

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

In the Matter of
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
CG Docket No. 10-213

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

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By the Chief, Consumer and Governmental Affairs Bureau:

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## I. INTRODUCTION AND SCOPE OF REPORT

1. The Consumer and Governmental Affairs Bureau (CGB or Bureau) of the Federal Communications Commission (FCC or Commission) prepared this Biennial Report (Report) for submission to the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Energy and Commerce of the House of Representatives (Committees) in accordance with the Twenty-First Century Communications and Video Accessibility Act of 2010 (CVAA). This Report presents information and assessments related to the accessibility of telecommunications services and equipment, advanced communications services (ACS) and equipment used for ACS, and Internet browsers built into mobile phones, along with a summary of actions taken by the Commission related to the CVAA.

2. The purpose of the CVAA,<sup>1</sup> which amended the Communications Act of 1934 (the Act), is “to help ensure that individuals with disabilities are able to fully utilize communications services and equipment and better access video programming.”<sup>2</sup> In enacting the CVAA, Congress concluded that people with disabilities often have not shared in the benefits of this rapid technological advancement.<sup>3</sup> Since its enactment on October 8, 2010, the Commission has adopted several sets of rules to implement the CVAA, in compliance with all CVAA deadlines.<sup>4</sup> The Commission continues to work with consumer, industry, and government stakeholders to ensure the effective and timely implementation of the CVAA.<sup>5</sup> Resources throughout the Commission’s bureaus and offices have contributed to this comprehensive effort, reflecting the Commission’s ongoing commitment to ensuring communications access for millions of Americans with disabilities.

3. Congress directed the Commission to evaluate the CVAA’s progress in addressing this inequity in a report to Congress every two years.<sup>6</sup> The Commission previously submitted two such

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<sup>1</sup> 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).

<sup>2</sup> S. Rep. No. 111-386 at 1 (Senate Report); H.R. Rep. No. 111-563 at 19 (House Report) (2010) (both noting that the communications marketplace had undergone a “fundamental transformation” since Congress adopted section 255 of the Act in 1996); *see also* 47 U.S.C. § 255 (requiring access to telecommunications services and equipment).

<sup>3</sup> Senate Report at 1-2; House Report at 19.

<sup>4</sup> *See 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, 12205-6, para. 2 (CGB 2012) (*2012 CVAA Biennial Report*) (reporting that the Commission had released five reports and orders adopting rules to implement various provisions of the CVAA); *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, 29 FCC Rcd 11909, 11911-12, para. 3 (CGB 2014) (*2014 CVAA Biennial Report*) (reporting that, since the submission of the *2012 CVAA Biennial Report*, the Commission had released six additional reports and orders adopting rules to implement the CVAA). A list of actions taken by the Commission to implement the CVAA since the submission of the *2014 CVAA Biennial Report* is provided in Appendix B.

<sup>5</sup> For example, the Commission works with stakeholders through its Disability Advisory Committee (DAC), which it established in 2014 to provide advice and recommendations on a wide array of disability issues within its jurisdiction. DAC members include consumer organizations, industry and trade associations, corporations, governmental entities, and individuals. In addition, Commission staff continue to make presentations and disseminate information about the CVAA at a wide range of conferences and events that are attended by individuals with disabilities, industry representatives, government officials, and other stakeholders. A list of these outreach and education efforts is provided in Appendix C.

<sup>6</sup> *See* section 717(b)(1) of the Act, as added by the CVAA, codified at 47 U.S.C. § 618(b)(1). Biennial reports must be submitted to the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on

(continued....)

biennial reports, the first in 2012,<sup>7</sup> and the second in 2014.<sup>8</sup> Pursuant to section 717(b)(1) of the Act,<sup>9</sup> this 2016 Report includes the following:<sup>10</sup>

- (A) An assessment of the level of compliance with sections 255, 716, and 718 of the Act.<sup>11</sup> *See infra* Section II.B.
- (B) An evaluation of the extent to which any accessibility barriers still exist with respect to new communications technologies. *See infra* Section II.C.
- (C) The number and nature of complaints received pursuant to section 717(a) of the Act.<sup>12</sup> *See infra* Section II.D.1.
- (D) A description of the actions taken to resolve such complaints, including forfeiture penalties assessed. *See infra* Section II.D.2.
- (E) The length of time that was taken by the Commission to resolve each such complaint. *See infra* Section II.D.3.
- (F) The number, status, nature, and outcome of any actions for mandamus filed and of any appeals filed. *See infra* Section II.D.4.
- (G) An assessment of the effect of the recordkeeping and enforcement requirements of section 717 of the Act on the development and deployment of new communications technologies.<sup>13</sup> *See infra* Section II.E.

4. Specifically, this Report presents information and assessments related to the accessibility of telecommunications services and equipment as required by section 255,<sup>14</sup> ACS and equipment used for ACS as required by section 716,<sup>15</sup> and Internet browsers built into mobile phones as required by section 718,<sup>16</sup> since the submission of the *2014 CVAA Biennial Report*. In addition, this Report provides

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Energy and Commerce of the House of Representatives. *Id.*; *see also* Senate Report at 9; House Report at 27 (both stating that the report should “assess[] the level of compliance with the requirements of [the CVAA], as well as other matters related to the effectiveness of the Commission’s complaint resolution process”).

<sup>7</sup> The Bureau delivered the first biennial report to Congress on October 5, 2012. *See 2012 CVAA Biennial Report*, 27 FCC Rcd 12204.

<sup>8</sup> The Bureau delivered the second biennial report to Congress on October 8, 2014. *See 2014 CVAA Biennial Report*, 29 FCC Rcd 11909.

<sup>9</sup> 47 U.S.C. § 618(b)(1).

<sup>10</sup> For convenience, in the list of required information and assessments, each item is cross-referenced to the section of the Report addressing that item.

<sup>11</sup> 47 U.S.C. §§ 255, 617, 619; 47 CFR Part 6, Part 7, Part 14.

<sup>12</sup> 47 U.S.C. § 618(a).

<sup>13</sup> 47 U.S.C. § 618.

<sup>14</sup> 47 U.S.C. § 255. Section 255 was added to the Act by the Telecommunications Act of 1996. Pub. L. No. 104-104, 110 Stat. 56 (1996).

<sup>15</sup> 47 U.S.C. § 617. Section 716 was added to the Act by the CVAA. *See* CVAA, § 104(a).

<sup>16</sup> 47 U.S.C. § 619. Section 718 was added to the Act by the CVAA. *See* CVAA, § 104(a).

information about complaints alleging violations of sections 255, 716, and 718 for the period of January 1, 2014, through December 31, 2015.<sup>17</sup>

5. On May 23, 2016, the Bureau released the *2016 CVAA Assessment Public Notice* to invite comments related to the development of this Report.<sup>18</sup> In response, the Bureau received comments from the American Council of the Blind (ACB), Consumer Groups (joint comments),<sup>19</sup> CTIA,<sup>20</sup> and the Telecommunications Industry Association (TIA). These comments helped to inform the Bureau's tentative findings. On August 23, 2016, the Bureau sought comment on its tentative findings pursuant to section 717(b)(2) of the Act.<sup>21</sup> Specifically, the *2016 CVAA Tentative Findings Public Notice* sought comment on the following:

- whether its tentative findings accurately represent the current state of communications technologies accessibility and, if not, why not and how they should be revised to do so;<sup>22</sup>
- the extent to which the industry actions described have resulted in increased accessibility and, where relevant, the usability and compatibility of telecommunications services and equipment, ACS, and equipment used for ACS since delivery of the *2014 CVAA Biennial Report* to Congress;<sup>23</sup>
- whether these products and services offer the same range of low-end and high-end features, functions, and prices that are available to the general public;<sup>24</sup> and
- other kinds of information that would help the Commission to conduct these assessments, as required by the CVAA, for the next biennial report to be submitted by October 8, 2018.<sup>25</sup>

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<sup>17</sup> 47 U.S.C. § 618(b)(2). As noted in the *2012 CVAA Biennial Report*, we believe it is most appropriate for these periodic reports to review complaints for the two most recent calendar years. We generally find that this approach allows the Commission adequate time to solicit public comment on the issues that it must address in such reports, consistent with section 717(b)(2) of the Act, and best achieves the CVAA's objectives. See *2012 CVAA Biennial Report*, 26 FCC Rcd at 12212, para. 16.

<sup>18</sup> *Consumer and Governmental Affairs Bureau Seeks Comment on the Accessibility of Communications Technologies for the 2016 Biennial Report Required by the Twenty-First Century Communications and Video Accessibility Act*, Public Notice, 31 FCC Rcd 5356 (CGB 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-16-575A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-16-575A1.pdf) (2016 CVAA Assessment Public Notice).

<sup>19</sup> The Consumer Groups are comprised of Telecommunications for the Deaf and Hard of Hearing, Inc., National Association of the Deaf, Deaf and Hard of Hearing Consumer Advocacy Network, Hearing Loss Association of America, Association of Late-Deafened Adults, Inc., Cerebral Palsy and Deaf Organization, Deaf Seniors of America, and the Deaf/Hard of Hearing Technology RERC.

<sup>20</sup> CTIA represents the U.S. wireless communications industry. CTIA Comments at n.1.

<sup>21</sup> 47 U.S.C. § 618(b)(2); *Consumer and Governmental Affairs Bureau Seeks Comment on its Tentative Findings About the Accessibility of Communications Technologies for the 2016 Biennial Report Under the Twenty-First Century Communications and Video Accessibility Act*, CG Docket No. 10-213, Public Notice, DA 16-961, (CGB, rel. Aug. 23, 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-16-961A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-16-961A1.pdf) (2016 CVAA Tentative Findings Public Notice).

<sup>22</sup> *2016 CVAA Tentative Findings Public Notice* at para. 12.

<sup>23</sup> *Id.*

<sup>24</sup> *Id.*

<sup>25</sup> *Id.*

Comments in response to the *2016 CVAA Tentative Findings Public Notice* were received from the American Cable Association (ACA), the American Foundation for the Blind (AFB),<sup>26</sup> and the Competitive Carriers Association (CCA). We believe that the comments received in response to the *2016 CVAA Assessment Public Notice* and the *2016 CVAA Tentative Findings Public Notice*, collectively, support our tentative findings and, therefore, we affirm these tentative findings which are presented as findings in this Report.

## II. COMMUNICATIONS ACCESSIBILITY

### A. Background

#### 1. Section 255

6. 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.<sup>27</sup> When these requirements are not readily achievable, covered entities must ensure that their services and equipment are compatible with existing peripheral devices or specialized CPE commonly used by individuals with disabilities to achieve access, if readily achievable.<sup>28</sup> In 2007, the Commission adopted rules extending section 255's accessibility obligations to interconnected voice over Internet protocol (VoIP) service providers and interconnected VoIP equipment manufacturers.<sup>29</sup>

#### 2. Sections 716 and 717

7. 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

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<sup>26</sup> AFB explains that its comments are based on its institutional knowledge and expertise, and on preliminary responses to a survey it launched in July 2016 from 479 consumers who are blind or have low vision about their experiences with telecommunications and video technology. AFB Tentative Findings Comments at 1-2.

<sup>27</sup> 47 U.S.C. §§ 255(b), (c); *see also* 47 CFR Part 6 and Part 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, 6449, 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 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>.

<sup>28</sup> 47 U.S.C. § 255(d).

<sup>29</sup> *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*, Report and Order, 22 FCC Rcd 11275 (2007) [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-07-110A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-07-110A1.pdf) (Section 255 VoIP Order).

disabilities, unless doing so is not achievable (defined as “with reasonable effort or expense”).<sup>30</sup> “Advanced communications services” include: (1) interconnected VoIP service; (2) non-interconnected VoIP service; (3) electronic messaging service; and (4) interoperable video conferencing service.<sup>31</sup> In contrast to interconnected VoIP services, which enable people to make and receive calls to and from the public switched telephone network (PSTN), 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 at all.<sup>32</sup> 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.<sup>33</sup> Interoperable video conferencing services provide real-time video communications, including audio, to enable users to share information.<sup>34</sup>

8. The accessibility requirements for section 716 may be satisfied by: (1) building accessibility into the service or equipment;<sup>35</sup> 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.<sup>36</sup> When ensuring accessibility through either of those options is not achievable, covered entities must ensure that their services and equipment are compatible with existing peripheral devices or specialized CPE commonly used by individuals with disabilities to achieve access, unless that is not achievable.<sup>37</sup>

9. Section 717 of the Act 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 CPE commonly used by people with disabilities to achieve access.<sup>38</sup> Covered entities must certify annually to the Commission that they have kept records pertaining to the accessibility of their products.<sup>39</sup>

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<sup>30</sup> 47 U.S.C. §§ 617(a)(1), (b)(1), (g); 47 CFR §§ 14.20(a)(1)-(2), 14.10(b).

<sup>31</sup> 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.*

<sup>32</sup> *See* 47 U.S.C. § 153(25), 153(36); 47 CFR § 9.3.

<sup>33</sup> 47 U.S.C. § 153(19).

<sup>34</sup> 47 U.S.C. § 153(27). Issues related to the *interoperability* of video conferencing services and equipment are the subject of a pending Commission proceeding. *See 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 In the Matter of 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, 14684-87, paras. 301-305 (2011) (*ACS Report and Order* and *ACS FNPRM*), [http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-11-151A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-11-151A1.pdf).

<sup>35</sup> 47 U.S.C. § 617(a)(2)(A), (b)(2)(A).

<sup>36</sup> 47 U.S.C. § 617(a)(2)(B), (b)(2)(B).

<sup>37</sup> 47 U.S.C. § 617(c).

<sup>38</sup> 47 U.S.C. § 618(a)(5)(A).

<sup>39</sup> 47 U.S.C. § 618(a)(5)(B).

10. On October 7, 2011, the Commission released a report and order adopting rules to implement sections 716 and 717 of the Act.<sup>40</sup> These rules have required covered manufacturers and service providers to take accessibility into account in the design of their products and services since January 30, 2012.<sup>41</sup> These entities also have had to comply with section 717's recordkeeping requirements pertaining to the accessibility of their products and services since January 30, 2013.<sup>42</sup> Covered ACS and devices used for ACS that have been introduced in the marketplace (or that have been substantially upgraded) since October 8, 2013, must be accessible to and usable by individuals with disabilities, or compatible with assistive technology, unless not achievable.<sup>43</sup> Complaint procedures associated with these rules, established pursuant to section 717 of the Act, also have been available to consumers since that date.<sup>44</sup>

### 3. Section 718

11. 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.<sup>45</sup> 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.<sup>46</sup> On April 26, 2013, the Commission adopted rules implementing section 718, which cover mobile phones with built-in Internet browsers manufactured on or after October 8, 2013.<sup>47</sup>

#### B. Compliance with Sections 255, 716, and 718

12. Section 717(b)(1)(A) of the Act requires the Commission to provide an assessment of the level of compliance with sections 255, 716, and 718 of the Act in this Report.<sup>48</sup> To meet this requirement, in the *2016 CVAA Assessment Public Notice*, the Bureau sought comment on a variety of matters with respect to products and services made available to the public since the release of the *2014 CVAA Biennial Report* on October 8, 2014, including the following:<sup>49</sup>

- The level of compliance with the obligations of sections 255, 716, and 718 of the Act and the Commission's implementing rules to make telecommunications services, ACS, and the

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<sup>40</sup> *ACS Report and Order*, 26 FCC Rcd 14557. The rules adopted in the *ACS Report and Order* are codified in 47 CFR Part 14.

<sup>41</sup> *ACS Report and Order*, 26 FCC Rcd at 14602, para. 108. The rules became effective 30 days after their publication in the Federal Register on December 30, 2011. *Id.*, 26 FCC Rcd at 14696, para. 328; *see also* 76 Fed. Reg. 82240 (Dec. 30, 2011).

<sup>42</sup> 47 U.S.C. § 618(a)(5)(A).

<sup>43</sup> *ACS Report and Order*, 26 FCC Rcd at 14602-3, para. 110.

<sup>44</sup> 47 CFR §§ 14.30(c), 14.32-14.52.

<sup>45</sup> 47 U.S.C. § 619(a); 47 CFR § 14.61(a).

<sup>46</sup> 47 U.S.C. § 619(b); 47 CFR § 14.61(b).

<sup>47</sup> CVAA, § 104(b); 47 CFR §§ 14.60-61; *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*, Second Report and Order, 28 FCC Rcd 5957 (2013), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-13-57A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-13-57A1.pdf).

<sup>48</sup> 47 U.S.C. § 618(b)(1)(A).

<sup>49</sup> *2016 CVAA Assessment Public Notice*, 31 FCC Rcd at 5359-61, paras. 7-13.

equipment used with these services accessible to individuals with disabilities, and to make Internet browsers built into mobile phones accessible to individuals who are blind or visually impaired;<sup>50</sup>

- Whether and to what extent service providers and manufacturers are including people with disabilities in their market research, product design, testing, pilot demonstrations, and product trials;
- The extent to which covered entities are working cooperatively with organizations that have expertise with people with disabilities in their efforts to incorporate accessibility, usability, and compatibility of equipment and services throughout their processes for product design, development, and fabrication;
- The ease with which consumers can locate accessible services and devices in mainstream retail establishments;
- The extent to which accessible services and devices, including mobile phones with accessible Internet browsers, are offered with a range of low-end and high-end features, functions, and prices;
- When services and devices are not accessible, the extent to which providers and manufacturers are making them compatible with peripheral devices and specialized customer premises equipment commonly used by people with disabilities to achieve access;
- The extent to which devices covered under section 255 of the Act – that are used with “non-mobile” (landline and interconnected VoIP) services or with “mobile” (wireless) services (e.g., basic phones, feature phones, and smartphones) – are accessible to individuals who are blind or visually impaired;
- The extent to which providers and manufacturers subject to sections 255, 716, and 718 of the Act ensure access to information and user documentation for people with disabilities;
- The extent to which companies are providing training on the accessibility of their products and services to customer service representatives, technical support personnel and others having direct contact with the public; and
- The extent to which obligations under section 718 of the Act have had an impact on the accessibility of Internet browsers on mobile phones for individuals who are blind or visually impaired.

## 1. Accessibility

### a. Section 255.

13. In this section, we address our findings with respect to the accessibility of telecommunications and interconnected VoIP services that are available through interconnected VoIP phones, non-smartphones, and smartphones, each of which is described further below.

14. Interconnected VoIP Phones. In the *2016 CVAA Tentative Findings Public Notice*, we tentatively found that solutions are needed to make equipment used with interconnected VoIP services

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<sup>50</sup> In this regard, the Bureau specifically asked about the extent to which the input, control, and mechanical functions of telecommunications services, ACS, and devices used with these services, including mobile phones with Internet browsers, are locatable, identifiable, and operable (1) by people without vision, hearing, speech, or color perception; (2) by people with limited vision, hearing, color perception, manual dexterity, reach and strength, or cognitive skills; (3) by people with prosthetic devices; or (4) without time-dependent controls. *See id.* at 5360, para. 8.



accessible to individuals who are blind or visually impaired.<sup>51</sup> We now affirm this finding based on the comments received.

15. In response to the *2016 CVAA Assessment Public Notice*, the American Council of the Blind (ACB) reports that, for individuals who are blind or visually impaired, there have been no significant advancements in the accessibility of devices used with “traditional telephone services” since the release of the *2014 CVAA Biennial Report*.<sup>52</sup> This category of equipment includes non-mobile devices, such as analog, digital, and cordless telephones that are used with landline and interconnected VoIP services. ACB states that, although some accessible products exist, such as telephones that announce incoming callers, accessibility solutions for navigating and using interconnected VoIP systems, including the system used in ACB’s national office, remain inadequate.<sup>53</sup> AFB explains individuals who are blind or visually impaired are able to access only the most basic features of interconnected VoIP phones used in business settings, such as making and receiving calls.<sup>54</sup> AFB identifies a number of features that typically are not accessible on these devices, including the caller identification function, address books, and call history.<sup>55</sup> AFB also notes that users must memorize how to use other features, such call forwarding, transferring calls, and muting the microphone, in order to be able to use them.<sup>56</sup> In addition, AFB states that only 8% of its survey respondents say they are more satisfied with their office phones since 2014.<sup>57</sup> AFB reports that it conducted a usability study in which it identified at least two software interface solutions and a “softphone” application that runs on a user’s desktop or mobile device that can make the critical features of a VoIP system accessible to individuals who are blind or visually impaired.<sup>58</sup> AFB also notes that not all VoIP providers support the accessibility solutions and employers may be unaware of these accessibility solutions or how to deploy them.<sup>59</sup> As a result, AFB urges VoIP providers to build accessibility into their platforms.<sup>60</sup> We, therefore, affirm our finding that solutions are needed to make equipment used with interconnected VoIP services accessible to individuals who are blind or visually impaired.

16. Non-smartphones. In the *2016 CVAA Tentative Findings Public Notice*, we tentatively found that little, if any, progress has been made since the *2014 CVAA Biennial Report* with respect to the number of “non-smartphones” used for telecommunications services that are accessible to individuals who are blind or visually impaired.<sup>61</sup> This category of equipment is used with wireless services, and includes basic phones used primarily or exclusively for telecommunications and feature phones used for telecommunications, ACS, and some other functions, but not including smartphones that are used for voice, text, data, and other computing capabilities. We now affirm this finding based on the comments received.

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<sup>51</sup> See *2016 CVAA Tentative Findings Public Notice*, Attachment at para. 19.

<sup>52</sup> ACB Comments at 1.

<sup>53</sup> *Id.*

<sup>54</sup> AFB Tentative Findings Comments at 2.

<sup>55</sup> *Id.* at 3.

<sup>56</sup> *Id.*

<sup>57</sup> *Id.* at 3.

<sup>58</sup> *Id.* at 3-4.

<sup>59</sup> *Id.* at 4.

<sup>60</sup> *Id.*

<sup>61</sup> See *2016 CVAA Tentative Findings Public Notice*, Attachment at para. 19.

17. With respect to mobile phones, ACB advocates for more non-smartphones (devices with low-end features, functions, and prices) to have accessibility built in, such as the entry-level phone from Odin, a European manufacturer.<sup>62</sup> In contrast, CTIA reports that there are several non-smartphones that provide a variety of accessibility features for consumers who are blind or visually impaired.<sup>63</sup> Like ACB, CTIA recognizes the Odin VI as an accessible mobile phone that makes audible everything that appears on the screen, buttons that are pressed, caller identification, and battery status.<sup>64</sup> CTIA also reports that the Kyocera Verve feature phone supports voice dialing and Bluetooth, and has a built-in screen reader and slide out full QWERTY keyboard;<sup>65</sup> the Samsung Convoy 3 feature phone has “voice-command technology to place a call, send a message, send a picture, or look up a contact”;<sup>66</sup> and the LG A341 feature phone is equipped with a large display screen and text-to-speech technology for listening to texts.<sup>67</sup>

18. Notwithstanding CTIA’s assertions, in its response to the *2016 CVAA Tentative Findings Public Notice*, AFB concurs with our finding as to the lack of progress on the accessibility of these types of phone devices.<sup>68</sup> For example, AFB reports that some individuals are able to use their phones’ buttons and displays only by using a handheld magnifier.<sup>69</sup> These concerns, together with concerns raised by ACB about the need for additional non-smartphones options, and the failure of industry commenters to identify a wide selection of non-smartphones with telecommunications functions that are accessible to individuals who are blind or visually impaired, lead us to affirm our finding that little, if any, progress has been made with respect to the provision of such devices. This finding is further supported by the high percentage of requests submitted to the Commission for assistance in resolving disputes stemming from the lack of accessibility features in wireless phones made available by providers that participate in the Commission’s Lifeline program.<sup>70</sup> We share the hope, expressed by CCA in its response to the *2016 CVAA Tentative Findings Public Notice*, that continued collaboration between industry and consumers will result in greater accessibility of non-smartphones used for telecommunications services.<sup>71</sup>

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<sup>62</sup> ACB Comments at 2.

<sup>63</sup> CTIA Comments at 15-16.

<sup>64</sup> *Id.* at 10.

<sup>65</sup> *Id.* at 15.

<sup>66</sup> *Id.* at 15-16.

<sup>67</sup> *Id.* at 16. In response to the *2016 CVAA Tentative Findings Public Notice*, ACA asserts that the resolution of interconnected VoIP service accessibility issues described by ACB rests with the manufacturers of devices used with these services, rather than with the service providers, particularly smaller providers who do not manufacture consumer devices. ACA Tentative Findings Comments at 2-3. ACA represents about 750 smaller cable operators, incumbent telephone companies, and municipal communications utilities, many of whom offer traditional or interconnected VoIP telephone services. ACA Tentative Findings Comments at 1-2.

<sup>68</sup> AFB Tentative Findings Comments at 2.

<sup>69</sup> *Id.* AFB states further that it is important to have accessible basic and feature phones available to meet the needs of individuals who are blind or visually impaired, particularly older individuals who experience age-related vision loss, as well as for individuals who do not want to purchase smartphones. *Id.*

<sup>70</sup> See *2016 CVAA Tentative Findings Public Notice*, Attachment at para. 19; see also *infra* Section II.D.1 (Number and Nature of Complaints Received) (CGB reporting on consumer requests for assistance related to inaccessible wireless handsets received in conjunction with Lifeline services). We note that in its comments, ACB states that “making accessible smart phones available to individuals who are blind or visually impaired on fixed or limited incomes would give them significant opportunities for greater community inclusion and independence.” ACB Comments at 2.

<sup>71</sup> CCA Tentative Findings Comments at 2.

19. Smartphones. As discussed in the next section, and as noted in the *2016 CVAA Tentative Findings Public Notice*, we do find that a growing number of smartphones, including the telecommunications functions of these phones that are covered under section 255, are accessible to a wide range of individuals with disabilities.<sup>72</sup> AFB concurs with this assessment.<sup>73</sup>

**b. Section 716.**

20. In this section of the Report, we discuss the accessibility of the ACS functions of non-smartphones and smartphones, as well as other devices used for ACS, such as tablets, laptops, and personal computers.

21. Non-smartphones. For the same reason that, in the previous section, we affirm our tentative finding that little progress has been made with respect to the number of non-smartphones used for *telecommunications services* that are accessible to individuals who are blind or visually impaired, we affirm our finding that little, if any, progress has been made with respect to the provision of accessibility features in non-smartphone devices used with ACS by individuals who are blind or visually impaired.<sup>74</sup> Specifically, the comments of both organizations representing people who are blind or visually impaired, namely ACB and AFB, suggest that very few such phones are fully accessible to this population, a suggestion that has not been refuted by industry commenters. Again, we share the hope, also expressed by CCA in its response to the *2016 CVAA Tentative Findings Public Notice*, that continued collaboration between industry and consumers will result in greater accessibility of non-smartphones used for ACS.<sup>75</sup>

22. Smartphones and Other Devices. We also tentatively found in the *2016 CVAA Tentative Findings Public Notice* that significant strides have been made in the accessibility of ACS features and functions on smartphones and other devices for a wide range of individuals with disabilities.<sup>76</sup> These categories of equipment include smartphones that are used for voice, text, data, and other computing capabilities, and other devices used for ACS, such as tablets, laptops, and personal computers. We affirm this finding based on the following comments received from both consumer and industry stakeholders.

23. ACB recognizes that great improvements have been made in recent years with respect to wireless communications,<sup>77</sup> and declares that the accessible smartphone is a “major barrier breaker for independence.”<sup>78</sup> Further, ACB suggests that the three industry leaders, Apple, Google, and Microsoft, have demonstrated efforts to provide equal access for individuals who are blind or visually impaired.<sup>79</sup> It reports that Apple “created an accessible ecosystem for application developers, who have in turn created a marketplace for life-changing accessible solutions that have enhanced the independence of people who are blind or visually impaired.”<sup>80</sup> According to ACB, Google has done the same with its Android environment.<sup>81</sup> ACB explains that having accessible technology built into the operating system has

<sup>72</sup> See *2016 CVAA Tentative Findings Public Notice*, Attachment at para. 19.

<sup>73</sup> AFB Tentative Findings Comments at 2 (noting that survey respondents reported accessibility challenges with respect to features and functions other than telecommunications).

<sup>74</sup> See *2016 CVAA Tentative Findings Public Notice*, Attachment at para. 20.

<sup>75</sup> CCA Tentative Findings Comments at 2.

<sup>76</sup> See *2016 CVAA Tentative Findings Public Notice*, Attachment at para. 20.

<sup>77</sup> ACB Comments at 1.

<sup>78</sup> *Id.* at 2.

<sup>79</sup> *Id.* at 2.

<sup>80</sup> *Id.* at 1-2. ACB reports further that Apple “has lead the way toward revolutionizing the way people who are blind can communicate via mobile ACS.” *Id.* at 1.

<sup>81</sup> *Id.* at 2.

enabled manufacturers to develop handsets that are available through multiple service providers at various price points, resulting in universal access at no additional cost to individuals who are blind or visually impaired.<sup>82</sup>

24. ACB also praises major developers of smartphone *software* for increasing accessibility,<sup>83</sup> and notes that the number of applications that are not accessible continues to decline.<sup>84</sup> ACB attributes this to third-party app developers who follow the Apple and Google mobile operating system accessibility guidelines.<sup>85</sup> ACB also reports that Microsoft has taken steps to make improvements to its software with respect to the accessibility of ACS.<sup>86</sup> For example, ACB notes that Microsoft's advancements include "being accessible on the Apple Macintosh operating software ecosystem," making "strong improvements with their cloud platform," and making "major fixes and improvements to their last major Windows update."<sup>87</sup> In its response to the *2016 CVAA Tentative Findings Public Notice*, AFB concurs that the greatest advancement in accessibility has been achieved in smartphones as a result of the platform-based approach and built-in screen readers.<sup>88</sup>

25. CTIA emphasizes "consistency" and "customization" for people with disabilities as benefits stemming from a "platform-based approach" in operating systems such as Apple iOS, Google Android, and Microsoft Windows, because this approach enables accessibility features to be generally available across a wide range of devices.<sup>89</sup> CTIA goes on to explain that wireless devices now contain features that address a wide range of disabilities, including those affecting hearing, vision, dexterity, speech and cognition.<sup>90</sup> For consumers with hearing loss, CTIA states that wireless phones include alternatives to audio alert notifications,<sup>91</sup> as well as features to enhance the audio and enable the user to better control the audio.<sup>92</sup> For consumers who are blind or visually impaired, CTIA provides information about several smartphones capable of offering voice dialing and screen readers, along with a variety of other accessibility features.<sup>93</sup> CTIA also mentions the HumanWare Communicator app that enables a text conversation between a deaf-blind user with a refreshable Braille display and a sighted user.<sup>94</sup>

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<sup>82</sup> *Id.*

<sup>83</sup> *Id.* at 1.

<sup>84</sup> *Id.* at 2.

<sup>85</sup> *Id.*

<sup>86</sup> *Id.* at 3.

<sup>87</sup> *Id.* at 3.

<sup>88</sup> AFB Tentative Findings Comments at 2.

<sup>89</sup> CTIA Comments at 5, 10, 40. In addition, CTIA mentions a number of third-party applications that provide accessibility features for a wide variety of people with disabilities. *Id.* at 19-22.

<sup>90</sup> *Id.* at 10-15.

<sup>91</sup> *Id.* at 12-13 (providing as examples, HTC's LED alert, which provides visual or vibration notifications; a Samsung device that enables user-personalized vibration patterns to replace ringtones; and the Taptic Engine on the Apple Watch, which makes notifications feel like a tap on the user's wrist).

<sup>92</sup> *Id.* at 12 (noting, as examples, Samsung's customizable features like Sound Balance, Adapt Sound, and Mono Audio; Blackberry's Natural Sound that improves a phone's sound quality through headphones; Crystal Talk from Motorola that "includes vocal amplification, background noise filtering, and articulation enhancement"; and the HTC Sidetone feature "providing immediate, low-level audio feedback of the user's own voice during a phone call" and a feature that allows a user to switch between mono and stereo sound).

<sup>93</sup> For example, CTIA notes that Apple's Voice Over screen reader audibly describes everything that appears on the screen and navigation instructions, and that Microsoft also "has enhanced its screen reader and keyboard/touch

(continued...)

26. For individuals with physical and dexterity impairments, CTIA provides some examples of voice commands and external hardware that help to provide accessibility.<sup>95</sup> In addition, CTIA reports that the Talkitt application translates the speech of persons who have motor, speech, or language impairments into “understandable speech,” which can enable users to communicate with their own voices.<sup>96</sup>

27. According to CTIA, mobile devices are also becoming more useful for individuals with cognitive and learning disabilities.<sup>97</sup> For example, CTIA states that some features simplify functions and help a user stay focused.<sup>98</sup> In addition, CTIA notes that some apps are available to improve word recognition,<sup>99</sup> permit audio reminders,<sup>100</sup> simplify dialing,<sup>101</sup> and can provide emergency notifications to a list of contacts.<sup>102</sup> CTIA adds that mobile “personal assistant” features, such as Apple’s Speak Screen and Siri, Microsoft’s Cortana, BlackBerry’s Assistant, and Google Now, “can respond to voice commands, send messages, place calls, and set reminders for the users” and “add ease to everyday tasks and operations for all consumers, including individuals with disabilities.”<sup>103</sup> Finally, CTIA reports on certain devices designed to meet the needs of senior adults, which also may be able to address the needs of certain individuals with cognitive disabilities.<sup>104</sup>

28. In summary, we conclude that improvements have been made since the *2014 CVAA Biennial Report* with respect to the accessibility of smartphones and other devices, improvements which commenters attribute to a platform-based approach to accessibility. Further, we acknowledge the wide

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navigation technology.” *Id.* at 10-11. CTIA also reports that Google’s Android and Apple’s iOS devices can connect wireless braille displays and users can navigate these devices using voice technologies. *Id.* at 11.

<sup>94</sup> *Id.* at 20.

<sup>95</sup> *Id.* at 13 (noting Android’s Switch Access, which “provides a touch-screen alternative”; the Sense Home widget, which provides a “context-sensitive menu of apps based on the user’s location”; the HTC One (M8) smartphone, which has a voice input feature, and Blackberry’s Word Substitution feature, both of which minimize keystrokes; the Knock Code feature on LG devices that enables users to access the device “by tapping a pattern on the phone screen”; and a Blackberry “single-hand and hands-free option”).

<sup>96</sup> *Id.* at 21.

<sup>97</sup> *Id.* at 14.

<sup>98</sup> *Id.* (providing, as examples, Apple’s Guided Access feature, which “enables users to temporarily restrict an Apple device to a single app, disable areas of the screen that are not relevant to a task to limit distraction, and disable certain hardware buttons”; Samsung devices with “Easy Mode,” which “configures the user’s home screen to provide larger icons and a simpler layout to help eliminate distractions”; and Microsoft’s OneNote, which is designed to help users sustain their attention).

<sup>99</sup> *Id.* (explaining that Microsoft’s OneNote has the capacity “to improve word recognition with the device’s syllabification tool”).

<sup>100</sup> *Id.* (noting that Blackberry allows users to “record, save, and share voice note reminders”).

<sup>101</sup> *Id.* at 21 (highlighting the UnusTactus application, which creates one-touch photo dialer buttons).

<sup>102</sup> *Id.* (stating that the SOS QR application enables users “to send an emergency notification to a pre-populated list of contacts who, in addition to receiving a call or message, receive a map with the user’s location”; and that the UnusTactus application can alert a predetermined set of people when the user leaves a pre-defined area).

<sup>103</sup> *Id.* at 14-15.

<sup>104</sup> *Id.* at 16 (explaining that the Doro 824 SmartEasy smartphone “includes a 5-inch display screen, larger tiles for texting, and remote access for other individuals to help the user complete a number of tasks, including entering contacts” and reporting on the features of the Jitterbug Smart by GreatCall, “a large smartphone that supports Personal Operator, a personal assistant service, and voice typing, which converts speech into on-screen texts”).

range of smartphone features that make telecommunications services and ACS more accessible to individuals with vision, hearing, dexterity, cognitive disabilities, as reported by CTIA. In addition, we note that consumers submitted only six requests for assistance and filed no informal complaints with the Commission with respect to alleged violations of sections 716 since the *2014 CVAA Biennial Report* was submitted to Congress.<sup>105</sup> Therefore, we affirm our finding that advances have been made in the accessibility of ACS features and functions on smartphones and other devices for a wide range of individuals with disabilities.

**c. Section 718.**

29. In the *2016 CVAA Assessment Public Notice*, we asked about the accessibility of Internet browsers built into mobile phones.<sup>106</sup> ACB, the only entity to comment directly on this matter, reported that significant improvements have been made since the CVAA was enacted.<sup>107</sup> For example, ACB stated that efficiency and usability has increased as a result of improved hand gestures for navigating Web content,<sup>108</sup> and that “Google has recently updated its internal screen-reading software solution for its Chrome operating environment, which has made improvements in usability and quality control.”<sup>109</sup> Based on this input and that the platform-based approach to accessibility has resulted in the improved accessibility of ACS features and functions on smartphones, we determined in the *2016 CVAA Tentative Findings Public Notice* that it was logical to tentatively find that the accessibility of Internet browsers built into mobile phones also has improved for individuals who are blind or visually impaired since the *2014 CVAA Biennial Report*.<sup>110</sup> In response to the *2016 CVAA Tentative Findings Public Notice*, AFB concurs that Internet browsing on higher-end phones is improving, but adds that there is room for improvement.<sup>111</sup> For example, AFB reports that some individuals who are blind or visually impaired (36 of 131 survey respondents who use smartphones) say that it is “most difficult” or “impossible” to use their smartphones’ Web browsing feature.<sup>112</sup> In particular, AFB reports that, while “Google has made incremental improvements to the browsing experience on Android, and the stock configuration of the Chrome browser and the TalkBack screen reader provides a technically accessible web browsing experience,” significant usability barriers remain unresolved.<sup>113</sup> According to AFB, the Chrome browser slows down considerably when loading new webpages or navigating large webpages, which makes the screen reader behave unexpectedly, particularly on low-end to mid-range devices.<sup>114</sup> Based on the record before us, while we affirm our finding that the accessibility of Internet browsers built into mobile phones has improved for individuals who are blind or visually impaired, the record suggests the need for

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<sup>105</sup> See *infra* Section II.D.1 (Number and Nature of Complaints Received). While we note the lack of such consumer filings during this period, we recognize that the failure to submit complaints to the Commission is not, by itself, sufficient to infer compliance with sections 716 or 718.

<sup>106</sup> *2016 CVAA Assessment Public Notice*, 31 FCC Rcd at 5361, para. 12.

<sup>107</sup> ACB Comments at 3. ACB notes, in particular, continued improvements in the usability of Apple iOS and Google Android. *Id.*

<sup>108</sup> *Id.*

<sup>109</sup> *Id.*

<sup>110</sup> See *2016 CVAA Tentative Findings Public Notice*, Attachment at para. 21.

<sup>111</sup> AFB Tentative Findings Comments at 3.

<sup>112</sup> *Id.* at 2-3.

<sup>113</sup> *Id.* at 3.

<sup>114</sup> *Id.* AFB also reports that the screen reader on Android devices, which is completely controlled with touch gestures, behaves unexpectedly as a result of inaccurate gesture detection and recognition. *Id.*

continued progress on improving the accessibility of Internet browsers, particularly on low-end to mid-range devices.

**d. Accessibility Gaps.**

30. Although the comment record in response to the *2016 CVAA Assessment Public Notice* demonstrates that significant progress has been made to meet the accessibility obligations of sections 255, 716, and 718, in the *2016 CVAA Tentative Findings Notice*, we tentatively found that some accessibility gaps still remain.<sup>115</sup> In addition to the gaps related to the accessibility of non-smartphones and equipment used with interconnected VoIP services, noted above, commenters do report other persistent gaps. For example, ACB reports that consumers sometimes lose accessibility when operating system upgrades have not been adequately tested.<sup>116</sup> AFB also reports that system upgrades sometimes result in the loss of accessibility in some applications, and notes particularly the loss of accessibility in Facebook, ESPN, and YouTube applications.<sup>117</sup> AFB also states that that some individuals who are blind or visually impaired (32 of 131 survey respondents who use smartphones) report that it is “most difficult” or “impossible” to use electronic messaging services, such as messaging and e-mail, and video conferencing services.<sup>118</sup> In addition, AFB’s comments suggest that continued progress is needed with respect to the accessibility of ACS and Internet browsers on mobile phones for individuals who are blind or visually impaired.<sup>119</sup>

31. Consumer Groups reiterate accessibility concerns that they expressed in 2012 and 2014 that deaf and hard of hearing individuals are “unable to access or fully participate in games that use ACS components for communication between participants.”<sup>120</sup> They urge that relay services be integrated into games so that these gamers are not excluded from this “form of social interaction.”<sup>121</sup> They also note that, since the *2014 CVAA Biennial Report*, the number of products and services with virtual reality and other augmented reality components has increased, and that these components make these products and services inaccessible to individuals who are deaf or hard of hearing.<sup>122</sup>

32. In addition, Consumer Groups say that data caps on the wireless service plans of deaf or hard of hearing consumers who rely on data and video communications services in place of voice communications could be detrimental to those consumers.<sup>123</sup> Consumer Groups explain that these caps result in consumers having to acquire smartphones that are more expensive and use data at higher rates.<sup>124</sup>

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<sup>115</sup> See *2016 CVAA Tentative Findings Public Notice*, Attachment at para. 22.

<sup>116</sup> ACB Comments at 2.

<sup>117</sup> AFB Tentative Findings Comments at 3.

<sup>118</sup> *Id.* at 2-3.

<sup>119</sup> See *supra* para. 29.

<sup>120</sup> Consumer Groups Comments at 6; see also *2012 CVAA Biennial Report*, 27 FCC Rcd at 12221-22, paras. 44-45 (advocating for inclusion of relay services to make online gaming voice communication accessible to deaf and hard of hearing gamers); *2014 CVAA Biennial Report*, 29 FCC Rcd at 11920, para. 19. The Bureau extended the class waiver of the ACS accessibility rules for video game software until January 1, 2017. See *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, 30 FCC Rcd 10016 (CGB 2015).

<sup>121</sup> Consumer Groups Comments at 6.

<sup>122</sup> *Id.* at 6-7.

<sup>123</sup> *Id.* at 7-8; see also *2012 CVAA Biennial Report*, 27 FCC Rcd at 12219, para. 38; *2014 CVAA Biennial Report*, 29 FCC Rcd at 11930, para. 37.

<sup>124</sup> Consumer Groups Comments at 7.

When consumers exceed data caps to meet their communications needs, Consumer Groups claim, they also incur additional fees for data use above the cap.<sup>125</sup> Consumer Groups suggest that data caps on wireless service plans are unfair when viewed against plans available for people whose communications needs can be met through unlimited voice minutes.<sup>126</sup> CTIA counters that wireless service providers offer all of their customers a variety of service plan options to meet their budgets and communications needs, including pre-paid plans, plans that allow rollover of minutes or the sharing of data, and “free data offerings,” which CTIA says may benefit people with disabilities who rely video applications that use data at high rates.<sup>127</sup>

33. Finally, Consumer Groups state that individuals who are deaf or hard of hearing continue to have difficulty finding phones that are hearing aid compatible (HAC) and meet their accessibility needs.<sup>128</sup> In addition to asserting that “HAC phones often work better with some hearing aids than others,”<sup>129</sup> they raise the concern that certain proprietary solutions for wireless phones are “limited and expensive options that only work with specific brands of hearing aids.”<sup>130</sup> They conclude that finding a phone that works with a particular hearing aid would be easier if there were more HAC phones.<sup>131</sup> In contrast, TIA reports that, as a result of industry efforts, most wireless handsets are HAC today,<sup>132</sup> adding that even T-rated handsets, which originally presented challenging HAC issues, are at an 85% compliance level, marking a “significant improvement” over the past few years.<sup>133</sup>

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<sup>125</sup> *Id.*

<sup>126</sup> *Id.*

<sup>127</sup> CTIA Comments at 5-9. CTIA identifies AT&T, Sprint, T-Mobile, Verizon, and U.S. Cellular as having plans designed to meet the needs of consumers who are deaf or hard of hearing, with options like data-only plans or messaging-only plans. *Id.* at 6. CTIA notes, for example, that T-Mobile allows the customer to select “the amount of 4G LTE data that he or she needs, including an unlimited data option” and notes that Sprint provides “a plan with unlimited voice, text, and data.” *Id.* at 8. As examples of “free data offerings,” CTIA notes T-Mobile’s Music Freedom and Binge-On, music and video services with free data usage; Verizon’s go90 that provides video content with free data usage; and AT&T’s Sponsored Data that enables companies to “sponsor the data usage for specific content.” *Id.* at 9.

<sup>128</sup> Consumer Groups Comments at 2.

<sup>129</sup> *Id.* at 3.

<sup>130</sup> *Id.*

<sup>131</sup> *Id.*

<sup>132</sup> TIA Comments at 5.

<sup>133</sup> *Id.* At the same time, Consumer Groups, CTIA and TIA all note with approval the Commission’s rulemaking proceeding on the industry and consumer joint consensus proposal, which has a target of making 100% of mobile phones HAC if achievable, over time. Consumer Groups Comments at 3 (citing *Improvements to Benchmarks and Related Requirements Governing Hearing Aid-Compatible Mobile Handsets; Amendment to the Commission’s Rules Governing Hearing Aid-Compatible Mobile Handsets*, Fourth Report and Order and Notice of Proposed Rulemaking, 30 FCC Rcd 13845 (2015)); see also *Improvements to Benchmarks and Related Requirements Governing Hearing Aid-Compatible Mobile Handsets*, WT Docket No. 15-285, Report and Order, FCC 16-103 (rel. Aug. 5, 2016) (implementing a consumer-industry consensus to increase the availability of HAC wireless handset models to 66% in two years and 85% in five years (with additional time for service providers), and stating a commitment to reach 100% HAC capabilities no later than 2024, if achievable, based on reports to be coordinated and filed with the Commission by industry and consumer stakeholders); CTIA Comments at 37-38; TIA Comments at 6.



34. The above points made by consumer stakeholders confirm our finding that certain accessibility gaps remain and indicate the need for continued diligence to ensure that accessibility is not lost when systems are upgraded and new communications technologies are developed and deployed.<sup>134</sup>

## 2. Information, Documentation, and Training

35. The 2016 CVAA Assessment Public Notice sought comment on access by people with disabilities to user information and user documentation related to covered products and services, as well as the extent to which covered entities are providing training on the accessibility of their products and services to customer service representatives, technical support personnel and others having direct contact with the public.<sup>135</sup> These requirements are designed to ensure that telecommunications and advanced communications services, as well as Internet browsers built into mobile phones, are *usable* by individuals with disabilities.<sup>136</sup>

36. ACB states that major carriers, such as AT&T, Sprint, and Verizon, provide information in accessible formats, such as Braille, and have trained their customer service representatives on a variety of accessibility issues.<sup>137</sup> ACB adds that AT&T has a “Train the Trainer” program for store managers, with a focus on accessible technology.<sup>138</sup>

37. CTIA reports that manufacturers include information on their websites about accessible features and functions of wireless devices.<sup>139</sup> In addition, CTIA states that carriers, such as AT&T, Sprint, T-Mobile, U.S. Cellular, and Verizon, include information on their websites about accessible wireless offerings.<sup>140</sup> CTIA also notes its own website, AccessWireless.org, which, it says, enables users to locate devices with accessibility features through the Global Accessibility Reporting Initiative (GARI) database.<sup>141</sup> CTIA further states that individuals with disabilities can get the wireless devices they need through a store, kiosk, or online as quickly as other consumers.<sup>142</sup> CTIA also gives examples of how manufacturers and carriers provide user information for their accessible products and services.<sup>143</sup> Finally,

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<sup>134</sup> See also 2016 CVAA Tentative Findings Public Notice, Attachment at para. 19 (stating that, for individuals who are deaf or hard of hearing, we expect that the accessibility of telecommunications will be enhanced by increasing the number of HAC wireless handsets).

<sup>135</sup> See *supra* para. 12.

<sup>136</sup> Specifically, a product or service is “usable” if individuals with disabilities have access to the full functionality and documentation for the product or service, including instructions, product or service information (including accessible feature information), documentation and technical support functionally equivalent to that provided to individuals without disabilities. 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).

<sup>137</sup> ACB Comments at 2.

<sup>138</sup> *Id.* at 3.

<sup>139</sup> CTIA Comments at 32 (identifying the websites of Samsung, HTC, LG, and Apple as examples).

<sup>140</sup> *Id.* at 31.

<sup>141</sup> *Id.* at 15. CTIA explains that the GARI page “matches disabled individuals with a wireless device with features that best meet the needs of the individual” is the “third most popular page” on AccessWireless.org. *Id.* at 31.

<sup>142</sup> *Id.* at 15.

<sup>143</sup> *Id.* at 33. CTIA states, for example, that Odin Mobile provides an instructional podcast, Verizon provides information on its website, AT&T conducts workshops, Bluegrass Cellular conducts outreach and helps customers with disabilities set up their mobile devices, and Sprint provides in-person support to help customers set up their new devices. *Id.*

CTIA reports that wireless companies facilitate training that helps employees identify and offer appropriate products for individuals with disabilities.<sup>144</sup>

38. Nonetheless, Consumer Groups state that, because information is not readily available in retail settings, consumers cannot easily determine which phones best suit their needs.<sup>145</sup> Consumer Groups note, in particular, that employees of “big box and other types of retail outlets” lack the information to help consumers select an appropriate phone,<sup>146</sup> and add that sales and service employees should be knowledgeable about HAC phones and their capabilities to facilitate a “less onerous” shopping experience.<sup>147</sup>

39. Based on the above feedback from commenters, in the *2016 CVAA Tentative Findings Public Notice*, we tentatively found that that industry has made notable efforts to ensure the availability of information and documentation related to covered products and services, as well as training of personnel on the accessibility of their products and services.<sup>148</sup> This finding is bolstered by comments received from CCA that its members also train personnel and provide information to facilitate accessibility for consumers by, for example, keeping their websites and print material up-to-date.<sup>149</sup> We now affirm this finding, but highlight concerns that continue to be raised by Consumer Groups about the need for additional training for point-of-sales personnel to assist consumers to determine which phones best suit their needs.

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

40. The *2016 CVAA Assessment Public Notice* sought comment on the extent to which covered entities have included people with disabilities in their efforts to conduct market research, product design, testing, pilot demonstrations, and product trials.<sup>150</sup> In the *2016 CVAA Tentative Findings Public Notice*, we tentatively found that, since the *2014 CVAA Biennial Report*, industry has expanded its consultation with individuals with disabilities on the design and development of products and services.<sup>151</sup>

41. ACB reports that it works with leading manufacturers and developers “to get ahead of the curve for assuring products will be accessible when they launch,” and notes that its relationship with Microsoft has improved over the past six months.<sup>152</sup> ACB adds that telephone carriers, such as AT&T, Verizon, and Sprint, have engaged it and its members over the past two years through, for example, participating at conferences such as the M-Enabling Summit, and through frequent calls with ACB and other stakeholders.<sup>153</sup> In addition, ACB states that Apple, Google, and Microsoft have consulted ACB members at their annual convention, updating them on new accessible product improvements and

<sup>144</sup> *Id.* at 33-34 (indicating that this training is conducted by, for example, Verizon, T-Mobile, Microsoft, Sprint, and Bluegrass Cellular).

<sup>145</sup> Consumer Groups Comments at 3.

<sup>146</sup> *Id.*

<sup>147</sup> *Id.*

<sup>148</sup> See *2016 CVAA Tentative Findings Public Notice*, Attachment at para. 27.

<sup>149</sup> CCA Tentative Findings Comments at 2, 4. CCA membership includes almost 100 competitive wireless providers and about 200 entities that serve wireless carriers. *Id.* at 1.

<sup>150</sup> See *supra* para. 12; see also 47 CFR §§ 6.7(b)(3), 7.7(b)(3). Covered entities must keep records about their efforts to consult with people with disabilities. See 47 U.S.C. § 618(a)(5)(A); 47 CFR § 14.31(a)(1).

<sup>151</sup> See *2016 CVAA Tentative Findings Public Notice*, Attachment at para. 31.

<sup>152</sup> ACB Comments at 2.

<sup>153</sup> *Id.*

enabling them to test products and provide feedback.<sup>154</sup> ACB also notes that the FCC's Disability Advisory Committee (DAC) provides opportunities for industry and consumer advocate engagement.<sup>155</sup> While these efforts demonstrate the ability of industry and consumers with disabilities to work together to increase accessibility, ACB encourages "broadening the network of stakeholder interactions and partnerships . . . [to include] a more diverse and wider range of covered entities."<sup>156</sup> Similarly, Consumer Groups urge greater involvement of the deaf and hard of hearing community in the research and development of products and services and suggest that covered entities be required to report these research and development activities to the Commission.<sup>157</sup>

42. CTIA reports that, over the past two years, the wireless industry has continued to coordinate with the disability community in an ongoing discussion to help ensure that their needs are understood by manufacturers and service providers.<sup>158</sup> For example, CTIA points out that AT&T's Corporate Accessibility Technology Office regularly assesses new products and services to ensure that they meet the needs of individuals with disabilities.<sup>159</sup> CTIA also reports that Microsoft recently partnered with ACB on accessibility matters so that its products can meet the needs of people who are blind or visually-impaired.<sup>160</sup> CTIA further states that, in 2014 and 2015, it participated in almost 30 accessibility-related events, including conferences, summits, and webinars.<sup>161</sup> CTIA also reports that its members likewise engage representatives of the accessibility community.<sup>162</sup>

43. Based on reports by commenters in this proceeding that industry and consumer stakeholders have engaged one another through the FCC DAC, consumer and industry conferences, and individually,<sup>163</sup> we affirm our tentative finding that consultation among these stakeholders has improved since our *2014 CVAA Biennial Report*.

### C. Accessibility Barriers in New Communications Technologies

44. Section 717(b)(1)(B) of the Act requires the Commission to provide an evaluation of the extent to which any accessibility barriers still exist with respect to new communications technologies.<sup>164</sup>

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<sup>154</sup> *Id.* at 3.

<sup>155</sup> *Id.* TIA also reports that, through one of its members, TIA "has been an active participant and contributor to the discussions and recommendations of the FCC's [DAC]." TIA Comments at 7.

<sup>156</sup> ACB Comments at 3.

<sup>157</sup> Consumer Groups Comments at 5, 8 (citing Consumer Groups PN Comments - CVAA Report Tentative Findings Comments, Docket No. 10-213 (filed Sept. 6, 2012) at 11).

<sup>158</sup> CTIA Comments at 27.

<sup>159</sup> *Id.* at 28.

<sup>160</sup> *Id.*

<sup>161</sup> *Id.* at 29 (stating that these events include Super Mobility, CTIA's annual wireless conference, the Hearing Loss Association of America's annual convention, the Biennial Telecommunications for the Deaf and Hard of Hearing Conference, and the M-Enabling Summit).

<sup>162</sup> For example, CTIA references AT&T's Advisory Panel on Access & Aging, which brings together various organizations to advise AT&T on issues related to disability and aging, and T-Mobile's Accessibility Council, which facilitates information exchanges about accessible product and service enhancements and opportunities. *Id.* at 29-30.

<sup>163</sup> In response to the *2016 CVAA Tentative Findings Public Notice*, noting ACB's interest in "broadening the network of stakeholder interactions and partnerships," ACA states that it will apply to participate in the next term of the FCC's DAC to enable small and mid-size providers to engage with the disability community. ACA Tentative Findings Comments at 3-4 (citing ACB Comments at 3).

<sup>164</sup> 47 U.S.C. § 618(b)(1)(B).

The *2016 CVAA Assessment Public Notice* sought comment on accessibility barriers with respect to new communication technologies that are both within the scope of the Act (e.g., covered under sections 255, 716, and 718) and outside the scope of the Act.<sup>165</sup> The *2016 CVAA Assessment Public Notice* also sought comment on the extent to which accessibility barriers still exist with respect to communication services, hardware, software, applications, or plug-ins that have been deployed since the *2014 CVAA Biennial Report*, or other relatively new communications technologies.<sup>166</sup>

45. Commenters representing individuals who are deaf or hard of hearing (Consumer Groups), CTIA, and TIA express optimism about improving the accessibility of services and equipment through new technologies, such as real-time text (RTT) and high definition voice (HD voice), and text-to-911. CTIA also states that, to foster innovation, serve all consumers better, and break down accessibility barriers to new communications technologies, the Commission should “make more spectrum available for commercial use, promote infrastructure deployment, and rely on a ‘light touch’ regulatory scheme.”<sup>167</sup> CTIA also asserts that the “Internet of Things” and 5G can provide more connectivity and improve access by people with disabilities, particularly with respect to video streaming and video communications services.<sup>168</sup> According to CTIA, advanced technologies also hold promise for improving health,<sup>169</sup> mobility and transportation,<sup>170</sup> and education for individuals with disabilities.<sup>171</sup> CCA agrees on the potential for new technologies such as RTT, HD voice and text-to-911 to improve access for people with disabilities, but acknowledges that the design and implementation of new products and services may result in accessibility barriers.<sup>172</sup> Additionally, like CTIA, CCA urges the Commission to encourage and facilitate the transition to new technologies, such as LTE-U, 5G, and the Internet of Things that can deliver faster speeds and higher capacity, and advocates for more licensed and unlicensed spectrum to make that possible.<sup>173</sup>

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<sup>165</sup> *2016 CVAA Assessment Public Notice*, 31 FCC Rcd at 5362, para. 14. In the *2012 CVAA Biennial Report*, the Commission rejected assertions that it should only consider “new communications technologies” that are not covered by the Communications Act and only those accessibility barriers that could not be eliminated with reasonable effort and expense. *See 2012 CVAA Biennial Report*, 27 FCC Rcd at 12222, para. 45. The Commission’s assessment of new communications technologies, therefore, is not limited to telecommunications, ACS, or Internet browser technologies covered under sections 255, 716, and 718 of the Act. *See 2012 CVAA Biennial Report*, 27 FCC Rcd at 12220, para. 43.

<sup>166</sup> *2016 CVAA Assessment Public Notice*, 31 FCC Rcd at 5362, para. 14.

<sup>167</sup> CTIA Comments at 38.

<sup>168</sup> *Id.* at 22.

<sup>169</sup> *Id.* at 23-24 (reporting, for example, that the wireless telehealth industry is rapidly leading to advancements to “remotely monitor patients. . . [and to] provide real-time health information and support, which has translated into observable outcomes and improved access to providers”).

<sup>170</sup> *Id.* at 24-26 (mentioning, for example, the development of automated vehicles, interactive public transportation information systems, and devices and systems that provide information about the individual’s surroundings and assist with navigation).

<sup>171</sup> *Id.* at 26-27 (asserting that “new technologies will make curriculum and educational tools even more accessible,” and mentioning existing technologies, such as Dragon Naturally Speaking and IBM’s ViaVoice speech-to-text software, Smartpen by Livescribe, and HeadMouse for individuals with physical impairments).

<sup>172</sup> CCA Tentative Findings Comments at 2, 5.

<sup>173</sup> *Id.* at 5-6 (citing CTIA Comments at 38-39).

46. Consumer Groups particularly laud the Commission's progress with respect to RTT as an alternative to TTY technology.<sup>174</sup> They assert that RTT should enable direct and seamless communication between people who are and people who are not deaf or hard of hearing using off-the-shelf technologies,<sup>175</sup> and endorse a gradual transition from TTY to RTT technology.<sup>176</sup> Likewise, TIA notes that the wireless industry is working to develop alternatives, such as RTT, to ensure that communication services remain accessible in an IP-based environment.<sup>177</sup> CTIA states that consumers are "overwhelmingly" adopting wireless services and therefore "it is time for the Commission to move beyond the antiquated wireless TTY requirements imposed on new wireless networks and products."<sup>178</sup>

47. Next, Consumer Groups suggest that HD voice and improved noise cancelling technology will result in "[c]learer, more natural sounding calls [that] will improve the communication abilities of all consumers and may help make it possible for hard of hearing people to make calls even without assistive technology."<sup>179</sup> Similarly, CTIA recognizes the benefits of HD voice for all consumers, and particularly for consumers with hearing loss.<sup>180</sup> CTIA reports that AT&T, Sprint, T-Mobile, and Verizon all currently offer HD voice,<sup>181</sup> and that wireless handsets supporting HD voice are now available today at multiple price points from companies like Samsung, HTC, Apple, LG, Microsoft, Kyocera, and BlackBerry.<sup>182</sup> Likewise, TIA notes that the information and communications technology industry has "made significant gains in deploying newer technologies like HD voice."<sup>183</sup> For example, TIA reports that significant gains have been made in deploying HD voice and Bluetooth protocols that are available on HAC-enabled devices.<sup>184</sup>

48. With respect to the availability of text-to-911, Consumer Groups acknowledge that progress has been made, but raise the concern that only approximately 600 public safety answering points

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<sup>174</sup> Consumer Groups Comments at 2. In October 2015, the FCC DAC recommended that the Commission initiate a rulemaking proceeding to explore whether RTT and other next-generation text-based communications solutions can meet or exceed the objectives of the Commission's existing wireless TTY rules, and related matters. *See Recommendation of the FCC Disability Advisory Committee Ad Hoc Real-Time Text Subcommittee* (approved and adopted by the DAC Oct. 8, 2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-335867A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-335867A1.pdf). In February 2016, the DAC adopted further recommendations about issues the Commission should consider in a rulemaking proceeding on RTT and the TTY-to-RTT transition. *See Recommendation of the FCC Disability Advisory Committee Technology Transitions Subcommittee* (approved and adopted by the DAC Feb. 23, 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-337908A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-337908A1.pdf). In April 2015, the Commission initiated a rulemaking proceeding to explore these and related issues. *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*, Notice of Proposed Rulemaking, 31 FCC Rcd 6247 (2016).

<sup>175</sup> Consumer Groups Comments at 2.

<sup>176</sup> *Id.*

<sup>177</sup> TIA Comments at 7.

<sup>178</sup> CTIA Comments at 36.

<sup>179</sup> Consumer Groups Comments at 4; *see also Recommendation of the FCC Disability Advisory Committee Technology Transitions Subcommittee on HD Voice* (approved and adopted by the DAC June 16, 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DOC-339903A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DOC-339903A1.pdf).

<sup>180</sup> CTIA Comments at 6.

<sup>181</sup> *Id.*

<sup>182</sup> *Id.* at 7.

<sup>183</sup> TIA Comments at 10.

<sup>184</sup> *Id.*

(PSAPs) that receive 911 emergency calls (approximately 10% of all PSAPs nationwide) have implemented this capability.<sup>185</sup> CTIA reports that all wireless carriers have “expended substantial resources” since 2014, to deploy text-to-911 capabilities nationwide.<sup>186</sup> In addition, CTIA notes that, in June 2015, it formed a “9-1-1 Location Accuracy Advisory Group,” which includes representatives of the disability community, industry stakeholders, and partners, to provide guidance to wireless carriers on how to implement key elements of the FCC’s wireless 9-1-1 location accuracy requirements.<sup>187</sup> CTIA explains that it considers text-to-911 and 911 location accuracy to be an “equally shared priority” for both the wireless industry and the disability community.<sup>188</sup>

49. In the *2016 CVAA Tentative Findings Public Notice*, we tentatively found that, while these and other new communications and other technologies hold the promise of improving the quality of life for all consumers, including individuals with disabilities, accessibility barriers still exist with respect to certain new communications technologies.<sup>189</sup> TIA asserts that it is difficult to definitively report on accessibility barriers in new communications technologies in a field that is continuously evolving.<sup>190</sup> Instead, it notes that industry continues to improve technologies in ways that benefit all consumers.<sup>191</sup> TIA mentions, for example, that industry is broadly deploying VoIP services, such as long-term evolution (LTE), with an effort to ensure that these services are accessible to individuals with disabilities.<sup>192</sup> In addition, TIA mentions “leveraging the evolution of multi-modal interfaces” that provide accessibility solutions, such as speech-to-text input and text-to-speech output.<sup>193</sup>

50. In contrast, ACB reports that there are major barriers to accessibility by persons with vision loss to web conferencing, including systems offered by leading providers.<sup>194</sup> Specifically, ACB states that accessible conference materials, when converted into video streams and broadcast via the Internet, are not accessible to individuals who are blind or visually impaired.<sup>195</sup>

51. In addition, Consumer Groups reiterate accessibility concerns about video conferencing services that they expressed in 2012 and 2014.<sup>196</sup> Specifically, Consumer Groups note the importance of

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<sup>185</sup> Consumer Groups Comments at 4; *see also* FCC, What You Need to Know About Text-to-911, <https://www.fcc.gov/consumers/guides/what-you-need-know-about-text-911> (last visited Aug. 15, 2016) (providing a link to a list of areas where text-to-911 service is available).

<sup>186</sup> CTIA Comments at 35.

<sup>187</sup> *Id.*

<sup>188</sup> *Id.*

<sup>189</sup> *See 2016 CVAA Tentative Findings Public Notice*, Attachment at para. 38; *see also 2016 CVAA Tentative Findings Public Notice*, Attachment at para. 19 (sating that, for individuals who are deaf or hard of hearing, we expect that the accessibility of telecommunications will be enhanced by the deployment of RTT and HD voice).

<sup>190</sup> TIA Comments at 10.

<sup>191</sup> *Id.*

<sup>192</sup> *Id.*

<sup>193</sup> *Id.*

<sup>194</sup> ACB Comments at 3 (noting also “recent trends toward 360 video streaming and virtual reality (VR) environments”).

<sup>195</sup> *Id.*

<sup>196</sup> Consumer Groups Comments at 6; *see also 2012 CVAA Biennial Report*, 27 FCC Rcd at 12206, para. 29; *2014 CVAA Biennial Report*, 29 FCC Rcd at 11920, para. 19. ACS is defined to include interoperable video conferencing services, which provide real-time video communications, including audio, to enable users to share information. 47 U.S.C. § 153(1), 153(27); *see also supra* note 34 (noting that issues related to the *interoperability* of video conferencing services and equipment are the subject of a pending Commission proceeding).

making video conferencing services interoperable with each other and with videophones provided by video relay service (VRS) providers in order to achieve access for their community.<sup>197</sup> They also note that relay services are “tethered to ten-digit telephone numbers,” which makes them “not accessible” through video conferencing services.<sup>198</sup> Finally, Consumer Groups state that the lack of accessible alerting features (e.g., vibration or flashing lights) continue to cause deaf and hard of hearing individuals to miss calls and messages, particularly video calls on smartphones.<sup>199</sup>

52. While we acknowledge the significant potential that new technologies have to improve communications access by people with disabilities, based on the record, we affirm our tentative finding that barriers already exist to some of the new and innovative communications technologies that are in the process of being developed and deployed. In particular, this finding is supported by ACB’s and Consumer Groups’ comments in response to the *2016 CVAA Assessment Public Notice* reporting on accessibility barriers for web conferencing, the lack of interoperability of video conferencing services and equipment, and the lack of accessible alerting features for video calls and messages.

#### **D. Complaints Received Pursuant to Section 717**

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

- 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, 2014 and December 31, 2015;
- 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.<sup>200</sup>

54. Commission rules require that, before filing an informal complaint under sections 255, 716 and 718, a consumer must submit a “request for dispute assistance” (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.<sup>201</sup> The Commission’s rules contain minimum requirements for information that must

<sup>197</sup> Consumer Groups Comments at 6. VRS is defined in the Commission’s rules as a telecommunications relay service that allows people with hearing or speech disabilities who use sign language to communicate with voice telephone users through a communications assistant (CA) and the use of video equipment over broadband services. The video link allows the CA to view and interpret the party’s signed conversation and relay the conversation back and forth with a voice caller. 47 CFR § 64.601(a)(40).

<sup>198</sup> Consumer Groups Comments at 6.

<sup>199</sup> *Id.* at 7; *see also 2014 CVAA Biennial Report*, 29 FCC Rcd at 11920, para. 19. Consumer Groups suggest further that the “Internet of Things,” a system where objects, such as “smart lights,” are connected to the network and are able to exchange data (machine-to-machine communication), “holds some promise for alleviating alerting deficiencies, [but] they are in very early stages of development.” Consumer Groups Comments at 7.

<sup>200</sup> 47 U.S.C. § 618(b)(1)(C)-(F).

<sup>201</sup> Effective October 8, 2013, the Commission revised the process for handling complaints filed under sections 255, 716 and 718 of the Act, pursuant to rules implementing section 717(a) of the Act. *See* 47 CFR §§ 14.32 (consumer dispute assistance), 14.34-14.37 (informal complaints), 14.38-14.52 (formal complaints); *see also New Procedures for Telecommunications and Advanced Communications Accessibility Complaints*, Public Notice, 28 FCC Rcd 15712 (CGB 2013). Prior to October 8, 2013, consumers were able to file informal complaints with DRO alleging a violation of section 255 of the Act without the prerequisite filing of an RDA. A consumers may file a formal

(continued...)

be contained in an RDA.<sup>202</sup> If the parties involved in an RDA do not reach a settlement within 30 days after the filing of an RDA, 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.<sup>203</sup>

55. The Commission's complaint rules contain minimum requirements for information that must be contained in an informal complaint.<sup>204</sup> Within 180 days after receipt of the complaint, the Commission must conclude an investigation into the merits of the complaint and issue its order determining whether a violation has occurred.<sup>205</sup> 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.<sup>206</sup>

56. When the Commission established the RDA process, it anticipated that this process would allow for the resolution of consumer accessibility concerns with covered entities through dialogue and negotiation, thereby reducing the need for filing informal complaints against such entities, and consequent enforcement action.<sup>207</sup> We continue to believe that the RDA process has succeeded in this respect, and that the informal complaint process has further encouraged service providers and equipment manufacturers to comply with the accessibility rules.<sup>208</sup>

### 1. Number and Nature of Complaints Received

57. From January 1, 2014, to December 31, 2015, consumers filed 45 RDAs alleging violations of section 255, 716, or 718 of the Act.<sup>209</sup> Of these 45 RDAs, 26 RDAs (58%) involved the accessibility and usability of equipment and 19 RDAs (42%) involved the accessibility and usability of

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complaint with the Enforcement Bureau without first submitting an RDA or an informal complaint. 47 CFR §§ 14.38-14.52.

<sup>202</sup> 47 CFR § 14.32(b).

<sup>203</sup> 47 CFR § 14.32(e); *see also ACS Report and Order*, 26 FCC Rcd 14557, 14658, para. 237.

<sup>204</sup> 47 CFR § 14.34(b). These rules further 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. 47 CFR § 14.35(a). The service provider or manufacturer then must file with the Commission and serve an answer responsive to the complaint and any Commission inquiries, and serve the complainant and the Commission with a non-confidential summary of that answer within 20 days of service of the complaint. 47 CFR § 14.36(b)-(c). The complainant may then file a reply. 47 CFR § 14.36(d).

<sup>205</sup> 47 U.S.C. § 618(a)(3)(B), (a)(4); *see also* 47 CFR § 14.37(a).

<sup>206</sup> 47 U.S.C. § 618(a)(3)(B)(i); *see also* 47 CFR § 14.37(b). Any manufacturer or service provider that is the subject of such order has 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); *see also* 47 CFR § 14.37(c).

<sup>207</sup> *See 2012 CVAA Biennial Report*, 27 FCC Rcd at 12224, para. 49, n.148.

<sup>208</sup> *See 2014 CVAA Biennial Report*, 29 FCC Rcd at 11942, para. 56.

<sup>209</sup> Although consumers submitted an additional 306 requests for dispute 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 of the Act or the Commission's rules implementing those sections. DRO handled these requests separately and, therefore, they are not included in this Report. *See 2016 CVAA Tentative Findings Public Notice*, Attachment at n.151.



services. Of the 45 RDAs filed during the period covered by this Report, 39 RDAs (87%) alleged violations of section 255 and six RDAs (13%) alleged violations of sections 716 and 718.<sup>210</sup>

58. Equipment-related RDAs raised a wide range of accessibility issues by consumers with disabilities. Consumers reported feature phones that lacked text-to-speech functionality or that had keyboards that were hard to read or buttons that were too small to use. Others reported handsets that had poor sound quality or did not provide sidetone.<sup>211</sup> Of the 45 RDAs filed during the reporting period, 14 RDAs (31%) involved inaccessible wireless handsets received in conjunction with subscriptions for telephone services under the Commission's Lifeline program.

59. RDAs involving service providers focused predominantly on the failure to provide instructions or billing in an accessible format; accessible contact information; accessible directory assistance; or accessible customer service. Four RDAs alleged an inability to access billing information. Most such requests came from consumers who are blind or visually impaired, who expressed long-standing frustrations with not being able to acquire access to their accounts. Some of the consumers were facing imminent service cut-offs at the time they filed their complaint or RDA, due to an inability to access their billing information. Another five RDAs came from consumers who, because they are blind or visually impaired, sought free access to a phone company's 411 directory assistance services because they could not access its free text-based telephone directory information. Another eight RDAs were from consumers who are deaf or hard of hearing. They alleged, for example, that certain service providers were not accessible either because they refused to speak through a handset and instead relied on headsets with inadequate sound quality, or notified the consumer about his service appointments by phone rather than text message. One deaf individual was unable to verify his account using a relay service and was asked to come into the store to do so in person. However, once on site, he was expected to communicate via speaker phone, which was equally inaccessible. Another deaf consumer reported that a customer service representative refused to change his family's phone service, as requested, because the consumer called through a video relay service. Finally, two RDAs were filed by consumers with other types of disabilities who had difficulty negotiating interactive voice response (IVR) systems.

## 2. Actions Taken to Resolve Accessibility Complaints

60. Under the RDA process, DRO contacts the consumer and the manufacturer or service provider to help resolve the accessibility or usability problem. DRO was able to facilitate a resolution between the consumer and the manufacturer or service provider for 39 of the 45 RDAs filed during the period covered by this Report.<sup>212</sup> Of the remaining RDAs, one RDA was withdrawn by the consumer.<sup>213</sup> DRO was not able to facilitate a full resolution for three RDAs.<sup>214</sup> Resolution of two RDAs was suspended pending resolution of similar accessibility issues involving the same covered entity.

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<sup>210</sup> Of the six RDAs that alleged violations of sections 716 and 718, all six alleged a violation of section 716 and five of the six alleged a violation of section 718.

<sup>211</sup> "Sidetone is the immediate, low-level audio feedback of your own voice during a phone call." HTC, Re-Instating the Sidetone Option (Sept. 8, 2015), <http://blog.htc.com/2015/09/re-instating-the-sidetone-option/>.

<sup>212</sup> For example, in separate cases, resolutions were achieved by providing a consumer with an accessible handset, enabling images and text displayed on a consumer's phone to be magnified, and directing consumers to a toll-free directory assistance number.

<sup>213</sup> The consumer withdrew the RDA when he found a work-around solution for inaccessible visual indicators.

<sup>214</sup> These RDAs involved the following: a cellular network that could not modify the number of times an incoming call would ring before transferring to voicemail; a request from a consumer with a disability for a phone with a built-in recording device, which may be prohibited due to privacy law; and a request involving multiple parties and accessibility issues, some of which have been resolved, while others are pending.

61. No consumer chose to escalate his or her RDA to an informal complaint for investigation by the Enforcement Bureau; nor were any formal complaints brought under the CVAA. Furthermore, the Commission did not assess any forfeiture penalties for accessibility-related violations during the period covered by this Report. Based on this experience, it appears that the RDA process was effective in achieving the successful and cooperative resolution of most alleged violations of sections 255, 716, and 718 that were brought to the attention of DRO during the period covered by this Report.

### 3. Time Used to Resolve Accessibility Complaints

62. As noted above, a consumer must submit an RDA and allow DRO 30 days to facilitate a resolution of the problem before the consumer may file an informal complaint with the Enforcement Bureau. The consumer may extend the time period for resolution in 30-day increments. Of the RDAs that were filed during the reporting period, the RDA process was completed within 30 days for 10 RDAs (22%), within 60 days for six RDAs (13%), within 90 days for nine RDAs (20%), within 180 days for 13 RDAs (29%), and within a year for four RDAs (9%). There are three RDAs (7%) that remain open and are not yet resolved.<sup>215</sup>

### 4. Actions for Mandamus and Appeals Filed

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

#### E. Effect of Section 717's Recordkeeping and Enforcement Requirements on the Development and Deployment of New Communications Technologies

64. Section 717(a) requires the Commission to establish new recordkeeping and enforcement procedures for service providers and equipment manufacturers that are subject to sections 255, 716, and 718.<sup>216</sup> Section 717(b)(1)(G) of the Act requires the Commission to provide an assessment of the effect of the requirements of section 717 of the Act on the development and deployment of new communications technologies.<sup>217</sup> In the *2016 CVAA Assessment Public Notice*, the Bureau sought comment on the impact, if any, that the accessibility recordkeeping requirements and enforcement measures – including the requirement for consumers to request dispute assistance from the Commission as a prerequisite to filing an informal complaint – have had on the development and deployment of accessible new communications technologies.<sup>218</sup> The Bureau also asked whether service providers and equipment manufacturers have identified best practices with respect to the recordkeeping requirements that can be shared with others.<sup>219</sup>

<sup>215</sup> Two of the three RDAs that remain open and are not yet resolved were suspended pending resolution of similar accessibility issues involving the same covered entity, and the other RDA involves multiple parties and accessibility issues, some of which have been resolved, while others are pending. *See supra* para. 60 & n.214.

<sup>216</sup> 47 U.S.C. § 618(a). Under the Commission's rules, service providers and equipment manufacturers must maintain records to demonstrate compliance with sections 255, 716, and 718 when a complaint is filed. 47 CFR § 14.36(a). Covered entities must certify annually to the Commission that they have kept records pertaining to the accessibility of their products. *See* 47 U.S.C. § 618(a)(5)(B); 47 CFR § 14.31. 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).

<sup>217</sup> 47 U.S.C. § 618(b)(1)(G).

<sup>218</sup> *2016 CVAA Assessment Public Notice*, 31 FCC Rcd at 5362, para. 15. No comments were received in response to the Commission's inquiry about the extent to which these recordkeeping and enforcement obligations increased collaboration among industry, consumers with disabilities, and other stakeholders. *Id.*

<sup>219</sup> *Id.*

65. In response to the *2016 CVAA Assessment Public Notice*, Consumer Groups assert that the Commission should apply the recordkeeping and enforcement requirements of section 717 of the Act to “new communications technologies” that are both within the scope of the Act (e.g., covered under sections 255, 716, and 718) and outside the scope of the Act.<sup>220</sup> TIA notes that its members continue to comply with the recordkeeping and certification requirements.<sup>221</sup> It also suggests that the Commission should “allow recordkeeping processes to be customized to each company’s own internal operations” and be flexible “in how it assesses the efforts taken by individual companies to meet the recordkeeping obligation.”<sup>222</sup> TIA also believes that the recordkeeping and enforcement requirements “are working and generally serve [as] an effective mechanism.”<sup>223</sup> In contrast, CTIA suggests steps the Commission can take to improve the RDA process by establishing “clear expectations about potential resolutions and outcomes,” which will result in improved consistency and greater collaboration.<sup>224</sup>

66. In response to this input, in the *2016 CVAA Tentative Findings Public Notice*, we noted that Commission rules regarding accessibility recordkeeping and enforcement apply only to entities that are subject to sections 255, 716, and 718 of the Act.<sup>225</sup> For purposes of this Report, we have considered the effect of these requirements on the development and deployment of new communications technologies that are both within and outside the scope of the Act.<sup>226</sup> Further, we tentatively found that nothing in the record indicates that section 717’s recordkeeping and enforcement requirements have hindered the development and deployment of new communications technologies.<sup>227</sup> We also based this finding on the continued growth in the number and types of new communications technologies that have emerged or are emerging, as reported by commenters in this proceeding, such as RTT, HD voice, LTE, the Internet of Things, and 5G, and the application of new communications technologies for improving health, mobility and transportation, and education.<sup>228</sup>

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<sup>220</sup> Consumer Groups Comments at 8. Consumer Groups also recommend that covered entities that request waivers “because accessibility is not achievable should be required to report on the number of non-accessible and accessible units sold.” Consumer Groups Comments at 9 (citing Consumer Groups PN Comments - CVAA Report Tentative Findings Comments, Docket No. 10-213 (filed Sept. 6, 2012) at 11). To date, no such waivers have been requested.

<sup>221</sup> TIA Comments at 8 (noting also that “[t]he GARI database serves as the mechanism to maintain records” and as a way for manufactures to provide “information about the accessibility of their products”).

<sup>222</sup> *Id.* at 9.

<sup>223</sup> *Id.* at 8.

<sup>224</sup> CTIA Comments at 40-41. In particular, CTIA suggests improving the screening process, tempering any misplaced resolution expectations, and dismissing requests when a consumer does not engage in the process or when a solution “within the scope of the FCC’s rules is offered.” *Id.* at 41. As we noted above, we continue to believe that the RDA process has succeeded in allowing for the resolution of consumer accessibility concerns with covered entities through dialogue and negotiation, thereby reducing the need for filing informal complaints against such entities, and consequent enforcement action. *See supra* Section II.D (Complaints Received Pursuant to Section 717). We are confident that the RDA process will continue to evolve and improve over time.

<sup>225</sup> *See 2016 CVAA Tentative Findings Public Notice*, Attachment at para. 52; 47 U.S.C. § 618(a).

<sup>226</sup> *See supra* note 165.

<sup>227</sup> *See 2016 CVAA Tentative Findings Public Notice*, Attachment at para. 53.

<sup>228</sup> *See id.*; *see also supra* Section II.C (Accessibility Barriers in New Communications Technologies).

67. No comments were received on this issue in response to the *2016 CVAA Tentative Findings Public Notice*. We therefore affirm our findings on the effect of section 717's recordkeeping and enforcement requirements based on the comments received in response to the *2016 CVAA Assessment Public Notice*.

FEDERAL COMMUNICATIONS COMMISSION

Alison Kutler  
Chief  
Consumer and Governmental Affairs Bureau

## APPENDIX A

## List of Commenters

## (CG Docket No. 10-213)

This is a list of parties who filed comments in the following proceedings. The complete record in this proceeding is available in the Commission's Electronic Comment Filing System located at <http://www.fcc.gov/cgb/ecfs/>.

## Assessment

*Consumer and Governmental Affairs Bureau Seeks Comment on the Accessibility of Communications Technologies for the 2016 Biennial Report Required by the Twenty-First Century Communications and Video Accessibility Act*, Public Notice, 31 FCC Rcd 5356 (CGB 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-16-575A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-16-575A1.pdf) (2016 CVAA Assessment Public Notice).

<u>Abbreviation</u>	<u>Commenter</u>	<u>Date</u>
ACB	American Council of the Blind	June 29, 2016
CTIA	CTIA	June 22, 2016
Consumer Groups	Telecommunications for the Deaf and Hard of Hearing, Inc.; National Association of the Deaf; Deaf and Hard of Hearing Consumer Advocacy Network; Hearing Loss Association of America; Association of Late-Deafened Adults, Inc.; Cerebral Palsy and Deaf Organization; Deaf Seniors of America; and the Deaf/Hard of Hearing Technology RERC	June 13, 2016
TIA	Telecommunications Industry Association	June 13, 2016

## Tentative Findings

*Consumer and Governmental Affairs Bureau Seeks Comment on its Tentative Findings about the Accessibility of Communications Technologies for the 2016 Biennial Report under the Twenty-First Century Communications and Video Accessibility Act*, CG Docket No. 10-213, Public Notice, DA 14-1255 (CGB rel. Aug. 23, 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-16-961A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-16-961A1.pdf) (2016 CVAA Tentative Findings Public Notice).

<u>Abbreviation</u>	<u>Commenter</u>	<u>Date</u>
ACA	American Cable Association	September 7, 2016
AFB	American Foundation of the Blind	September 7, 2016
CCA	Competitive Carriers Association	September 7, 2016

## APPENDIX B

**Commission Actions to Implement the CVAA<sup>1</sup>  
Since October 8, 2014****Section 102. Hearing Aid Compatibility**

*Request for Updated Information and Comment on Wireless Hearing Aid Compatibility Regulations*, Public Notice, 29 FCC Rcd 13969 (CGB 2014), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-14-1688A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-14-1688A1.pdf).

*Access to Telecommunications Equipment and Services by Persons with Disabilities; Petition for Rulemaking Filed by the Telecommunication Industry Association Regarding Hearing Aid Compatibility Volume Control Requirements, et al.*, Notice of Proposed Rulemaking, 30 FCC Rcd 12219 (2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-144A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-144A1.pdf).

*Improvements to Benchmarks and Related Requirements Governing Hearing Aid-Compatible Mobile Handsets; Amendment of the Commission's Rules Governing Hearing Aid-Compatible Mobile Handsets*, Fourth Report and Order and Notice of Proposed Rulemaking, 30 FCC Rcd 13845 (2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-155A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-155A1.pdf).

**Section 103. Relay Services**

No Commission action taken to implement this provision of the CVAA since October 8, 2014.

**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; Coalition of E-Reader Manufacturers' 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 (ACS) and Equipment by People with Disabilities*, Order, 30 FCC Rcd 396 (CGB 2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-15-117A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-15-117A1.pdf) (2015 E-Reader Waiver Order).

*Accessibility Recordkeeping Compliance Certification and Contact Information Reporting Requirements for Entities Subject to Sections 255, 716, and 718 of the Communications Act*, Public Notice, 30 FCC Rcd 1982 (CGB 2015) [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-15-274A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-15-274A1.pdf) (2015 RCCCI Registry Reminder).

*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's 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*

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<sup>1</sup> This list of Commission actions since October 8, 2014, to implement the CVAA excludes public notices that announce scheduled meetings, upcoming events, pleading cycles for comments and reply comments, administrative matters, or similar notices. See Appendix C for a list of CVAA-related Commission news releases.

*People with Disabilities*, Order, 30 FCC Rcd 10016 (CGB 2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-15-1034A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-15-1034A1.pdf) (2015 Video Game Software Waiver).

*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, Coalition of E-Reader Manufacturers' 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 (ACS) and Equipment by People with Disabilities*, Order, 31 FCC Rcd 858 (CGB 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-16-113A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-16-113A1.pdf) (2016 E-Reader Waiver Order).

*Accessibility Recordkeeping Compliance Certification and Contact Information Reporting Requirements for Entities Subject to Sections 255, 716, and 718 of the Communications Act*, Public Notice, 31 FCC Rcd 1877 (CGB 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-16-248A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-16-248A1.pdf) (2016 RCCCI Registry Reminder).

*Accessibility Recordkeeping Compliance Certification and Contact Information Reporting Requirements for Entities Subject to Sections 255, 716, and 718 of the Communications Act: Application to Broadband Internet Access Service Providers*, Public Notice, 31 FCC Rcd 2029 (CGB 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-16-281A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-16-281A1.pdf).

### **Section 105. National Deaf-Blind Equipment Distribution Program<sup>2</sup>**

*Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, Section 105, Relay Services for Deaf-Blind Individuals*, Order, 30 FCC Rcd 5247 (2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-57A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-57A1.pdf) (2015 NDBEDP Pilot Program Extension Order).

*Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, Section 105, Relay Services for Deaf-Blind Individuals*, Notice of Proposed Rulemaking, 30 FCC Rcd 5255 (2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-58A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-58A1.pdf).

*Consumer and Governmental Affairs Bureau Announces 2015-2016 Allocations for the National Deaf-Blind Equipment Distribution Program*, Public Notice, 30 FCC Rcd 6369 (CGB 2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-15-722A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-15-722A1.pdf).

*Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, Section 105, Relay Services for Deaf-Blind Individuals*, Order, 31 FCC Rcd 6149 (2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-16-69A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-69A1.pdf) (2016 NDBEDP Pilot Program Extension Order).

*Consumer and Governmental Affairs Bureau Announces 2016-2017 Allocations for the National Deaf-Blind Equipment Distribution Program*, Public Notice, 31 FCC Rcd 7125 (CGB 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-16-729A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-16-729A1.pdf).

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<sup>2</sup> From October 2014 to October 2016, the Commission released various public notices inviting applications for and announcing the certification of entities selected to distribute equipment in Utah, Hawaii, Maine, Virginia, Florida, and Washington. Each of the entities previously certified for those states relinquished their certification and were replaced in a timely fashion to avoid disruption of service to low-income individuals who are deaf-blind in those states.

*Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, Section 105, Relay Services for Deaf-Blind Individuals, Report and Order, 31 FCC Rcd \_\_\_ (rel. Aug. 5, 2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-16-101A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-101A1.pdf) (NDBEDP Permanent Program Order).*

#### **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, Notice of Proposed Rulemaking, 31 FCC Rcd 6247 (2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-16-53A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-53A1.pdf).*

#### **Section 201. Video Programming Access Advisory Committee**

No Commission action taken to implement this provision of the CVAA since October 8, 2014.

#### **Section 202. Video Description and Closed Captioning**

##### ***Video Description***

*Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, Order and Public Notice, 30 FCC Rcd 2071 (MB 2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-15-295A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-15-295A1.pdf).*

*Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010, Notice of Proposed Rulemaking, 31 FCC Rcd 2463 (2016), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-16-37A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-16-37A1.pdf).*

##### ***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, 30 FCC Rcd 5012 (MB 2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-15-632A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-15-632A1.pdf) (Audible Crawl Rule Waiver).*

*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, Second Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 5186 (2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-56A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-56A1.pdf).*

*Reminder of Video Programming Distributors' Obligations to Make Televised Emergency Information Accessible for People with Disabilities; Compliance Deadline Announced for New Provisions, Public Notice, 30 FCC Rcd 13615 (CGB 2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/DA-15-1366A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/DA-15-1366A1.pdf).*

##### ***Closed Captioning on Video Programming Delivered Using Internet Protocol***

No Commission action taken to implement this provision of the CVAA since October 8, 2014.



***Exemptions Based on Economic Burden***

No Commission action taken to implement this provision of the CVAA since October 8, 2014.

**Section 203. Closed Captioning Decoder and Video Description Capability*****Apparatus – Closed Captioning Requirements***

No Commission action taken to implement this provision of the CVAA since October 8, 2014.

***Apparatus – Video Description and Emergency Information Requirements***

*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*, Second Report and Order and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 5186 (2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-56A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-56A1.pdf).

**Section 204. User Interfaces on Digital Apparatus**

*Accessibility of User Interfaces, and Video Programming Guides and Menus*, Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 13914 (2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-156A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-156A1.pdf).

**Section 205. Access to Video Programming Guides and Menus Provided on Navigation Devices**

*Accessibility of User Interfaces, and Video Programming Guides and Menus*, Second Report and Order, Order on Reconsideration, and Second Further Notice of Proposed Rulemaking, 30 FCC Rcd 13914 (2015), [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-156A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-156A1.pdf).

## APPENDIX C

## Commission Outreach and Education

FCC staff made presentations or disseminated information about the CVAA, the Accessibility Clearinghouse, 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, 2014 through October 7, 2016. These events were attended by individuals with disabilities, industry representatives, government officials, and other stakeholders.

<b>Date(s)</b>	<b>Group Name (Type of Event)</b>	<b>Location</b>
October 10, 2014	Association of Late-Deafened Adults (ALDA) Conference (presentation)	Norfolk, VA
October 20, 2014	FCC Consumer Advisory Committee Meeting (briefing)	Washington, DC
October 30, 2014	National Disability Awareness Employment Month (panel)	Washington, DC
November 6, 2014	Rehabilitation Engineering Research Center on Wireless Access	Arlington, VA
November 7, 2014	Accessible Wireless Emergency Communication Forum (presentation)	Washington, DC
November 13, 2014	Accessible Americas: Information and Communication for All	Sao Paulo, Brazil (remote presentation)
January 12, 2015	U.S. Access Board Communication Access Event (panel)	Washington, DC
February 11, 2015	Student Civics Day (presentation)	Washington, DC
March 7, 2015	Deaf Expo (exhibit and presentation)	Phoenix, AZ
March 12, 2015	Text-to-911 Public Education and Outreach Task Force (meeting)	Washington, DC
March 17, 2015	Disability Advisory Committee Meeting (briefing)	Washington, DC
March 23, 2015	University of Colorado Law School Technology Law and Policy Clinic (meeting and presentation)	Washington, DC

Date(s)	Group Name (Type of Event)	Location
March 27, 2015	Emergency Preparedness for People with Disabilities Event (panel)	Towson, MD
April 3, 2015	Access Board Community Forum on ICT	Washington, DC
April 7, 2015	Interstate TRS Advisory Council (presentation and meeting)	Harrisburg, PA
April 11, 2015	Practicing Law Institute/2016 Broadband and Cable Law Conference (conference, panel presentation)	New York City, NY
April 30, 2015	Interagency Coordinating Council (ICC) on Emergency Preparedness and Individuals with Disabilities: Accessible and Effective Emergency Communications (meeting)	Washington, DC
May 8, 2015	FCC 911 Accessible Apps Workshop	Washington, DC
May 29, 2015	Deaf-Blind Roundtable (FCC Disability Advisory Committee event)	Washington, DC
June 1-3, 2015	M-Enabling Summit and FCC Chairman's Awards for Advancement in Accessibility (presentations)	Arlington, VA
June 12, 2015	FCC Consumer Advisory Committee Meeting (briefing)	Washington, DC
June 17, 2015	Integrated Public Alert and Warning System (interagency meeting)	Washington, DC
June 22, 2015	Video Description Roundtable (FCC Disability Advisory Committee event)	Washington, DC
June 22, 2015	Text-to-911 Public Education and Outreach Task Force (meeting)	Washington, DC
June 23, 2015	Disability Advisory Committee Meeting (briefing)	Washington, DC
July 13, 2015	Lights, Camera, Action! 2.0 Think Tank on Accessible Interactive Entertainment	New York, NY

Date(s)	Group Name (Type of Event)	Location
July 23-26, 2015	FCC ADA/CVAA Anniversary Celebration (panel and workshop)	Washington, DC
July 30, 2015	World Federation of the Deaf Conference (meetings on technology access)	Istanbul, Turkey
August 20-21, 2015	Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI) Biennial Conference (presentation)	Baltimore, MD
August 27, 2015	FCC Workshop to Promote Accessibility and Wider User of the Emergency Alert System	Washington, DC
September 23, 2015	Interstate TRS Advisory Council	Jackson, WY (remote presentation)
September 25, 2015	FCC Consumer Advisory Committee Meeting (briefing)	Washington, DC
September 25-26, 2015	National Association for State Relay Administration (NASRA) Conference (presentation)	Jackson, WY
September 29, 2015	Verizon CVAA 5 <sup>th</sup> Anniversary Celebration (panel presentation)	Washington, DC
September 30, 2015	Telecommunications Equipment Distribution Program Association (TEDPA) Conference (presentation)	Jackson, WY (remote presentation)
October 5, 2015	Gallaudet University (presentation)	Washington, DC
October 8, 2015	FCC Disability Advisory Committee Meeting and CVAA 5 <sup>th</sup> Anniversary Celebration (briefing)	Washington, DC
October 26, 2015	FCC Consumer Advisory Committee Meeting (briefing)	Washington, DC
October 28, 2015	Telecommunications for People with Cognitive Disabilities Summit (FCC Disability Advisory Committee event)	Washington, DC

Date(s)	Group Name (Type of Event)	Location
November 10, 2015	FCC Roundtable on the Accessibility of Public, Educational, and Governmental (PEG) Programming	Washington, DC
November 17, 2015	Association of University Centers on Disabilities (AUCD) Conference	Washington, DC
December 14, 2015	Federal Communications Bar Association Continuing Legal Education Seminar on Captioning Quality	Washington, DC
February 5, 2016	FCC Consumer Advisory Committee Meeting (briefing)	Washington, DC
February 18, 2016	Gallaudet University (presentation)	Washington, DC
February 23, 2016	FCC Disability Advisory Committee Meeting (briefing)	Washington, DC
March 17, 2016	Roundtable on the Communications Needs of Deaf Persons with Mobility Disabilities (FCC Disability Advisory Committee event)	Washington, DC
March 8-9, 2016	Telecommunications Industry Association Spring Policy Summit	Washington, DC
April 6, 2016	Interstate TRS Advisory Council (presentation and meeting)	Washington, DC
April 11-12, 2016	Practicing Law Institute/2016 Broadband and Cable Law Conference (conference, panel presentation)	New York City, NY
April 21, 2016	Streamlining Good Manufacturing Practices (GMPs) for Hearing Aids (Food and Drug Administration public workshop)	Silver Spring, MD
April 21, 2016	Student Civics Class (presentation)	Washington, DC
May 3, 2016	White House Forum on Advancing Web Accessibility (meeting)	Washington, DC

Date(s)	Group Name (Type of Event)	Location
June 10, 2016	FCC Consumer Advisory Committee Meeting (briefing)	Washington, DC
June 13-14, 2016	M-Enabling Summit and FCC Chairman's Awards for Advancement in Accessibility (presentations)	Arlington, VA
June 13-14, 2016	National Emergency Numbering Association (NENA) Conference (presentation)	Indianapolis, IN
June 15, 2016	U.S. Department of Transportation ACCESS Advisory Committee (presentation)	Washington, DC
June 16, 2016	FCC Disability Advisory Committee Meeting (briefing)	Washington, DC
June 22-25, 2016	Hearing Loss Association of America (HLAA) Convention (exhibit and presentation)	Washington, DC
June 23-28, 2016	American Library Association Conference (exhibit)	Orlando, FL
June 24, 2016	Deaf-Blind Youth Leadership (meeting)	Washington, DC
July 3-4, 2016	American Council of the Blind (ACB) National Conference and Convention (presentations)	Minneapolis, MN
July 6-9, 2016	National Association of the Deaf (NAD) Biennial Conference (exhibit and presentation)	Phoenix, AZ
July 26, 2016 and August 23, 2016	Accessibility of the Emergency Alert System Test (stakeholder meeting)	Washington, DC
August 19-20, 2016	International Deaf-Blind Expo (exhibit and presentation)	Orlando, FL
September 7-8, 2016	Telecommunications Equipment Distribution Program Association (TEDPA) Conference (presentations)	Annapolis, MD

<b>Date(s)</b>	<b>Group Name (Type of Event)</b>	<b>Location</b>
September 12-13, 2016	National Association for State Relay Administration (NASRA) Conference (presentations)	Annapolis, MD
September 13, 2016	Equip for Equality Traumatic Brain Injury Advisory Council (presentation)	Chicago, IL (remote presentation)
September 15, 2016	TRS Advisory Council (presentation and meeting)	Annapolis, MD
September 19-21, 2016	United States Business Leadership Network (exhibit)	Orlando, FL
September 22, 2016	FCC Disability Advisory Committee Meeting (briefing)	Washington, DC
September 26, 2016	FCC Technology Transitions Information Session (presentation)	Washington, DC