



TECHNOLOGY AND DISABILITY POLICY HIGHLIGHTS – JANUARY 2020

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OVERVIEW

In January, The *Wireless E911 Location Accuracy Requirements* [**PS Docket No. 07-114**] final ruling was published in the Federal Register, which focused on the adoption of a z-axis location accuracy metric. The Federal Communications Commission (FCC) also noted that it now requires nationwide commercial mobile radio service (CMRS) providers to deploy dispatchable location technology to meet the latest rulemaking. This final ruling is effective on March 16, 2020. Related to this Final Ruling on compliance with E-911 services, the FCC released a *Proposed Rule* [**PS Docket No. 07-114**] seeking comments on the adoption of a timeline for narrowing the z-axis location accuracy metric and requiring the CMRS providers to deliver floor level information to Public Safety Answering Points (PSAPs). The FCC requests comments on or before February 18, 2020 and reply comments on or before March 16, 2020.

In Wireless RERC news, we provided input to the Federal Emergency Management Agency's 2020 Revision of *Comprehensive Preparedness Guide 101: Developing and Maintaining Emergency Operations Plans*. The last time the Guide was updated was in 2010, predating the commercial availability of Wireless Emergency Alerts. As such, among other things, recommendations were made to update the communications sections to make reference to mobile emergency alerting and to include guidance on elements of accessible emergency messaging. We also produced our annual content review of the TDPH. This past year's hot topics included increased access via wireless technologies and next-generation connected devices, continued expansion of accessibility policy, the increased development of assistive technology research and design, and improved inclusive designs in public spaces. The top five most cited words for 2019 were access, policy, conference, research, and devices. Wireless RERC researchers published [three regulatory filings](#). The Wireless RERC also kept busy with our three-part YouTube video tutorial series, [Unboxing the Echo and Powering it up](#), [What the four top buttons do](#), and [What to expect when synching the Alexa app and your new Echo](#).

This issue also includes news about 5G, the ADA's 30th Anniversary, assistive technology, an Inclusive Design Challenge, autonomous vehicles, virtual reality, artificial intelligence, and more.

REGULATORY ACTIVITIES

IMPROVING WIRELESS E911 LOCATION ACCURACY REQUIREMENTS

January 16, 2020 - The FCC published a Final Rule [**PS Docket No. 07-114**] in the Federal Register that adopts a z-axis (vertical) location accuracy metric of plus or minus 3 meters for 80 percent of indoor wireless E911 calls for z-axis capable handsets. In conjunction with this regulation, the FCC also stipulated that nationwide commercial mobile radio service (CMRS) providers meet this metric requirement by April 3, 2023. The ruling is effective on March 16, 2020.

Pertaining to this ruling, the FCC is also requesting comments on related stipulations. In their Fifth Further Notice of Proposed Rulemaking, they seek comment on adopting a timeline narrowing the z-axis (vertical) location accuracy metric. They would also like input about whether it would be technologically feasible to achieve a 2-meter metric, and if so, over what time frame? The FCC encourages stakeholders, researchers, and the public to provide feedback on what additional steps they can take to facilitate their long-term location accuracy objectives. As advocates of people with disabilities in the telecommunications realm, we must consider that the new z-axis rule is compatible with text-to-911 as well as mobile calls that are often critical for people with speech and hearing disabilities, and others unable to use voice when communicating with 911. The FCC requests comments on or before February 18, 2020, and reply comments on or before March 16, 2020 [Source: Federal Register, Volume 85, Issue 11]

ADDITIONAL INFORMATION:

[Final Rule \[**PS Docket No. 07-114**\]](#)

<https://docs.fcc.gov/public/attachments/DOC-361786A1.pdf>

FCC: ON THE IMPROVEMENT OF VIDEO RELAY SERVICE (VRS)

January 9, 2019 – The Federal Register published the FCC's *Report and Order (R&O) on Allowing At-Home Call Handling for Video Relay Service (VRS)* [**CG Docket Nos. 03-123 and 10-51**]. VRS is a type of Telecommunications Relay Services (TRS) that enables people with hearing or speech disabilities who use sign language to make telephone calls over broadband with a videophone. The VRS system also allows ASL users to communicate directly with other ASL users via video (Federal Register, Vol. 84, No. 109, 2019).

In the R&O, the FCC seeks to permanently authorize VRS providers to allow Communication Assistants (CA) working at home, rather than at call centers, to handle VRS calls, if the

provider meets the applicable personnel, technical, and environmental standards. The FCC's R&O also seeks to adopt the personnel, technical, and environmental safeguards from the pilot program in simplified form while eliminating some unnecessary requirements. Finally, the FCC's R&O aims to streamline the pilot program monitoring, oversight, auditing, and inspection requirements, eliminating unnecessary filings. [Source: Federal Register]

ADDITIONAL INFORMATION:

[FCC's Report and Order \(R&O\) on Allowing At-Home Call Handling for Video Relay Service \(VRS\) \[CG Docket Nos. 03-123 and 10-51\]](https://docs.fcc.gov/public/attachments/DOC-361787A1.pdf)

<https://docs.fcc.gov/public/attachments/DOC-361787A1.pdf>

FCC ISSUES PROPOSED RULEMAKING ON HEARING-AID COMPATIBLE HANDSETS

January 9, 2019 – The FCC released its *Notice of Proposed Rulemaking (NPRM) on Amendment of the Commission's Rules Governing Standards for Hearing Aid-Compatible Handsets* [**WT Docket No. 20-3**]. In this document, the FCC seeks to update the requirement of manufacturers and service providers for handsets that meet specified technical criteria for hearing aid compatibility. Presently, these two entities comply with the 2011 standards set by the American National Standards Institute (ANSI); however, ANSI has since adopted new technical specifications for handsets for hearing aid compatibility. The FCC seeks to initiate a rulemaking that incorporates the 2019 ANSI Standard into the Commission's rules.

Specifically, the Notice proposes to require use of the 2019 ANSI Standard for evaluating hearing aid compatibility after a two-year transition period and extend the Commission's current volume control deadline to coincide with the start of exclusive use of the 2019 standard; require that new handset models can be tested for certification using either the 2011 and 2019 ANSI Standards during the transition period; update and streamline the Commission's hearing aid compatibility labeling requirements so that consumers will have the information they need to understand and evaluate the hearing aid compatibility of a handset; remove unnecessary or superseded rule provisions and seek comment on ways to simplify and update the hearing aid compatibility rules [Source: Federal Register]

ADDITIONAL INFORMATION:

[Notice of Proposed Rulemaking \(NPRM\) on Amendment of the Commission's Rules Governing Standards for Hearing Aid-Compatible Handsets \[WT Docket No. 20-3\]](https://docs.fcc.gov/public/attachments/DOC-361786A1.pdf)

<https://docs.fcc.gov/public/attachments/DOC-361786A1.pdf>

WIRELESS RERC UPDATES

TOP 25 OF 2019

The Wireless RERC produced our annual content review of the TDPH. The top five most cited words for 2019 were access, policy, conference, research, and devices. In contrast, the most prevalent topics in 2018 were emergency, services, research, communications, and inclusive. This past year's hot topics included increased access to public spaces and society via wireless technologies and next-generation connected devices, the continued expansion of



accessibility policy, the increased development of assistive technology research and design, and improved inclusive designs of smart devices and other wireless technologies.

The rise of next-generation connected devices was kickstarted in March of 2019 with an FCC ruling. Recall that the FCC voted to broaden the frequency ranges from 95 GHz to 3 THz for possible use with wireless communications as a 6G network. The FCC hoped that it would give innovators strong incentives to develop new technologies using these airwaves while also protecting existing uses. This past summer, the increased access to democratic processes became a reality for residents with disabilities in Colorado. Colorado passed Modifications to the Uniform Election Code (HB19-1278) and Voting Access for People with Disabilities (SB19-202) Acts to expand access to voting for all eligible Coloradans. SB19-202 gave Coloradans with disabilities the ability to vote independently and privately using nonvisual or low vision access technologies.

Furthermore, the development of accessibility policy flourished in 2019. In August, the California Supreme Court provided an expanded opinion in *White v. Square, Inc.*, No. S249248. The issues presented to the Supreme Court delve into whether a plaintiff has experienced discrimination by being denied access or only has limited access to a business's website, which results in the individual(s) not being able to complete an intended transaction. The California Supreme Court ruled in favor of the plaintiff. The increased development of assistive technology research and design constantly appeared in TDPH stories. In September, the Video Relay Service filing focused on technology access in public spaces.

Finally, the improved inclusive design of wireless devices appeared numerous times in our monthly newsletter. At this year's Worldwide Developers Conference, Apple announced its accessibility efforts, highlighting the HoverText and AssistiveTouch menu as key features that improve accessibility for people with disabilities. HoverText allows the user to place their mouse pointer over a selection of text, and it produces a bubble with said text enlarged. Text can be enlarged up to 128 pt (Herrlinger). Though we have farther to go, 2019 was full of advancements in wireless technology and accessibility.

WIRELESS RERC DESIGN THINKING WORKSHOP AT ATIA 2020

January 29, 2020 - The Wireless RERC hosted a fun and interactive Inclusive Design Thinking workshop during the annual Assistive Technology Industry Association (ATIA). Participants learned to apply design thinking towards and brainstormed innovative ideas and solutions to everyday challenges. The workshop was a guided session for participants to understand how this process is applicable across different industries. Specifically, they addressed:

- Building empathy with target users
- Background discussion about design thinking
- Developing a deeper understanding of problem space

WIRELESS RERC INPUT TO FEMA'S COMPREHENSIVE PREPAREDNESS GUIDE 101

January 14, 2020 - Salimah LaForce, Wireless RERC, and Danny Housley, Center for Inclusive Designs and Innovation, provided input to the Federal Emergency Management Agency's 2020 Revision of Comprehensive Preparedness Guide 101: Developing and Maintaining Emergency Operations Plans. The last time the Guide was updated was in 2010, predating the commercial availability of Wireless Emergency Alerts. As such, recommendations were made to update the communications sections to make reference to mobile emergency alerting and to include guidance on elements of accessible emergency messaging. We also recommend that they expand their hazard and risk assessment section to highlight that some people in the jurisdiction may be particularly at risk during and in the wake of disaster. These include people who rely on electrical power to operate their life-sustaining durable medical equipment at home. Also, people who rely on assistive technologies to communicate and/or navigate their environments. Also, beyond the identification of populations who have increased risk of harm during emergency events, we recommended advising jurisdictions to assess their capabilities and resources to respond to those that have been identified as needing "additional assistance." For example, though registries of people with disabilities never account for all people with disabilities that live in the jurisdiction, those that have registered have the expectation that "help is on the way." Help is not always on the way due to a variety of

reasons not always under the emergency response personnel's control. What can be controlled, however, is incorporating a response plan specifically for the people on the registries and others identified as needing "additional assistance...in advance of, during, and following an emergency." Other issues addressed include:

- References to people with Limited English Proficiency mentioning people whose first language is American Sign Language (ASL), because they are not always thought of as needing language accommodation.
- Use of the term special in relation to needs and how it can create or reinforce a cognitive bias.
- Specifically mentioning assistive technology (AT), and the importance of not separating a person from their AT.
- Having AT readily available in a shelter situation.

ADDITIONAL INFORMATION:

[cpg101 feedback laforce and housley 20200114.xlsx](#)

OTHER ITEMS OF INTEREST

THE IMPACT OF 5G ON ADVANCED ASSISTIVE DEVICES

January 22, 2020 – The conversation about integrating 5G into the fabric of telecommunications in the United States has become contentious; however, some developers are showing the profound impact that advances in broadband technology may have on increasing the development and effectiveness of assistive devices. FastCompany highlights a team of engineers, designers, and entrepreneurs from Harvard and MIT who have combined their efforts to create the Loro device. Loro is a small artificial intelligence (AI)-enabled assistive device that can be attached to a wheelchair and provides 360-degree visibility, smart communications, connectivity to smart home devices, and other high-tech solutions. One noted feature is Loro's ability to guide a wheelchair user while they back up without concerns about hitting another object. Loro was, in part, made possible through 5G technology, which allows a large amount of data to move quickly. In other cases, 5G is assisting developers and researchers in effective augmented-reality devices. Skepticism about the safety and health-related concerns of 5G remains for some policymakers, researchers, and developers. But many are simply excited about the possibilities and technological advancements that 5G has to offer. [Source: Taylor Smith via FastCompany]

ADDITIONAL INFORMATION:

[This 5G application could make a profound impact on people's lives](https://www.fastcompany.com/90454653/this-5g-application-could-make-a-profound-impact-on-peoples-lives)

<https://www.fastcompany.com/90454653/this-5g-application-could-make-a-profound-impact-on-peoples-lives>

ASSISTIVE TECHNOLOGY IN EDUCATIONAL SETTINGS

January 22, 2020 – In the U.K., the Universities, Science, Research, and Innovation Minister Chris Skidmore announced plans to fund assistive technology for students with disabilities in approximately 100 schools and colleges. This pilot trial seeks to bridge the learning gap by providing innovations such as 'text-to-speech' and 'speech recognition' software for classroom and home use. The pilot will also include the use of eye-gaze technology to assist students with motor impairments in communicating and helping to level the playing field for students with disabilities. The trial study has a 300,000-pound fund which is a part of a larger investment of 10 million pounds through the Department's EdTech Strategy to examine the effects of assistive educational technology. The pilot program will run from April 2020 until the end of the 2020-2021 academic year with hopes of ascertaining the impact of educational technology devices for students with disabilities [Source: U.K. Department of Education via Gov.UK]

ADDITIONAL INFORMATION:

[High-tech products to level the playing field for disabled pupils](https://www.gov.uk/government/news/high-tech-products-to-level-the-playing-field-for-disabled-pupils)

<https://www.gov.uk/government/news/high-tech-products-to-level-the-playing-field-for-disabled-pupils>

THE IMPACT OF VIRTUAL REALITY FOR CHILDREN WITH DISABILITIES

January 22, 2020 – The National Institute of Child Health and Human Development (NICHD) is developing the latest virtual reality and gaming technologies to assist children with disabilities. The benefits of VR become increasingly transparent through the results of evidence-based therapy. VR is currently being utilized as a rehabilitation strategy to help children strengthen their balance and standing endurance while having fun. Dr. Levac, a prominent researcher and NICHD grantee, explored and quantified improvements in performance through game repetition to determine whether there is a difference between the practice of the same task in virtual and physical environments. The overarching aim of this research project is to understand how well the children transfer the skills they are learning in virtual environments to real life. This research is presently in the "experimental" phase, but scientists hope to understand how to help therapists make informed decisions about the best

technology to support achieving the desired health outcomes. [Source: OpenAccessGovernment]

ADDITIONAL INFORMATION:

[Virtual reality boosts physical therapy for children with disabilities](https://www.openaccessgovernment.org/vr-children-with-disabilities/81257/)

<https://www.openaccessgovernment.org/vr-children-with-disabilities/81257/>

LYFT GOES LOW-TECH TO BE INCLUSIVE OF RIDESHARES WITHOUT SMARTPHONES

January 15, 2020 – Consumer Cellular, a wireless provider, recently rolled out their CC Go program that allows customers to request a ride for themselves or their loved ones through a Lyft partnership. Consumer Cellular aims to increase mobility for seniors and people with disabilities. The CC Go ride program is relatively easy. Customers request their ride appointment through Consumer Cellular’s call center at 888-750-2240 (CCGO), and a customer service agent will set the ride appointment. The CC Go ride is also trackable, like the Lyft app, which allows a designated caregiver or family member to be digitally alerted when a ride is booked and until the loved one is dropped off at their final destination. The CC Go program is unique because it is accessible for Consumer Cellular customers who utilize landlines and flip-phones. The CC Go program also handles all personal information, billing, and list of regular destinations which eliminates the need to create a Lyft account. To encourage those with limited mobility options to try out CC Go, Consumer Cellular is offering the first two rides for free, with a limit of \$15, for the first 30 days after signing up [Source: Angie Galimanis via Business Wire Press Release]

ADDITIONAL INFORMATION:

[Lyft Now Available to all Consumer Cellular Customers, Including Those with Flip Phones](https://www.businesswire.com/news/home/20200115005648/en/Lyft-Consumer-Cellular-Customers-Including-Flip-Phones)

<https://www.businesswire.com/news/home/20200115005648/en/Lyft-Consumer-Cellular-Customers-Including-Flip-Phones>

THE CAPABILITIES OF THE WEARABLE ORCAM DEVICE

January 7, 2020 – The OrCam Company first appeared in the assistive telecommunications community seven years ago with the wearable OrCam device created for people with visual disabilities. The OrCam device reads texts aloud, recognizes faces, and identifies objects. The OrCam company has expanded its assistive device collection to people with hearing and visual disabilities. The first wearable is the OrCam Read which is intended for those with vision loss or people with difficulty reading. This device is approximately the size of a pen and it uses

integrated lasers to highlight sections of text (either printed or onscreen), then it reads that text aloud.

OrCam has also released the OrCam Hear, compatible with third-party Bluetooth hearing aids, that utilizes a combination of lip-reading technology and artificial intelligence-based algorithms to identify the primary speaker in a conversation. This device aims to reduce the “cocktail party effect” that many Bluetooth hearing aids don’t address. Instead of amplifying all of the noise in the room, the device identifies the main speaker, isolates their voice, and then transmits the conversation to the hearing aid. Finally, the OrCam MyMe device, which is still in development, will be a wearable AI-enabled camera device that recognizes faces. Then the device wirelessly communicates with a connected app on the user’s smartphone and gives information about the individual such as the person’s name, contact information, LinkedIn Profile, and other details. OrCam is still working on this device to ensure that facial photos are not stored on the device or online. The OrCam company has continually produced assistive devices that capitalize on the potential of artificial intelligence [Source: Ben Coxworth via News Atlas].

ADDITIONAL INFORMATION:

[OrCam's new assistive devices are claimed to seek out speakers, identify strangers, and more](https://newatlas.com/wearables/orcam-new-assistive-devices/)

<https://newatlas.com/wearables/orcam-new-assistive-devices/>

30TH ANNIVERSARY OF ADA WILL HAVE A YEARLONG CELEBRATION

January 7, 2020 – The U.S. Department of Labor’s Office of Disability Employment Policy (ODEP) recently published its plans for a yearlong celebration of the Americans with Disabilities Act (ADA). This year’s theme is focused on “Increasing Access and Opportunity.” The ODEP intends to host and highlight commemoration activities such as events, speeches, and new compliance assistance resources. To learn more about the department’s ADA celebration, resources, and publications, visit <https://www.dol.gov/odep/topics/ADA.htm>. To learn more about its disability-related policy work, visit <https://www.dol.gov/odep/>. [Source: MyChesCo]

ADDITIONAL INFORMATION:

[U.S. Department of Labor Launches Yearlong Celebration of Americans with Disabilities Act’s 30th Anniversary](https://mychesco.com/a/news/national/u-s-department-of-labor-launches-yearlong-celebration-of-americans-with-disabilities-acts-30th-anniversary/)

<https://mychesco.com/a/news/national/u-s-department-of-labor-launches-yearlong-celebration-of-americans-with-disabilities-acts-30th-anniversary/>

THE NATIONAL INCLUSIVE DESIGN CHALLENGE RELEASED

January 7, 2020 – The U.S. Department of Transportation (USDOT) published a Request for Information (RFI) for their Inclusive Design Challenge. This competition offers \$5 million to interested stakeholders for their inclusive designs on automated vehicles for people with physical, sensory, and/or cognitive disabilities. These designs will operate as solutions that address mobility obstacles for people with disabilities. The USDOT’s Inclusive Design Challenge was open through January 31, 2020. Through the RFI, the USDOT requested feedback from academia, research laboratories, industry, government agencies, and other stakeholders on the scope and evaluation criteria for the Inclusive Design Challenge [Source: USDOT via MassTransit Magazine]

ADDITIONAL INFORMATION:

[USDOT releases RFI for ‘Inclusive Design Challenge’](#)

<https://www.masstransitmag.com/alt-mobility/autonomous-vehicles/press-release/21120301/us-department-of-transportation-dot-usdot-releases-rfi-for-inclusive-design-challenge>

UPCOMING EVENTS

ANNUAL RELEASE OF THE DISABILITY STATISTICS COMPENDIUM

The Institute on Disability/UCED has opened its registration for the release of the Annual Disability Statistics Compendium on February 11, 2020, in Washington, DC. The Annual Disability Statistics Compendium provides national and state-level statistics on people with disabilities and the government programs that serve the population. This year they also have two special panels: rural disability statistics and opioid use and behavioral health for people with disabilities.

ADDITIONAL INFORMATION:

[Registration](#)

https://researchondisability.org/annual-compendium-registration?mc_cid=31d55a2aa6&mc_eid=5591b5babc

ACL LISTENING SESSIONS

The Administration for Community Living (ACL) invites people with disabilities, older adults, interested stakeholders, and caregivers to share their experiences in emergencies or disaster situations. They would like to explore how these individuals plan, respond, and recover from

these challenging situations. Listening sessions will help the ACL understand how they can improve their support, training, and technical assistance in times when emergencies and disasters hit our nation. To participate in the conversation, the ACL is hosting a group discussion where questions in the areas of preparedness, evacuation, response, and recovery will be asked one at a time by a facilitator and answered one at a time by the participants. Space is limited in each location and participants are asked to [register](#) in advance.

- Columbia, SC - February 13th
- Chico, CA - February 18th
- San Bernardino, CA - February 19th
- Houston, TX - February 24th
- Sixton, TX - February 25th

Can't attend in person? The ACL still wants to hear from you! Opportunities to provide written comments to share your experiences are available [here](#).

CSUN ASSISTIVE TECHNOLOGY CONFERENCE

The 35th CSUN Assistive Technology Conference (CSUN 2020) will convene March 9 through 13, 2020, in Anaheim, California. CSUN is the largest international conference addressing topics regarding people with disabilities and assistive and accessible technologies. Conference topics typically pertain to the domains of education, employment and workplace, entertainment, independent living, law and policy, and transportation.

ADDITIONAL INFORMATION:

[CSUN 2020](#)

<https://www.csun.edu/cod/conference/sessions/>

TECHNOLOGY AND DISABILITY POLICY HIGHLIGHTS, JANUARY 2020

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The Technology and Disability Policy Highlights (TDPH) is a monthly newsletter that reports on national public policy events and tracks emerging issues of interest to individuals with disabilities, researchers, policymakers, industry, and advocacy professionals. The Wireless RERC is a research center that promotes universal access to wireless technologies and explores their innovative applications in addressing the needs, user experiences, and expectations of people with disabilities. For more information on the Wireless RERC, please visit our website at [<http://www.wirelessrerc.org>]. For further information on items

summarized in this report, or if you have items of interest that you would like included in future editions, please contact this edition's editors Salimah LaForce [salimah@cacp.gatech.edu] or Dara Bright [dara.bright@cacp.gatech.edu]. If you wish to update your email address, send an email to salimah@cacp.gatech.edu.

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The contents of this newsletter were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90RE5025-01-00). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this newsletter do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government.