

In the Matter of)
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)
 Public Safety and Homeland Security Bureau)
 Seeks Comment on the Effectiveness of the) PS Docket No. 11-60
 Wireless Resiliency Cooperative Framework)
 and for the Study on Public Access to 911)
 Services During Emergencies)
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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

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COMMENTS OF AT&T

AT&T Services, Inc., on behalf of itself and its affiliates (collectively, “AT&T”), submits these comments in response to the Federal Communications Commission’s (“FCC” or “Commission”) *Public Notice* seeking comment on the effectiveness of the Wireless Network Resiliency Cooperative Framework (“Framework”) and the Commission’s future study of public access to 911 services during disasters.¹

I. INTRODUCTION AND SUMMARY

AT&T shares the Commission’s commitment to promoting resilient and robust communications networks that can withstand even the most catastrophic disasters. We have invested billions of dollars in our networks to help plan and prepare for emergencies, and our work has paid off. Wireless networks have proven remarkably resilient in the face of natural disasters and other emergencies. Over the past year, millions of Americans have relied on mobile wireless services to access important emergency services, help neighbors in need, and connect with friends and family during times of crisis.

¹ Public Safety and Homeland Security Bureau Seeks Comment on the Effectiveness of the Wireless Network Resiliency Cooperative Framework and for the Study on Public Access to 911 Services During Emergencies, *Public Notice*, PS Docket No. 11-60, DA 18-614 (rel. Jun. 13, 2018) (“*Public Notice*”).

Natural disasters and emergencies impact wireless networks and services in vastly different ways. Affording wireless providers flexibility to tailor their network resiliency and continuity of service plans to meet the unique needs of individual localities is thus critical to effective disaster response. The continued availability of mobile wireless services during disasters has been partially due to the flexibility inherent in the Wireless Network Resiliency Cooperative Framework (“Framework”).² As AT&T and others have confirmed, the Framework has been a success and the Commission should continue to support it.

To continue facilitating effective and efficient disaster recovery efforts, the Commission should avoid implementing additional information sharing requirements at this time. The Framework and the National Coordinating Center for Communications’ (“NCC”) information sharing process have worked well in fostering collaboration between industry partners during emergencies. The Commission should not disrupt these proven procedures by introducing separate and redundant communications channels for backhaul restoration information.

AT&T also applauds the Commission for exploring innovative options, like open Wi-Fi solutions, that may enhance the general public’s access to 911 services during times of need. The possibility of opening Wi-Fi access points to the general public for 911 access during emergencies has the potential to unleash several public safety benefits. However, the Commission should proceed with caution as it considers any open Wi-Fi proposals. As explained below, there are significant technical and policy issues that will need to be addressed before open Wi-Fi solutions could be deployed.

² Federal Communications Commission, Wireless Resiliency Cooperative Framework, *available at* <https://www.fcc.gov/wireless-resiliency-cooperative-framework> (last accessed Jul. 8, 2018) (“Framework”).

II. THE FRAMEWORK HAS PROVEN SUCCESSFUL IN FACILITATING WIRELESS SERVICE CONTINUITY AND RESTORATION DURING EMERGENCIES.

The wireless industry has long been committed to effective network resiliency, disaster preparation, and recovery initiatives, and the Framework has advanced these efforts by promoting collaboration and communication. The Framework contains five prongs to enhance coordination: 1) providing for reasonable roaming; 2) fostering mutual aid; 3) enhancing municipal preparedness and restoration; 4) increasing consumer readiness and preparation; and 5) improving public awareness and stakeholder communications on service and restoration status.³ The catastrophic 2017 hurricane season, one of the most active on record, put the Framework to the test.⁴ Those devastating weather events created complex network challenges, which varied from storm to storm and from carrier to carrier. Despite the storms' severity and unique challenges, wireless carriers working within the Framework engaged in timely and useful information sharing on service and network availability. The Framework's flexible structure also enabled wireless carriers to tailor their disaster response efforts to the individualized needs of different communities in times of need.⁵

The Commission consistently has recognized the importance of flexibility in disaster recovery and network resiliency, and has designed policies to help carriers meet the unique challenges posed by emergencies. For example:

³ Framework.

⁴ See Comments of CTIA, PS Docket No. 17-344 at 10-19 (filed Jan. 22, 2018) (describing how the Framework proved extremely effective in the 2017 hurricane season) ("CTIA Hurricane PN Comments").

⁵ See, e.g. Reply Comments of AT&T, PS Docket No. 17-344 at 5-8 (filed Feb. 21, 2018) (discussing the unique characteristics of Hurricanes Harvey, Irma, and Maria and how response efforts varied depending on the situation) ("AT&T Hurricane PN Reply Comments").

- In the wake of the 2017 hurricane season, the Commission suspended or waived regulatory requirements regarding number portability and payment of regulatory fees.⁶
- In anticipation of extreme weather and expected widespread network outages, the Commission activates the Disaster Information Reporting System (“DIRS”), a voluntary system that communications providers can use to report communications infrastructure status and situational awareness information during and immediately after disasters.⁷ When there is a full activation of the DIRS, participants are generally exempted from making submissions in the Commission’s mandatory Network Outage Reporting System.
- In 2013, the Commission adopted flexible rules to improve the reliability and resilience of 911 communications networks.⁸ Under these rules, providers certify compliance by implementing industry-backed best practices or alternative measures.⁹

These efforts illustrate how the Commission consistently has invoked a light regulatory touch and worked with carriers to provide support and alleviate regulatory burdens following a disaster. The Framework is another prime example of how the Commission has supported a voluntary, flexible, and industry-led approach for disaster recovery.

One key component of coordination under the Framework is roaming. The Framework provides for reasonable roaming among wireless carriers under disaster arrangements when technically feasible.¹⁰ These disaster-based roaming arrangements, coupled with existing

⁶ See, e.g., Telephone Number Portability, Numbering Resource Optimization, *Order*, 32 FCC Rcd 6831 (2017) (waiving the FCC’s number assignment rules for providers in states declared states of emergency following Hurricane Irma); Regulatory Fee Filing Window for Those Regulatees Affected by Hurricanes Harvey or Irma Is Extended to Friday, September 29, 2017, *Public Notice*, 32 FCC Rcd 6968 (2017) (extending deadline for regulatory fee payors affected by Hurricanes Harvey and Irma).

⁷ See, e.g., Public Safety & Homeland Security Bureau Announces the Activation of the Disaster Information Reporting System in Response to Hurricane Irma, *Public Notice*, 32 FCC Rcd 6828 (2017).

⁸ Improving 911 Reliability, Reliability and Continuity of Communications Networks, Including Broadband Technologies, *Report & Order*, 28 FCC Rcd 17476 (2013).

⁹ *Id.*

¹⁰ See Framework.

roaming arrangements, help carriers maintain service to customers when emergencies occur. During the 2017 hurricane season, for example, both types of roaming arrangements allowed consumers to access critical data, voice, and text services even if their carrier's network was unavailable.¹¹

Another central strength of the Framework lies in its ability to foster innovation. The Framework's flexibility gives wireless carriers the freedom to collaborate and innovate in restoring wireless services and connecting citizens during times of need. For example, AT&T used "flying cells on wings" to temporarily provide data, voice and text services in Puerto Rico in the aftermath of Hurricane Maria.¹² Carriers also utilized drones and balloons for provision of service as well as surveying infrastructure for damage following the 2017 storms.¹³ A rigid approach to disaster response may have prevented or delayed carriers from incorporating cutting-edge technologies like these into relief efforts.

The Framework also gives carriers the power to harness their collective resources to keep customers connected when disasters occur. This optimization of efforts has the added benefit of freeing carrier resources for holistic disaster response efforts that extend beyond restoration of service. For example, in times of need, AT&T has waived additional fees for unlimited talk, text, and data and offered late payment forgiveness. Similarly, during the 2017 California wildfires, AT&T offered credits for unlimited data, calls and texts to keep affected customers

¹¹ See CTIA Hurricane PN Comments at 11-12; Comments of Verizon, PS Docket No. 17-344 at 19 (filed Jan. 22, 2018) ("Verizon Hurricane PN Comments").

¹² Rob LeFebvre, *AT&T's 'Flying Cow' Drone Provides Cell Service to Puerto Rico*, Engadget, (Nov. 6, 2017), <https://www.engadget.com/2017/11/06/att-flying-cow-drone-cell-service-puerto-rico/>.

¹³ CTIA Hurricane PN Comments at 12-13.

connected during the emergency.¹⁴ Wireless carriers also provide aid and resources to the local communities affected by disasters. AT&T, for example, donated \$1.65 million to support rescue and recovery efforts in the U.S. and Caribbean affected by the 2017 hurricane season.¹⁵ The wireless industry has also focused on collaborating with local governments to prepare for future disasters by sharing a recommended Best Practices document to guide coordination efforts by wireless carriers and local governments during and after disasters.¹⁶

Given the proven success of the Framework, the Commission should consider ways of maximizing its benefits rather than redesigning a well-functioning tool. The Commission can improve the Framework's efficacy and promote network resiliency by encouraging greater collaboration between electric companies and wireless communications companies in the immediate aftermath of disasters.¹⁷ As the 2017 hurricane season highlighted, network resiliency is inextricably intertwined with commercial power resiliency. Commercial power failures

¹⁴ News Release, AT&T, *AT&T to Offer Credits for Unlimited Data, Calls and Texts to Keep Customers Affected by California Wildfires Connected* (Oct. 17, 2017), http://about.att.com/inside_connections_blog/california_fires.

¹⁵ News Release, AT&T, *AT&T Pledges an Additional \$1.4 Million to Hurricane Relief with New Matching Donation*, (Sept. 11, 2017), http://about.att.com/story/att_pledges_additional_hurricane_relief_team_rubicon.html.

¹⁶ CTIA, *CTIA Announces New Best Practices to Help Local Governments Maintain Wireless Service During Natural Disasters* (Dec. 20, 2017), <https://www.ctia.org/news/ctia-announces-new-best-practices-to-help-local-governments-maintain-wireless-service-during-natural-disasters>; <https://api.ctia.org/docs/default-source/default-document-library/best-practices-for-enhancing-emergency-and-disaster-preparedness-and-restoration.pdf> ("Best Practices").

¹⁷ Commenters supported this recommendation in the FCC's Hurricane Response Public Notice docket. *See, e.g.*, Reply Comments of Verizon, PS Docket No. 17-344 at 2 (filed Feb. 21, 2018) (supporting future efforts by the FCC and communications industry to improve coordination with electric utilities); AT&T Hurricane PN Reply Comments at 12-13.

exacerbated the challenge of restoring wireless service.¹⁸ In Puerto Rico, where most of the backhaul fiber was aerial fiber placed on electric utility poles, high powered winds from Hurricanes Irma and Maria destroyed many poles, knocking out both electric and wireless service at once.¹⁹ This risk could be reduced by coordinated trenching of electric and fiber facilities where practicable.²⁰

Finally, the Commission seeks comment on how to further promote awareness of the Framework.²¹ AT&T encourages improved public education regarding emergency response, which can significantly help prepare the public for coping with unexpected disasters of all types. Similarly, formal and regular drills that simulate disaster conditions, including impacts on the nation's communications infrastructure, can help prepare government agencies, the public, and telecommunications carriers alike for the inevitable emergencies that lay ahead. Taken together, these efforts will improve disaster response and help keep citizens safe and connected before, during, and after extreme weather events.

III. THE COMMISSION SHOULD AVOID CREATING REDUNDANT INFORMATION SHARING EFFORTS.

The *Public Notice* proposes incorporating backhaul providers into the Framework and suggests developing a new process for sharing backhaul restoration information during

¹⁸ See Comments of Viya, PS Docket No. 17-344 at 11 (filed Jan. 22, 2018) (noting that efforts to restore full mobile functionality to the islands was hampered by unavailable or unreliable electric power) (“Viya Hurricane PN Comments”).

¹⁹ AT&T Hurricane PN Reply Comments at 13.

²⁰ It bears noting that not all fiber can or should be trenched. It may be unduly expensive and difficult to bury fiber to remote locations or in mountainous areas. In these situations, carriers should continue to use best practices regarding placement of mobile restoration assets in areas where aerial fiber towers are likely to be destroyed.

²¹ *Public Notice* at 1.

disasters.²² Citing “challenges” in the aftermath of Hurricane Maria, the *Public Notice* implies that additional backhaul information sharing obligations are needed for future emergencies.²³ AT&T disagrees. Hurricane Maria was a once in a lifetime weather event that should not serve as a model for future regulatory requirements. Moreover, as explained herein, the *Public Notice* mischaracterizes the backhaul information sharing process that unfolded in the wake of the storm.²⁴ The availability of current and reliable backhaul restoration plans was not only hampered by unstable commercial power, but also by the fact that the extraordinary effort underway was focused on the bigger picture of rebuilding an entire fiber network, and not merely the smaller picture of restoring backhaul to individual cell sites.

Hurricane Maria was the most intense hurricane to hit Puerto Rico in nearly a century, lashing the island with 155 mph winds and causing more than \$100 billion in damage.²⁵ Following on the heels of Hurricane Irma, Hurricane Maria’s force marked the “worst natural disaster in Puerto Rico’s history.”²⁶ The “one-two” storm punch was a “truly exceptional event.”²⁷ Under these extraordinary circumstances, the recovery efforts following Hurricane Maria should not serve as a baseline for future policy recommendations. The unprecedented

²² *Id.* at 2-3.

²³ *See id.*

²⁴ *See id.* (suggesting that wireless carriers faced “particular challenges” in obtaining real time information from backhaul providers after Hurricane Maria).

²⁵ *See* CTIA Hurricane PN Comments at 6; T-Mobile Hurricane PN Comments at 9.

²⁶ Comments of T-Mobile USA, Inc., PS Docket No. 17-344, at 9 (filed Jan. 22, 2018) (“T-Mobile Hurricane PN Comments”) (citing Daniel Chaitin, *Hurricane Maria cracks top-10 hurricane list as it strengthens and heads to Puerto Rico*, Washington Examiner (Sept. 19, 2017), <http://www.washingtonexaminer.com/hurricane-maria-cracks-top-10-hurricane-list-as-it-strengthens-and-heads-to-puerto-rico/article/2634982>).

²⁷ T-Mobile Hurricane PN Comments at 9.

damage caused by the storm made restoring the communications infrastructure in Puerto Rico and the U.S. Virgins Islands a unique and enormous challenge.²⁸ Extreme weather conditions resulted in the near total destruction of Puerto Rico’s electric grid, severely impacting communications and transportation channels.

The storm was particularly devastating for Puerto Rico’s communications infrastructure. Wireless carriers worked tirelessly to restore service, but the slow pace and instability of commercial power restoration hampered network restoration and prioritization efforts.²⁹ Compounding problems, the islands’ geographic isolation and mountainous terrain frustrated recovery efforts as AT&T and other carriers could not pre-stage recovery equipment for fear that it would be lost in the storm.³⁰

With these unique challenges, the communications restoration effort following Hurricane Maria was fundamentally different than other disaster recovery undertakings. The hurricane ravaged AT&T’s backhaul fiber network. The majority of AT&T’s fiber was placed on electric utility poles, which were brought to the ground by unprecedented winds and fallen trees. In many areas, the fiber backhaul was totally destroyed.³¹ Rather than merely repairing fiber at individual cell sites, AT&T needed to start building a new fiber network from scratch – an effort that required executive decisions about long-term network planning. Recognizing that its new fiber network must be built to withstand future hurricanes, AT&T’s backhaul restoration efforts

²⁸ See *id.* (“Hurricane Maria was an exceptional event.”).

²⁹ See Comments of Motorola Solutions, Inc., PS Docket No. 17-344, at 4 (filed Jan. 22, 2018) (“Motorola Hurricane PN Comments”) (noting continued power outages)

³⁰ An extended airport closure and limited seaport availability stranded resources at entry points. And once recovery assets made it onto the islands, carriers faced additional difficulties moving and protecting them. See AT&T Hurricane PN Reply Comments at 7-8.

³¹ *Id.* at 6-7.

included revisiting network architecture designs to maximize the population served by buried infrastructure, diversify key fiber routes, and expand backup microwave backhaul capabilities.³²

Despite these hurdles, backhaul restoration information was provided to stakeholders in stages with near-term plans containing the most detailed information and long-term plans taking more time and with less details. Such information was provided through the National Coordinating Center for Communications (“NCC”) upon request at any time. AT&T and others also participated in daily coordination calls with the NCC and industry partners to provide restoration status and updates on ongoing recovery efforts. This process worked to disseminate information about backhaul restoration where and when such information was available.³³

Developing additional information sharing requirements at this time is unnecessary. Indeed, it would only complicate disaster recovery efforts by diverting scarce resources, like time and staff, to redundant processes at a time when telecommunications providers can least spare any resources. The NCC’s Emergency Support Function #2 (“ESF #2”) process already provides coordination support for communications infrastructure and facilitates the exchange of backhaul information.³⁴ This process has proven effective and it should continue to guide the dissemination of backhaul-related information during disasters. Reinventing the reporting wheel

³² Letter from Raquel Noriega, Director, Federal Regulatory, AT&T to Marlene H. Dortch, Secretary, Federal Communications Commission, WC Docket No. 10-90, WT Docket No. 10-208, at Attachment (filed Apr. 26, 2018) (“AT&T Hurricane *Ex Parte*”).

³³ AT&T notes that in some cases, backhaul restoration information may have been of limited utility as AT&T’s fiber remained subject to ongoing damage from flooding, falling trees, and opportunists looking to steal aluminum or copper. Nevertheless, backhaul providers made every effort to make restoration information readily available.

³⁴ See Department of Homeland Security, *National Response Framework*, at 58 (2008), available at <https://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf> (delineating communications coordination functions to be led by the Department of Homeland Security).

to establish a separate coordination process for backhaul providers risks introducing additional complexity and burdens into what might otherwise be a coordinated disaster response effort.

Continuing to manage the exchange of backhaul information through the NCC's ESF #2 process will offer numerous public safety benefits. *First*, a single process for information coordinated by the NCC will eliminate duplicative demands on scarce staffing resources during an emergency. Likewise, stakeholders will save time by receiving all relevant information through one channel. *Second*, providing shared information in a single format will reduce the potential for confusion if information is disseminated through multiple sources. Moreover, industry participants will not need to produce duplicative forms of the same information. A classified document will not need to be produced in a declassified format, for example. *Third*, establishing separate information sharing processes, likely to occur on different schedules, would invite disconnects both internally and externally as carriers try to navigate complex recovery efforts within their companies while also coordinating with outside industry partners.

Rather than rethinking the Framework or adopting onerous and duplicative information sharing requirements, the Commission should work with industry to evaluate and improve disaster response efforts. Wireless carriers have proven adept at applying lessons learned, analyzing past incidents and developing better ways to restore services more quickly.³⁵ Carriers work together in a variety of government-sponsored and industry-sponsored forums to agree on best practices and other lessons learned from post-event reviews of how networks performed and how well disaster recovery was handled. The Commission should continue to encourage and support such efforts.

³⁵ See CTIA Hurricane PN Comments at 4.

IV. THE COMMISSION SHOULD CAREFULLY CONSIDER SEVERAL ISSUES BEFORE IMPLEMENTING ANY OPEN WI-FI SOLUTION.

As the Commission notes, RAY BAUM'S Act requires a study of the technical feasibility, potential benefits, and costs of opening Wi-Fi access points to the general public for access to 911 services during emergencies.³⁶ An open Wi-Fi solution has the potential to bring about important public safety benefits, including enhanced consumer connectivity during disasters and relief for CMRS networks during traffic spikes. Properly developed and carefully implemented, an open Wi-Fi solution could help expand public access to critical 911 services during times of need.

Although AT&T shares the Commission's interest in exploring open Wi-Fi solutions, it would be premature to adopt any regulatory requirements. The concept of an open Wi-Fi solution holds promise, but a number of complex technical and policy issues would need to be addressed before such an approach could be implemented. To this end, the Commission should carefully consider the following concerns before rushing to adopt any open Wi-Fi obligations.

Technical Hurdles. Deploying an open Wi-Fi solution will pose several complex technical challenges. Development work will be required to ensure that Wi-Fi authentication requirements can be deactivated in specific geographic areas on-demand when disaster strikes. Appropriate commands and triggers for opening Wi-Fi access points during emergencies will need to be developed and tested. The issue of limiting Wi-Fi to 911 services would need to be studied before any regulation could be adopted. AT&T does not currently have and is not aware of any technical solutions for restricting Wi-Fi use to accessing 911 services. AT&T can open up Wi-Fi for all applications, potentially capping data for individual devices, and/or limiting bit-

³⁶ *Public Notice* at 3.

rate access for specific applications to ensure that other applications and users are not displaced by high bandwidth applications. However, AT&T is not aware of a technical solution for selecting specific kinds of traffic (*i.e.* 911 traffic) to route. Moreover, because there are multiple VoIP solutions that offer 911 access, there are no simple solutions such as limiting access to a specific IP/Port combination that would limit service to 911 access.

AT&T also notes that the *Public Notice* does not specify whether providing access to 911 services under an open Wi-Fi approach would include text-to-911 capabilities.³⁷ The Commission's current text-to-911 requirements exclude 911 text messages that originate from Wi-Fi-only locations and non-CMRS networks.³⁸ Consistent with this approach, the Commission should not require during a disaster advanced capabilities that carriers do not currently offer and PSAPs are not equipped to receive. To the extent the Commission adopts any open Wi-Fi proposals, it should instead focus on maximizing consumer access to communications services, including basic 911 service, during emergencies.

Consumer Education Efforts. Implementing an open Wi-Fi proposal will also require substantial consumer education efforts. Consumers today are conditioned not to trust unauthenticated, or unlocked, Wi-Fi. Indeed, consumers are often warned that public Wi-Fi may not be secure and are advised not to permit their devices to auto-connect to public Wi-Fi networks that are not password protected.³⁹ Indeed, by default, most devices do not

³⁷ See *id.* (referencing “911 services” generally).

³⁸ See Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, *Second Report & Order and Third Further Notice of Proposed Rulemaking*, PS Docket Nos. 11-153, 10-255, FCC 14-118, at ¶ 2, n.1 (2014).

³⁹ See Norton Symantec Corporation, The Risks of Public Wi-Fi, *available at* <https://us.norton.com/internetsecurity-privacy-risks-of-public-wi-fi.html> (last accessed Jul. 6, 2018).

automatically register on Wi-Fi when operating in the vicinity of an unauthenticated Wi-Fi network. To avoid confusion during an emergency, consumers will need to be educated about the availability and appropriate use of open Wi-Fi access points during emergencies.

Consumers will also need to be informed about how to enable Wi-Fi calling on their devices. Most consumer devices require multistep set-up processes to enable Wi-Fi calling.⁴⁰ For open Wi-Fi solutions to be effective, consumers will need to be trained on Wi-Fi calling capabilities so that they are able to take advantage of open Wi-Fi where it is available.

Privacy Considerations. Wi-Fi Access points can be configured into multiple logical networks (or SSIDs), and each SSID, separately, can be made open to the general public (such as in coffee shops and restaurants), or limited to a private class of users who have an expectation that their data and devices remain secure from the public internet. If, after studying this issue, some form of policy is adopted to open up Wi-Fi access points to the general public, this policy should be limited in application to just the public SSIDs and in no way be applied to private SSIDs.

Preventing Abuse. Opening public Wi-Fi access points may expose customers and their devices to external threats during a time of need. Customers are often at their weakest point during disasters. Bad actors could seize upon an opportunity to spoof Wi-Fi connections during a crisis if Wi-Fi access points are open and susceptible.⁴¹ The Commission will need to consider options for minimizing these risks.

⁴⁰ See, e.g., Apple Support, Make A Call With Wi-Fi Calling, available at <https://support.apple.com/en-us/ht203032> (last accessed Jul. 6, 2018) (providing steps for consumers to enable Wi-Fi calling on their iPhones).

⁴¹ See generally Justus Adejumoh, *World Cup 2018: Cyber Criminals Target Public Wi-Fi Users*, The Independent, (Jun. 15, 2018), <https://independent.ng/world-cup-2018-cyber-criminals-target-public-Wi-Fi-users-kaspersky/> (explaining that the lack of traffic encryption combined

Regulatory Challenges. Crafting regulatory mandates to ensure that an open Wi-Fi proposal works as intended will be difficult. As an initial matter, the Commission does not have jurisdiction over many Wi-Fi network providers, such as big-box stores, coffee shops, and hospitality businesses, for example. To the extent the Commission pursues regulatory mandates, they would only apply to entities under its jurisdictional reach, creating arbitrary regulatory disparities. Instead of pursuing such an incongruous regulatory approach, the Commission should encourage voluntary efforts and best practices to achieve an open Wi-Fi solution that encompasses all necessary stakeholders. As the Framework has shown, industry-led voluntary commitments work well.

Among other issues, the Commission would need to consider what events would trigger an open Wi-Fi mandate and who would bear the responsibility for opening Wi-Fi networks. It may be difficult to establish clear rules addressing these practical considerations. Identifying and defining trigger events alone may be a challenging task given the evolving nature of disaster response efforts and the corresponding need for flexibility. Even if the Commission could overcome these obstacles, it would still have to address whether traffic on the open Wi-Fi networks would need to be limited to 911 access or whether opening Wi-Fi networks, alone, would suffice. As noted above, it is not currently technically feasible to select particular types of traffic to route during an emergency.

V. CONCLUSION

The Framework has been a remarkable success, helping bring stakeholders together to ensure communications continuity and restoration in the face of some of the worst natural

with large-scale events often makes open Wi-Fi a target for criminals seeking easy access to user data).

disasters and emergencies in decades. The Commission should not imperil this successful paradigm by adopting duplicative information sharing requirements for backhaul providers. Likewise, the Commission should refrain from rushing to adopt any open Wi-Fi regulatory requirements. Opening Wi-Fi networks during emergencies may offer some public safety benefits, but there are a litany of technical hurdles and policy issues that must first be evaluated before such a solution can be deployed.

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