

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)	
)	
Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications)	PS Docket No. 11-153
)	
Framework for Next Generation 911 Deployment)	PS Docket No. 10-255
)	

To: The Commission

**REPLY COMMENTS OF
THE BOULDER REGIONAL EMERGENCY TELEPHONE SERVICE AUTHORITY
ON THIRD FURTHER NOTICE OF PROPOSED RULEMAKING
REGARDING TEXT TO 9-1-1**

The Boulder Emergency Telephone Service Authority (“BRETSA”), by its attorney, hereby submits its Reply Comments on the Commission’s proposals in its August 13, 2014 *Third Further Notice of Proposed Rulemaking* in the above-referenced Docket (“*Third Further Notice*”).¹ BRETSA is a Colorado 9-1-1 Authority which establishes, collects and distributes the Colorado Emergency Telephone Surcharge to fund 9-1-1 Service in Boulder County, Colorado. The BRETSA Board includes the Boulder County Sheriff, the City of Boulder Police Chief, and representatives of the Boulder County Firefighters Association and the City of Longmont Department of Public Safety. The fifth seat of the Board is filled by representatives of the smaller cities and towns in Boulder County, Colorado on a rotating basis. These Comments are thus intended to represent the perspective of the entity responsible for funding 9-1-1 operations, *and* of the agencies responsible for PSAP operations and overall public safety services.

¹ Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, Framework for Next Generation 911 Deployment, PS Docket Nos. 10-255 and 11-153, *Second Report and Order and Third Further Notice of Proposed Rulemaking*, FCC 14-118 (August 13, 2014).

I. The Potential Loss Of CMRS SMS-Text Coverage Area Must Be Addressed.

In the *Third Further Notice*, the Commission requested the parties to address the concerns raised by BRETSA that emulated SMS messaging under LTE will not serve areas beyond the CMRS voice service area as with true SMS messaging. BRETSA's concern is that this will limit the ability of users to reach 9-1-1 in rural and wilderness areas, from inside buildings where they currently experience difficulty placing voice calls, and in other areas where users rely on text messaging because there is an insufficient signal to place voice calls. None of the commenters addressed this issue, but it one which The Commission must be consider. Not only is the ability to send text messages in areas well beyond the range of CMRS voice calls important for purposes of 9-1-1, but many users rely on text messaging as the only available method of communication even from residences in rural and mountainous areas.

The University of Colorado Interdisciplinary Telecommunications Program ("CU") previously filed comments in this docket addressing, *inter alia*, the ability of text messages to be transmitted in areas where there is an insufficient signal to place a voice call:

Weak Signal Environments. A question that has been raised by communications researchers is, "Are there any circumstances when a voice call cannot "connect" or "go through," but a text message can?" On the edge of a mobile phone signal coverage (where a phone might display "no bars"), or when the mobile phone signal is heavily obstructed, such as when the caller is in the mountains, in the midst of high rise buildings, inside a building, under a collapsed building following an earthquake or explosion, or in a trunk of a car, closet, container, etc., the signal is weak. The CU Team found that, in the case of fixed stationary antennas, there exist a signal threshold above which both a voice call or text message can communicate and below which neither can communicate. However, for a handheld mobile phone, the signal will vary with even small movements. In this situation, the CU Team observed cases when a weak signal existed and text messages got through while voice calls did not. Communication at the edge of coverage can be sporadic, allowing only momentary windows of communications coverage that are not long enough to support a voice call but a short burst of a text message can get through. In addition, some implementations of SMS automatically keep trying to send a text message until a transmission window opens.

CU Comments, PS Docket Nos. 10-255 and 11-153 (filed December 12, 2011), at 3, *available at*: <http://apps.fcc.gov/ecfs/document/view?id=7021750484> (last viewed November 16, 2014).

BRETSA understands that SMS messaging will continue to be provided by CMRS providers in an LTE environment because it is a revenue driver, but it will not be true SMS messaging with the same transmission characteristics as current SMS messaging. In the near term, SMS over SGs as specified in 3GPP Rel. 8 will be provided as a transitional solution, and in the long term SMS over IMS will be provided per 3GPP Rel.7. This will be an emulation of SMS text messaging, provided over IP. It appears that SMS over IP provided in the LTE environment (apparently provided over the same digital channel as voice calls) will not be as robust as current SMS provided over control channels, eliminating SMS coverage beyond the range of voice calls. The best-informed information BRETSA has obtained is that in an LTE-IMS environment, SMS coverage will extend only slightly beyond the areas of reliable voice coverage.

It is critical that the Commission address any loss of such SMS-text coverage and the newly required text-to-911 service which will result from the transition to LTE.

II. The Commission Appropriately Declined to Adopt Voluntary Agreements As Safe Harbors.

A number of commenters bemoan the Commission's decision not to establish a "safe harbor" for providers entering into voluntary agreements to provide text-to-911.² As BRETSA has stated, establishing such safe harbors would result in an unworkable collection of diverse requirements applicable to different providers. Because the nationwide and largest providers will generally be in the best position to negotiate voluntary agreements to provide new 9-1-1 services,

² T-Mobile USA, Inc. Comments at 1; Sprint Corporation Comments, at 2-3; Telecommunications Industry Association Comments, at 3-4; CTIA Comments at 5-6.

the largest providers would perversely benefit from safe harbors with more limited obligations than the regional and smaller providers with lesser resources.

The typical response of an industry seeking to limit regulatory mandates is to argue that more study is required before the mandates can go into effect, and that standards need to be developed. When the regulatory authority is ready to adopt the mandates, the industry participants voluntarily agree to less burdensome requirements or to implementation of the requirements on a delayed schedule. From BRETSA's perspective, at the time CMRS providers voluntarily agreed to provide text-to-911 service, there was a sufficient record for the Commission to mandate text-to-911 service. The voluntary agreement thus delayed the deployment of text-to-911. The providers have had the benefit of their bargain in delaying the implementation of text-to-911. The Commission should not further reward them by limiting their obligations to those to which they have voluntarily agreed.

Given the pace of technological innovation, it is unclear how such safe harbors could work. The delay in imposing new 9-1-1 service requirements on providers has usually been attributable to the need to develop technical solutions for provision of the service. Once the solution is developed, the barriers to implementation by additional providers are reduced.

III. Perfection Should Not Be The Enemy of the Good.

A number of commenters also make perfection the enemy of the good.³ For example, they argue that because devices connected only to WiFi may not permit transmission of accurate

³ See, e.g., Sprint Comments, at 7 (because *some* users may not properly download and install applications necessary for over-the-top text messaging applications to communicate with 9-1-1, the Commission should not require over-the-top providers to provide text-to-911 service), TIA Comments, at 7 (“[B]roadband access reliant OTT messages are less dependable than SMS texts carried over existing standards-based SMS architectures), CTIA Comments, at 8 (“[T]he record in this proceeding is replete with evidence that providing enhanced location information has not yet been demonstrated to be *universally* attainable.” (emphasis added, footnote omitted)), VON Comments, at 3 (the Commission should not impose the obligation for transmission of text-to-911 messages from WiFi-only locations until technology supports the transmission of accurate location information to the appropriate PSAP).

location information to a PSAP, text-to-911 should not be required absent a CMRS connection. However the first importance for location information is that it be sufficiently accurate to route the call to the correct PSAP. The inability of a solution to lead First Responders directly to a caller in those rare instances in which a caller cannot communicate his or her location does not warrant denying users the ability to communicate with a PSAP in the many, many, more cases in which callers *can* communicate their location.

The Commission cannot let “the perfect be the enemy of the good.” Providers will always be able to imagine hypothetical situations under which the Commission’s requirements will not produce a good outcome. That a requirement may not improve outcomes in *every* instance does not mean that it will not improve outcomes in *most* instances.

IV. Microsoft Misapprehends the Requirements for Provision of Text to 9-1-1.

Microsoft expresses concern with the complication and expense of “mapping every possible user location in the US to the appropriate PSAP,” and suggests that the number of PSAPs must be “exponentially” reduced. Microsoft Comments, at 5. By suggesting that the number of PSAPs must be reduced, Microsoft’s elevates its convenience over effective emergency response.

More importantly, BRETSA is unaware of any requirement that over-the-top text messaging providers map “every possible user location” to the appropriate PSAP. If the over-the-top provider uses a wireless provider’s native SMS text API to transmit text messages to 9-1-1, the wireless providers and TCCs will identify the appropriate PSAP to which the text message should be routed. In an NG9-1-1 context, the over-the-top provider would need only to transmit the location object with the text message to the NG9-1-1 system, where the NG9-1-1 data

complex providers would compare the location object to the geo-mapped PSAP jurisdictions to identify the PSAP to which the text message should be transmitted.

BRETSA does not understand the Commission to intend that over-the-top text-messaging providers re-create the 9-1-1 system for such messages, but rather that they integrate their text messaging services into the existing 9-1-1 system and developing NG9-1-1 system.

Finally, Microsoft states that closed text messaging systems *are* closed. Microsoft Comments, at 7. However there is a benefit to end users being able to use the text messaging system with which they are most familiar in an emergency.

V. Service Providers Have An Obligation To Serve The Public Interest.

The Voice on the Net Coalition (“VON”) recognizes that the ability to transmit text-to-911 through WiFi connections would serve the public interest. VON Comments, at 2. It then proceeds to state that the Commission should not impose such a requirement until technology supports transmission of accurate location information.⁴ *Id.*

Having identified the transmission of text-to-911 messages as being in the public interest, BRETSA submits that the VON Coalition and its members are obligated to use their technological expertise to develop solutions in the public interest.

VI. T-Mobile Appears To Elevate Process Over Performance.

T-Mobile is concerned that PSAPs may not timely return a questionnaire regarding their preferences for delivery of text-to-911 messages, or may change those preferences. BRETSA has negotiated a contract with Intrado for delivery of text-to-911 messages, and is awaiting execution of the contract and deployment of the facilities and system upgrades for delivery of such

⁴ As stated above, in the great majority of cases the location information need only be accurate enough for routing of the text message to the correct PSAPs. Further, BRETSA understands that a PSAP can transfer text messages to any other PSAP which uses the same TCC, and will be able to transfer text messages to PSAPs using other TCCs if the TCCs are interconnected.

messages. BRETSA understands that the wireless providers will deliver the text messages to Intrado which will, in turn, deliver the text messages to BRETSA's PSAPs in the manner requested by BRETSA.

PSAPs requesting delivery of text messages via TTY interface would appear to be immediately ready to receive such messages. The barriers to PSAPs being able to receive text messages via browser would also appear to be so extraordinarily low that the possibility of a PSAP not being ready to receive messages in this matter seems unlikely. In Colorado, Larimer County is receiving text messages and has offered to receive and relay text messages for any other Colorado jurisdiction until those jurisdictions are prepared to receive text messages directly; also significantly lowering the barriers for PSAP receipt of text messages. T-Mobile's concerns thus appear misplaced.

To the extent there is a legitimate concern with PSAP readiness and that a PSAP might misrepresent its readiness, the TCCs should be in a position to validate whether the PSAP is capable of receiving text messages in the manner requested. If a PSAP initially requests delivery of text messages via TTY but subsequently elects to instead receive text messages by browser or dedicated data service, for example, that would appear to be a matter between the PSAP and the TCC. The method of delivery between the TCC and PSAP would not appear to affect the manner of delivery of text messages by the originating service provider to the TCC.

Once the Commission has established the database of PSAPs which are receiving text-to-911 messages, and PSAPs which have request delivery of such messages, it would be improper for T-Mobile or any other provider to require that the PSAPs also complete questionnaires prior to provisioning text-to-911 service. *See* T-Mobile Comments, fn 7 at 5. The purpose of the database, as suggested by BRETSA, is to avoid diverting limited PSAP resources to identifying

text messaging providers and requesting text-to-911 service. A requirement that PSAPs which are already receiving text-to-911 messages from providers or have represented to the Commission that they are prepared to do so, complete questionnaires or comply with other provider-specific requirements, would appear to be nothing more than another delaying tactic.

VII. It Is Not the Commission’s Responsibility to Create Market Opportunities.

NextGen Global Technologies LLC (“NextGen”) states that text-to-911, photos and video clips can and should be handled by PSAPs, and PSAPs should be able to open two-way sessions and retrieve photos and video clips during crimes in progress. NextGen Comments at 3, 7-8. NextGen apparently wants the Commission to guarantee it a market for its services.

PSAPs must decide the types and formats of information they will receive. The services which are deployed must be driven by the judgments of experienced public safety professionals, with overall responsibility for public safety response; not by would be entrepreneurs, regulators or others lacking practical and command experience and understanding of public safety operations and budgets. Public safety agencies operate with limited resources, and need to allocate those resources so as to benefit the most people in the most cases.

As BRETSA has previously pointed out, the quickest way for an end user to convey the nature and location of an incident to a PSAP (the information a PSAP requires to dispatch First Responders) is through a phone call. Transmission of photos and videos to a PSAP will likely delay conveyance of the critical information and may emotionally impact PSAP personnel.⁵

⁵ Photographs or videos by witnesses to incidents may be useful for purposes of investigation and prosecution, and in rare circumstances even to stabilizing the scene of an incident following First Response. However transmission of photos and data will be of little or no use and may actually delay dispatch of First Responders in the ordinary case, citizens will not know what images are important, and may become secondary victims as they focus on getting pictures to send to 9-1-1. First Responders cannot view photos and videos while en route to an incident. The deployment of ESInets with the bandwidth to transmit such data may divert funds from employment, training and equipping of First Responders. An alternative solution would be for PSAP personnel to direct callers to transmit pictures or videos over provider networks or the public Internet to a text-message or e-mail address at the PSAP, or via 9-1-1 and an ESInet, when PSAP personnel determine the pictures or videos would be helpful.

For a PSAP to be able to retrieve data from a caller's device would implicate privacy issues. It is unclear how NextGen anticipates that a PSAP would even know what users are located at the scene of a crime in progress, let alone would have pictures or videos of the incident on their device for retrieval. BRETSA would not advocate that citizens put themselves in danger taking pictures or videos of a crime in progress. In addition, many crimes are completed and the perpetrators have fled the scene within such a brief period of time that it is unclear that such capabilities would be of practical use in the ordinary case.

VIII. Commenters Have Not Demonstrated That Improving SMS Text-to-911 Will Divert Resources From NG9-1-1.

Several Commenters suggest that requiring improvements to SMS text-to-911, including enhanced location information or roaming solutions, will divert resources from NG9-1-1.⁶ To BRETSA's understanding, NG9-1-1 will be deployed by the PSAPs, state authorities, and NG9-1-1 service providers such as Intrado, Bandwidth.com and TCS pursuant to NENA standards. It is unclear to BRETSA how the efforts of providers and their standards-setting organizations to provide roaming SMS text-to-911 and improved location information will delay efforts of *other parties* to deploy NG9-1-1.⁷ Nor have the providers explained how their efforts to provide roaming SMS to 9-1-1 and improved location information will impeded deployment of NG9-1-1.

BRETSA has previously suggested that CMRS and other originating service providers should be required to establish Emergency Service Bureaus ("ESBs") which could provide additional call- and customer-related information to PSAPs on a more expedited basis, and assist PSAPs with unique call-related challenges. BRETSA has also suggested that there would be significant benefits to the joint-establishment of such ESBs by originating service providers,

⁶ See, e.g., Sprint Comments, at 2, 10; AT&T Comments at 8; Motorola Comments, at 3-4.

⁷ BRETSA also notes that the development of a browser solution for delivery of text-messages or other non-voice data may ease the demand for transition of NG9-1-1.

providing PSAPs a single point of contact to access additional call- and customer-related information relevant to provision of 9-1-1 Service, emergency response, and verification of surcharge/tax remittances from all providers. While TCCs seem to have taken on some of the responsibilities proposed for these Service Bureaus, adequate capitalization of such service bureaus would enable them to employ personnel to develop 9-1-1 solutions without diverting CMRS-provider personnel from their commercial development work.

Respectfully submitted,

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