button, which one is the fast forward when all of them are identified as "button," without any identifier as to what that button's function is.

Again, we need to find a way to let the industry know that we are an important part of their market. Their market is not made up of one constituency; it is made up of thousands of constituencies. And whether it is online, in a plane, or in the theater, we need our Government support and we need industry support to assure that we are going to have access through the entire array of what makes for media access.

Thank you for your time and attention.

[The prepared statement of Mr. Charlson follows:]

PREPARED STATEMENT OF BRIAN CHARLSON

SUMMARY

Now that video content is not limited to television and movies, but have expanded to YouTube, Hulu, and Apple TV, the challenges presented by a wide array of content, distribution systems, hardware, and controls makes the chore of accessing this content a steep climb for both the producer and consumer.

I fully support S. 555, the Captioning and Image Narration to Enhance Movie Accessibility Act, and believe strongly that video description should be fully incorporated into all movies being produced in digital format and should be provided at all theaters that use digital technology to display movies. However, it is my firm conviction that theaters should not be permitted to delay the deployment of video description until digital conversion occurs. In fact, it is my position that video description should be provided in any instance and at every venue where visual information is an essential part of the information conveyed or the performance provided to members of the public. Without video description, such individuals have only very limited access to the information provided to the sighted public. Beyond this, I believe strongly that as more and more movies are offered to the public over the Internet and on DVD's, it is essential that video description be incorporated into both of these formats. Video description deserves the same recognition that is accorded to captioning by the movie industry, the Federal Government and the general public.

While the Twenty-First Century Communications and Video Accessibility Act (CVAA) has and will enable people who are blind or visually impaired to gain greater access to information and entertainment, there are still significant areas of accessibility challenges. Current gaps in technology policy exist with regard to online entertainment and the overall accessibility of the Internet. The blind community is eagerly awaiting rules from the U.S. Department of Justice that should apply Title III of the Americans with Disabilities Act to the Internet. Currently, people who are blind or visually impaired have significant challenges accessing content of all types when surfing on the Web. Accessing entertainment options is often quite challenging as links are not tagged to inform the user that content is available to be viewed or downloaded.

Today, you can go to a movie theater or watch television shows with video description. Unfortunately, when you visit Web sites that provide this content, most all of the programming is not accompanied by description because there is no requirement to do so. The same holds true with the sale of DVD's. The Academy Award winner for best picture, "Argo," was video described in the movie theater. When a blind consumer goes to a store to purchase a copy of "Argo" on DVD, frustration and disappointment set in when they realized that the video described version that they had enjoyed in the theater is not included on the DVD.

Airlines are rapidly deploying touch-screen technologies as part of their in-flight entertainment experience. While this technology is considered cutting edge, the airlines have not implemented these technologies with me in mind. In fact, on an increasing number of airplanes the flight attendant call button is now located on the screen and is no longer a button in the ceiling. ACB endorses S. 556, Air Carrier Access Amendments Act that call for these technologies to be made accessible so that people who are blind or visually impaired can have the same entertainment experience as other sighted travelers.

Chairman Harkin, Ranking Member Alexander, and members of the HELP Committee, I want to thank you for the invitation to discuss the need to improve accessibility from the "Movie Screen to Your Mobile Device."

The Carroll Center for the Blind is a private not-for-profit organization providing blind and visually impaired children and adults training in skills that lead to greater independence and improved quality of life. I have worked at The Carroll Center for the past 28 years teaching blind and visually impaired people to use technology for education, employment, and independent living.

The American Council of the Blind (ACB) is a non-profit organization that represents the interests of blind and visually impaired people throughout the United States. Based in the Washington, DC area, ACB has tens of thousands of members from across this country who belong to more than 70 State and special interest affiliates. I am proud to say that I have been a member of ACB for the past 42 years.

As a teacher, advocate, and consumer, access to video content and the technologies to access them has played an important part in my life and the lives of those I interact with on a daily basis. What progress I have been privileged to assist

with has largely been the result of collaboration. Recent examples of such collaboration include addressing concerns, such as full access to education for students, full access to the work environment for blind employees, access to entertainment and educational content and information contained in videos, as well as, full access to the increasing array of advanced communications options in a multitude of settings.

My initial direct involvement in the concept of audio description came as a member of an advisory committee to WGBH Public Television. My friends and I viewed many hours of such programs as *Mystery* and *American Play House*. We helped those developing this craft to do so in a manner that was based on the everyday language and vocabulary of those who are blind or visually impaired. We helped them understand that sometimes less is more and the importance of not “stepping on” the dialog, music, and other elements of the preexisting soundtrack.

When this process was expanded to include movies on video tape, we were pleased to see that the same principles we had developed together for television would also work for movies, but we were limited to only those movies that a very few producers were able to adapt.

As technology changed from the video tape to the DVD, some of the accessibility was lost, in that I and my friends had no means to navigate the on-screen menus required to play the audio described soundtrack. We now must rely on sighted friends and family to turn on audio description each time we want to watch a movie in our homes.

The first movie I ever enjoyed in a public theater, thanks to audio description, was “Titanic.” Prior to that moment, I avoided movie theaters out of frustration and concern that the whispered descriptions provided to me by friends and family would disturb those sitting near us in the theater. The last movie I watched in the theater was “Les Miserables,” but between those two there were times, when as the technology changed, I arrived to the theater only to find that the equipment in the theater did not support the format of the movie I came to see. In spite of this, my friends and I continued to be regular movie goers and enjoy sharing them with one another and our sighted friends and family.

Now that video content is not limited to television and movies, but have expanded to YouTube, Hulu, and Apple TV, the challenges presented by a wide array of content, distribution systems, hardware, and controls makes the chore of accessing this content a steep climb for both the producers and the consumer. It is, however, an ascent we must all take responsibility for.

In 2008, ACB established the Audio Description Project (ADP) to boost levels of description activity and disseminate information on audio description work throughout the United States and worldwide. We use the term, audio description, in order to explain the broader use of this information delivery mechanism. We advocates and consumers are committed to the development of audio description in a wide range of formats, including content intended for broadcast via television, movies, along with the performing arts, and museums.

The most current demographic information available reveals that more than 25 million Americans (about 1 out of every 15 people) report experiencing significant vision loss, i.e., individuals who have trouble seeing, even when wearing glasses or contact lenses, as well as individuals who are blind.

I fully support S.555, the Captioning and Image Narration to Enhance Movie Accessibility Act, and believe strongly that video description should be fully incorporated into all movies being produced in digital format and should be provided at all theaters that use digital technology to display movies. However, it is my firm conviction that theaters should not be permitted to delay the deployment of video description until digital conversion occurs. In fact, it is my position that video description should be provided in any instance and at every venue where visual information is an essential part of the information conveyed or the performance provided to members of the public. Without video description, such individuals have only very limited access to the information provided to the sighted public. Beyond this, I believe strongly that as more and more movies are offered to the public over the Internet and on DVD's, it is essential that video description be incorporated into both of these formats. Video description deserves the same recognition that is accorded to captioning by the movie industry, the Federal Government and the general public.

Perhaps the most important need addressed by description for video content is the ability to bring children and adults who are blind or have low vision into the mainstream of society. The inability of anyone, adult or child, to participate fully in popular culture, which has a unique power to bind us together, effectively alienates individuals who are blind or visually impaired from his/her community.

As such, description provides the keys to our culture, to the extent that description helps people who are blind or visually impaired to be more familiar with media

(television and movies), museums, theater, and other everyday events, thus allowing the description user to be more engaged and engaging individuals. This makes it possible for the user of description to be more socially integrated into society. The addition of description to a soundtrack is likely to increase the size of the audience of those who are blind or visually impaired. Description enhances the viewing experience not only for those who need the service, but also for those who view content with the blind or visually impaired person.

ACB was a leading advocate for the Twenty-First Century Communications and Video Accessibility Act's (CVAA) passage. Access to described programming on television, increasing the accessibility of wireless devices, such as smartphones and tablets, and insuring that their Web browsers are accessible, are just a few of the provisions that will enhance our entertainment experience.

As a result of passage of the CVAA, beginning July 1, 2012, TV stations that are broadcast affiliates of the top four national networks in the 25 largest TV markets, as well as cable and satellite TV systems with more than 50,000 subscribers, were required to comply with the FCC's video description rules (although updated to reflect the digital TV transition and a widespread phase-in mandated by the U.S. Congress). Reinstatement of video description was a critical provision for ACB, fulfilled in passage and enactment of the CVAA.

The FCC's newer rules require:

- broadcast affiliates of ABC, CBS, FOX and NBC located in the top 25 TV markets to provide 50 hours per calendar quarter (or about 4 hours per week) of video-described prime time and/or children's programming;
- channels such as the Disney Channel, Nickelodeon, TBS, TNT, and USA, must also provide 50 hours per calendar quarter of video-described prime time and/or children's programming;
- all network-affiliated broadcast stations and cable and satellite TV systems must pass through any available video description provided with network programming that they carry if they have the technical capability to do so and are not using the audio track for other program-related content. This pass-through requirement also pertains to TV delivered over telephone systems;
- once a program is aired with descriptions, re-runs of that program must also include video description unless the capability of providing description is being used for other program-related content;
- exclusion of networks when there is a significant amount of live prime-time programming.

While the CVAA has and will enable people who are blind or visually impaired to gain greater access to information and entertainment, there are still significant areas of accessibility challenges. Current gaps in technology policy exist with regard to online entertainment and the overall accessibility of the Internet. The blind community is eagerly awaiting rules from the U.S. Department of Justice that should apply Title III of the Americans with Disabilities Act to the Internet. Currently, people who are blind or visually impaired have significant challenges accessing content of all types when surfing on the Web. Accessing entertainment options is often quite challenging as links are not tagged to inform the user that content is available to be viewed or downloaded.

Today, you can go to a movie theater or watch television shows with video description. Unfortunately, when you visit Web sites that provide this content, most all of the programming is not accompanied by description because there is no requirement to do so. The same holds true with the sale of DVD's. The Academy Award winner for best picture, "Argo," was video described in the movie theater. When a blind consumer goes to a store to purchase a copy of "Argo" on DVD, frustration and disappointment set in when they realized that the video described version that they had enjoyed in the theater is not included on the DVD.

Airlines are rapidly deploying touch-screen technologies as part of their in-flight entertainment experience. While this technology is considered cutting edge, the airlines have not implemented these technologies with me in mind. In fact, on an increasing number of airplanes the flight attendant call button is now located on the screen and is no longer a button in the ceiling. ACB endorses S. 556, Air Carrier Access Amendments Act that call for these technologies to be made accessible so that people who are blind or visually impaired can have the same entertainment experience as other sighted travelers.

I thank the committee for giving these issues increased visibility and stand ready to assist in any way possible.

The CHAIRMAN. Thank you very much, Mr. Charlson, for a very lucid testimony.

Now we will go to Mr. John Fithian, president and CEO, National Association of Theatre Owners. Welcome back. You have been here before.

Mr. FITHIAN. I have. That is right.

The CHAIRMAN. Welcome back, Mr. Fithian.

STATEMENT OF JOHN FITHIAN, PRESIDENT AND CEO, NATIONAL ASSOCIATION OF THEATRE OWNERS, WASHINGTON, DC

Mr. FITHIAN. Thank you, Chairman Harkin and other members of the committee for the opportunity to be here today.

The National Association of Theatre Owners represents more than 30,000 movie screens in all 50 States, and we employ more than 125,000 people. The theater industry is experiencing a dramatic transformation from film-based delivery in projection to digital cinema systems. This revolution makes it possible to bring very good news to the committee.

The Nation's theater operators have voluntarily and proactively installed more than 18,000 movie auditoriums with closed-caption and description audio systems for deaf and blind patrons. NATO's members over the years have spent hundreds of millions of dollars to expand accessibility.

Theater operators proudly accommodate mobility-impaired patrons with accessible doors, box offices and concession counters, passive travel, restrooms, and of course, wheelchair seating in each auditorium. We accommodate service animals.

For our patrons who are hard of hearing, our theaters use infrared assistive listening systems. I wish you had had that when you saw "Lincoln" the other day, Chairman Harkin. Until very recently, however, it has been more difficult to accommodate deaf patrons for whom assistive listening devices are insufficient.

NATO members did help develop the first open-captioned film program where special copies of movies were distributed to volunteer theater companies for advertised screenings. Many NATO members also installed closed-caption systems in select auditoriums for the exhibition of those movies distributed with captions.

In spite of these efforts, though, open and closed captioning in the film era encountered only moderate success. Open captioned screenings, which use readable subtitles that are always visible to all patrons, draw few deaf patrons to the cinema and drive hearing patrons away. When NATO members offer the same movie in two auditoriums, one with open captions and one without, very few patrons attend the open captioned screen.

Closed-captioned screenings using text visible only to the viewer who requests it do not produce the same disincentive for attendance by hearing patrons. But the systems were rarely used in the film terms. Closed captioning in the film era also imposed very significant costs on theater operators.

Now, NATO has maintained for some time that our industry's conversion from film to digital would enable much greater access. And today, the industry has nearly completed our transition to digital distribution and projection. Approximately 88 percent of the Nation's movie screens are now digital. Throughout this transition, NATO's members have worked aggressively to ensure that new

theater systems would enable greater access. We first developed technology standards that enabled captioning and description.

Then our members, led by Regal Cinemas of Tennessee, worked closely with access equipment companies by providing technical guidance, cinema testing locations, and design requirements. NATO's members have organized hands-on demonstrations of prototypes to representatives of the disabled community and to industry participants, and friends from the National Association of the Deaf and others, came to see these demonstrations and commented on our equipment.

These efforts resulted in two important advances. First, all major movie distributors now provide captions and descriptions with virtually all of their movies. NATO is grateful to the Motion Picture Association of America and their movie studio members for the supply of captioned and described movies.

Second, equipment vendors have created new systems to provide captioning and description in digital cinemas. Some of these systems involve seat-mounted screens with built-in caption displays and descriptive audio headsets. Other systems involve captioning in eyeglasses that can be worn by deaf patrons.

America's cinema owners are now rapidly installing captioning and description systems. More than 18,000 movie screens, which means 53 percent of the total digital cinema market now have this equipment all across the country. The equipment is mostly first generation such that the industry has experienced the typical challenges associated with new technologies, including the need for greater staff training, as well as design modifications.

Equally important, we must all work together to market the availability of these products. From the testimony I have heard today, I know we need to get the word out better about the fact that we have so many of these devices installed. We want as many deaf and blind patrons as possible to attend our cinemas and have a great experience at the movies.

As a final note, we are, of course, aware that Chairman Harkin recently introduced legislation and the Department of Justice has plans for rulemaking. Our industry strongly opposes such legal mandates, which would only serve to enrich trial lawyers instead of improving access. The movie theater industry has been so proactive in expanding access to our cinemas, that additional Government regulation is unnecessary.

Thank you.

[The prepared statement of Mr. Fithian follows:]

PREPARED STATEMENT OF JOHN FITHIAN

SUMMARY

- The movie theater industry wants all deaf, blind, hard-of-hearing and visually impaired patrons to feel welcome in attending our cinemas and have access to a great experience at the movies—and we are working toward that goal every day.
- NATO and its members have spent hundreds of millions of dollars and countless working hours on making movie theaters as accessible as possible to moviegoers with disabilities.
- While captioning in the film era was prohibitively costly to movie theater owners and movie studios, the industry's conversion to digital cinema has unleashed a new generation of access enabling technologies.
- The pace of these innovations is accelerating access markedly. Over the past year, digital technology has enabled the distribution of more movies than ever with

captions and descriptions, as well as the rollout of a new generation of closed captioning and descriptive video devices. America's movie theaters are voluntarily installing these systems as fast as the manufacturers can produce them.

- To spur innovation and promote greater access, NATO members have: (1) provided technical guidance, cinema testing locations, design requirements and other aid to access equipment companies; (2) organized hands-on demonstrations of prototype access equipment to representatives of the disabled community and industry participants; and (3) taken the lead public advocacy position in the movie industry to promote closed captioning and video description using newspapers, company and third-party Web sites, box office signage and other press materials.

- As a result of these proactive and voluntary initiatives taken by the movie theater industry, more than 18,000 (53 percent) of America's digital cinema screens are now enabled for closed captioning and video description.

- Neither the CINEMA Act (S. 555) nor current proposed Department of Justice rulemakings reflect adequate understanding of the scale, pace or success of current voluntary efforts by the cinema industry to expand access. NATO strongly opposes such coercive government mandates as demonstrably unnecessary in light of the progress the movie industry is making on access issues. Indeed, NATO feels such heavy-handed regulation would be a threat, rather than a spur, to progress in this area.

Chairman Harkin, Senator Alexander, and members of the committee, thank you for the opportunity to appear before you today on behalf of over 600 motion picture theater companies operating here in the United States. Our organization, the National Association of Theatre Owners, represents more than 30,000 movie screens in all 50 States, and our industry employs more than 125,000 people.

The movie theater industry is currently experiencing a dramatic transformation from analog, film-based delivery and projection technologies, to digital cinema systems. In an atmosphere of industry innovation and cooperation, this conversion enables more widespread installation of closed captioning systems for deaf patrons and descriptive audio systems for blind patrons. As a result of the proactive and voluntary initiatives of our members, more than half of all digital cinema auditoriums now have captioning and description technologies, and the number is growing every day.

Let me describe how we arrived at this exciting point in our industry's history.

AMERICA'S THEATER OPERATORS STRONGLY SUPPORT ACCESS FOR DISABLED PATRONS

NATO and its members have long been committed to making movie theaters as accessible as possible to all Americans, including those with disabilities. NATO testified in favor of passage of the ADA when the legislation was first debated in Congress. When the ADA Standards for Accessible Design (ADA Standards) were first promulgated by the Department of Justice, NATO prepared and circulated an ADA Compliance Manual to assist theater owners in designing compliant theaters. Since the ADA Standards became effective, NATO and its members have continued to work closely with the Access Board, the ANSI A117 Committee, the DOJ, State and local authorities, other industry groups, and disability rights groups to clarify and implement the requirements of the ADA.

The great majority of NATO members are small businesses operating fewer than 20 screens. The typical NATO member has no construction department, no in-house architect, no staff attorneys, and no regulatory affairs specialists. For most members, the owner/operator is solely responsible for regulatory compliance, including ensuring that new construction, renovations, and alterations meet the requirements of the ADA.

At the same time, our membership also includes larger regional and national movie theater chains that have often taken the lead to develop better technologies to provide greater access for patrons with disabilities. I will talk a bit more about some of those innovations in a minute.

NATO's members have spent hundreds of millions of dollars and countless working hours to expand accessibility in America's movie theaters. Theater operators proudly accommodate mobility-impaired patrons with accessible doors, box office and concession counters, paths of travel, restrooms, and most importantly, wheelchair seating spaces in each auditorium. We accommodate service animals. For our patrons who are hard of hearing, our theaters use infrared assistive listening systems. These systems include an emitter for each auditorium, which provides the audio output, and headsets, which are generally made available to patrons either at the box office or at the guest services counter within the theater.

MOVIE CAPTIONING FOR THE DEAF PRESENTED UNIQUE CHALLENGES
UNTIL VERY RECENTLY

Until very recently, however, it has been more difficult to accommodate deaf patrons for whom assistive listening devices are insufficient. NATO and our members actively supported movie access for these patrons for more than 20 years, but with only moderate results. We helped develop the first open caption film program with our partners in the movie studios and at InSight Cinema (formerly "Tripod"). In this program, copies of movies, which we call "film prints," were distributed with open captions to volunteer movie theater companies for advertised screenings. After closed captions for film were introduced with the WGBH Rear Window® Captioning system, many NATO members installed closed caption systems in select auditoriums for the exhibition of those movies distributed with captions, and publicly advertised the availability of these special screenings.

In spite of these efforts, open and closed captioning in the film era encountered only moderate success for several reasons. The production, distribution and exhibition of open captioned prints is expensive. Movie studios were only able to distribute a limited number of prints for a limited number of movie titles. Even more problematic, open captioned screenings draw few deaf patrons to the cinema and drive hearing patrons away. When NATO members offered the same movie in two auditoriums, one with open captions and one without, very few patrons attended the open captioned screening even if the other auditorium was crowded.

Closed captioned screenings do not produce the same disincentive for attendance by hearing patrons. But despite advertising by theater companies and the technology providers of the availability of closed captioned movies in designated cinemas, usage surveys show that the systems were rarely used. Closed captioning in the film era, moreover, imposed very significant cost burdens on the theater operators, as the cost of the equipment vastly exceeded the negligible additional revenues generated.

WITH THE ADVENT OF DIGITAL CINEMA, THE INDUSTRY HAS MADE TREMENDOUS
PROGRESS TOWARD THE GOAL OF GREATER ACCESS FOR DEAF AND BLIND PATRONS

NATO has maintained for some time that our industry's conversion from film to digital technologies would enable much greater access for deaf and blind patrons. Events during the past year have proved that statement to be true. We are very excited about these developments.

Digital cinema constitutes the greatest technological transition in the cinema industry since the advent of the "talkies". For the past 100 years, movies have been distributed and projected on celluloid film prints. Today, the industry has nearly completed our transition to digital distribution and projection. Approximately 88 percent of the Nation's movie screens now use digital projection.

Throughout this transition, NATO and our members have worked aggressively to ensure that the new theater systems would enable greater access for deaf and blind patrons. We first developed specific technology standards that called for digital cinema servers to be capable of playing narrative audio tracks and caption tracks when included in content distribution. Then our NATO members, led by Regal Cinemas of Knoxville, TN, worked closely with access equipment companies by providing technical guidance, cinema testing locations, design requirements, and other collaborative efforts. NATO members have organized hands-on demonstrations of prototype access equipment to representatives of the disabled community and to industry participants at large. At the same time, NATO took the lead public advocacy position within the broader movie studio, exhibition and equipment industries to promote captioning and descriptive audio.

These efforts resulted in two important advances. First, all major movie distributors now provide captions and descriptions with virtually all of their major movie releases. NATO is grateful to the Motion Picture Association of America and their movie studio members for the supply of captioned and described movies. We are still working with some smaller distribution companies to get access to as many captioned and described movies as possible.

Second, equipment vendors have created new systems to provide captioning and description in digital cinemas. These systems include:

1. Ultra Stereo Labs CCR 100 and CCR 200 Closed Captioning Receivers: Goose-neck held, theater seat mounted screen with built in caption display that receives captions via infra red (CCR 100) or Wi Fi with Sony digital systems (CCR 200). Descriptive audio also available with 2 channel headset, IRH-230. Captioning and descriptive audio data supplied by studios.
2. Doremi CaptiView Closed Captioning Receivers and Fidelio Descriptive Video Receivers: Gooseneck held, theater seat mounted screen with captioning display that

receives captions and audio content via Wi Fi signals. Captioning and descriptive audio data supplied by studios.

3. Sony's Entertainment Access Glasses and Audio Description receivers: Closed Captioning Eye Glasses that utilize unique holographic technology to display text in the direct line of sight of the user. A single receiver receives data for closed captions, descriptive audio data and also accommodates the use of neck loop technology. Captioning and descriptive audio data supplied by studios.

4. Rear Window Captioning: Gooseneck held, theater seat mounted clear plastic panels that capture text displayed on the rear wall of an auditorium. Also capable of distributing descriptive audio to separate headsets. Captioning and descriptive audio data supplied by studios.

The first three technologies listed above, from USL, Doremi and Sony, constitute first generation equipment that has become available in the digital cinema world. The Rear Window technology has been adapted from earlier systems that were also available in the film era.

AT LEAST 53 PERCENT OF AMERICA'S DIGITAL CINEMA SCREENS ARE CURRENTLY ENABLED FOR CLOSED CAPTIONING AND VIDEO DESCRIPTION, WITH MORE ON THE WAY

Over the past year the digital cinema transition has come to fruition, a much higher percentage of movies has been distributed with captions and descriptions, and the access equipment companies have rolled out their first generation devices. In response, America's cinema owners are installing captioning and description systems literally as fast as the manufacturers can produce them.

We conducted a survey of our members that concluded on May 3d. Though we did not get responses from all 604 members, we did receive responses from members covering more than two-thirds of the digital cinema screens in the market. This extensive data suggests that more than 18,000 digital movie screens, or at least 53 percent of the total digital cinema market, are now enabled with equipment for captioning and description.

For the most part, the access systems are first generation. As such, the industry has experienced the typical challenges associated with new technologies, including the need for greater staff training as well as design modifications.

Equally important, the industry, along with advocacy groups and equipment companies, must work together to market and publicize the availability of these products. For their part, movie theaters are raising awareness of the availability of accessibility devices through myriad avenues, ranging from newspapers, press materials and signage at the box office to Face-book and company Web sites. Additionally, at the click of a mouse, moviegoers can search for accessible movies in any city or town in every State throughout the country via third-party Web sites like Fandango, MovieTickets and Captionfish.

In the end, we hope as many deaf and blind patrons as possible attend our cinemas and have a great experience at the movies.

THE MOVIE INDUSTRY'S EFFORTS MAKE LEGISLATION OR RULEMAKING UNNECESSARY

As a final note, we are aware that Chairman Harkin recently introduced legislation on this topic. We also understand that the Department of Justice has revealed plans for rulemaking. Our industry strongly opposes such legal government mandates. These proposals would only serve to enrich trial lawyers instead of improving access for the disabled community. I will save the details of our opposition to such efforts for another day. For today's purposes, I hope the committee members can see that the movie theater industry has been so proactive in expanding access to our cinemas that additional government regulation is simply unnecessary.

Thank you.

The CHAIRMAN. Thank you very much, Mr. Fithian.

Now, we will start questioning here. I want to begin with Mr. Phillips and start with air travel.

We heard from Mr. Charlson about the new Dreamliner. I have not been on one yet. I think they are going to get them back in service soon, I think, but all this new technology, the touch screens. Well, that does not help someone who is blind or visually impaired. And then from the movies that are there, do you have any feeling—

For example, the last time I flew, not yesterday, but before, I was complaining to the flight attendant that there was, at that time,

only one captioned movie on that whole entire set that I had. And she said to me, "I hope you do something about it, because you are not the first person that has complained about it."

Again, how is the airline industry doing in terms of delivering entertainment content that is accessible to you? Are they doing better or not? I don't take every airline, but what do you know? Are they getting better at this?

Mr. PHILLIPS. In my opinion, the airline industry has done a terrible job of making their in-flight entertainment options accessible to the deaf and hard of hearing community.

It really bothers me that when I fly other countries' airlines, I am often able to watch movies with English subtitles. And also today, the technology is readily available to add captioning support on those behind-the-seat screen devices. And many of the programs that are shown on airlines have already been captioned in theaters or elsewhere.

About a year ago maybe, I had the experience, the unique experience of riding on an airline, and somehow that plane's in-flight entertainment was equipped with captioning support. It was connected to Direct TV, so apparently Direct TV systems support captioning, and that kind of system, you can imagine other airlines adopting. It is not requiring them to upgrade any devices that they have, but rather to have a certain kind of software program installed.

The CHAIRMAN. Mr. Charlson, what do you see as the most important aspect of the 21st century Communication and Video Description Act for blind and low-vision consumers? And what is the biggest accessibility gap that maybe has not been addressed by the CVAA?

What is the most important aspect and are there some accessibility gaps that have not been addressed by the CVAA?

Mr. CHARLSON. For me, one of the most disappointing things about the first round of the CVAA is, as you have heard from the representative from the FCC, there are requirements that there be quite a bit more television available. However I, sitting in my living room, cannot turn it on or off. None of the onscreen menus currently allow me to independently turn on the audio description that I used to be able to turn off and on by the press of a single button.

That is an example, not only of TV, but in terms of the in-flight systems. Part of it is having the material available with audio description, but having it available with audio description but not have the ability to turn it on or off, or to select it, that is first and foremost, the biggest problem we have.

We believe that there is value in convergence, where pieces of technology come together and perform many functions at the same time. We believe that there is value in rapid change because there were times that we had just one device to do Braille in the world. It was the Perkins Brailier, and it was the only device we had for doing Braille for 27 years. Knowing that these things are possible out there, and being just that close to being able to access them is the biggest hurt right now.

I mentioned earlier, I have an iPhone in my hand here. This iPhone produces, not just for me as a blind person, but for every-

body, everybody in the room who has an iPhone has the ability to make a touch screen accessible to them.

We are not suggesting that we stay with an old-fashioned, hard-button approach. We can adopt new technologies, but keeping in mind from the beginning that these technologies have to be available for everybody in some fashion.

The CHAIRMAN. You would think that after all this time that people who have designed these systems would, I would think, reach out to the deaf community and the blind community when they are designing these systems to ask what needs to be done. If they had, we might have had more voice-activated prompts, for example. If you have onscreen prompts, you can have voice-activated prompts at the same time.

My gosh, I think it has been, I don't know how many years ago that I bought a voice-activated channel changer for my TV. There were so many different things on that, buttons and stuff, so I got something that you just put in the voice commands, and you just tell it what to do, and it would automatically change the TV. That was years ago.

I have got to believe that technology is much more advanced now, right, Ms. Beaumon?

Ms. BEAUMON. Yes, I think it is.

The CHAIRMAN. That was several years ago, maybe, I won't say 10, but probably 6, or 7, or 8 years ago that I bought that device. And it still works today, but I am sure outdated by now. I guess I am just concerned that they are not reaching out to the community and asking for that kind of input.

Now, Ms. Beaumon, when you in your social entrepreneurship and Bookshare, I assume you reached out to the community and asked them how it should be designed.

Ms. BEAUMON. Absolutely.

The CHAIRMAN. I would think so.

Ms. BEAUMON. These are our users. I would say any good technology company wants to reach out to their users and ask, "What is it that you need and how does it need to work?"

We definitely do that with the community that we serve, and I think sometimes maybe technology companies don't think about the entire community that they serve.

I would say that when there are companies that do a good job of it—Mr. Charlson just went through some of the virtues of Apple and what they have done on their iPhones and iPads—I think that is when we all need to also stand up and say, "Hey, look at them. This is an example of doing something really well."

I can remember seemingly overnight being scared to death in our community of touch screens and seeing some of the things Apple was doing, and having our users scream at us to make sure that we had a reading tool on an iPhone. That was before the iPad even came out, and we complied because our users were asking us for that.

Yes, listening to the whole community is important. I think our community, anybody who is either representative of organizations like those around me, and others that know they have these needs, need to shout and companies need to listen. And when they do,

consumers will come running as, I think, Brian is a really good example.

Mr. CHARLSON. One thing I would like to mention, Senator, is yesterday I was in the city of Philadelphia at the request of Comcast, who brought together 10 members of the blind community to talk about the future of Comcast products all along the product line. I was delighted to see, in fact, it was across the board.

We, in the consumer movement, don't wait until we ask or succeed in having Government describe something to us. We are proactive from day one, and occasionally we come across a partner like Comcast, like Apple, who step up to the plate before it is a regulation and hopefully, the rest of the industry will follow suit.

The CHAIRMAN. Mr. Fithian, maybe you can clear up a question I had from your written testimony that I read and you also spoke from it.

In that testimony, you said that your organization supported the ADA when it was being debated in Congress. Well, I should go back and inform you of some of the hearings I had here when your organization was not supporting it. One of the benefits of having been here this long, I remember those days. Later on, after we made some modifications, your organization then supported it.

But nonetheless, we had testimony from movie theater owners sitting here telling us that setting aside seats for people with disabilities that, people did not use them. I had a theater owner, I can go back and I can find out exactly who it was who sat there. He said, "Well, we set aside seats for people with disabilities and no one came and we wasted space."

My next questions were, "Are you on a bus line? Does the bus come by you theater?" "Well, yes, it comes by a block or two away." "Does the bus go at night? Does the bus operate late at night? Does it operate on Sundays, in the afternoons, and in the evenings?" Well, he did not know.

Well, it turned out that, no, the bus line did come a few blocks away. It was erratic. It did not operate late in the evening. It did not operate at certain times on Sunday. So I said, "You set aside all these seats for people with disabilities, they cannot even get there." See, that is why the whole system has to be involved. There has to be a system approach to this.

When I hear you say that you supported the ADA, then why at the end of your written testimony do you say your organization, and you said so here very pointedly, you said you strongly oppose the two bills that I have introduced, the legal Government mandates like the CINEMA Act or the new rulemaking from the Department of Justice.

I guess my question is: is not the ADA a legal Government mandate? And does not the Department of Justice have a responsibility to clarify that mandated rulemaking? If you support the ADA that is a legal Government mandate.

So differentiate the ADA from what we are trying to do here. Why is there a difference?

Mr. FITHIAN. Absolutely, there is a big difference, Mr. Chairman. And the ADA, I believe, was necessary because in most aspects of public accommodation, the disabled were being discriminated against, and the ADA had a tremendous impact on expanding ac-

cessibility for so many different types of disabled folks in this country.

Our argument about S. 555—and we have not taken a position on your airline bill because that is not my purview—but arguments about S. 555 is that what you want to happen is already happening, and that our industry is out there proactively getting access for deaf and blind patrons in our theaters all across the country. We are over halfway done now, and it would only slow down our progress to have legislation come in now.

Because what happens with legislation in an area where the industry is already acting is that we end up spending our time in court instead of spending our time putting in equipment. And so we think we are going to meet the targets and the goals of the legislation without the need for the legislation.

Another way to answer the question is the Department of Justice had an advanced notice of proposed rulemaking in which they suggested in a question and answer format, what if they required 50 percent of our theaters to have captioning over a 5-year period; in other words, 10 percent per year over 5 years. That rule has not even become final yet, and we have already exceeded that expectation.

And so my point is, there is a role for Government when industry is not acting. But when the industry is acting proactively, maybe the Government should support those voluntary actions instead of legislating.

The CHAIRMAN. Well, you point that 88 percent of the Nation's movie screens now use digital projection, right?

Mr. FITHIAN. That is correct.

The CHAIRMAN. But now you say the extensive data suggests that more than 18,000 digital movie screens or 53 percent are now enabled with equipment for captioning and description. So 53 percent does not equal 88 percent.

Mr. FITHIAN. Not yet, but we are quite on our way. In fact, most of the devices we are currently installing were not perfected until the last year.

We held technology demonstrations in 2007 and 2010, invited in advocates for the deaf and the blind to test our equipment, give us comments. We then had to work with the vendors to get the equipment online, and most of these devices have only been available for the last year or so.

One device in WGBH has been around for a very long time, but most of the devices that we are installing have only been around for a year. We literally have more orders on place now than the equipment vendors can satisfy. Part of the reason why we are at 53 percent and not 88 percent is that it is on order.

Many towns across the country have some where we have ordered the devices and they are coming as fast as they can manufacture them. In that kind of an environment, that is why we suggest that rulemaking is not necessary.

The CHAIRMAN. So you think that our bill that says it has to be completed in 1 year is too fast?

Mr. FITHIAN. Oh, I think there are lots of issues with your legislation. We can go through the details if you want to. The key point is that—

The CHAIRMAN. I think, Mr. Fithian, you should.

Mr. FITHIAN. OK.

The CHAIRMAN. Not today, but submit it in writing. We would like to take a look at it and see what your objections are.

Mr. FITHIAN. I would be delighted to do that, sir.

The CHAIRMAN. Because you just said one thing that indicates a little bit to me that you may not be reaching out completely to the deaf and hard of hearing community because you said that you wish you'd had that system for the "Lincoln" movie that I saw.

Mr. FITHIAN. May I ask you where you saw the screening with Mr. Spielberg?

The CHAIRMAN. Over in the CVC, in our auditorium there.

Mr. FITHIAN. Right. If that screening had been held at any of our commercial cinemas in Washington, DC we would have had assisted listening devices for the hearing impaired in those cinemas. We have them in every cinema in the country.

The CHAIRMAN. You do not understand something. That is why I say you have got to reach out to the audiology community about this.

There is something you do not understand, and I will give you a little lesson in it right now. You could jack up that volume all you want, and I still would not be able to understand what was going on in "Lincoln". And there are millions of people like me. Yes, I do have a hearing problem in terms of volume, but that is not the real problem.

The real problem is the auditory nerve that goes from my ear to my brain does not operate as rapidly as it used to. Therefore, if there are variations in volume, some one is speaking loud and then someone is whispering, that auditory nerve does not pick that up fast enough, and you cannot understand it.

The second thing is that people speak very rapidly in a movie. I don't care how loud you turn it up, you cannot understand it.

Now, I would suggest that you might reach out to the audiology community in America, the audiologists and ask them about this. It is not just me. There are millions of people like this. It is not just the volume, it is understanding what people say and how they say it. That is why you need captioning.

As I told the producers of that movie, I said, "I don't care how much you turn up that volume, the variation in volume and the rapidity with which some people are speaking, I cannot get it."

I told you, I just watched a movie on the plane the other day coming back from Los Angeles, and it was Billy Crystal and Bette Midler in "Parental Guidance." I turned it on because it was one of two that had closed-captions. I turned it on and I turned it off—I was just trying an experiment because my wife was with me—so I turned off the closed-caption. I could hear it, but Billy Crystal speaks very rapidly and there were a lot of funny lines going on. I could not understand it. I turned on the closed-captioning, I got it. I got it.

It has also been my experience, being involved with a lot of hard of hearing people that, again, it is not just the volume in the theaters. It is being able to read it so that it gets from here to the brain, from the eye to the brain because the ear to the brain is not

working all that well. It is not just volume. It is something else; it is being able to read it.

My experience has been, with a lot of hard of hearing people, maybe not the profoundly deaf, but I am talking about hard of hearing people as they get older is that if they have never seen movies with captions and then they start seeing it, they don't want to go back. They want to see every movie with a caption because they understand it more fully. Again, it is not just volume. It is not just volume.

And you say that people will not go to see a movie with captions; you said if there are two theaters, one showing captions, they will not go to that one. Well, I don't know. I would like to see data on that and I would like to see what kind of marketing is done. Again, marketing, marketing is important on these things.

I am all for looking at these devices—the glasses, the cup holder device that is put there—those are all interesting technologies.

Ms. Beaumon, I understand that there is some new technology coming along that will allow (like on television screens), you can put closed-captioning digitally on the screen, but it can only be seen if you have certain glasses on. It is like a pair of 3-D glasses or something that will pick it up.

Are you familiar with that kind of technology?

Ms. BEAUMON. This is not an area I am directly involved with, so sorry.

The CHAIRMAN. Have you heard of that, Mr. Fithian?

Mr. FITHIAN. I have not.

The CHAIRMAN. Well, maybe Mr. Phillips knows something.

Mr. PHILLIPS. Senator, yes. I have heard about the concept, the ability of a prototype. I don't think anything has been created or implemented. I think there is perhaps hope for the future, but I am not sure how far down the road that is and what will happen.

The CHAIRMAN. Well, I will have my staff look at that some more. I need to find out because I have heard about this new technology that would enable that.

Again, I am sorry you are opposed to this legislation, Mr. Fithian, and that the theater owners are opposed to it just because you are doing it. You say you are doing it, so therefore you don't need the Government to come in and say you should do it because then you will be in court.

Well, if you are doing it, why would you be in court?

Mr. FITHIAN. Well, there is a role of Government in bringing attention to issues and things like this hearing are extraordinarily useful in bringing together industry with advocates for the deaf and the blind, and the creators of the technologies, it is a very useful function for the Government.

I note that I am the only industry rep here, which is always a dangerous circumstance to be in, but nonetheless, we believe we have a very good proactive story to tell. And unlike the other industry for your other bill who is not here testifying about their voluntary actions, we are here testifying about our voluntary actions because we have spent millions of dollars and countless research hours trying to find the best ways to develop captioning, exactly what you are calling for. Not just assisted listening devices, but actual captioning with three different types of devices where the con-

sumer can manipulate the data and make the font size or the colors the way it takes for them to be able to read those captions and enjoy our movies because we want deaf and blind people to come to our movies and enjoy movies at the cinemas.

That is a lost population and a group of patrons for us. That is why we are working so hard and over halfway through getting these installations done to let them come to our cinemas.

But the reason why we do not want legislation is because it will distract us from the positive actions that we are taking. There are trial lawyers that will take advantage of the legislation to try and challenge us on every possible respect.

I mean, for example, your legislation requires both open and closed-captioning of the same movies at the same time. Well, that means that we would have captions up on the screen and we would have captions in the device, which would be great for our deaf patrons, but it would not work for our hearing patrons. They do not want captions on the screen.

We like to provide choices, but there are just problems with your legislation that we would end up fighting about in court, as opposed to spending our time and our money doing what we are doing, which is rapidly advancing the cause of access for deaf and blind movie patrons in this country.

The CHAIRMAN. Mr. Fithian, when I first introduced the Americans with Disabilities Act, it is not the same as what got passed because we had testimony from a lot of different people. That is the pathway of legislation.

If you come here and you say you have suggestions on how it should be changed or modified to make it workable, we have an open door.

Mr. FITHIAN. I would be delighted to do that, more than happy.

The CHAIRMAN. But when you come in and say that, we are going to check with the disability community to see how that comports with them also. There will be this open process of back and forth until we finally, as I say, hit that sweet spot where the disability community is happy with it, theater owners can live with it and can do that, and where, again, we do not close the door on new technologies. I never want to do that. I want to leave it open so that whatever new technology comes along can be adapted here.

We did that in the ADA. There is a lot of language in the ADA that speaks about emerging technologies. We did not know what was coming along, but we knew it was changing rapidly. If you have suggestions on that, we are more than happy to take that into consideration.

But just to blatantly say, "We oppose that just because we are doing it," there are a lot of things happening in this country that people are doing here and there, but which we want more of a national kind of view on a national cloak, for example, over that. So that people understand it is not just a bit by bit thing, but it is going to be comprehensive in its nature, which leads me to one last question for all of you.

I forget who it was that said this, maybe it was Ms. Beaumon, maybe. You talked about the international aspects.

Ms. BEAUMON. Yes.

The CHAIRMAN. And this Treaty. When is that Treaty going to be finalized?

Ms. BEAUMON. That is a very good question. The Treaty, which I referred to earlier, is before the World Intellectual Property Organization, and it deals with books being able to cross borders, but it also deals with countries that do not currently have copyright exceptions like our Chaffee amendment being able to have them.

We talk to people in countries where literally somebody who is blind or visually impaired has no books. There is a book famine and much like because of the Chafee amendment, Bookshare has been able to really do a lot of great services, as have other groups in the United States. We want that to be available to people all over the world.

There are major meetings next month. There has been a lot of hope that that might even be a wrap up time. I will say now, there have been some serious issues reintroduced that really would weaken the Treaty, cause undue burdens for libraries around the world like us, and literally making it almost un-implementable. And some of which do not comply with U.S. law, so I am a little confused about how the United States would then ratify it even if it got passed.

The CHAIRMAN. My staff just reminded me that we sent a letter to the President just last month encouraging him to get behind this and support this.

Ms. BEAUMON. Good. Thank you.

The CHAIRMAN. And hopefully we can get that done soon.

Ms. BEAUMON. Thank you.

The CHAIRMAN. Is there anything else, questions that I did not ask, or anything else that any of you wanted to impart for the record here before I close the hearing down?

Mr. CHARLSON. I would like to speak to one thing.

The CHAIRMAN. Yes, sir.

Mr. CHARLSON. And that is the value of some standards associated with this process.

I make my living teaching people to use technologies and the technologies can change rapidly. And in order to go through a regular day of doing the things that sighted people take for granted, they might have to know how to use five or six different, fundamentally different technologies.

When you are trying to do something as social as going to the movies, as social as interacting with that seatback screen in front of you, it is really an unfortunate burden for them to sit down each time and have to learn it all over again.

We do not experience life as a point and click experience. It is a linear experience from top left to bottom right. And for us to use any of these pieces of equipment requires that we not figure it out on the fly, but that we learn in advance in order to take full advantage of it.

I think one of the values of a Government involvement in this process is to establish standards so that I can go to a movie theater while I am visiting in Washington, DC and not miss the first third of it as I am learning how to use the system.

The CHAIRMAN. That is an interesting point; very well taken. I am going to, again, take another look at our legislation to see how

it comports with that idea. That is very important, standardization nationwide.

Anybody else got anything? Yes, Mr. Phillips.

Mr. PHILLIPS. I wanted to say that the National Association of the Deaf fully supports Senate bill 555 and 556. We think one of the important aspects of 556 is that it would require open captioning be for deaf and hard of hearing patrons in the theaters.

These assistive devices are not usable or comfortable, as I have said, and people want to be able to watch the movies with open captioning. I just wanted to underscore that point.

The CHAIRMAN. I appreciate that. Anything else anybody has that they want to impart to this?

Mr. Charlson made a good point about standardization. I do not know if that is what NATO is doing or not, but standardization would be vitally important from a national standpoint.

Mr. FITHIAN. We have done a tremendous amount of work on standards for access in digital cinema from the outset, before we designed the systems, not just the devices, but how they interplay with the digital cinema files and the content, and servers, and how they get distributed so that we have multiple types of equipment in the field that are competitive, but compatible and interoperable.

We ran these systems by many advocates for the deaf as we were developing, and we welcome the suggestion on standardization on how to make sure that our patrons with disabilities know how to use the equipment before they get there. Because the comment was absolutely correct that we need folks to understand how these systems work before they come into our cinemas.

Currently, for example, the captioning only kicks-in when the feature film starts, and by then if you do not know how to use the system or the system is not working properly, it is almost too late. We work with the movie studios and our theater companies to put content earlier in the preshow that is captioned so that our patrons can test the equipment before the feature film actually comes on.

And the more we can do to test the equipment early with our patrons in the cinemas or train them before they are even there, the more deaf and blind patrons we would hope to come to our cinemas.

We welcome, absolutely, the idea on suggested training and standardization.

The CHAIRMAN. Thank you very much.

I want to thank all the witnesses for their testimony and their leadership in this critical issue of improving accessibility of entertainment technologies.

I may have been a little hard on Mr. Fithian, but I appreciate what the theater owners are doing, believe me. You are moving ahead very rapidly and I appreciate that.

Mr. FITHIAN. Thank you.

The CHAIRMAN. I would like to go back to the theater. I do not go to movies anymore. I love going to movies. There is something about being in a movie theater and going to movies, I do not go any longer because I cannot understand them. So I have to wait until it comes out with subtitles and I watch it at home, and I am not alone.

There are millions of Americans like that, millions out there that do not go to the theater because of that.

Well, we have made significant progress since ADA and access to entertainment technologies. But again, we need to go further. I hope we can build on the two decades of experience with the ADA and accelerate the progress so that Mr. Phillips' peers and others in the ADA generation will be able to experience truly equal access to entertainment content in their lifetimes.

Passing the CINEMA Act and the Air Carrier Access Amendments Act would be two concrete steps in that direction. I look forward to working with Senator Alexander and other members of this committee to address this issue, and to ensure that we have legislation that is meaningful, and will address this issue promptly.

We will leave the record open for 10 days to allow additional statements or supplements to be submitted for the record.

The hearing of the Committee on Health, Education, Labor, and Pensions stands adjourned.

Thank you very much everyone.

[Additional material follows.]

ADDITIONAL MATERIAL

RESPONSE TO QUESTION OF SENATOR ALEXANDER BY ANDREW PHILLIPS

Question. You mentioned that you have a preference for open captions, whereas others might have a preference for closed captions. How do you recommend the movie industry best serve the wide variety of preferences they encounter?

Answer. The National Association of the Deaf urges theaters to offer both captioning options. Many theaters already offer closed captioning access through personal captioning devices. They should continue doing so, but consult with the deaf and hard of hearing community about which devices work best. In addition to such personal captioning devices, the transition to digital cinema in theaters has made it possible to turn open captions on and off in theaters without the use of special equipment or added costs, much like what can be done at home on one's television. Some patrons experience difficulties with all the different personal captioning devices available in theaters. As a result, theaters should offer personal captioning devices to those who need them and enable open captions when requested by deaf or hard of hearing patrons.

RESPONSE TO QUESTIONS OF SENATOR ALEXANDER BY BETSY BEAUMON

Question 1. How do you suggest that we best foster innovation?

Answer 1. We believe in pay for performance. Innovation is fostered by rewarding the people who deliver better, cheaper, and faster. Fund a certain amount of activities that allow innovators to try new things. Finally, don't try to legislate how they solve the problem, but rather what problem to solve.

Question 2. You mentioned that to ensure technological growth it's critical to avoid trying to legislate specific technologies or formats, which often change faster than the law can keep up. What guidelines do you think the Federal Government should keep in mind to stop this from happening?

Answer 2. As above, the best approach is to focus on outcomes—in this case on requirements rather than a specific technological approach. The challenge is to create legislation with enough detail to allow effective new technologies to be included, while not being overly specific in a way that narrows the opportunities to innovate in entirely new ways. An example of a fairly effective middle ground on technology (with some issues in other aspects of the law) was the Chafee amendment in the copyright law. The legislators were forward-looking enough in 1996 to include support for digital text, which was not in common use for books quite yet at that point, but has become the way forward for all e-books. They avoided being overly specific and naming a specific format or standard, which would have dated the law very quickly. In contrast, in IDEA 2004, where a specific standard was legislated (NIMAS), it requires the standard itself be updated to keep up with new changes in technology, which involves a significant bureaucratic process. In all such decisions, getting input from technologists in the field, with diverse points of view and interests, is critical.

RESPONSE TO QUESTION OF SENATOR ALEXANDER BY JOHN FITHIAN

Question. How can we support companies like Regal to expand accessibility and not hinder the ability of private industry to grow?

Answer. Thank you for this opportunity to respond to your inquiry. Our industry can rightly lay claim to enormous progress on the access issues that gave rise to the above-titled hearing held by the Senate Health, Education, Labor, and Pensions (HELP) Committee on May 14, 2013. Despite this significant progress, NATO's members will not waiver in their firm, demonstrated commitment to ensure that cinemas throughout the Nation continue to enable greater access for hearing and visually impaired moviegoers. NATO, however, believes both logic and experience demonstrate that imposing legislative and regulatory mandates would hinder, rather than spur, further innovation and deployment of access-enabling technologies in America's cinemas. Rather than supporting such a regulatory approach, therefore, we agree with Ranking Member Alexander's recent remarks that the best way to increase access for individuals with disabilities is to ensure that the private sector and government work closely and cooperatively together to achieve our shared access goals. If we adopt this course, we know the market will continue to drive an optimal, comprehensive set of solutions to access problems scaled to the needs of all communities that regulation would never produce.

As Senator Alexander noted during the hearing, businesses and organizations are taking the lead in making entertainment and other enriching cultural endeavors

more accessible for disabled individuals. NATO joins Senator Alexander in proudly acknowledging these efforts on the part of the private sector, including Regal's leadership in spearheading greater access for moviegoers who are hearing and visually impaired. As has been widely reported, Regal will, by the end of the month, have distributed cutting-edge closed captioning glasses to its more than 6,000 screens throughout the country. This was not done in response to regulatory coercion, but to Regal's pursuit of valuable hearing and visually impaired customers, as well as the company's commitment to equal access in principle.

Moreover, Regal is not alone in making a concerted, unrelenting effort to increase access for moviegoers who may be deaf, hard of hearing, blind or otherwise visually impaired. As I related during my testimony before the HELP Committee, the movie theater industry is in the midst of a dramatic conversion to digital cinema systems that enable widespread installation of closed captioning and descriptive audio devices. NATO and its members have spent hundreds of millions of dollars and countless working hours to increase access to cinemas operating in our Nation's largest cities and smallest towns. As a result of the proactive and voluntary initiatives of our members, more than 18,000 screens in the United States—over half of all current digital cinema auditoriums—now have captioning and description technologies, and the number is growing daily.

Both the CINEMA Act (S.555) and current proposed Department of Justice rulemakings were construed without regard to or comprehension of the scale, pace or success of current voluntary efforts by the cinema industry to expand access. The market has already simply outpaced the aspirations and mechanisms of these regulatory efforts and that positive trend will continue if left unburdened by regulatory intervention. NATO, therefore, strongly opposes such coercive government mandates not only as demonstrably unnecessary in light of the voluntary progress the movie industry is making every day on access issues, but for being potentially disruptive to the progress Congress and all access stakeholders share. NATO believes such mandates threaten to disrupt the current pace of progress and stifle technological innovation, not only by creating obvious incentives for trial lawyers to sacrifice those goals in pursuit of opportunities legislation would create for their own enrichment, but also by placing expensive, inflexible compliance burdens on small businesses even as they are trying mightily to address access issues in a difficult economy.

Main street cinemas, anchors of communities throughout the Nation, understand the need for commonsense regulations, but aggressive efforts by lawmakers to micromanage operations undercut their growth and contributions to the communities they serve. The vast majority of NATO members are small businesses with fewer than 20 screens, which typically lack a construction department, in-house architects, staff attorneys and regulatory affairs specialists. For most cinemas, the owner/operator is solely responsible for regulatory compliance, including ensuring that new construction, renovations and alterations meet the requirements of the ADA. Given the already tough economic environment and expensive conversion to digital cinema systems that is unlocking progress on access issues, some movie theaters could be forced to close due to the negative effects of additional, unneeded regulations—particularly in small and low-income communities. This would also have a ripple effect on local economies, causing a decline in retail and restaurant traffic when patronage from neighboring cinemas disappears.

While NATO is convinced that additional regulation is not the way to increase access to entertainment and other cultural endeavors, we know the private sector needs to work with other groups to highlight existing and needed technological advancements in accessibility. NATO and its members want all disabled moviegoers to feel welcome in attending our cinemas and have access to a great experience at the movies—and we are working toward that goal every day. To spur innovation and promote greater access, NATO members have: (1) provided technical guidance, cinema testing locations, design requirements and other aid to access equipment companies; (2) organized hands-on demonstrations of prototype access equipment to representatives of the disabled community and industry participants; and (3) taken the lead public advocacy position in the movie industry to promote closed captioning and video description using newspapers, company and third-party Web sites, box office signage and other press materials. Prior to and since the HELP Committee hearing, NATO has been in active dialog with policymakers at the State and Federal level, as well as representatives of the hearing and visually impaired communities, to address their concerns.

But more can and must be done through healthy collaboration. We welcome the opportunity to continue our work with the government, advocacy groups and equipment manufacturers to improve and publicize the availability of access-enabling technologies like closed captioning and video description systems. For its part, NATO will continue to reach out to lawmakers, regulators and the disabled commu-

nity to provide updates on the progress of accessibility device innovations and installations at movie theaters. We also encourage the government to facilitate an open dialog among places of public accommodation, manufacturers and the disabled community, through which these entities work together to identify what does and does not work and develop best practices on how to provide the public with information on accessibility friendly entertainment attractions.

[Whereupon, at 4:15 p.m., the hearing was adjourned.]

