Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Transition from TTY to Real-Time Text Technology	)	CG Docket No. 16-145
	)	
	)	
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	)	GN Docket No. 15-178
	)	

COMMENTS OF CONSUMER GROUPS ON NOTICE OF PROPOSED RULEMAKING TO TRANSITION FROM TEXT TELEPHONE TO REAL-TIME TEXT TECHNOLOGY

Telecommunications for the Deaf and Hard of Hearing, Inc. (TDI), through counsel, Association of Late-Deafened Adults, Inc., Cerebral Palsy and Deaf Organization, Hearing Loss Association of America, and National Association of the Deaf (collectively, the "Consumer Groups") are pleased to submit these comments supporting the Federal Communications Commission's (FCC or Commission) efforts to transition from text telephone (TTY) to real-time text (RTT) technology and responding to issues and questions raised in the FCC's April 29 *Notice of Proposed Rulemaking* (*NPRM*) in the above-captioned dockets.[1]

[1] *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*, CG Docket No. 16-145 & GN Docket No. 15-178, Notice of Proposed Rulemaking, FCC 16-53 (Apr. 29, 2016) (*NPRM*).

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I. INTRODUCTION & SUMMARY

This proceeding is a critical next step in the Commission's ongoing effort to "ensure that the communications needs of people with disabilities are addressed in our nation's telecommunications policies."[2] For many years, TTY technology was the sole means for persons who are deaf, hard of hearing, deaf-blind, and speech disabled and those with additional disabilities to send and receive "person-to-person text communications in real-time" over the telephone network.[3] However, TTY technology experiences reliability and transmission problems on modern, IP-based networks. RTT, a native IP accessibility solution, has emerged as an effective alternative to TTY because it maintains the core function of TTY while also offering advantages in terms of availability, reliability, and improved or additional functionalities.[4]

Recognizing that RTT implementation could be a "watershed moment in improving communications accessibility," AT&T filed a petition requesting that the Commission commence a rulemaking to "recognize RTT as a regulatory equivalent to and replacement for TTY for newly deployed IP-based voice services."[5] The Commission has acted swiftly on that petition in soliciting comments and issuing the *NPRM*, and the Consumer Groups appreciate both

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[2] *NPRM* ¶ 4.

[3] *NPRM* ¶ 5.

[4] *NPRM* ¶¶ 32, 34.

[5] Petition of AT&T Services, Inc. for Rulemaking, PS Docket Nos. 11-153, 10-255, WC Docket No. 04-36, CG Docket Nos. 03-123, 10-213, at 6, 13 (June 12, 2015); *NPRM* ¶ 9 (AT&T Petition). AT&T simultaneously filed a petition requesting a temporary waiver of rules requiring support for TTY technology, which has since been granted subject to certain conditions. *See Petition of AT&T Services, Inc. for Waiver*, PS Docket Nos. 11-153, 10-255, WC Docket No. 04-36, CG Docket Nos. 03-123, 10-213 (June 12, 2015); *Petition for Waiver of Rules Requiring Support of TTY Technology*, Order, 30 FCC Rcd 10855 (2015).

the Commission's careful attention to this issue and the opportunity to provide comment on the issues and questions raised.[6]

As detailed in these Comments, the Consumer Groups strongly support the Commission's proposal to establish rules providing for support of RTT technology on IP-based wireless technologies. The Consumer Groups agree with the Commission's proposal that Tier I wireless service providers be required to implement RTT by December 31, 2017, and further propose that non-Tier I providers be required to implement RTT by June 30, 2018. The Consumer Groups also support the Commission's proposal that covered "handsets and other text-capable end user devices . . . sold after December 31, 2017[] have RTT capability."[7] The Consumer Groups also strongly support the Commission's proposals regarding interoperability and backward-compatibility, which are critical to ensuring that RTT services become a usable communications medium and that remaining TTY users are not harmed by the transition.

II. DISCUSSION

a. Proposed RTT Implementation

i. RTT Support by Wireless Providers and Manufacturers

The Consumer Groups strongly support the Commission's proposal to establish rules providing for support of RTT technology on IP-based wireless voice services.[8] As the Commission notes, TTYs are unsuitable as a long-term solution for "full and effective access" to IP-based wireless networks, and "there is a need to provide individuals who rely on text

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[6] *See Request for Comment on 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*, Public Notice, 230 FCC Rcd 7438 (2015); *NPRM.*

[7] *NPRM* ¶ 28.

[8] *NPRM* ¶ 15.

communication with a superior accessibility solution for the IP environment."[9] RTT can be an effective alternative to TTY on IP-based networks if RTT is readily available to consumers. And, as the Commission has identified, the availability of RTT services for consumers is dependent on the ability of service providers to offer RTT and consumer access to RTT-enabled or RTT-capable devices.[10] The Consumer Groups therefore support the Commission's proposals to facilitate wireless service provider deployment of RTT services and device manufacturer production of RTT-capable devices, as discussed in detail in these comments.

ii. Timelines

1. Wireless Service Providers and Device Manufacturers

The Consumer Groups believe that it is critical that support for RTT technology be required by a date-certain, and agree with the Commission's proposal that Tier I wireless service providers be required to implement RTT by December 31, 2017. The Consumer Groups further propose that non-Tier I providers be required to implement RTT by June 30, 2018. The Commission should also establish an interim period, preceding the RTT implementation date, during which providers would be allowed to support RTT over IP facilities if unable to support TTYs.[11] The Consumer Groups propose that the interim period would commence on the date that the FCC releases the order establishing the RTT rules.

With regard to Tier I wireless service providers, the Consumer Groups recommend that the Commission establish a date of December 31, 2017 for RTT implementation. As the Commission notes in the *NPRM*, AT&T and Verizon "have indicated they will be capable of meeting [a] deadline" of December 31, 2017, and further information provided by AT&T

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[9] *NPRM* ¶ 15.

[10] *See NPRM* ¶ 16.

[11] *See NPRM* ¶ 26.

"suggests that [a December 31, 2017 deadline] will allow ample time for RTT deployment."[12] The Commission should not establish a longer deadline for Tier I providers. As the Consumer Groups have noted previously, while the waiver of the TTY support rules is in effect, consumers could potentially be deprived of access to both TTY and RTT.[13] The Commission should minimize the time during which consumers are potentially left without access to either service by setting a deadline of December 31, 2017 for Tier I wireless service providers.

For non-Tier I providers, the Consumer Groups recommend an RTT implementation date of June 30, 2018. The Consumer Groups agree that it is appropriate to allow smaller providers additional time to achieve compliance given that they "generally serve smaller subscriber populations and may have fewer device options."[14] Therefore, an implementation date of June 30, 2018 is reasonable for non-Tier I providers to take the steps necessary to implement RTT technologies given that RTT is already in deployment.[15]

Additionally, as discussed above, the Commission should establish for all providers an interim period during which they would be allowed to support RTT over IP facilities if unable to support TTYs. Such an interim period could help to address current problems with TTY usability and connectability on IP facilities by allowing for immediate deployment of RTT. Further, it would promote rapid development and implementation of RTT, providing an opportunity to address any technical or other issues that might arise prior to the RTT implementation date, thereby helping to ensure that RTT services are functional and usable by

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[12] *NPRM* ¶ 25.

[13] Comments of Consumer Groups, GN Docket No. 15-178 *et al.*, at 10 (Aug. 24, 2015); *see also NPRM* ¶ 26.

[14] *NPRM* ¶ 27.

[15] *See* RERC Notice of Ex Parte, GN Docket No. 13-5, 26-30 (Dec. 5, 2013) (RERC-TA R1 proposal on a common real-time text proposal), *available* here.

consumers once RTT support is required by the FCC's rules. The interim period could also help RTT users gradually develop a familiarity with RTT while TTYs are still available, thus furthering a seamless transition for consumers from TTY to RTT services. The Consumer Groups propose that the interim period would commence on the date that the FCC releases the order establishing the new rules – that is, when providers and manufacturers are aware of their final obligations under the rules.

2. End User Devices

The Consumer Groups support the Commission's proposal that covered "handsets or devices sold after December 31, 2017" must have "RTT capability."[16] This proposal will help to ensure that by the RTT implementation deadline for Tier I wireless service providers (also December 31, 2017), RTT capable devices are, in fact, available to consumers.

The Consumer Groups recommend that for end user devices already in service, the Commission require that those devices must provide RTT support no later than 36 months after the deadline for RTT implementation (*i.e.,* December 31, 2020 for Tier I providers and covered end user devices, and June 30, 2021 for non-Tier I providers). It will require a significant effort to upgrade the built-in call function in all currently operational end user devices to support RTT. Additionally, it is not clear at this time whether it would be easier to upgrade devices to be compatible with stand-alone RTT devices or applications, or to upgrade the device in order to support a built-in RTT solution. Therefore, ample time should be available for upgrading end user devices currently in service to support RTT – the Consumer Groups believe that 36 months after the RTT implementation deadline is a feasible timeframe.

3. Built–In Functionality and Applications or Plug-Ins As An Interim Measure

[16] *NPRM* ¶ 28.

The Consumer Groups recommend that the Commission require that end user devices with built-in RTT functionality be available within one year after the RTT implementation deadline (*i.e.*, December 31, 2018 for Tier I providers and for covered end user devices, and June 30, 2019 for non-Tier I providers). The Consumer Groups believe that built-in RTT functionality for new devices is important to promoting functional equivalence. Hearing consumers have access to a real-time communications solution when purchasing a phone off-the-shelf, and because RTT provides a real-time solution to consumers who are deaf, hard of hearing, deaf-blind, speech disabled and those with additional disabilities, it should be a capability of new devices as soon as is feasible. AT&T has indicated that it hopes to offer an "embedded RTT solution by 2018,"[17] and the Consumer Groups therefore recommend that built-in RTT functionality be available from Tier I providers and in covered handsets and end-user devices by December 31, 2018, and non-Tier I providers by June 30, 2019.

The Consumer Groups recognize, however, that immediate implementation of built-in RTT solutions may not be feasible, and agree that use of applications or plug-ins would be sufficient to constitute compliance with the RTT requirement until the dates proposed above.

b. <u>Advantages of RTT</u>

RTT is a native IP accessibility solution that maintains the core function of TTY while also offering advantages to TTY in terms of availability, reliability on IP-based networks, and improved or additional functionalities.[18] The Consumer Groups agree with the Commission and commenters that RTT is an effective alternative to TTY technology for the IP environment.[19]

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[17] *NPRM* ¶ 30.

[18] *NPRM* ¶¶ 32, 34.

[19] *NPRM* ¶ 32.

The Consumer Groups also agree that the Commission's proposals to expand access to RTT will be beneficial to the evolution of text-to-911 services,[20] and the Commission, prior to the RTT implementation deadline, should take steps to ensure that consumers are able to use RTT to contact 911 services once RTT services are required under the FCC's rules.

c. Minimum Functionalities of RTT

The Commission, at the recommendation of the Disability Advisory Committee (DAC), has proposed that, when determining what should be the minimum functionalities of RTT, the Commission will "consider how telecommunication and advanced communications services and equipment that support RTT [can] provide the users of RTT (either in isolation or in conjunction with other media) with access to the same telecommunication and advanced communications functions and features that are provided to voice-based users of the services and equipment."[21] The Consumer Groups agree that this approach "captures the objectives" of providing functionally equivalent communications and ensuring that advanced communications services are fully accessible, and the DAC's recommendation should guide the Commission's final rules.[22]

i. Interoperability

1. Need for Interoperability

Interoperability of RTT services and devices is critical to RTT technology becoming an effective alternative to TTY and to achieving the goal of functional equivalence. As noted in the *NPRM*, interoperability prevents "locking users" into a "single network, service provider, or device," and ensures that all consumers have access to a full range of choices in a competitive

[20] *NPRM* ¶ 41.

[21] *NPRM* ¶ 43.

[22] *NPRM* ¶ 43.

device market.[23] Failing to require interoperability could be harmful to consumers – for example, service providers adopting proprietary standards could result in users being unable to access 911 services.[24] Accordingly, a "consensus," including the Consumer Groups, believe that there is a critical need for "seamless interconnection of RTT services across networks, service providers, and devices,"[25] and the Consumer Groups urge the Commission to adopt its tentative conclusion that effective RTT communications depend on the interoperability of RTT services and devices.[26]

2. *Adoption of RFC 4103 as a Safe Harbor & Requirement for Interoperability*

The Consumer Groups strongly support the Commission's proposal to establish the RFC 4103 standard as an interoperability safe harbor, and believe that this proposal will ensure that RTT services are an effective means of communication for users. Specifically, the Commission has proposed to require that covered services and devices be "RFC 4103 conforming" or enable RTT communications to be "reliably and accurately transcoded . . . to and from RFC 4103."[27]

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[23] *NPRM* ¶ 45. A 2011 Report by the White House Office of Science and Technology emphasized how "interoperability standards . . . serve to support the development and deployment of emerging technologies" and can prevent companies from being "locked-in" by companies utilizing proprietary technologies that make their products incompatible with competitors' products. *See* Exec. Office of the President, Nat'l Sci. & Tech. Council, *A Policy Framework for the 21st Century Grid: Enabling Our Secure Energy Future*, (2011), *available at* https://www.whitehouse.gov/sites/default/files/microsites/ostp/nstc-smart-grid-june2011.pdf.

[24] *NPRM* ¶ 46; *see also* Comments of Consumer Groups, *Technology Transitions* et al., GN Docket No. 13-5 *et al.*, at 8 (Oct. 26, 2015).

[25] *NPRM* ¶ 45.

[26] *NPRM* ¶ 45.

[27] *NPRM* Appendix A (proposed 47 C.F.R. § 67.2(c)) (or, as an alternative, the covered services and devices must enable RTT communications to be "reliably and accurately transcoded . . . to and from an internetworking protocol mutually agreed-upon with the owner of the network serving the RFC 4103-conforming service or device").

This approach accomplishes the Commission's dual goals of achieving interoperability for RTT services while also acknowledging the need for "flexibility and technology neutrality."[28]

Critically, the Commission's proposal does not mandate that covered entities adopt the RFC 4103 standard. As the Commission explains, covered entities may "adher[e] to different internal RTT standards – so long as their RTT support offers the same functions and capabilities as the selected standard, and is interoperable with the standard's format where they connect with other providers."[29] In this way, RFC 4103 is a floor, not a ceiling, and service providers and device manufacturers are free to innovate and provide greater functionalities.

Furthermore, establishing RFC 4103 as an interoperability safe harbor standard now does not preclude industry from adopting another, potentially superior standard in the future. New standards can be developed, introduced in parallel, used when possible, and even adopted as a new interoperability benchmark once the new standard is fully supported; this process has been applied for other telecommunications and interoperability standards. Adoption of the RFC 4103 standard does not bar development of and transition to new standards in the future; rather, a safe harbor standard simply ensures that as new standards are developed and introduced, consumers on different networks or using different devices are still able to communicate with one another.

The Consumer Groups agree that RFC 4103 is the appropriate initial choice for an interoperability standard. As the Commission notes, RFC 4103 is a "non-proprietary, freely available standard that has been widely referenced by leading standards organizations,"[30] and

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[28] *NPRM* ¶ 51.

[29] *NPRM* ¶ 51.

[30] *NPRM* ¶ 53 (noting also that the RFC 4103 has been adopted by the International Telecommunications Union Telecommunication Standardization Sector (ITU-T), the European Telecommunications Standards (ETSI), 3GPP, a partnership of seven telecommunications standards organizations, and Groupe Speciale Mobile Association (GSMA)).

one that is already in use or has been designated for use by carriers and other organizations.[31] Accordingly, the Consumer Groups strongly support the Commission's proposal to adopt RFC 4103 as a safe harbor interoperability standard for RTT.

ii. Backward Compatibility

The Consumer Groups support the Commission's proposed requirement that wireless service providers "must ensure that their RTT technology is interoperable with TTY technology."[32] Although TTY use has declined, TTYs continue to be a critical communications technology for some users. For example, TTYs are still used by the federal government and by state and local governments, and TTY is the only technology available for consumers who only have PSTN access and no IP-based service available to them. The Commission also notes that "some places of public accommodation" offer only TTYs "as their sole method of text-based communications access."[33] And, importantly, some persons have kept and continue to rely on their TTYs for making emergency calls.[34] Therefore, as the original AT&T Petition made clear, one goal of this proceeding must be to avoid "sacrificing existing accessibility solutions as carriers and customers transition to RTT."[35]

The Commission's proposed rules accomplish this important goal by requiring that "[c]overed services and authorized user devices *shall* be interoperable with TTYs connected to

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[31] *NPRM* ¶¶ 54-55 (noting that: "both AT&T and Verizon have specified RFC 4103 as the standard protocol to be implemented in their IP-based wireless networks;" the "National Emergency Number Association has specified RFC 4103 for interoperable use in IP-based Next Generation emergency text communications where SIP technology is used;" and the "Access Board has proposed requiring RFC 4103 for federal procurements").

[32] *NPRM* ¶ 62.

[33] *NPRM* ¶ 60.

[34] Comments of Consumer Groups, GN Docket No. 15-178, at 8 (Aug. 24, 2015).

[35] Petition of AT&T Services, Inc. for Rulemaking, PS Docket Nos. 11-153, 10-255, WC Docket No. 04-36, CG Docket Nos. 03-123, 10-213, at 6 (June 12, 2015); *NPRM* ¶ 61.

other networks."[36] This requirement will ensure that, as RTT is implemented and is adopted by consumers, TTY-reliant consumers will still be able to use those devices after the RTT implementation date. The Commission should adopt its proposed backward compatibility requirement.

The Commission also seeks comment on "what events or measures should trigger a sunset" of the backward compatibility obligation,[37] and the DAC has requested that the Commission "consider a TTY sunset period when declining wireline TTY minutes reaches a certain threshold," while also considering the needs of consumers.[38] The Consumer Groups recommend that whatever "event" or "threshold" is chosen to begin the sunset process, the phase-out of TTY be sufficiently gradual to allow TTY users time to transition to other services. The Commission should require service providers to conduct consumer outreach to inform TTY-reliant users about the phase-out and their alternatives to TTYs, including options for obtaining financial support or subsidized devices.

iii. Other RTT Functionalities for Wireless Services

1. Initiation of Calls Using RTT

The Consumer Groups support the Commission's proposal that "wireless service providers and manufacturers be required to configure their networks and devices so that RTT communications can be initiated and received from the same telephone number that can be used to initiate and receive voice communications on a given terminal device."[39] A goal of this proceeding should be to seamlessly integrate RTT communications into consumer's devices and

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[36] *NPRM* Appendix A (proposed 47 C.F.R. § 67.2(b) (emphasis added)).

[37] *NPRM* ¶ 65.

[38] Recommendation of the FCC Disability Advisory Committee, at 1 (Oct. 8, 2015).

[39] *NPRM* ¶ 68.

into consumers' daily lives. Dialing a telephone number is a procedure that most users are familiar with, and so the ability to initiate RTT communications though telephone numbers – rather than through another method – will promote the seamless adoption of RTT by users. Moreover, as the Commission notes, access to telephone numbers is necessary to "ensure that RTT users can access 911 services."[40]

2. Support for 911 Emergency Communications

In the *NPRM*, the Commission states that access to effective 911 services is of the "utmost importance."[41] Accordingly, the Consumer Groups urge the Commission to adopt its proposal that "the implementation of RTT in IP-based networks must be capable of transmitting and receiving RTT communications to and from any 911 PSAP served by the network" in full compliance with the FCC's 911 rules.[42] Additionally, the Commission should require testing to verify that RTT services can communicate with 911 answering points.

3. Latency and Error Rate of Text Transmittal

The Consumer Groups support the Commission's proposal to require that RTT characters "be transmitted within one second of when they are generated" and "with a point-to-point transmission latency that is no greater than that provided for voice communication."[43] A critical feature of RTT – and a primary reason that RTT is an effective alternative to TTY – is that the communication is instantaneous, and the Commission's proposal ensures that this timing will be

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[40] *NPRM* ¶ 68.

[41] *NPRM* ¶ 69.

[42] *NPRM* ¶ 69.

[43] *NPRM* ¶ 70.

realized in future RTT implementations. The Consumer Groups also agree with the Commission that a maximum "0.2 percent character error rate" is appropriate.[44]

4. Simultaneous Voice and Text Capabilities

The Consumer Groups support the Commission's proposal that RTT users "must be able to send and receive both text and voice simultaneously in both directions over IP on the same call and via a single device."[45] As the Consumer Groups have previously noted, to maximize the functionalities of RTT, it should be implemented – as the Commission has proposed to do – such that speech can be intermixed with text, allowing text in one direction with speech in the other, and speech in parallel with text for captioned-telephony, or even just text supplementing speech for difficult to hear words, addresses, or long numbers.[46]

RTT should be implemented on the primary voice calling function of the phone, such that the call can begin with either RTT or voice, and that either RTT or voice can subsequently be introduced later in the call and used at any time in the call. There should be an easy way for the user to introduce RTT, such as an RTT button on the main screen of the phone when a call is in progress, to assist users in adding RTT to a call quickly.

5. Character and Text Capabilities

Implementation of RTT services has the potential to expand users' text access to a complete character set as compared to the limited character set available on TTYs. Therefore, the Consumer Groups recommend that the Commission should specify that the same range of characters and symbols available on SMS and MMS text messaging should also be available to RTT users.

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[44] *NPRM* ¶ 70.

[45] *NPRM* ¶ 73.

[46] Comments of Consumer Groups, GN Docket No. 15-178 *et al.*, at 6 (Aug. 24, 2015).

6. *Accessibility, Usability, and Compatibility with Assistive Technologies*

The Consumer Groups agree with the Commission that RTT is appropriately classified as an "electronic messaging service" such that RTT services and equipment used with those services must be "accessible, usable, and compatible" as required under the FCC's rules relating to accessibility.[47]

To ensure the usability of RTT services, the FCC should require that service providers and device manufacturers implement RTT such that RTT is enabled by default and the user is not required to enable it separately. This will help to ensure that calls using RTT are not blocked due to the recipient being unaware of the need to enable RTT. Additionally, service providers and manufacturers should not provide the functionality to allow for the RTT portion of a call or incoming calls with RTT to be blocked; callers are able to block any incoming calls from a particular telephone number, but should not be able to selectively block RTT services.

7. *Other Features*

The Consumer Groups concur with the recommendations of the DAC that RTT equipment and services should offer users the ability to: "transfer a communication session using the same procedures used in voice telecommunication endpoints on the system;" "initiate a multi-party teleconference using the same procedures used in voice telecommunication endpoints on the system;" "use messaging, automated attendant, and interactive voice response systems;" and "use caller identification and similar telecommunication functions."[48] The Consumer Groups further recommend that the Commission require that RTT services "provide the ability to

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[47] *See NPRM* ¶ 81; 47 U.S.C. § 617(a)-(b); 47 C.F.R. § 14.21.

[48] *NPRM* ¶ 83.

participate on multiple calls simultaneously and to leave and access voice and text mail."[49] These features are readily available to voice-based telephone users and so should be available to RTT users as well, and implementing these features will improve the RTT user experience.

iv. Support of RTT Functionalities in Wireless Devices

1. Features and Functionalities

The Consumer Groups support the Commission's proposal to require that "handsets and other end user devices subject to an RTT support requirement be required to support each of the RTT functionalities discussed above for service providers."[50] It is irrelevant to the RTT user that a service provider offers a diverse range of RTT functionalities if those functionalities are not supported on the user's device. To ensure a maximum range of functionalities for RTT users, the Commission's functionality requirements for devices should parallel the requirements for RTT service providers.

2. Device Portability and Interference with Third-Party Applications

As the Commission explains in the *NPRM*, device portability is a "critical" aspect of functional equivalence.[51] Loss of access to RTT services due to device porting – such as from a user inserting a SIM card for another wireless provider into a smartphone[52] – would be harmful to consumers. For example, users might not realize that they would lose RTT service until after they decided to transfer carriers, or consumers might move and have to change carriers, forcing the consumer to purchase a new device capable of supporting RTT on that carrier's network. The Consumer Groups therefore support the Commission's proposal to require that "covered

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[49] *NPRM* ¶ 84.

[50] *NPRM* ¶ 85.

[51] *NPRM* ¶ 86.

[52] *See NPRM* ¶ 86.

service providers enable device portability for their RTT services to the same extent as they enable device portability for voice services."[53]

3. Minimizing Costs Incurred by Consumers

RTT is generally a more affordable accessibility solution than TTY because RTT can be implemented on many consumers' existing devices, and does not necessarily require the purchase of stand-alone equipment. However, this is not the case for all users. As AARP has stated, "not all TTY users may currently have the necessary mobile devices, and the broadband data plans, necessary to make them operate."[54] This highlights why the Commission should require backward compatibility of RTT and a gradual phase-out of that requirement – to ensure that there is no loss of communications for consumers who may not have or may not be able to afford RTT-capable equipment. The Consumer Groups believe that there will likely be some remaining TTY users when the Commission begins such a phase-out; for this reason, the Commission should require service providers to conduct outreach to inform consumers about TTY alternatives and the potential availability of financial support or subsidized devices during the sunset of the RTT-TTY backward compatibility requirement.[55]

d. <u>Consumer Outreach and Notifications</u>

The Commission sought comment on the "best means of informing the public, including businesses, governmental agencies, and individuals with disabilities who will be directly affected by the transition" from TTY technology to RTT.[56] The Consumer Groups recommend that the outreach include notices in a variety of accessible formats including, but not limited to: large

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[53] *NPRM* ¶ 86.

[54] Comments of AARP, GN Docket No. 13-5 *et al.*, at 17 (Oct. 26, 2015); *NPRM* ¶ 89.

[55] As discussed in the *NPRM*, financial support may be available under Universal Service programs, or under the National Deaf-Blind Equipment Distribution Program. *NPRM* ¶¶ 89-90.

[56] *NPRM* ¶ 91.

print text; applications or videos providing information in American Sign Language (ASL), captions and audio description; emails to consumers (opt-in); printed material; Braille with both 'tethered' and 'untethered' operation; informational posters in disability service centers; and ASL direct access lines. Formats using multiple foreign languages should also be considered. The Consumer Groups agree that outreach should be conducted to the "general public" to ensure that as many consumers as possible are aware of the transition.[57]

e. <u>RTT Implementation in IP-Based Wireline Networks and Equipment</u>

The Consumer Groups agree that the "problems associated with TTY transmissions are not limited to those that occur over IP wireless networks," and would extend to IP-based wireline networks.[58] Accordingly, recognizing RTT as a regulatory equivalent to TTY for purposes of the Commission's TTY support obligations would be beneficial to both wireline carriers (by facilitating compliance with the Commission's rules) and to consumers (by potentially unlocking a real-time, IP-based communications medium for the consumer). However, mandating RTT support and eliminating TTY support obligations could be detrimental to consumers – as the Commission acknowledges, "equipment such as wired and cordless phones currently cannot readily support real-time text."[59]

The Consumer Groups agree with the Commission that it would be beneficial to explore opportunities for expanding access to RTT on IP-based wireline networks, and recommend that the Commission consider a Notice of Inquiry to build on the record developed in this proceeding.

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[57] *NPRM* ¶ 91.

[58] *NPRM* ¶ 95.

[59] *NPRM* ¶ 97.

III. CONCLUSION

RTT technology will replace TTY on next-generation, IP-based wireless voice networks, and the Commission's proposals in the *NPRM* are important steps toward ensuring that RTT is an effective, modern accessibility solution. The Consumer Groups are encouraged by the strong consumer protections that the Commission has proposed in the *NPRM*, including the robust requirements for interoperability and backward-compatibility. Further, the Commission has proposed that compliant RTT services would support a wide range of important features and functionalities, such as simultaneous voice and text, that will greatly enhance the RTT user experience and promote the adoption of RTT services. The Consumer Groups are most appreciative of the Commission's recognition of the need for RTT services to be implemented quickly and in a way that maximizes the benefits of the service to consumers.

Respectfully submitted,

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