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911 and Accessibility: An Update

May 14, 2020

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Executive Summary

This white paper discusses the accessibility of 911 services to people with disabilities throughout the country, detailing the federal regulatory framework that governs 911 services and using Colorado as a state specific case study to give a glimpse of the state regulatory frameworks that governs the accessibility of 911.

In 2015, a white paper by the Samuelson-Glushko Technology Law and Policy Clinic at Colorado Law, written at the request of Colorado Public Utility Commission's 911 task force, covered the accessibility framework for 911 services, focusing primarily on their application to the accessibility of 911 services in Colorado.[1] The original paper looked at specific issues arising in 911 service accessibility to the deaf, hard of hearing and speech disabled communities.

This paper is an update to the 2015 paper and details the federal regulatory framework that covers the rights of people with disabilities to access the 911 system. The regulations promulgated by the Federal Communications Commission (FCC) and the Department of Justice (DOJ) constitute the majority of federal laws that govern 911 systems. This paper places significant focus on new 911 technologies, their effect on people with disabilities, and the ability of people with disabilities to access 911 services.

Next Generation 911 services (NG911), Text-to-911 services (TT911), and other advanced 911 technologies being implemented across the country are critical to increase accessibility of 911 services to people with disabilities. In particular, people who are deaf, hard of hearing, DeafBlind, or speech disabled require access to alternative methods to call into and report emergencies through the 911 system. NG911 technologies can provide better access through third party relay services and TT911 can improve general access to emergency services across the board.

The paper discusses the scope of FCC and DOJ regulations and how those regulations determine the implementation and accessibility of 911 services to both the general public and people with disabilities. The paper updates regulatory landscape examined in the original white paper as well as the relevant active dockets at the FCC. Only the FCC's docket on location services data transmission to Emergency Communication Centers (ECCs) by wireless providers has undergone any measurable changes into 911 accessibility.

The paper also examines the DOJ's now-withdrawn Advanced Notice of Proposed Rulemaking (ANPRM), which would have updated the 1991 regulations governing accessibility requirements for ECCs under the Americans with Disabilities Act (ADA). The ANPRM was withdrawn in 2017 but could be revisited in the future. Currently, states are moving at their own pace to implement more accessible 911 services, but the lack of updated federal rules creates uneven access to accessible

[1] *Summary of Legal Policy Landscape Surrounding 911 and Accessibility,* Elizabeth Chance, Victoria Naifeh, Allison Daley, Student Attorneys Jeff Ward-Bailey, May 5, 2015, https://ecfsapi.fcc.gov/file/60001048597.pdf.

911 services. The changes proposed in the ANPRM are paramount to creating a unified federal structure for equal access to 911 services across the country, and could be an effective tool to require states that have not yet implemented NG911 services to begin the transition to more efficient and accessible emergency services.

Finally, this paper will examine Colorado's regulatory framework as an example of specific state adoption of NG911 services. Colorado showcases the potential avenues states may take when upgrading 911 infrastructure and technology in phases to improve accessibility.

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I. Introduction

Access to 911 services is critical to all citizens of the United States, and it is paramount that 911 services are able to be equally accessible to everyone. New 911 technologies including TT911, interconnected IP networks, and 911 call location data continue to be deployed in states and ECCs[2] across the country to ensure that every citizen has the ability to reach 911 services uniformly, regardless of disability or ability to use traditional methods of accessing the service such as calling a local ECC through a voice communication call. NG911[3] services and TT911[4] seek to improve overall accessibility to 911 services. Promising new technologies and the implementation of those technologies, however, involve navigating a complicated regulatory framework that extends from the state level to multiple governmental regulatory agencies at the federal level.

The FCC has limited authority in regulating 911. Its authority in the 911 context is based on its regulation of wired and wireless telephone carriers as part of its authority to regulate telecommunication services providers and its ancillary jurisdiction over Voice over Internet Protocol (VoIP) providers. Part 9 of the Commission's rules outlines some of the general regulations promulgated by the FCC in the 911 context, including obligations of telecommunications carriers to transmit 911 calls, the establishment of the 911 number as the universal emergency telephone number, obligation to provide intercept messages, and the obligation of fixed telephone providers to provide dispatchable location service data by 2021.[5]

The DOJ's role in the 911 systems is to ensure that Americans with disabilities have equal access to the portions of 911 services administered by state and local governments. The DOJ's power to enact regulations governing accessibility of 911 services to disabled persons stems from the regulatory authority granted in Title II of the Americans with Disabilities Act (ADA).[6]

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[2] Emergency Communication Centers (ECC): "A set of call takers operating under common management which receives emergency calls for service and asynchronous event notifications and processes those calls and events according to a specified operational policy." NENA Development Steering Council, *NENA Master Glossary of 911* at 56 (Jan. 1, 2020), https://cdn.ymaws.com/www.nena.org/resource/collection/87746f21-d7d1-4907-bc5a-685a1d047b0a/NENA_00-001_V15_Master_Glossary.pdf?hhSearchTerms=%22glossar%22.

[3] "NG9-1-1 is an IP-based system comprised of managed IP-based networks (ESInets), functional elements (applications), and databases that replicate traditional E9-1-1 features and functions and provide additional capabilities. NG9-1-1 is designed to provide access to emergency services from all connected communications sources, and provide multimedia data capabilities for PSAPs and other emergency service organizations." *NENA Master Glossary of 911* at 118.

[4] Text-to-911 services is a 911 technology that would allow citizens to text-in emergencies to their local Public Safety Access Point. FCC, *Text-to-911: What You Need to Know,* https://www.fcc.gov/consumers/guides/what-you-need-know-about-text-911.

[5] 47 C.F.R. §§ 9.4-9.8.

[6] 42 U.S.C §§ 12131-32.

However, the DOJ's original regulations aimed at ensuring access to 911 services for Americans with disabilities have not been updated since 1991.[7] 911 technologies have changed drastically since 1991 in relation to improvement in accessibility technology; yet, without updated regulations, state government frameworks are missing an important incentive to provide services to underserved populations. Without federal mandates and funding for NG911 technology, uniform progress to ensure that 911 is accessible to all Americans across the country may be hindered.

Finally, the framework for state regulations for 911 and the implementation of new technologies varies throughout the United States. Colorado's approach provides a good example of a state's interaction with federal 911 regulations and the regulatory and technological advancement made by the state on its own accord. Colorado is currently in a transitional phase, moving past 911 services to NG911 and implementing TT911 capability for the majority of its population.

II. The FCC and 911 Accessibility.

911 services are comprised of many moving pieces in which the federal government is a single piece adjacent to the regulations of local governments, the cooperation of private entities, and the ability to implement new technology. The FCC plays a vital role in this system by its authority to regulate telecommunication providers and to enact regulations and standards to ensure access to 911 services for Americans with disabilities. Current regulations help ensure this framework, and open/active dockets at the FCC provide incremental and related improvements to the availability of 911 services to people with disabilities and the general public.

A. Current Legal and Regulatory Framework

The FCC has no direct authority to govern individual ECCs. Instead, the majority of regulations governing ECCs are left to state and local governments and the DOJ (under the ADA). However, the FCC regulates the delivery of 911 calls by wired and wireless telephone and VoIP providers.[8] In addition, the FCC provides guidance related to the 911 service by all providers,[9] establishes best practice recommendations through its Communication Security, Reliability and Interoperability Council (CSRIC)[10] and regulates access to 911 through rulings such as Kari's Law for Multi-line Telephone

[7] 28 C.F.R. §§ 35.101-199

[8] 47 U.S.C. § 151.

[9] Wireless Communications and Public Safety Act, Pub. L. No. 106-81, 113 Stat. 1286.

[10] Communications Security, Reliability and Interoperability Council, Summary Page, https://www.fcc.gov/about-fcc/advisory-committees/communications-security-reliability-and-interoperability-1.

Systems (MLTS) providers and users,[11] and RAY BAUM'S Act requirements to provide dispatchable location information with the 911 call. [12]

The FCC regulation of wireless carriers plays a vital role in the overall framework of 911 services, particularly since many calls to 911 are from wireless devices. For example, in 2012 the FCC brokered agreements with four major wireless communication providers, (AT&T, Verizon, Sprint, and T-Mobile) to support TT911 services to ECCs across the country. The service providers agreed to deliver emergency text messages to local ECCs upon request from the ECC.[13] The agreement also stated that in addition to delivering emergency text messages to local ECCs that support TT911 services, the service providers would also provide text messages bounce-back services.[14]

The agreement required that these four wireless providers implement TT911 accessibility and bounce back messaging for 90 percent of Americans by 2013. The agreement was initially entirely voluntary. In 2013, the FCC required all providers of text messaging service to support TT911 services by December 2014.[15] While the FCC has the authority to mandate text message providers to implement TT911 services to be delivered to ECCs when the ECC requests the service, the FCC lacks the authority to require ECCs to implement the technology to use the TT911 service data that was transmitted by providers.

The adopted rules required wireless carriers and certain other text messaging providers to send an automatic bounce-back text message to consumers who try to text 911 where TT911 service is not available. The FCC's requirement helps protect the public by substantially reducing the risk of consumers sending a text message to 911 and mistakenly believing that 911 authorities have received it. Instead, consumers receive an immediate response that TT911 is not supported in the area and to contact emergency services by another means, such as by making a voice call if they can speak, or using telecommunications relay services if they are deaf, hard of hearing, or speech disabled.

One major legislative act that intended to increase access is the Twenty-First Century Communications and Video Accessibility Act (CVAA). Signed into law in 2010, the CVAA gives the FCC authority to promulgate regulations, standards, and proceedings to ensure Americans with disabilities have access to interconnected and non-interconnected VoIP

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[11] *Report and Order,* PS Docket Nos. 11-261, 17-239, and 11-117, 34 FCC Rcd. 6607 (Aug. 2, 2019), https://ecfsapi.fcc.gov/file/0802272632515/FCC-19-76A1_Rcd.pdf .

[12] *Id*.

[13] NENA-APCO Carrier Commitment Letter, pg. 2 (Dec. 6, 2012), https://ecfsapi.fcc.gov/file/7022074960.pdf.

[14] *Id.*

[15] *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications*, Second Report and Order, Third Further Notice of Proposed Rulemaking, PS Docket Nos. 11-153 and 10-255, 29 FCC Rcd. 9846 (Aug. 13, 2014), https://ecfsapi.fcc.gov/file/7521759385.pdf. \

services, electronic messaging services, and video services.[16] However, it is unclear what, if any, practical effects the CVAA has had in improving 911 services for disabled citizens.

The CVAA created a temporary task force to investigate and make recommendations to the FCC on disabled citizen's ability to access 911 services. The Emergency Access Advisory Committee (EAAC) was formed in 2011 and was comprised of members of disability rights groups, representatives of state and local governments, subject matter experts, and wireless service providers.[17] The EAAC detailed, in a formal report to Commission, their findings on the extent to which Americans with disabilities could or could not access emergency 911 services.[18] The report described the findings of the survey the EAAC conducted, covering the access available to thousands of people with disabilities and the technologies they used to access 911 services.[19]

The CVAA also created a charter for the EAAC that set an end date for the task force of 2013.[20] Before its dissolution, the task force gave multiple reports on specific policy recommendation to the FCC based on its findings and expertise.[21] The EAAC's recommendations covered TT911 service, ECC upgrade timetables, and TeleType-to-text[22] (TTY) messages services.[23] The EAAC's charter has not been renewed. It does not appear that the FCC has taken any specific action or proposed any new rulemaking to incorporate these recommendations.

As mentioned, the 911 framework is a complex regulatory regime with authority being divided between the FCC, DOJ, local governments, and the capacity and ability of local ECCs to plan for and fund improvements. Because of this intricate framework, the FCC has encouraged the implementation and progression of NG911 services but has been reluctant to federally mandate the adoption of specific technologies and improvements.

The FCC has power through other legislative acts to help encourage and bridge the gap between federal and state governments for emergency 911 services.

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[16] Twenty-First Century Communications and Video Accessibility Act, Pub. L. No. 111-260, 124 Stat. 2751.

[17] *Id.* §§ 105–106.

[18] *Report on Emergency Calling for Persons with Disabilities, Survey Review and Analysis,* Emergency Access Advisory Committee report to Federal Communications Commission (July 21, 2011), http://transition.fcc.gov/cgb/dro/EAAC/EAAC-REPORT.pdf.

[19] *Id.*

[20] Pub. L. 111-260 § 206

[21] Emergency Access Advisory Committee (EAAC), https://www.fcc.gov/general/emergency-access-advisory-committee-eaac (indexing the EAAC's recommendations).

[22] "A TTY (also referred to as a Telecommunication Device for the Deaf (TDD) is a device that allows people who are deaf, hard of hearing, or speech impaired to use a telephone to communicate, allowing the use of text messages to relay a conversation instead of the users having to talk or speak over the phone." *NENA Master Glossary of 911*, at 102.

[23] Emergency Access Advisory Committee (EAAC), https://www.fcc.gov/general/emergency-access-advisory-committee-eaac.

- The Wireless Communications and Public Safety Act (911 Act) passed in 1999, in an effort to increase coordination among services providers within a state, provided funding to support E911 technologies and requires the FCC to support states as they increase the effectiveness of 911 services.[24]
- The Ensuring Needed Help Arrives Near Callers Employing 911 Act of 2004 (ENHANCE 911 Act), which coordinates state, federal and local 911 efforts, requires that funds collected from telecom bills for enhancing 911 services can only be used for that purpose.[25]
- The New and Emerging Technologies 911 Improvement Act of 2008 (NET Improvement Act) provides federal funding to states in order to encourage the implementation of improved 911 technologies.[26] The NET Improvement Act is overseen by the National Highway Traffic Safety Administration.

The legislation empowering the FCC has played a critical role in continuing to improve 911 technologies, but the landscape outlined above gives only a limited role to the FCC to oversee the continued technological advancement of 911 accessibility as a whole. FCC funding and regulations of wireless providers and services allows for some form of improvement in the 911 system, the authority does not reach far enough to require states to implement some of the most essential systems necessary for complete 911 accessibility and the authority cannot address many of the technology specific advancements that differ throughout state 911 services

B. Current Dockets

In 2015, the original white paper covered three sets of dockets that were relatively active at the time of the paper's publication. Since then, however, little activity has occurred related to accessibility of 911.

The first set of dockets are vital in ensuring that people with disabilities have the most basic access to 911 services in their area. Dockets 11-153 and 10-255 generally cover the implementation of NG911 services and the assurance that ECCs support TT911 services. The last major action on the dockets was a NPRM in 2013 that outlined the framework of updating ECCs with NG911 technology and discussed the application of TT911.[27]

Little has come from the docket besides recommendations and confirmation that TT911 and NG911 services are essential in affording Americans with disability equal

[24] Wireless Communications and Public Safety Act, Pub. L. No. 106-81, 113 Stat. 1286 (1999).
[25] Ensuring Needed Help Arrives Near Callers Employing 911 Act, Pub. L. No. 108-494, 118 Stat. 3986 (2004).
[26] New and Emerging Technologies 911 Improvement Act, Pub. L. No. 110-283, 122 Stat. 2620 (2008).
[27] *Facilitating the Deployment of Text-to-911 and other Next Generation 911 Applications*, Notice of Proposed Rulemaking, Federal Communications Commission, PS Docket Nos. 11-153 and 10-255, 26 FCC Rcd. 13,615, (Sep. 22, 2011), http://www.fcc.gov/document/fcc-adopts-next-generation-911-nprm.

access to ECC services. Even now, the NPRM and the docket contain dated proposals. The 2013 NPRM assumed TT911 would be using short message service (SMS) texting services and the current technological landscape and technology available may have already surpassed the recommendations within the NPRM due to the technology restrictions of SMS texting services.[28]

While SMS at the time may have been easier to implement and messages could be translated directly from TTY devices, SMS messaging is hampered by its message size limitation. In 2020, different forms of messaging may be superior, and the advantages SMS provides no longer viable.

Another concern discussed in the NRPM was the financial ability for local ECCs to upgrade their technology framework to implement the recommended changes. While case studies and white papers cited in the NPRM expressed the importance of upgrading local ECCs to support TT911 and to implement NG911, the problem of costs remains a significant hurdle.[29]

Docket 07-114 is the only relevant docket discussed in the original white paper that has undergone any changes or developments since 2015. Docket 07-114 covers regulations for location accuracy technology for 911 calls. In 2015 the FCC issued the docket's Fourth Report and Order, which required that wireless carriers provide improved location accuracy data to ECCs.[30] The FCC took into account the improved ability of wireless carriers to provide accurate location data to ECCs and structured the Order on incrementally increasing the amount of accurate service data per wireless call that wireless carriers must provide to ECCs in the years following the Order.[31]

The Order provided that the wireless carriers must either provide ECCs a dispatchable location or a location within 50 meters on a horizontal axis for a certain percentage of calls.[32] The percentage of calls that wireless carriers must provide accurate location data for, pursuant to the Order, increased incrementally by year.[33] For example, within the first two years of the Order, wireless carriers must provide this location data for 40 percent of wireless calls, with supplemental increments increasing by year with the final increment requiring wireless carriers to provide this location data for 80 percent of wireless calls by six years from the Order's issue date.[34]

The FCC sought to improve location accuracy for responding ECCs in the Order, but the Fourth Report and Order created concrete rules for horizontal location data only. The FCC did not have enough data at the time to promulgate rules on vertical location

[28] *Id.* at ¶¶ 48-49.
[29] *Id.* at ¶¶ 92-95.
[30] *Wireless E911 Locations Accuracy Requirements*, Fourth Report and Order, Federal Communications Commission, PS Docket No. 07-114, 30 FCC Rcd. 1259, (Feb. 3, 2015), https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-9A1.pdf.
[31] *Id.*
[32] *Id.* at ¶6.
[33] *Id.*
[34] *Id.*

data. Vertical location data is essential to pinpoint an accurate location for calls that take place within a multistory building. The Fourth Report and Order did require incremental increase by wireless carriers in updating barometric data (in order to increase vertical location accuracy), but the Order required that wireless carriers develop vertical location accuracy metrics and submit them to the FCC within three years.[35] Lastly, the Order required that wireless carriers transmit location data for outdoor calls within thirty-seconds but did not specify a timeframe requirement for wireless calls placed indoors.[36]

In November, 2019, a Fifth Report and Order was issued in response to the Fifth NPRM that proposed rules and metrics for wireless carriers to provide vertical location data.[37] The rules and metrics promulgated in the Fifth Order address the Fourth Order's inability to impose vertical location metrics at that time.

As required by the Fourth Order, wireless carriers submitted proposals for vertical location accuracy metrics to the FCC within the specified three-year timeframe. Wireless carriers proposed a vertical location accuracy of +/- 5-meters.[38] Public safety groups were opposed to these proposed metrics, citing studies suggesting that certain wireless carriers could provide accurate vertical location data within +/- 1.8 meters.[39] The Public Safety groups ultimately advocated for +/- 2-to-3-meter vertical location accuracy. The FCC ultimately adopted metrics in the Fifth Order of +/- 3-meters in vertical location accuracy data that wireless carriers must provide to local PSAPs.[40] The FCC agreed with public safety groups' comments that a 3-meter accuracy requirement was essential for PSAPs to accurately determine location by floor level of callers within a multi-story building. The timeline for the metrics implementation are parallel to the horizontal accuracy rules developed in the Fourth Order.[41] Wireless carriers are required to provide vertical location data to ECCs for 80 percent of calls by 2021, the same as for horizontal accuracy data.[42]

Docket 07-114 is not specifically tailored for improving the accessibility of 911 services for Americans with disabilities, but the docket is an important example of the FCC's ability to improve the effectiveness of 911 to all Americans through its regulation authority of wireless carriers. Even without the regulations being targeted to increase the access of disabled persons specifically, disabled citizens may benefit the most from the regulations, as automatic and accurate dispatchable location data can fill a gap where

[35] *Id.* at ¶¶ 6-7.
[36] *Id.* at ¶ 172.
[37] *Wireless E911 Location Accuracy Requirements,* Fifth Report and Order and Further Notice of Proposed Rulemaking, PS Docket No. 07-114, 34 FCC Rcd 11,592, (Nov. 22, 2019), https://ecfsapi.fcc.gov/file/11250618222682/FCC-19-124A1.pdf.
[38] *Id.* at 11,595, ¶ 4.
[39] *Id.* at 11,597, ¶ 11.
[40] *Id.* at 11,596, ¶ 9.
[41] *Id.* at 11,604, ¶ 23.
[42] *Id.*

local ECCs do not have all available 911 communication technologies accessible for the disabled citizens.

Although the FCC's authority is limited to service providers, it can enact pivotal regulations that increase the safety and ability of ECCs to provide accurate and timely response services to emergency callers. Over the past ten years, the FCC's actions in this docket have directly increased the ability of ECCs to respond more effectively through the rules adopted for wireless carriers to provide accurate location data of wireless calls. However, the limited authority of the FCC means that the FCC's regulations do not extend to the governance of ECCs themselves. The FCC cannot mandate that ECCs have the technology in place to receive the vertical and horizontal location data, but nonetheless, the FCCs role in ensuring equal access to 911 services plays an important role in the larger 911 framework.

III. Department of Justice and 911 Accessibility

The Department of Justice is another federal regulatory body that plays a key role in both federal and state 911 regulation and effectiveness. The DOJ's principle authority over 911 services stems from Title II of the ADA. Title II of the ADA gives the DOJ power to enact regulations governing state accessibility access, and the DOJ last promulgated regulations for the accessibility of 911 services in 1991. Almost three decades later, the DOJ still has not promulgated updated regulations for 911 disability access and in 2017 withdrew a proposal to prove updates to the standing regulations.

A. Authority under the ADA

The Americans with Disabilities Act imposes significant requirements and duties on state and local governments in order to ensure equal access to individuals with disabilities. Under Title II of the ADA, emergency services provided by state and local governments are under the authority of the DOJ. Title II of the ADA prohibits discrimination on the basis of disability in services, programs, and activities by state and local governments.[43]

The ADA generally requires that state and local governments provide Americans with disabilities a direct line to 911 services.[44] To ensure the access of emergency services to Americans with Disabilities, Title II of the ADA requires that the Attorney General promulgate regulations to implement the requirements of Title II.[45]

As of the 2015 white paper in 2015, the DOJ had not implemented regulations governing state and local ECCs under Title II since 1991. The 1991 regulations enacted

[43] 42 U.S.C §§ 12131-32.
[44] H. Rep. No. 485, Part 2, 101st Cong., 2d Sess. 84-5 (1990). Similar language is found in the ADA Conference Committee Report. Conf. Rep. No. 596, 101st Cong., 2d Sess. 67-8 (1990).
[45] 42 U.S.C. §§ 12134.

by the DOJ under Title II required that public services use TTYs[46] or any other equally effective technology to communicate with those who are deaf, hard of hearing, or speech disabled.[47] ECCs are also required to respond to telephone calls from telecommunication relay services[48] in the same way that they would respond to normal emergency calls.[49] The regulations impose the requirements with the clarification that emergency services are not required to take any action that would fundamentally alter the nature or service or impose an undue financial or administrative burden on ECCs.[50]

The Department of Justice has also released a guide clarifying the requirements of local emergency services under the Title II regulations.[51] The guidance defines terms like the "direct access" requirement, stating that emergency telephone services can directly receive calls from TDDs and computer modem users without relying on outside relay services or third-party services. The direct line requirement clearly intends to ensure equal access to emergency services, but the guidance also stipulates that Title II does not require emergency service providers to be compatible with all forms of nonvoice communication.[52] Because these regulations were implemented in 1991, with terms such as "direct access" being defined by the available technology at the time, and with no requirements for ECCs to be compatible with other forms of nonvoice communication, the regulations are dated and potentially lack true effectiveness in ensuring access to deaf, hard of hearing, and speech disabled individuals using 2020 technologies.

B. Shifting Technology and ANPRM

The lack of implementation of new rules has created a serious problem in the context of emergency services access to Americans with disabilities. It is approaching nearly thirty years without the implementation of updated regulations to address fundamental changes in technology that could provide greater and more efficient access to emergency services. The original regulations set a floor for local ECCs on accessibility technology, and in the three decades since then, accessibility technology has improved

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[46] *TTY and TTY Relay Services*, History and Overview, National Association of the Deaf and Hard of Hearing, https://www.nad.org/resources/technology/telephone-and-relay-services/tty-and-tty-relay-services/.

[47] 28 C.F.R. §§ 35.162 (1991).

[48] "The ADA defines relay services as telephone services that enable people who are deaf or hard of hearing, or who have a speech impairment, to communicate with a person who can hear in a manner that is "functionally equivalent" to the ability of an individual without a disability to communicate by telephone." National Association of the Deaf, *Relay Services,* https://www.nad.org/resources/technology/telephone-and-relay-services/relay-services/.

[49] 28 C.F.R. §§ 35.161(c).

[50] 28 C.F.R. §§ 35.164.

[51] *Title II Technical Assistance Manual,* https://www.ada.gov/taman2.html#II-7.3000.

[52] *Id.* at II-7.3100 General.

greatly. It is paramount to ensuring uniformity across the states to update the regulations in order to raise the accessibility technology requirement floor for local ECCs.

While TTY/TDDs may have been the most effective measure to ensure direct access to local 911 services in 1991, updated technology has provided alternatives to traditional TTY/TDD services and in many cases replaced them. The 1991 regulations do not address this potential shift in technology, leaving those who are deaf, hard of hearing, and speech disabled at a potential disadvantage based on the technological limits of their local ECC.

TTY/TDDs are devices that effectively transmit text-based communication that was designed to work with analog phone lines. Over the years, however, those that are deaf, hard of hearing, or speech disabled have been using new technologies that reach the same outcome as TTY/TDD devices. Texting, e-mailing, video messaging and most other forms of modern communication can be done on the users' phones, tablets, and computers. Signed messages can be transmitted in real time through modern video calling services like FaceTime, Google Hangouts or Skype, which are available applications on wireless devices.

The DOJ's current regulations do not speak to the support of modern use services such as TT911 or any video and text related services that are not TTYs by ECCs. In the case of ECCs with communication technology that has not been updated to allow a flexible method of communication, users may instead gravitate to third-party relay services to deliver emergency data to the local ECCs.

Absent discussing regulatory mandates promulgated by individual states, many ECCs have not updated their services to address this change in technology. With many members of the deaf and hard of hearing community switching to technologies such as smart phones and video messages in lieu of TTY devices, many members of the community may not possess a "direct line" of communication to emergency services. The DOJ recognized this shift in technology and outlined the necessity for improved ECC technology in an Advanced Notice of Proposed Rulemaking in 2011 (ANPRM).[53]

The ANPRM proposed an overhaul of changes to the DOJs regulations under Title II that were first established in 1991. The primary focus was to seek comment and possibly change the regulations to reflect the technological shift from analog telephone-based TTYs to modern IP based non-voice communication, such as TT911, video services, e-mail, and other modern technologies.[54] The ANPRM proposed multiple shifts in the 1991 regulations to effectuate this potential change in PSAP technology requirements.[55] For example, the ANPRM asked whether proposed regulations should require the implementation of NG911 technology on ECCs to allow for text based calling from both

[53] *Nondiscrimination on the Basis of Disability in State and Local Government Services; Accessibility of Next Generation 9-1-1*, Department of Justice, CRT Docket No.111; AG Order No. RIN 1190-AA62, http://www.ada.gov/anprm2010/nextgen_9-1-1%20anprm_2010.htm.
[54] *Id.* at 43,450.
[55] *Id.*

analog TTYs and modern shifts.[56] The ANPRM then asked which modern text-based solutions the regulations should recognize: real-time text, SMS, instant messaging, e-mail, and/or analog gateways.[57]

The ANPRM contemplated many possible avenues and solutions for the proposed regulations while seeking comment for the feasible steps to implement beneficial changes. Some of the other considerations in the ANPRM involved imposing regulations to require ECCs to allow video-based communication calls, changing to performance-based standards for ECCs over technical standards, and changing regulations on emergency alerts to accommodate technologies used by Americans with disabilities.[58]

At the time of the original white paper in 2015, the DOJ had not issued a final order on the ANPRM. However, after receiving over a hundred comments on the issue,[59] DOJ withdrew the ANPRM in 2017 with no further action or clarification taken, ending at least temporarily the prospect of updating the obsolete 1991 regulations.[60]

The DOJ gave little reason as to why the ANPRM was withdrawn from consideration. The DOJ stated that it was still evaluating how to best implement NG911 services across the country.[61] The DOJ appeared concerned about whether an update to the 1991 regulations was the appropriate course of action to encourage ECCs to move towards NG911 services, but did not elaborate further

IV. State Regulatory Framework

In the absence of modernized DOJ regulations, state governments have the broadest authority in implementing local 911 standards and regulations and are the most important governmental entity for NG911 funding and implementation. The original white paper used Colorado as a case study,[62] and this paper will update the original white paper's case study on Colorado to give a reflective picture of NG911 implementation at the state level over the past five years.

The Colorado Public Utilities Commission (PUC) is the governmental body that oversees Colorado emergency services. The Colorado PUC has regulatory authority over Basic Emergency services.[63] The Colorado Code of Regulations defines Basic Emergency

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[56] *Id.*

[57] *Id.*

[58] *Id.* at 43,451.

[59] Nondiscrimination on the Basis of Disability in State and Local Government Services; Accessibility of Next Generation 9-1-1, Department of Justice, CRT Docket No.111; AG Order No. RIN 1190-AA62, Open Docket, regulations.gov/docket?D=DOJ-CRT-2010-0006.

[60] *Nondiscrimination on the Basis of Disability; Notice of Withdrawal of Four Previously Announced Rulemaking Actions,* Department of Justice, CRT Docket No. 138, AG Order No. RIN 1190-AA61-65, https://www.federalregister.gov/documents/2017/12/26/2017-27510/nondiscrimination-on-the-basis-of-disability-notice-of-withdrawal-of-four-previously-announced.

[61] *Id.*

[62] *Summary of Legal Policy Landscape Surrounding 911 and Accessibility,* at 12-14.

[63] CO Rev Stat § 40-15-201.

services as "the aggregation and transportation of a 911 call directly to a point of interconnection with a governing body or ECCs, regardless of the technology used to provide the service."[64] In turn:

- "The aggregation of calls means the collection of 911 calls from one or more originating service providers or intermediary aggregation service providers for the purpose of selectively routing and transporting 911 calls directly to a point of interconnection with a governing body or ECC."
- "The offering or providing of Automatic Location Identification (ALI) service or selective routing directly to a governing body or ECC by any person is also a basic emergency service."[65]

The Colorado PUC has statutory authority to create regulations governing emergency services in Colorado.[66] The CPUC has authority to enact regulations governing call routing,[67] establish an advisory task force,[68] oversee the implementation of technical standards,[69] and to promulgate the regulations that create the framework of emergency services in Colorado.[70] The CPUC also releases yearly reports detailing the work done by the PUC over the year and any progresses in NG911 services.[71] The CPUC's authority broadly covers most areas of 911 and ECC regulations in Colorado, although the PUC does not have the authority to regulate wireless carriers.

The establishment of the Colorado 911-Advisory Task Force plays a critical role in the continued implementation of new 911 technologies and the betterment of emergency services as a whole in Colorado.[72] The goals of the task force are to:

- Make future recommendations and report to the Commission concerning the continued improvement and advancement of 911 service in Colorado;
- Consider 911 service quality and cost in urban and rural areas in developing its report and recommendations;
- Monitor and report to the CPUC proceedings and activities of the FCC and other national organizations and agencies on matters that may affect 911 service in Colorado; and

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[64] 4 CCR 723-2-2131 (j).
[65] *Id.* ALI: "The automatic display at the PSAP of the caller's telephone number, the address/location of the telephone and supplementary emergency services information of the location from which a call originates." *NENA Master Glossary of 911* at 24.
[66] C.R.S. § 40.15.201.
[67] 4 CCR 723-2-2134.
[68] 4 CCR 723-2-2145.
[69] 4 CCR 723-2-2146.
[70] CO Rev Sta. § 40-15-201.
[71] Reports, Colorado 911 Program, https://sites.google.com/state.co.us/colorado911program/reports?authuser=0.
[72] 4 CCR 723-2-2145(a).

- Other goals related to the improvement of emergency services within the state.[73]

The task force is currently active as of first quarter 2020 and has general meetings weekly. The task force has a variety of committees. There is a committee dedicated to the equal accessibility of 911 services in Colorado.

The Colorado PUC's yearly report of the 2018-2019 fiscal year highlighted the advancements in 911 technology in Colorado and the Commission's goals since the original whitepaper in 2015.[74] The Colorado PUC in the 2018-2019 fiscal year began major steps in transitioning 911 services in Colorado into fully integrated NG911 technology.[75] The report details that Colorado is beginning its transition phase into NG911 technology, the first steps being Colorado emergency services transitioning to entirely IP based infrastructure.[76] The report states in its executive summary "Colorado's 9-1-1 system is at the beginning stages of a migration toward an all-IP (Internet Protocol) based infrastructure which has the potential to greatly improve the reliability and functionality of 9-1-1 services available to Colorado residents and visitors."[77] The implementation of NG911 services as the primary infrastructure will allow ECCs in Colorado to better service deaf, hard of hearing, and disabled communities.

The report recognizes that the DOJ regulations require ECCs carry TTY device accessibility, but that over the recent years, the use of TTY devices and relay services have declined.[78] In particular, the Colorado PUC in its report recognizes the increasing use of TT911 services over recent years, and Colorado has made major improvements since 2013 in TT911 access in Colorado. TT911 was first made available in Colorado in Pitkin County in 2013.[79] As of 2019, 75.6 percent of primary Colorado ECCs have implemented TT911 services.[80] The ECCs that support TT911 services in Colorado now encompass around 60 percent of the land area in Colorado and are available to 93.4 percent of the population in Colorado.[81] The Colorado ECCs have made great strides in increasing the access of one of the most important accessibility technologies in the 911 framework, but the state regulatory framework of Colorado still requires major governmental action in ensuring 911 accessibility.

The report notes that there is no federal or state regulation that require ECCs in Colorado to implement TT911 technology.[82] Despite that, the majority of Coloradan's have access to the service, but the lack of a clear regulatory framework allows for gaps in

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[73] 4 CCR 723-2-2145(b).
[74] 2018-2019 Annual State of 911 Report (PUC Report), Daryl Branson, September. 11, 2019, https://drive.google.com/file/d/1Ly9lLyURhVbL6Qvb2CzlEuaIkEDBnHI7/view.
[75] *Id,* at 3.
[76] *Id.*
[77] *Id.*
[78] *Id.* at 11.
[79] *Id.* at 12.
[80] *Id.*
[81] *Id.*
[82] *Id.*

the service and technological framework. For example, currently, TT911 services are available on an ECC to ECC basis, with each individual ECC having to determine the method of delivery for each emergency text message to the local ECC.[83] With the implementation of NG911 technology as planned in Colorado, this process of message delivery can be streamlined to a single call path with an IP based network.[84] While the increased access to TT911 services is paramount to accessibility, it will require the implementation of NG911 services and regulatory oversight by the state to ensure cost efficiency, accurate message and location services delivery, and the implementation of technological standards to ensure equal access to 911 services in the state.

Colorado highlights the regulatory framework of states in the 911 context. States have their own regulatory regimes governing 911 and the regulations of ECCs in states affect individual ECCs funding and access to technology that increases the accessibility of 911 services. In Colorado, there are no regulations to ensure TT911 services, but the individual PSAPs have still extended access of TT911 services to over 90 percent of Coloradans. Recognizing the need for improvements in 911 technology in Colorado, the CPUC has begun a transitional phase to provide a functional NG911 infrastructure in Colorado.

Some other states are as proactive as Colorado in implementing NG911 technologies such as TT911 to an increasing number of citizens within the state. However, across the Unites States, the availability of TT911 services varies greatly.

The variations in coverage highlights the need for the federal floor to rise in through updating the 1991 regulations under the ADA. An excerpt from the FCC's 11th annual 911 fee report details the current picture of TT911 deployment across the states:

> Collectively, respondents reported 2,093 PSAPs as being text-capable as of the end of 2018, and further reported that they anticipated an additional 1,039 PSAPs would become text-capable by the end of 2019. . . . While the total number of registered PSAPs is lower than the number of PSAPs that respondents projected would be text-capable at the end of 2019, the Bureau has received data indicating that many additional PSAPs that are not listed in the FCC registry (which is a voluntary registry) are in fact text-capable.[85]

The report suggests that many states are taking Colorado's approach, and continue to further the accessibility of 911 services without a federal mandate. However, the report also shows that some states had very few, if any, TT911-capable ECCs at the end of 2018 or projected for the end of 2019. Because of the local nature of ECCs and differences in available funding, states will vary on the number of ECCs in the state and

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[83] *Id.* at 14.

[84] *Id.*

[85] *11th Annual 911 Fee Report,* at 64-66, Dec. 19, 2019, https://www.fcc.gov/files/11thannual911feereport2019pdf.

the amount of ECCs that must be equipped with TT911 services in order to ensure the majority of the state's population had access to TT911.

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The state regulatory framework and the success of many states in implementing TT911 to a majority of state citizens and integrating NG911 services in transitional phases is a working success for the improvement of 911 accessibility. While the framework works well in many states, there are large areas for improvements in others. The state framework and the varying degrees in which location determines equal access to 911 services calls for the need for a risen federal floor in 911 regulations. The FCC has continued to act through its authority to regulate wireless carriers, with its most recent success being its mandate that wireless carriers will provide accurate location data for 80 percent of wireless calls by the end of 2021. If 911 accessibility services is to increase in uniformity of access across the states, the DOJ will need to promulgate updated regulations for the first time in three decades to raise the federal floor in regards to 911 accessibility technology compliance under the ADA.