

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of)	
)	
Implementation of Sections 716 and 717 of the)	CG Docket No. 10-213
Communications Act of 1934, as Enacted by the)	
Twenty-First Century Communications and Video)	
Accessibility Act of 2010)	

**BIENNIAL REPORT TO CONGRESS AS REQUIRED BY THE TWENTY-FIRST CENTURY
COMMUNICATIONS AND VIDEO ACCESSIBILITY ACT OF 2010**

Adopted: October 9, 2018

Released: October 9, 2018

By the Chief, Consumer and Governmental Affairs Bureau:

TABLE OF CONTENTS

	Paragraph #
I. INTRODUCTION AND SCOPE OF REPORT	1
II. ACCESSIBILITY STATUTES	3
A. Section 255	3
B. Section 716	4
C. Section 718	6
III. COMPLIANCE WITH SECTIONS 255, 716, AND 718.....	7
A. Accessibility.....	8
1. Sections 255 and 716: Telecommunications and Advanced Communications Services and Equipment—Accessibility Improvements.....	8
2. Sections 255 and 716: Telecommunications and Advanced Communications Services and Equipment—Accessibility Gaps	12
3. Section 718: Internet Browsers Built into Mobile Phones.....	18
B. Usability.....	19
C. Inclusion of People with Disabilities in Product and Service Design and Development.....	21
IV. ACCESSIBILITY BARRIERS TO NEW COMMUNICATIONS TECHNOLOGIES.....	22
V. COMPLAINTS RECEIVED PURSUANT TO SECTION 717	23
A. Number and Nature of Complaints Received	27
B. Actions Taken to Resolve Accessibility Complaints.....	30
C. Time Used to Resolve Accessibility Complaints.....	32
D. Actions for Mandamus and Appeals Filed.....	33
VI. EFFECT OF SECTION 717’S RECORDKEEPING AND ENFORCEMENT REQUIREMENTS ON THE DEVELOPMENT AND DEPLOYMENT OF NEW COMMUNICATIONS TECHNOLOGIES	34
APPENDIX A – List of Commenters	
APPENDIX B – Commission Actions to Implement the CVAA Since October 8, 2016	
APPENDIX C – Commission Outreach and Education	

I. INTRODUCTION AND SCOPE OF REPORT

1. This Biennial Report (Report) is for submission to the Committee on Commerce, Science, and Transportation of the U.S. Senate and the Committee on Energy and Commerce of the U.S. House of Representatives, in accordance with the Twenty-First Century Communications and Video Accessibility Act of 2010 (CVAA).¹ The Report assesses industry compliance over the past two years with sections 255, 716, and 718 of the Communications Act of 1934, as amended (the Act), which require telecommunications services and equipment, advanced communications services (ACS) and equipment used for ACS, and Internet browsers built into mobile phones (collectively, covered products and services) to be accessible to and usable by individuals with disabilities.² The Report also addresses accessibility barriers to new communications technologies,³ and the effect of the accessibility-related recordkeeping and enforcement requirements under section 717 of the Act on the development and deployment of such technologies.⁴ Finally, the Report provides information about the number and nature of, and actions taken to resolve, complaints alleging violations of sections 255, 716, and 718 for the period of January 1, 2016, through December 31, 2017, including the length of time that the Federal Communications Commission (FCC or Commission) took to resolve such complaints, and the number, status, nature, and outcome of any actions for mandamus filed, and of any appeals filed, pertaining to such complaints.⁵

2. To prepare this Report's findings, the Commission's Consumer and Governmental Affairs Bureau (CGB or Bureau) sought comment from the public in two public notices. On April 5, 2018, the Bureau released the *2018 CVAA Assessment Public Notice* inviting comments on a variety of matters concerning the level of accessibility and usability of covered products and services, as well as the existence of accessibility barriers to new communications technologies since the release of the *2016*

¹ Pub. L. No. 111-260, 124 Stat. 2751 (2010) (as codified in various sections of 47 U.S.C.); Pub. L. No. 111-265, 124 Stat. 2795 (2010) (making technical corrections to the CVAA); *see also* 47 U.S.C. § 618(b).

² 47 U.S.C. § 618(b)(1)(A); *see also* 47 U.S.C. §§ 255, 617, 619; 47 CFR Parts 6, 7, 14.

³ 47 U.S.C. § 618(b)(1)(B). As held true for prior biennial reports, for purposes of this Report, "new communications technologies" may be either within or outside the scope of telecommunications, ACS, or Internet browser technologies covered under sections 255, 716, and 718 of the Act. *See, e.g., Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010*, Biennial Report to Congress as Required by the Twenty-First Century Communications and Video Accessibility Act of 2010, 31 FCC Rcd 11065, 11084, para. 44 & n.165 (CGB 2016) (*2016 CVAA Biennial Report*); *Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010*, Biennial Report to Congress as Required by the Twenty-First Century Communications and Video Accessibility Act of 2010, 27 FCC Rcd 12204, 12220-22, paras. 43, 45 (CGB 2012) (*2012 CVAA Biennial Report*).

⁴ 47 U.S.C. § 618(b)(1)(G). Section 717(a) requires covered entities to keep records of their efforts to implement sections 255, 716, and 718, including information about their efforts to consult with people with disabilities, descriptions of the accessibility features of their products and services, and information about the compatibility of these products and services with peripheral devices or specialized customer premises equipment (CPE) commonly used by people with disabilities to achieve access. 47 U.S.C. § 618(a)(5)(A). Under the Commission's rules, covered entities must certify annually to the Commission that they have kept records in accordance with this requirement. *See* 47 U.S.C. § 618(a)(5)(B); 47 CFR § 14.31. Section 717(a) also contains procedures for complaints alleging violations of section 255, 716, or 718. 47 U.S.C. § 618(a)(1)-(4); 47 CFR §§ 14.30-14.38. In response to an informal complaint, the manufacturer or service provider "must produce documents demonstrating its due diligence in exploring accessibility and achievability . . . throughout the design, development, testing, and deployment stages of a product or service." 47 CFR § 14.36(a).

⁵ 47 U.S.C. § 618(b)(1)(C)-(F).

CVAA Biennial Report.⁶ The Bureau also sought comment on any impact that the accessibility recordkeeping requirements and enforcement measures may have had on the development and deployment of new communications technologies.⁷ The American Council of the Blind (ACB); Cisco Systems, Inc. (Cisco); CTIA; Teresa Myers; Rehabilitation Engineering Research Center (RERC) for Wireless Inclusive Technologies (Wireless RERC); TDI et al.;⁸ and the Telecommunications Industry Association (TIA) filed comments. ACB and DeafBlind Citizens in Action (DBCA) filed *ex parte* comments.⁹ On August 9, 2018, the Bureau released the *2018 CVAA Tentative Findings Public Notice*, in which it sought comment on its tentative findings pursuant to section 717(b)(2).¹⁰ The National Federation of the Blind (NFB) and TDI et al. filed comments in response to this second notice. In this Report, we affirm our tentative findings, which are supported by the comments filed in response to these two public notices.

II. ACCESSIBILITY STATUTES

A. Section 255

3. Section 255 of the Act requires providers of telecommunications service and manufacturers of telecommunications equipment or customer premises equipment (CPE) to ensure that such services and equipment are accessible to and usable by individuals with disabilities, if readily achievable.¹¹ When these requirements are not readily achievable, covered entities must ensure that their

⁶ *Consumer and Governmental Affairs Bureau Seeks Comment on the Accessibility of Communications Technologies for the 2018 Biennial Report Required by the Twenty-First Century Communications and Video Accessibility Act*, CG Docket No. 10-213, Public Notice, DA 18-340 (CGB Apr. 5, 2018), 2018 WL 1693062 (*2018 CVAA Assessment Public Notice*).

⁷ *Id.* para. 14.

⁸ Comments by TDI et al. were jointly filed by Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI); National Association of the Deaf (NAD); Deaf and Hard of Hearing Consumer Advocacy Network; Association of Late-Deafened Adults, Inc.; Hearing Loss Association of America (HLAA); Cerebral Palsy and Deaf Organization; Deaf Seniors of America; National Association of State Agencies of the Deaf and Hard of Hearing, Inc.; Deaf/Hard of Hearing Technology RERC; Universal Interface & Information Technology Access RERC; National Association for State Relay Administration; and Telecommunications Equipment Distribution Program Association.

⁹ Letter from Anthony Stephens, Director of Advocacy and Governmental Affairs, ACB, to CGB, FCC, CG Docket No. 10-213 (filed May 9, 2018) (ACB *Ex Parte* Comments); Letter from George Stern, Vice President, DBCA, to CGB, FCC, CG Docket No. 10-213 (filed July 2, 2018) (DBCA *Ex Parte* Comments).

¹⁰ *Consumer and Governmental Affairs Bureau Seeks Comment on Tentative Findings for the 2018 Twenty-First Century Communications and Video Accessibility Act Biennial Report*, CG Docket No. 10-213, Public Notice, 2018 WL 3816851, DA 18-832 (CGB Aug. 9, 2018) (*2018 CVAA Tentative Findings Public Notice*); *see also* 47 U.S.C. § 618(b)(2) (requiring the Commission to seek public comment on its tentative findings prior to submission of each biennial report to Congress). For clarity, we cite to comments submitted in response to this second Public Notice as “Tentative Findings Comments.”

¹¹ 47 U.S.C. § 255(b)-(c); *see also* 47 CFR Parts 6, 7. “Readily achievable” is defined as “easily accomplishable and able to be carried out without much difficulty or expense.” 42 U.S.C. § 12181(9). The Commission’s section 255 rules cover, among other things, telephone calls, call waiting, speed dialing, call forwarding, computer-provided directory assistance, call monitoring, caller identification, call tracing, and repeat dialing. *See Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996: Access to Telecommunications Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities*, Report and Order and Further Notice of Inquiry, 16 FCC Rcd 6417, 6448-49, para. 77 (1999); *see also* 47 CFR Part 6. Equipment covered under section 255 includes, but is not limited to, telecommunications equipment and CPE, such as wireline, cordless, and wireless telephones, fax machines, and answering machines. The Act defines telecommunications equipment as “equipment, other than customer premises equipment, used by a carrier to provide telecommunications services, and includes software integral to such equipment (including upgrades).” 47 U.S.C. § 153(52). It defines “customer premises equipment” as “equipment

(continued....)

services and equipment are compatible with existing peripheral devices or specialized CPE commonly used by individuals with disabilities to achieve access, if readily achievable.¹² Pursuant to the Commission's rules, section 255's accessibility obligations extend as well to interconnected voice over Internet protocol (VoIP) service providers and equipment manufacturers.¹³

B. Section 716

4. Section 716 of the Act requires providers of ACS and manufacturers of equipment used for ACS to ensure that their services and equipment are accessible to and usable by individuals with disabilities, unless doing so is not achievable (defined as "with reasonable effort or expense").¹⁴ "Advanced communications services" include: (1) interconnected VoIP service; (2) non-interconnected VoIP service; (3) electronic messaging service; and (4) interoperable video conferencing service.¹⁵ In contrast to interconnected VoIP services, which enable people to make and receive calls to and from the public switched telephone network (PSTN),¹⁶ non-interconnected VoIP services include services that enable real-time voice communications either to or from the PSTN (but not both), or which neither begin nor end on the PSTN.¹⁷ Electronic messaging services include services such as e-mail, short message service (SMS) text messaging, and instant messaging, which enable real-time or near real-time text messages between individuals over communications networks.¹⁸ Interoperable video conferencing services provide real-time video communications, including audio, to enable users to share information.¹⁹

5. The accessibility requirements for section 716 may be satisfied by the following: (1) building accessibility into the service or equipment;²⁰ or (2) using third-party applications, peripheral devices, software, hardware, or CPE that is available to consumers at nominal cost and that individuals with disabilities can access.²¹ When ensuring accessibility through either of those options is not achievable, covered entities must ensure that their services and equipment are compatible with existing

(Continued from previous page) _____

employed on the premises of a person (other than a carrier) to originate, route or terminate telecommunications." 47 U.S.C. § 153(16). In addition, the rules implementing section 255 cover voice mail and interactive voice response systems (phone systems that provide callers with menus of choices). 47 CFR Part 7; *see also* FCC, Telecommunications Access for People with Disabilities (Nov. 5, 2015), <http://www.fcc.gov/guides/disabled-persons-telecommunications-access-section-255>.

¹² 47 U.S.C. § 255(d).

¹³ *See IP-Enabled Services; Implementation of Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996: Access to Telecommunications Service, Telecommunications Equipment and Customer Premises Equipment by Persons with Disabilities; Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities; Use of N11 Codes and Other Abbreviated Dialing Arrangements*, Report and Order, 22 FCC Rcd 11275 (2007).

¹⁴ 47 U.S.C. § 617(a)(1), (b)(1), (g); 47 CFR §§ 14.20(a)(1)-(2), 14.10(b).

¹⁵ 47 U.S.C. § 153(1); *see also* 47 CFR § 14.10(c). Section 716 of the Act does not apply to services or equipment, including interconnected VoIP services and equipment, which were subject to section 255 on October 7, 2010. 47 U.S.C. § 617(f). Those services and equipment remain subject to the requirements of section 255. *Id.*

¹⁶ *See* 47 U.S.C. § 153(25) (referencing 47 CFR § 9.3).

¹⁷ *See* 47 U.S.C. § 153(36).

¹⁸ *See* 47 U.S.C. § 153(19).

¹⁹ 47 U.S.C. § 153(27).

²⁰ 47 U.S.C. § 617(a)(2)(A), (b)(2)(A).

²¹ 47 U.S.C. § 617(a)(2)(B), (b)(2)(B).

peripheral devices or specialized CPE commonly used by individuals with disabilities to achieve access, unless that is not achievable.²²

C. Section 718

6. Section 718 requires mobile phone service providers and manufacturers to make Internet browsers built into mobile phones accessible to and usable by people who are blind or have a visual impairment, unless doing so is not achievable.²³ This requirement may be satisfied with or without the use of third-party applications, peripheral devices, software, hardware, or CPE that is available to consumers at nominal cost and that individuals with disabilities can access.²⁴

III. COMPLIANCE WITH SECTIONS 255, 716, AND 718

7. Based on the comments filed in response to the *2018 CVAA Assessment Public Notice* and the *2018 CVAA Tentative Findings Public Notice*, and as described further herein, we make the following findings with respect to compliance with obligations contained in sections 255, 716, and 718. Overall, we find that continued improvements in the accessibility and usability of many covered products and services have been made since the *2016 CVAA Biennial Report*, and that there has been a continued effort by the affected industries to include people with disabilities in the design and development of their products and services. Nevertheless, as discussed below, we also find that some accessibility gaps persist.

A. Accessibility

1. Sections 255 and 716: Telecommunications and Advanced Communications Services and Equipment—Accessibility Improvements

8. We find that over the past two years, there have been continued improvements in the accessibility of telecommunications and advanced communications services and equipment.²⁵ We base our finding on the following: (1) the emerging availability of enterprise interconnected VoIP telephones with built-in accessibility features for people who are blind or visually impaired; (2) improved access to the telecommunications and ACS features of smartphones and other devices for people with a wide range of disabilities; and (3) an increased percentage of hearing aid compatible (HAC) wireless handsets.

9. *Enterprise telephones.* Enterprise telephones in the workplace have presented significant accessibility challenges for individuals who are blind or visually impaired.²⁶ In 2018, Cisco took a major step to remedy this deficiency by building accessibility for people who are blind or visually impaired into its Series 8800 enterprise VoIP telephone.²⁷ To achieve this, Cisco worked with ACB and other members of the blind community to identify and make accessible telephone features that are needed by people who are blind or visually impaired in the workplace.²⁸ The new product is a desktop wireline telephone that

²² 47 U.S.C. § 617(c).

²³ 47 U.S.C. § 619(a); 47 CFR § 14.61(a).

²⁴ 47 U.S.C. § 619(b); 47 CFR § 14.61(b).

²⁵ Although we addressed compliance with sections 255 and 716 separately in prior biennial reports, given the increasing overlap in the availability of telecommunications and advanced communications services, features, and functions in devices that are covered by both of these sections, here we address these together.

²⁶ See Cisco Comments at 4 & n.12 (citing Anthony Stephens, *Breaking Barriers for Those Who Are Blind and Visually Impaired*, Cisco Blog Collaboration (Apr. 11, 2018), <https://blogs.cisco.com/collaboration/breaking-barriers-for-blind-and-visually-impaired>) (Breaking Barriers Blog)).

²⁷ Cisco Comments at 1-2.

²⁸ Cisco Comments at 4 (noting the high unemployment “among individuals with vision disabilities, who must overcome the ‘misconceptions of what a person with vision impairment is capable of doing’”) (quoting Breaking Barriers Blog) (continued....)

uses integrated text-to-speech software and tone indicators to make information displayed on its screen accessible.²⁹ According to Cisco, “the phone will announce digits when a user dials a telephone number, read aloud information when users navigate settings, announce the caller ID for an incoming call, as well as provide voice announcements for other features.”³⁰ Employers who already provide Cisco Series 8800 enterprise telephones to their employees can enable these accessibility features through a software update without buying new equipment.³¹

10. *Smartphones.* Information provided in the record suggests that a variety of smartphones are available to deliver accessible telecommunications and ACS features to a wide range of individuals with disabilities, including people who are blind or visually impaired, deaf-blind, deaf or hard of hearing, or have physical, mobility or dexterity limitations, or cognitive disabilities.³² In addition to speech-to-text and text-to-speech capabilities,³³ for example, CTIA reports that new smartphone functions could enable consumers to use phones with gestures, single touch, and eye movements,³⁴ as well as features that improve screen readability, such as font and display size, color inversion, color correction, and magnification.³⁵ It further reports that accessibility solutions for individuals with cognitive disabilities include simplified user interfaces, such as one-step functionality and biometric methods, such as fingerprinting or eye scans, instead of passwords, to operate a device or an app on iPhone and Android devices.³⁶ CTIA also reports that wireless service providers offer a wide range of service plans designed to meet the specific needs of people with disabilities, including options for unlimited calling, text messaging, e-mail, and video calling, as well as “accessibility plans” for customers who do not use voice

(Continued from previous page)

Barriers Blog); *see also* ACB Comments at 1 (noting the need for technology to be accessible so that “Americans who are blind and visually impaired [can] maintain a competitive edge in the workplace”).

²⁹ Cisco Comments at 2 (stating that its Series 8800 desk phone is the “first enterprise-grade desk phone that includes built-in text-to-speech functionality capable of ‘conveying vital information on the display through audible voice and tone indicators’”) (citing Angie Mistretta, *Cisco Collaborates on Phones with American Council of the Blind*, Cisco Blog Collaboration, <https://blogs.cisco.com/collaboration/ip-phones-accessible-to-the-blind> (Mar. 19, 2018)).

³⁰ Cisco Comments at 2 (citing Amanda Davis, *Assistive Tech for the Blind Takes Center Stage at CSUN 2018*, The Institute—IEEE Blog (Mar. 30, 2018), <http://theinstitute.ieee.org/ieee-roundup/blogs/blog/assistive-tech-for-the-blind-takes-center-stage-at-csun-2018>).

³¹ Cisco Comments at 2.

³² *See, e.g.*, Wireless RERC Comments at 3 (noting that mobile applications can be downloaded for specific accessibility functions); ACB Comments at 2 (stating that “performance in text-to-speech and voice dictation have increased significantly”); CTIA Comments at 9-11, 13 (noting that Siri, Samsung’s Bixby, Microsoft’s Cortana, Amazon’s Alexa and Google Assistant “can all read and send text messages, make emergency calls through voice-activation, and perform numerous other tasks for the user through simple vocal prompts”).

³³ CTIA Comments at 10-13 (describing features such as voice commands, text-to-speech, and speech-to-text).

³⁴ *Id.* at 22-23 (reporting that “Microsoft [has] developed a smartphone app that interprets eye signals and translates them into letters, allowing people with motor neurone [*sic*] disease, also known as Lou Gehrig’s disease or ALS, to communicate with others”).

³⁵ *Id.* at 11.

³⁶ *Id.* at 24-25 (noting that, for numerous phones, the interface for managing phone settings can be changed to an easy mode); *see also id.* at 24-26 (noting the availability of larger tablets, simplified interfaces and phone screens, and clear buttons).

networks.³⁷ In addition, commenters highlight new technologies designed to make phones accessible to people who are hard of hearing, such as sound customization options and high definition (HD) voice.³⁸

11. *HAC phones.* According to the record, the wireless industry continues to exceed the Commission's minimum HAC requirements for wireless handsets.³⁹ For example, TIA reports that many of its manufacturer members already are exceeding the 85% benchmark that will go into effect in 2021.⁴⁰ Additionally, the wireless industry and consumers have committed to forming a HAC consensus group to assess whether 100% HAC compliance is achievable.⁴¹

2. Sections 255 and 716: Telecommunications and Advanced Communications Services and Equipment—Accessibility Gaps

12. Notwithstanding the significant improvements in access to communications technologies enumerated above, based on the record and disability-related complaints received by CGB, we find that gaps continue to exist with respect to (1) the availability of accessible mobile phones with low-end features, functions, and prices (collectively, non-smartphones), (2) the existence of accessible alerting features on video calls, and (3) the availability of accessible telecommunications and ACS devices for people who are deaf-blind. Each of these are discussed below. In addition, complaints received by the Bureau suggest that companies should remain aware that upgrades to their software may result in accessibility barriers if measures are not taken to test such upgrades for accessibility prior to deployment.⁴² Taking into consideration the needs of people with disabilities prior to making changes to products and services can ensure that such individuals do not lose access to features provided in such offerings.

³⁷ *Id.* at 6 (noting AT&T plans that offer “data-only network access and typically include text messaging, e-mail, Internet access, and video calling or multimedia messaging”; Sprint’s suite of messaging services; U.S. Cellular’s messaging-only plans; and T-Mobile data-only plans); *id.* (“AT&T offers specialized Accessibility Plans at varying rates developed for customers who are unable to effectively communicate over voice networks.”); *id.* (“Verizon’s Nationwide Messaging Plans include plans at a range of price points with unlimited text, picture, and video messaging, designed specifically for individuals who do not use voice minutes to communicate.”); *see also* TDI et al. Tentative Findings Comments at 3 (asserting that “deaf and hard of hearing users disproportionately use data for daily and routine communications out of necessity [(e.g., for video communication)] as compared to hearing users” and advocating for affordable unlimited data plans).

³⁸ *See* CTIA Comments at 18-19 (discussing sound balancing, mono audio that converts stereo sound into mono sound, and the ability to turn off sound and create vibration patterns); TDI et al. Comments at 5-6.

³⁹ CTIA Comments at 15-16.

⁴⁰ TIA Comments at 5.

⁴¹ *Improvements to Benchmarks and Related Requirements Governing Hearing Aid-Compatible Mobile Handsets*, Report and Order, 31 FCC Rcd 9336, 9343-44, 9349-50, paras. 20, 34-35 (2016) (establishing benchmarks for service providers and manufacturers to achieve 66% and 85% HAC compliance over a multi-year period and establishing a consensus group to make a determination regarding 100% compliance); CTIA Comments at 18 (noting that CTIA and the wireless industry have initiated engagement with associations representing consumers with hearing loss to set up this consensus group); TDI et al. Comments at 4-5 & n.13 (noting its intent to work with industry to achieve this goal); Letter from Competitive Carriers Association, CTIA, HLAA, NAD, TDI, and TIA, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 15-285 (filed Jan. 11, 2018) (providing an update on the status of the HAC consensus group).

⁴² For example, one complaint received during the period covered by this Report revealed that a company’s failure to include accessibility features in upgrades of its software, even though access had been provided in earlier versions, eliminated access for certain individuals with disabilities. *See infra* Section V, para. 28. The covered entity resolved the accessibility problem by rewriting this software. *See infra* Section V, para. 30; *see also* DBCA *Ex Parte* Comments at 1 (raising concerns about the failure to consider the needs of people who are deaf-blind in the redesign of products).

13. *Accessibility of non-smartphones for people who are blind or visually impaired.* We find that little, if any, progress has been made since the *2016 CVAA Biennial Report* with respect to the accessibility of non-smartphones used for telecommunications services and ACS, particularly for people who are blind or visually impaired.⁴³ Non-smartphones are used with wireless services and include (1) basic phones used primarily or exclusively for voice communications; and (2) feature phones used for voice communications and text messaging, with little or no computing capabilities.⁴⁴ According to commenters, some consumers choose non-smartphones for their low prices, while others prefer these phones because they do not need or want the advanced features offered on smartphones.⁴⁵

14. ACB asserts that accessible feature phones are becoming harder to find, which may limit “essential accessibility to a group unable to secure or use smartphones.”⁴⁶ For example, while the *2016 CVAA Biennial Report* noted that Odin Mobile’s feature phones might offer an accessible solution,⁴⁷ ACB reports that all of the phones offered on Odin Mobile’s website on May 8, 2018 were not in stock.⁴⁸ Additionally, according to an article published by the American Foundation for the Blind (AFB) discussing a search for feature phones across four wireless carriers,⁴⁹ only two feature phones were identified as accessible to people who are blind or visually impaired, one of which dated back to 2011.⁵⁰ ACB adds that the lack of accessibility of these types of wireless devices is problematic because the prevalence of vision loss and blindness is on the rise among seniors who are more likely to face economic barriers, and may not be able to afford costly smartphones.⁵¹ NFB concurs that greater accessibility of feature phones is needed, and emphasizes that the cost of smartphones may be the dominant factor driving consumers with visual disabilities to feature phones, given that approximately two thirds of Americans with a visual disability are unemployed or underemployed.⁵²

⁴³ See NFB Tentative Findings Comments at 1 (concurring with this statement).

⁴⁴ See *2016 CVAA Biennial Report*, 31 FCC Rcd at 11073, para. 16.

⁴⁵ See, e.g., Wireless RERC Comments at 3 (“Non-smartphones have fewer options, but in some cases may offer greater accessibility. . . . [T]here tends to be a tradeoff in functionality. Consumers vary in their preferences for smart versus non-smartphones.”); see also NFB Tentative Findings Comments at 1. NFB explains further that even “a low-end Android smartphone with [a] touchscreen . . . would require basic technology training for the newly blind or seniors, regardless of their level of vision.” NFB Tentative Findings Comments at 3, Att. A: Resolution 2018-03: Regarding the Lifeline Program and the Free Cellphone Service for Seniors and Those with Low Income.

⁴⁶ ACB *Ex Parte* Comments at 2.

⁴⁷ *2016 CVAA Biennial Report*, 31 FCC Rcd at 11074, para. 17.

⁴⁸ See ACB *Ex Parte* Comments at 1.

⁴⁹ *Id.* at 1-2 (citing Jamie Pauls, *Cell Phone Accessibility: Easier-to-Use Cell Phone Options for People with Vision Loss*, AccessWorld, Vol. 18, No. 2 (Feb. 2017), <https://www.afb.org/afbpress/pubnew.asp?DocID=aw180206> (*Cell Phone Accessibility*) (describing an accessible feature phone as an “easy-to-use phone—one that requires only a minimal data plan, has talking menus and readouts, and possibly a large font that makes the display easier to see”)).

⁵⁰ *Cell Phone Accessibility*. The accessible feature phones identified were the Samsung Gusto III and the Kyocera Verve. *Id.* ACB also reports that it contacted the “carrier receiving the most accolades in the article, [and learned that] the phone most praised for accessibility is no longer available by the carrier.” ACB *Ex Parte* Comments at 2.

⁵¹ Specifically, according to ACB, the Centers for Disease Control estimates that there will be a significant increase in the prevalence in blindness over the next 20 years, due to the aging of the population and an increase in health-related vision problems affecting communities of color. ACB *Ex Parte* Comments at 1.

⁵² See NFB Tentative Findings Comments at 1. In 2016, an estimated 67% of Americans with a visual disability, ages 16-64, were unemployed. Cornell University, Disability Statistics (2018), www.disabilitystatistics.org (last visited Sept. 14, 2018) (search performed for the Employment Rate, using the age group 16-64, for the year 2016).

15. CTIA reports that many service providers offer “service plans specifically for consumers who connect through feature phone devices who may need low-cost, basic connectivity or who may not want or need the functionality of a smartphone device or service option.”⁵³ Nonetheless, the record appears to demonstrate that, at present, the marketplace has only a few non-smartphone devices that are accessible to people who are blind or visually impaired.⁵⁴ Our finding with respect to this gap in the accessibility of telecommunications and ACS equipment is further supported by consumer requests for dispute assistance (RDAs) that have been filed with CGB during the period covered by this Report,⁵⁵ some of which involved concerns about the lack of accessibility on feature phones distributed by wireless service providers participating in the Commission’s Lifeline program.⁵⁶

16. *Communications devices for people who are deaf-blind.* Noting that “the communication needs of people who are deafblind are varied and complex,” DBCA states that some people who are “profoundly deafblind” have no knowledge of Braille and communicate exclusively through tactile American Sign Language. These individuals, according to DBCA, lack a means of independently making and receiving calls on any communications device.⁵⁷ In particular, DBCA emphasizes that this accessibility gap affects the ability of this population to contact emergency services.⁵⁸

17. *Accessible alerting.* Hearing individuals generally are alerted to an incoming voice telephone call by the sound of a ringtone. CTIA reports that some wireless phones also provide flashing lights for the receipt of ACS (e.g., text messages).⁵⁹ CTIA also reports that some wireless phones provide the ability to turn off all sound and create complex vibration patterns for people with disabilities.⁶⁰ Nevertheless, TDI et al. notes that there is a need for accessible alerting for video calls that is not being met.⁶¹ Specifically, they explain that video conferencing services, especially when provided on smartphones, often fail to include vibration or flashing lights that can provide people who are deaf and hard of hearing with notifications of incoming calls.⁶²

⁵³ CTIA Comments at 9. Specifically, CTIA reports that AT&T, Cricket Wireless, and Verizon offer low-cost service plans for feature phones. *Id.*

⁵⁴ See *Cell Phone Accessibility*.

⁵⁵ See *infra* Section V (explaining that, as a prerequisite to filing an informal complaint, a consumer must first file an RDA and work with CGB and the covered entity to resolve the consumer’s accessibility concern).

⁵⁶ On this point, NFB advocates that the Commission establish guidelines for multiple virtual network operators that provide Lifeline services “to make available accessible devices and documentation and to establish a minimum standard for support to low-income citizens and seniors with vision loss.” NFB Tentative Findings Comments at 3, Att. A: Resolution 2018-03: Regarding the Lifeline Program and the Free Cellphone Service for Seniors and Those with Low Income.

⁵⁷ DBCA *Ex Parte* Comments at 1.

⁵⁸ *Id.*

⁵⁹ CTIA Comments at 18-19 (noting that phones use flickering flash notifications to inform users of incoming calls or texts).

⁶⁰ *Id.* at 19.

⁶¹ TDI et al. Comments at 11.

⁶² See *id.* TDI et al. also asserts that non-interconnected VoIP service provided in video games remains inaccessible to people who are deaf or hard of hearing. *Id.* at 11 (acknowledging the emergence of speech-to-text capabilities that enable players to read a text transcript of other players’ spoken words, but asserting the need for the incorporation of relay services in games to allow for full social interaction by deaf and hard of hearing gamers). *Id.* at 10-11. However, we note that a Commission waiver of the ACS accessibility requirements, which will expire on December 31, 2018, is currently in effect for video game software. See *Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility* (continued....)

3. Section 718: Internet Browsers Built into Mobile Phones

18. We find that the accessibility of Internet browsers built into mobile phones has continued to improve due to the incorporation of better screen readers, improvements in speech-to-text engines, and new accessibility features built into the operating systems of the phones. For example, CTIA states that smartphones provide improved browsing experiences by enabling voice commands, description of visual content, clickable images, and other features for people with low vision.⁶³ In addition, NFB notes that mobile browser compatibility with Braille displays also increases opportunities for online interactions by individuals who are blind.⁶⁴ ACB agrees that text-to-speech engines and “[v]oice assistance platforms like Alexa, Siri, and OK-Google have transformed the way people who are blind communicate with both peers and smart devices, advancing accessibility in areas that were unthinkable only two years ago.”⁶⁵ ACB also expresses the view that the accessibility of Internet browsers built into mobile phones will continue to improve as operating systems, such as Android, are updated with improvements to their system settings for accessibility features.⁶⁶ These accessibility features, however, are generally available only in smartphones and other relatively high-end devices.⁶⁷

B. Usability

19. In addition to requiring accessibility, sections 255, 716 and 718 require that services and equipment, as applicable to each of these provisions, are “usable” by people with disabilities.⁶⁸ A product or service is “usable” if it provides individuals with disabilities with the full functionality and documentation for the product or service, including instructions, product or service information (including accessible feature information), customer support, and technical support.⁶⁹ We find that over the past two years, there have been continued improvements in the usability of services and equipment that are subject to sections 255, 716, and 718. As discussed below, this finding is supported by reports that covered entities are offering an increasing number of ways for consumers to locate accessibility assistance—by including more information on their websites and expanding their accessibility training to their customer care representatives. Nevertheless, we also find that consumers are continuing to have difficulties finding information and customer care service that will help them find and select the specific device or service that is accessible to them.

20. CTIA reports that many of its members provide customers with information and manuals in accessible formats, along with accessibility information and support on their websites, and that they continue to improve accessibility training for customer service representatives who are employed online and in stores.⁷⁰ However, TDI et al. report that it remains challenging for many consumers who are deaf

(Continued from previous page)

Act of 2010; Entertainment Software Association; Petition for Class Waiver of Sections 716 and 717 of the Communications Act and Part 14 of the Commission’s Rules Requiring Access to Advanced Communications Services and Equipment by People with Disabilities, Order, 32 FCC Rcd 10448 (CGB 2017).

⁶³ CTIA Comments at 10-13 (also noting that accessibility features include screen readers, image recognition, aural description, magnification, adjustable fonts, color inversion, and personal assistants).

⁶⁴ NFB Tentative Findings Comments at 1-2.

⁶⁵ ACB Comments at 2.

⁶⁶ *Id.*

⁶⁷ See *supra* paras. 10, 13-15; see also Wireless RERC Comments at 3.

⁶⁸ 47 U.S.C. §§ 255, 617, 619.

⁶⁹ See 47 CFR §§ 6.3(l), 7.3(l), 14.21(c); see also 47 CFR §§ 6.11, 7.11, 14.20(d), 14.60(b)(4).

⁷⁰ CTIA Comments at 5 (noting that Sprint has in-store resources for accessible devices), 44 (noting that many wireless service providers and equipment manufacturers provide accessible formats for billing and user guides), 16-17, 45 (reporting that TracFone was developing websites that explain the accessibility of their services and devices, (continued....))

and hard of hearing to find phones that they can use, including phones that are compatible with hearing aids.⁷¹ Research conducted by the Wireless RERC also suggests that consumers may experience difficulties when trying to locate information about a phone's accessibility features in order to compare phone models.⁷² The Wireless RERC also reports that people with disabilities, without help from other people, are not always able to turn on accessibility features on their phones.⁷³ Additionally, DBCA complains that "[u]ser guides and other documentation continue to be inaccessible to those who are deafblind," and further reports the difficulty that deaf-blind customers have when trying to communicate their needs for mobile technology in person at retail establishments.⁷⁴

C. Inclusion of People with Disabilities in Product and Service Design and Development

21. We find that covered entities continue to include people with disabilities in product and service design and development. This finding is supported by reports that industry has engaged consumers in meetings, conferences, and product demonstrations. As noted above, for example, the record contains evidence that Cisco ensured the participation of ACB in the design and testing phases of Cisco's new accessible interconnected VoIP phone prior to its deployment to ensure it met the needs of people who are blind or visually impaired.⁷⁵ TIA similarly reports that the industry continues to collaborate with the disability community to develop and deploy new accessible products and services.⁷⁶ In addition, CTIA reports that, in order to solicit consumer feedback, Verizon held a private real-time text (RTT) demonstration for representatives of people who are deaf and hard of hearing to share information about Verizon's RTT interface with Apple and Android devices.⁷⁷ TDI et al., however, believes that industry should perform more community engagement by, for example, including consumers with disabilities at advisory board meetings and in focus groups.⁷⁸ DBCA also asserts that companies do not contemplate the needs of individuals who are deaf-blind when redesigning popular devices.⁷⁹

(Continued from previous page)

that Apple, Samsung, HTC, and LG "each have dedicated websites explaining in text, pictures, and video the various functionalities available on their devices, including break-outs for functionalities that can meet the needs of specific user communities" and that "the wireless industry has made available myriad resources regarding the ways in which consumers can find and learn about HAC-rated handsets and the HAC rating system").

⁷¹ TDI et al. Comments at 5.

⁷² Wireless RERC Comments at 14.

⁷³ *Id.* (reporting that "phone setup and enabling accessibility features [are] not easily or independently done for some people with disabilities"); DBCA *Ex Parte* Comments at 1 (asserting that individuals who are deaf-blind need others to set up mobile devices for them).

⁷⁴ DBCA *Ex Parte* Comments at 1

⁷⁵ ACB Comments at 1; Cisco Comments at 3 (stating that "Cisco and ACB have worked together for months to identify and address the cross-section of 'pain points' and most common use cases faced by individuals who are blind or have low vision with respect to enterprise collaboration technology").

⁷⁶ TIA Comments at 5; *see also id.* at 4-6 (reporting on the efforts of itself and its industry members to collaborate with the disability community on product development processes).

⁷⁷ CTIA Comments at 41-42 (noting that Sprint formed "partnerships with Humanware, a Braille device manufacturer, to ensure Sprint devices were accessible, and the National Federation of the Blind, to offer a free app that converts printed text into speech or Braille to assist customers who are blind or have low vision. Input from the accessibility community also resulted in Sprint working with CapTel to release a new telephone that is compatible with select Braille readers. Sprint also hosted a DeafBlind Town Hall in several cities across the country." (footnotes omitted)).

⁷⁸ TDI et al. Comments at 7 (also suggesting that companies conduct needs assessments, take input from customers at sales centers, and include the community in beta testing, research and development). TDI et al. acknowledges
(continued....)

IV. ACCESSIBILITY BARRIERS TO NEW COMMUNICATIONS TECHNOLOGIES

22. Section 717(b)(1)(B) requires the Commission to provide an evaluation of the extent to which accessibility barriers still exist with respect to new communications technologies.⁸⁰ We find that new communications technologies hold the promise of improving the quality of life for consumers with disabilities, but that some stakeholders have concerns about the accessibility of such technologies. Specifically, commenters generally agree that continued development in, and the rollout of, technologies such as 5G, RTT, text-to-911, HD voice, and Bluetooth will improve the accessibility of communications.⁸¹ At the same time, the Wireless RERC reports that the lack of uniformity in the design of services available through the Internet of Things can create new access barriers.⁸² TDI et al. also raises concerns about the availability of relay services for web conferencing, the lack of interoperability for video conferencing, and the extent to which virtual and augmented reality technologies are accessible.⁸³

V. COMPLAINTS RECEIVED PURSUANT TO SECTION 717

23. Section 717(b)(1)(C)-(F) requires the Commission to report the following information with respect to complaints received pursuant to section 717(a) that allege violations of section 255, 716, or 718:

- the number and nature of complaints received during the two years that are the subject of the Commission's Report, i.e., between January 1, 2016 and December 31, 2017;
- the actions taken to resolve such complaints, including forfeiture penalties assessed;
- the length of time that was taken by the Commission to resolve each such complaint; and
- the number, status, nature, and outcome of any actions for mandamus and any appeals filed.⁸⁴

24. Pursuant to section 717(a), the Commission's rules governing the handling of complaints filed under sections 255, 716, and 718 require that, before filing an informal complaint, a consumer must submit an RDA to the Commission's Disability Rights Office (DRO) for help in resolving the consumer's accessibility problem with a covered entity, and to give the covered entity an opportunity to resolve the dispute before the consumer files an informal complaint.⁸⁵ If the parties involved in an RDA do not reach

(Continued from previous page) —————
that the video gaming industry has engaged people with disabilities in its efforts to make video gaming accessible. *Id.* at 10-11.

⁷⁹ DBCA *Ex Parte* Comments at 1 ("In recent redesigns of popular mobile technology, ports and home buttons have been removed, creating a very difficult accessibility barrier for this population. The removal of ports precludes listening with optimized direct hearing devices and charging simultaneously.").

⁸⁰ 47 U.S.C. § 618(b)(1)(B).

⁸¹ See CTIA Comments at 3 (5G will enable high speed, low-latency video communications); TDI et al. Comments at 2-3, 5-6 (discussing the benefits of RTT, HD voice, and text-to-911); TIA Comments at 8 (addressing 5G benefits). TDI et al. urges the Commission to "note the progress made with respect to [RTT] as an alternative to . . . TTY technology," RTT compatibility with refreshable Braille displays, and RTT integration with relay services. TDI et al. Tentative Findings Comments at 4. TDI et al. also supports incorporating RTT into native phone capabilities rather than through applications, and more generally encourages increasing the availability of text-to-911 services nationwide. *Id.*

⁸² Wireless RERC Comments at 12-16.

⁸³ TDI et al. Comments at 9-11.

⁸⁴ 47 U.S.C. § 618(b)(1)(C)-(F).

⁸⁵ See 47 CFR §§ 14.32 (consumer dispute assistance), 14.34-14.37 (informal complaints); see also *New Procedures for Telecommunications and Advanced Communications Accessibility Complaints*, Public Notice, 28 FCC Rcd (continued....)

a settlement within 30 days after the consumer files the RDA with the Commission, the parties may agree to extend the time for resolution in 30-day increments, or the requester may file an informal complaint with the Enforcement Bureau.⁸⁶

25. The Commission's complaint rules also specify that upon receipt, the Commission must forward an informal complaint to the service provider or equipment manufacturer named in or implicated by the complaint.⁸⁷ The service provider or manufacturer then must file with the Commission and serve an answer responsive to the complaint and any Commission inquiries within 20 days of service of the complaint.⁸⁸ Within the same time period, the service provider or manufacturer must also serve the complainant and the Commission with a non-confidential summary of that answer.⁸⁹ Within 180 days after receipt of the complaint, the Commission must conclude an investigation into the merits of the complaint and issue an order determining whether a violation has occurred.⁹⁰ It may, in such order, or in a subsequent order, direct the service provider to bring the service or, in the case of a manufacturer, the next generation of the equipment, into compliance with the requirements of section 255, 716, or 718 within a reasonable period of time, and take other authorized and appropriate enforcement action.⁹¹

26. As we anticipated, this RDA process has achieved the resolution of the vast majority of accessibility concerns raised by consumers through dialogue and negotiation with covered entities, thereby reducing the need for consumers to file informal complaints against such entities, and for the Commission to take any consequent enforcement action.⁹² In addition, this process has encouraged service providers and equipment manufacturers to comply with the accessibility rules.⁹³

A. Number and Nature of Complaints Received

27. From January 1, 2016, to December 31, 2017, consumers filed 24 RDAs alleging violations of section 255, 716, or 718.⁹⁴ Of these 24 RDAs, nine RDAs (37%) involved the accessibility

(Continued from previous page) _____

15712 (CGB 2013). A consumer may file a formal complaint with the Enforcement Bureau without first submitting an RDA or an informal complaint. 47 CFR §§ 14.33, 14.38.

⁸⁶ 47 CFR § 14.32(e); *see also* *Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010; Amendments to the Commission's Rules Implementing Sections 255 and 251(a)(2) of the Communications Act of 1934, as Enacted by the Telecommunications Act of 1996; and Accessible Mobile Phone Options for People Who are Blind, Deaf-Blind, or Have Low Vision*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 14557, 14658, para. 237 (2011).

⁸⁷ 47 CFR § 14.35(a).

⁸⁸ 47 CFR § 14.36(b).

⁸⁹ 47 CFR § 14.36(c). The complainant may then file a reply. 47 CFR § 14.36(d).

⁹⁰ 47 U.S.C. § 618(a)(3)(B), (a)(4); 47 CFR § 14.37(a).

⁹¹ 47 U.S.C. § 618(a)(3)(B)(i); 47 CFR § 14.37(b). Any manufacturer or service provider that is the subject of such order will have a reasonable opportunity to comment on the Commission's proposed remedial action before the Commission issues a final order with respect to that action. 47 U.S.C. § 618(a)(4); 47 CFR § 14.37(c).

⁹² *See 2012 CVAA Biennial Report*, 27 FCC Rcd at 12224, para. 49 n.148 (expressing our expectation that this process would encourage compliance and help resolve consumer concerns before they reached the complaint stage).

⁹³ *See id.*

⁹⁴ Although consumers submitted an additional 258 requests for assistance during this period, typically using the Commission's online complaint filing system, DRO determined that these requests did not allege violations of section 255, 716, or 718, or the Commission's rules implementing those sections. These requests, therefore, are not included in this Report. DRO handles requests for assistance that allege violations of other provisions by converting those requests into informal complaints for further DRO processing (if they are related to accessibility) or referring

(continued....)

and usability of equipment and 15 RDAs (63%) involved the accessibility and usability of services. Of the 24 RDAs filed during the period covered by this Report, 22 RDAs (92%) alleged violations of section 255, and two RDAs (8%) alleged violations of section 716. One of the 22 RDAs that alleged violations of section 255 also alleged a violation of section 718. Nine of the 24 RDAs (33%) involved the accessibility and usability of Lifeline phones and services.

28. Several RDAs raised a variety of concerns about the accessibility of communication services. For example, some consumers complained that certain services provided through web browsers and apps were not accessible to them, because they incorporated electronic messaging and non-interconnected VoIP services that were not accessible. One consumer reported that his ACS app was rendered inaccessible when software upgrades removed ACS accessibility features previously provided by earlier software versions. As for devices, some consumers reported handsets that had (1) poor sound quality, and (2) video screens, keyboards or dial pads that were hard to read or difficult to use for people with dexterity limitations, or who were blind or visually impaired. Several other consumers reported that phones provided to them by Lifeline program service providers were not accessible to people who are blind, hard of hearing, or who have speech, mobility or dexterity limitations.

29. In other RDAs, consumers reported usability issues, complaining that service providers had failed to provide accessible ways to apply for service, purchase a phone, learn how to use their phones or services, report service or equipment problems, obtain general customer service, pay their bills or cancel service, or obtain directory assistance. Some consumers with sight, dexterity, or cognitive limitations reported that they did not have accessible ways to apply for service. A few consumers who are blind or visually impaired alleged that their carriers' directory information was inaccessible. Some consumers with speech, hearing, or cognitive limitations complained about the lack of access to customer service made available only via direct voice communications with customer service representatives or through voice interactive menus. For example, a consumer with cognitive limitations required more time than allotted by a voice menu to process and provide a response. Similarly, some individuals with hearing and speech limitations complained that they could not use voice activated menus at all, and requested the ability to contact customer service through chat or e-mail, as alternatives.

B. Actions Taken to Resolve Accessibility Complaints

30. In accordance with the RDA process, for each of the RDAs received, DRO contacted the consumer and the manufacturer or service provider to offer assistance in resolving the accessibility or usability problem. DRO was able to facilitate a resolution between the consumer and the manufacturer or service provider for 23 of the 24 RDAs filed during the period covered by this Report. The final RDA was withdrawn by the consumer when he switched to another carrier. Entities responding to the RDAs resolved consumers' accessibility concerns by taking one or more of the following actions: rewriting apps or restoring accessibility features to previously accessible apps, redesigning devices, or providing phones with better sound, keyboards, dial pads, and screen sizes. Some respondents resolved usability RDAs by providing alternate ways to apply for devices or services or to answer customer service questions. These solutions ranged from providing customer service through chat or e-mail to contacting consumers directly.

31. No consumer chose to escalate his or her RDA to an informal complaint for investigation by the Enforcement Bureau during the period covered by this Report. Additionally, no consumer filed a formal complaint alleging applicable accessibility violations during this period. Furthermore, the Commission did not assess any forfeiture penalties for accessibility-related violations during the period

(Continued from previous page) —————
them to the FCC's Consumer Inquiries and Complaints Division (if they are unrelated to accessibility). DRO refers requests for assistance alleging violations of statutes outside of the Commission's jurisdiction to the federal agency with authority over the issues presented (e.g., complaints alleging violations of the Americans with Disabilities Act are sent to the Department of Justice).

covered by this Report. Based on this experience, it appears that the RDA process was effective in achieving the successful and cooperative resolution of all alleged violations of sections 255, 716, and 718 that were brought to the attention of DRO during the period covered by this Report, with the exception of one RDA withdrawn by a consumer.

C. Time Used to Resolve Accessibility Complaints

32. Of the RDAs that were filed during the reporting period, the RDA process was completed within 30 days for three RDAs (12.5%), within 60 days for 10 RDAs (42%), within 90 days for two RDAs (8%), within 180 days for six RDAs (25%), and within one year for three RDAs (12.5%).

D. Actions for Mandamus and Appeals Filed

33. There were no actions for mandamus or appeals filed with respect to complaints during the period covered by this Report.

VI. EFFECT OF SECTION 717'S RECORDKEEPING AND ENFORCEMENT REQUIREMENTS ON THE DEVELOPMENT AND DEPLOYMENT OF NEW COMMUNICATIONS TECHNOLOGIES

34. Section 717(b)(1)(G) requires the Commission to provide an assessment of the effect of the requirements of section 717 on the development and deployment of new communications technologies.⁹⁵ We find that the accessibility recordkeeping and enforcement requirements have not hindered the development and deployment of new communications technologies. This finding is supported, in part, by the absence of any claim that the Commission's accessibility-related recordkeeping and enforcement rules have hindered the development of new communications of technologies. Additional support is provided by TIA's statement that the recordkeeping requirements are working.⁹⁶ Finally, record support for this finding is provided by commenters who report on the continued development and deployment of emerging technologies, such as 5G, RTT, text-to-911, HD voice, and the Internet of Things.⁹⁷

FEDERAL COMMUNICATIONS COMMISSION

Patrick Webre
Chief
Consumer and Governmental Affairs Bureau

⁹⁵ 47 U.S.C. § 618(b)(1)(G).

⁹⁶ TIA Comments at 7.

⁹⁷ See *supra* Section IV.

APPENDIX A

List of Commenters

(CG Docket No. 10-213)

The complete record in this proceeding is available in the Commission's Electronic Comment Filing System located at <https://www.fcc.gov/ecfs/>.

Assessment Commenters

Consumer and Governmental Affairs Bureau Seeks Comment on the Accessibility of Communications Technologies for the 2018 Biennial Report Required by the Twenty-First Century Communications and Video Accessibility Act, CG Docket No. 10-213, Public Notice, DA 18-340 (CGB Apr. 5, 2018), 2018 WL 1693062, <https://docs.fcc.gov/public/attachments/DA-18-340A1.pdf> (2018 CVAA Assessment Public Notice).

<u>Abbreviation</u>	<u>Commenter</u>
ACB	American Council of the Blind (also submitting <i>ex parte</i> comments on May 9, 2018)
Cisco	Cisco Systems, Inc.
CTIA	CTIA
DBCA	DeafBlind Citizens in Action (submitting <i>ex parte</i> comments)
Myers	Teresa Myers
Wireless RERC	Rehabilitation Engineering Research Center for Wireless Inclusive Technologies
TDI et al.	Telecommunications for the Deaf and Hard of Hearing, Inc.; National Association of the Deaf; Deaf and Hard of Hearing Consumer Advocacy Network; Association of Late-Deafened Adults, Inc.; Hearing Loss Association of America; Cerebral Palsy and Deaf Organization; Deaf Seniors of America; National Association of State Agencies of the Deaf and Hard of Hearing, Inc.; Deaf/Hard of Hearing Technology RERC; Universal Interface & Information Technology Access RERC; National Association for State Relay Administration; Telecommunications Equipment Distribution Program Association
TIA	Telecommunications Industry Association

Tentative Findings Commenters

Consumer and Governmental Affairs Bureau Seeks Comment on Tentative Findings for the 2018 Twenty-First Century Communications and Video Accessibility Act Biennial Report, CG Docket No. 10-213, Public Notice, DA 18-832 (CGB Aug. 9, 2018), 2018 WL 3816851, <https://docs.fcc.gov/public/attachments/DA-18-832A1.pdf> (2018 CVAA Tentative Findings Public Notice).

Abbreviation**Commenter**

NFB

National Federation of the Blind

TDI et al.

Telecommunications for the Deaf and Hard of Hearing, Inc.; National Association of the Deaf; Deaf and Hard of Hearing Consumer Advocacy Network; Association of Late-Deafened Adults, Inc.; Hearing Loss Association of America; Cerebral Palsy and Deaf Organization; Deaf Seniors of America; National Association of State Agencies of the Deaf and Hard of Hearing, Inc.; Deaf/Hard of Hearing Technology RERC; Universal Interface & Information Technology Access RERC; National Association for State Relay Administration; Telecommunications Equipment Distribution Program Association

APPENDIX B

**Commission Actions to Implement the CVAA¹
Since October 8, 2016****Section 102. Hearing Aid Compatibility**

Access to Telecommunication Equipment and Services by Persons with Disabilities; Amendment of the Commission's Rules Governing Hearing Aid-Compatible Mobile Handsets; Comment Sought on 2010 Review of Hearing Aid Compatibility Regulations, Report and Order and Order on Reconsideration, 32 FCC Rcd 9063 (2017), <https://docs.fcc.gov/public/attachments/FCC-17-135A1.pdf> (applying the wireline HAC standards to handsets used with advanced communications services, including voice over Internet protocol services).

Section 104. Access to Advanced Communications Services and Equipment

Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010; Entertainment Software Association; Petition for Class Waiver of Sections 716 and 717 of the Communications Act and Part 14 of the Commission's Rules Requiring Access to Advanced Communications Services and Equipment by People with Disabilities, Order, 31 FCC Rcd 13464 (CGB 2016), https://apps.fcc.gov/edocs_public/attachmatch/DA-16-1449A1.pdf (granting a one-year extension of the current waiver for video game software).

Accessibility Recordkeeping Compliance Certification and Contact Information Reporting Requirements, Public Notice, 32 FCC Rcd 1510 (CGB 2017), https://apps.fcc.gov/edocs_public/attachmatch/DA-17-206A1.pdf (reminding covered entities to submit their annual certifications and update their contact information).

Implementation of Sections 716 and 717 of the Communications Act of 1934, as Enacted by the Twenty-First Century Communications and Video Accessibility Act of 2010; Entertainment Software Association; Petition for Class Waiver of Sections 716 and 717 of the Communications Act and Part 14 of the Commission's Rules Requiring Access to Advanced Communications Services and Equipment by People with Disabilities, Order, 32 FCC Rcd 10448 (CGB 2017), <https://docs.fcc.gov/public/attachments/DA-17-1243A1.pdf> (granting a one-year extension of the current waiver for video game software).

Accessibility Recordkeeping Compliance Certification and Contact Information Reporting Requirements, CG Docket No. 10-213, Public Notice, DA 18-206 (CGB Mar. 1, 2018), 2018 WL 1167518, https://apps.fcc.gov/edocs_public/attachmatch/DA-18-206A1.pdf (reminding covered entities to submit their annual certifications and update their contact information).

¹ This list of Commission actions since October 8, 2016, to implement the CVAA excludes public notices announcing scheduled meetings, upcoming events, pleading cycles and other administrative or non-substantive matters. Additionally, it excludes references to sections of the CVAA on which the Commission did not take substantive action over the past two years.

Section 105. National Deaf-Blind Equipment Distribution Program

Commission Announces Entity Selected for Certification to Participate in the National Deaf-Blind Equipment Distribution Program for Ohio, Public Notice, 31 FCC Rcd 13537 (CGB 2016), <https://docs.fcc.gov/public/attachments/DA-16-1462A1.pdf> (replacing an entity that relinquished certification in Ohio).

FCC Announces 60-Day Period to Apply for Certification to Participate in the National Deaf-Blind Equipment Distribution Program, Public Notice, 32 FCC Rcd 1123 (CGB 2017), <https://docs.fcc.gov/public/attachments/DA-17-138A1.pdf> (seeking applications for the permanent NDBEDP beginning July 1, 2017).²

2017-2018 Allocations for the National Deaf-Blind Equipment Distribution Program, Public Notice, 32 FCC Rcd 5069 (CGB 2017), <https://docs.fcc.gov/public/attachments/DA-17-616A1.pdf> (announcing 2017-2018 funding allocations for the 56 states and territories served by the program).

2018-2019 Allocations for the National Deaf-Blind Equipment Distribution Program, Public Notice, DA 18-686 (CGB July 2, 2018), 2018 WL 3238977, <https://docs.fcc.gov/public/attachments/DA-18-686A1.pdf> (announcing 2018-2019 funding allocations for the 56 states and territories served by the program).

Section 106. Emergency Access Advisory Committee

Transition from TTY to Real-Time Text Technology; Petition for Rulemaking to Update the Commission's Rules for Access to Support the Transition from TTY to Real-Time Text Technology, and Petition for Waiver of Rules Requiring Support of TTY Technology, Report and Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd 13568 (2016), <https://docs.fcc.gov/public/attachments/FCC-16-169A1.pdf> (facilitating a transition from text telephone (TTY) technology to real-time text over wireless Internet protocol enabled networks for people who are deaf, hard of hearing, deaf-blind, or have a speech disability).

Inquiry Concerning 911 Access, Routing, and Location in Enterprise Communications Systems, Notice of Inquiry, 32 FCC Rcd 7923 (2017), <https://docs.fcc.gov/public/attachments/FCC-17-125A1.pdf> (seeking comment on the capability of enterprise communications systems to provide accessible 911 emergency communications, such as real-time text, for people with disabilities).

Transition from TTY to Real-Time Text Technology; Petition for Rulemaking to Update the Commission's Rules for Access to Support the Transition from TTY to Real-Time Text Technology, and Petition for Waiver of Rules Requiring Support of TTY Technology; T-Mobile USA, Inc., Order, 32 FCC Rcd 9316

² The FCC subsequently released five public notices announcing the entities that it certified to serve each of the 56 states and territories covered by the permanent NDBEDP beginning July 1, 2017. *Commission Announces Entities Certified to Participate in the National Deaf-Blind Equipment Distribution Program for 13 States and Territories*, Public Notice, 32 FCC Rcd 3959 (CGB 2017); *Commission Announces Entities Certified to Participate in the National Deaf-Blind Equipment Distribution Program for 12 States*, Public Notice, 32 FCC Rcd 4078 (CGB 2017); *Commission Announces Entities Certified to Participate in the National Deaf-Blind Equipment Distribution Program for 13 Additional States and Territories*, Public Notice, 32 FCC Rcd 4737 (CGB 2017); *Commission Announces Entities Certified to Participate in the National Deaf-Blind Equipment Distribution Program for Eight Additional States and the District of Columbia*, Public Notice, 32 FCC Rcd 4999 (CGB 2017); *Commission Announces Entities Certified to Participate in the National Deaf-Blind Equipment Distribution Program for Nine Additional States*, Public Notice, 32 FCC Rcd 5041 (CGB 2017).

(PSHSB, CGB 2017), <https://docs.fcc.gov/public/attachments/DA-17-1084A1.pdf> (clarifying that when a Commercial Mobile Radio Services provider connects to an Emergency Services Internet Protocol Network (ESInet) to deliver RTT 911 calls, any conversion from RTT to TTY (or other delivery means) is the responsibility of the ESInet provider).

Section 202. Video Description and Closed Captioning

Video Description

Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, Report and Order, 32 FCC Rcd 5962 (2017), <https://docs.fcc.gov/public/attachments/FCC-17-88A1.pdf> (increasing the availability of video described programming on top-rated broadcast and nonbroadcast networks from 50 to 87.5 hours each per calendar quarter).

Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, MB Docket No. 11-43, Order and Public Notice, DA 18-508 (MB May 17, 2018), 2018 WL 2287078, <https://docs.fcc.gov/public/attachments/DA-18-508A1.pdf> (updating list of nonbroadcast networks subject to video description requirements as of July 1, 2018 to the following: Discovery, HGTV, History, TBS, and USA).

Accessible Emergency Information

Accessible Emergency Information, and Apparatus Requirements for Emergency Information and Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, Memorandum Opinion and Order, 31 FCC Rcd 12540 (MB 2016), <https://docs.fcc.gov/public/attachments/DA-16-1284A1.pdf> (extending by 18 months an existing waiver of the requirement for broadcasters to aurally describe non-textual emergency information).

Reminder Regarding Obligations to Make Televised Emergency Information Accessible to Viewers with Disabilities, Public Notice, 32 FCC Rcd 7323 (CGB 2017), <https://docs.fcc.gov/public/attachments/DA-17-943A1.pdf> (reminding video programming distributors of their obligation to make televised emergency information accessible to people with disabilities).

Accessible Emergency Information, and Apparatus Requirements for Emergency Information and Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, MB Docket No. 12-107, Memorandum Opinion and Order, DA 18-553 (MB May 25, 2018), 2018 WL 2440824, <https://docs.fcc.gov/public/attachments/DA-18-553A1.pdf> (granting American Cable Association's request for waiver of the "audible crawl rule" for analog-only cable systems that lack the necessary pass-through equipment, and extending by five years an existing waiver of the requirement for broadcasters to aurally describe non-textual emergency information).

Section 204. User Interfaces on Digital Apparatus

Accessibility of User Interfaces, and Video Programming Guides and Menus, Memorandum Opinion and Order, 32 FCC Rcd 1926 (MB 2017), <https://docs.fcc.gov/public/attachments/DA-17-260A1.pdf> (granting 20-month waiver of the accessible user interfaces requirements for rear entertainment systems on Honda vehicles).

Accessibility of User Interfaces, and Video Programming Guides and Menus, Memorandum Opinion and Order, 32 FCC Rcd 7275 (MB 2017), <https://docs.fcc.gov/public/attachments/DA-17-929A1.pdf> (granting waiver of the accessible user interfaces requirements for rear entertainment systems on certain Chrysler vehicles).

Accessibility of User Interfaces, and Video Programming Guides and Menus, MB Docket No. 12-108, Memorandum Opinion and Order, DA 18-436 (MB Apr. 30, 2018), 2018 WL 2016784, <https://docs.fcc.gov/public/attachments/DA-18-436A1.pdf> (granting waiver of the accessible user interfaces requirements for rear entertainment systems on Honda's Acura MDX vehicles).

APPENDIX C

Commission Outreach and Education

FCC staff made presentations or disseminated information about the CVAA, the Accessibility Clearinghouse,¹ and consumer rights and remedies available under sections 255, 716, and 718 of the Communications Act at the following conferences and events from October 8, 2016 through October 5, 2018. These events were attended by individuals with disabilities, industry representatives, government officials, and other stakeholders.

Date(s)	Group Name (Type of Event)	Location
October 14, 2016	FCC Consumer Advisory Committee Meeting	Washington, DC
November 7, 2016	White House Disability and Inclusive Technology Summit	Washington, DC
November 28, 2016	Accessible Americas III (Disability Update to Latin American Countries)	Mexico City, Mexico
December 2, 2016	Global Initiative for Inclusive ICTs and Convention on the Rights of People with Disabilities Program at the United Nations	New York, NY
December 6, 2016	FCC Disability Advisory Committee Meeting	Washington, DC
January 27, 2017	FCC Consumer Advisory Committee Meeting	Washington, DC
February 12, 2017	National Association of Regulatory Utility Commissioners Winter Meeting	Washington, DC
February 17, 2017	Federal Interagency Disability Working Group Meeting	Washington, DC
February 28 through March 3, 2017	California State University Northridge (CSUN) Assistive Technology Conference	San Diego, CA
March 2-4, 2017	American Foundation for the Blind Leadership Conference	Arlington, VA

¹ Pursuant to section 717(d) of the Act, the Commission established a clearinghouse of information on the availability of accessible products and services and accessibility solutions required under sections 255, 716, and 718. 47 U.S.C. § 618(d).

Date(s)	Group Name (Type of Event)	Location
March 5-11, 2017	FTC Event: National Consumer Protection Week: Robocalls, Disability Access, and Broadband Workshop	Washington, DC
March 7-9, 2017	FCC Event: Broadband, Telecom, and Broadcast Training and Consultation Workshop	Salamanca, NY
March 15, 2017	DC Office of the People's Council Energy Day: Robocalls, Disability Access, and Broadband Workshop	Washington, DC
March 21, 2017	FCC Disability Advisory Committee Meeting	Washington, DC
March 24, 2017	FCC Intergovernmental Advisory Committee Meeting	Washington, DC
March 29, 2017	TR-41 Standard Committee Meeting: Disability Access	Melbourne, FL
March 30-31, 2017	Jacobus tenBroek Disability Law Symposium	Baltimore, MD
April 2-5, 2017	PACE: Professional Association for Customer Engagement	Orlando, FL
April 4, 2017	TRS Advisory Council Semi-Annual Meeting	Washington, DC
April 5-8, 2017	Adaptive Spirit Annual Event	Vail, CO
April 24, 2017	FCC Consumer Help Center Webinar	Washington, DC
April 27, 2017	Federal Communications Bar Association Program on Wireless Access for People with Disabilities	Washington, DC
May 8, 2017	National Association of Telecommunications Officers and Advisors Conference	Washington, DC

Date(s)	Group Name (Type of Event)	Location
May 18, 2017	Global Accessibility Awareness Day at Atos	London, England (remote participation by teleconference)
May 18, 2017	Gallaudet University: Deaf in Government Seminar Training	Washington, DC
May 19, 2017	FCC Consumer Advisory Committee Meeting	Washington, DC
June 2-7, 2017	National Association of State Utility Consumer Advocates Mid-Year Meeting	Denver, CO
June 3-8, 2017	National Emergency Number Association 2017 Conference	San Antonio, TX
June 11-16, 2017	NDBEDP DeafBlind Retreat	West River, MD
June 12-14, 2017	FCC Chairman's Awards for Advancement in Accessibility and M-Enabling Summit Conference	Arlington, VA
June 12-15, 2017	National Disability Rights Network Conference	Baltimore, MD
June 16, 2017	FCC Disability Advisory Committee Meeting	Washington, DC
June 22-27, 2017	American Library Association Annual Conference	Chicago, IL
June 27, 2017	2017 Youth Leadership Development Seminar, Gallaudet University	Washington, DC
June 28-July 2, 2017	Deaf Women United National Conference	Miami, FL
June 30-July 7, 2017	American Council of the Blind Conference	Sparks, NV
July 10-12, 2017	American Foundation for the Blind Conference	Orlando, FL
July 27-29, 2017	Telecommunications for the Deaf and Hard of Hearing, Inc. Biennial Conference	Bethesda, MD
August 1-6, 2017	National Black Deaf Advocates Conference	Baltimore, MD

Date(s)	Group Name (Type of Event)	Location
September 6-9, 2017	National Association for State Relay Administration Annual Conference	Golden, CO
September 10, 2017	TRS Advisory Council Semi-Annual Meeting	Golden, CO
September 10-13, 2017	Telecommunications Equipment Distribution Program Association Annual Conference	Golden, CO
September 13, 2017	Accessibility Outreach Initiative Forum during GSMA's Mobile World Congress Americas (MWCA) 2017	San Francisco, CA
September 14, 2017	M-Enabling Forum at Mobile World Congress Americas Industry Event	San Francisco, CA
September 15, 2017	Mid-Atlantic Americans with Disabilities Act Update Conference	Tysons Corner, VA
September 18, 2017	FCC Consumer Advisory Committee Meeting	Washington, DC
September 18-19, 2017	PACE Association Washington Summit	Washington, DC
October 10-11, 2017	Accessible Procurement Workshop, Designing Enabling Economies Policies, OCAD University	Toronto, CA (remote participation by teleconference)
October 16, 2017	FCC Disability Advisory Committee Meeting	Washington, DC
October 17, 2017	National Labor Relations Board Disability Awareness Month Program	Washington, DC
October 23, 2017	FCC Accessibility Innovations Expo	Washington, DC
October 29, 2017 – November 1, 2017	19 th International ACM SigAccess Conference on Computers and Accessibility—ASSETS Conference	Baltimore, MD
October 31, 2017	National Disability Employment Awareness Month Program, U.S. Department of Transportation	Washington, DC
November 2, 2017	CTIA Wireless Foundation Mobile Virtual Reality Expo	Washington, DC

Date(s)	Group Name (Type of Event)	Location
December 6, 2017	National Association of Telecommunications Advisors and Officers Board Meeting with FCC Bureaus on Public Safety	Washington, DC
February 6, 2018	Disability Law Society and Program on Law and Government—Washington College of Law, American University	Washington, DC
February 26, 2018	FCC Consumer Advisory Committee Meeting	Washington, DC
February 28, 2018	FCC Disability Advisory Committee Meeting	Washington, DC
March 15, 2018	California Mass Notification Seminar	Campbell, CA (remote participation by teleconference)
March 19, 2018	#GAconf (Advancing Accessibility for Gamers with Disabilities)	San Francisco, CA
March 21-23, 2018	CSUN Assistive Technology Conference	San Diego, CA
April 5-6, 2018	TRS Advisory Council Semi-Annual Meeting	Boiling Springs, PA
April 9, 2018	Real-Time Text and Refreshable Braille Technology Roundtable	Washington, DC
May 30, 2018	Prince George's County Public Safety Answering Point—Accessibility Issues	Bowie, MD
June 8, 2018	FCC Consumer Advisory Committee Meeting	Washington, DC
June 11-13, 2018	FCC Chairman's Awards for Advancement in Accessibility and M-Enabling Summit Conference	Arlington, VA
June 14, 2018	FCC Disability Advisory Committee Meeting	Washington, DC
July 3-7, 2018	National Association of the Deaf Biennial Conference	Hartford, CT

Date(s)	Group Name (Type of Event)	Location
September 9-11, 2018	National Association for State Relay Administration Annual Conference	Bloomington, MN
September 12-13, 2018	TRS Advisory Council Semi-Annual Meeting	Bloomington, MN (remote participation by teleconference)
September 12, 2018	Mobile World Congress Americas Accessibility Outreach Initiative Forum	Los Angeles, CA
October 2, 2018	FCC Public Safety Answering Points Real-Time Text Awareness Day	Washington, DC
October 3, 2018	FCC Disability Advisory Committee Meeting	Washington, DC