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

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

To: The Commission

COMMENTS

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SUMMARY

TruePosition submits these Comments to encourage the FCC to adopt final rules for enhanced location information for text-to-911 services that are technology neutral in order to provide platform-independent norms for all stakeholders. By adopting rules requiring covered text providers to obtain location information sufficient to route text messages to the appropriate PSAP, the FCC's promulgation of technology neutral regulations will allow text message service providers, industry stakeholders, and the public safety community to work together to develop optimal solutions for providers and customers.

Providing text-to-911 capabilities and accurate location information to the public is a critical public safety concern, and would provide much needed emergency services, particularly for those who are deaf, hard of hearing, or have speech-related disabilities. Failure to make location accuracy for text-to-911 a regulation priority will likely lead to a reduction in the amount of effort that the wireless industry devotes to developing Enhanced Location technologies and that carriers devote to making sure that all of their customers are equipped with Enhanced Location capabilities for text-to-911. Just as the FCC's indoor E911 location accuracy proposal was a critical step toward providing accurate voice locations from indoor locations, the same is true for a regulatory initiative regarding text-to-911 accuracy. Without such regulatory initiatives wireless service providers will have no commercial incentives to deploy enhanced location technology for text-to-911.

Therefore, TruePosition herein states its strong support for the FCC's efforts to ensure that all people have access to text-to-911 services in times of emergency within the next two years through reasonable and technology neutral regulations.

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COMMENTS

TruePosition, Inc., through its attorneys, and pursuant to Section 1.415(a) of the Federal Communication Commission's ("FCC" or "Commission") rules, 47 C.F.R. § 1.415(a), respectfully submits these Comments in response to the *Third Further Notice of Proposed* Rulemaking in the above-referenced rulemaking proceeding ("*Third Further Notice*").[1] In these Comments, True Position will focus in particular on the FCC's *Third Further Notice* inquiries related to enhanced location information for text-to-911 services. TruePosition herein presents information to assist the FCC in adopting reasonable and prudent regulations that will promote Enhanced Location information for text-to-911 services.

I. STATEMENT OF INTEREST

TruePosition is the leading manufacturer of location determination and intelligence solutions. TruePosition's technologies help protect citizens, combat crime and save lives. TruePosition is owned by Liberty Media Corporation and creates custom mobile location solutions

[1] In the Matter of Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, In the Matter of Framework for Next Generation 911 Deployment, PS Docket No. 10-255 and 11-153, *Second Report and Order & Third Further Notice of Proposed Rulemaking*, 14 FCC Rcd. 118 (rel. Aug. 13, 2014).

for mission-critical situations where lives and safety are at stake and accuracy and reliability are of paramount concern. TruePosition has created geo-location technology since 1992 and has more patents, technical expertise, and operational experience in wireless location systems and services than any other company in the world. Every day more than 100 million people depend on location services supported by TruePosition's technology.

II. SUMMARY OF THIRD FURTHER NOTICE

In the *Second Report and Order*, the FCC required that Commercial Mobile Radio Service (CMRS) providers and other providers of interconnected text messaging applications be capable of supporting text-to-911 service by December 31, 2014.[2] So-called "covered text message providers" would have until June 30, 2015, or six months from the date of a Public Safety Answering Point (PSAP) request, whichever is later, to implement text-to-911 for that PSAP.

In its *Third Further Notice*, the Commission reaffirmed its commitment to ensuring access to emergency services for all Americans. The Commission stated that its rules must evolve as "legacy networks and services transition to next generation technologies, and as consumer expectations and needs evolve." The FCC went on to state that "[c]urrent trends in mobile wireless usage show the continued evolution from a predominantly voice-driven medium of communication to one based more on text and data transmissions. The need to provide text-to-911 service in a timely manner is made more pressing because many consumers believe text-to-911 is already an available service, because of the unique value of text-to-911 for the millions of Americans with hearing or speech disabilities, and because of the crucial role it can play in protecting life and

[2] *Id.* ¶ 1 at 2.

property when making a voice call would be dangerous, impractical, or impossible due to transmission problems."[3]

To accomplish these public safety goals, the *Third Further Notice* seeks comments on a variety of technical issues related to the provision of enhanced location information, support for roaming for texts-to-911, and the capabilities of future texting services.[4] With regard to location information, the FCC "recognize[d] that enhanced location information is not yet universally attainable for texts to 911 over either SMS or other messaging platforms protocols under development …."[5] Nevertheless, the FCC has sought comment on specific approaches and a likely timeframe for covered text providers to be able to provide "enhanced location" with text-to-911 communications. The FCC has tentatively proposed that no later than two years after the effective date of final rules, covered text providers must deliver "enhanced location information," consisting of "best available" location data with text-to-911.[6] The FCC has sought comment on whether technical solutions could be developed in this timeframe and, if not, what would be a suitable timeframe.

For purposes of these short-term goals the FCC has proposed to define "enhanced location" to mean the "best available" location using existing technologies.[7] The FCC acknowledged that the accuracy of the enhanced location may vary by text-to-911 session, "according to the end user's particular device capabilities and settings."[8] Nevertheless, the FCC's view is that adopting

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[3] *Id.* ¶ 13-17 at 7-9.
[4] *Id.* ¶ 81 at 36.
[5] *Id.*
[6] *Id.* ¶ 82 at 37.
[7] *Id.* ¶ 83 at 37.
[8] *Id.*

an enhanced location requirement "would provide substantial public safety benefits to consumers who need to reach 911 through text-capable communications."[9]

Given the public safety benefits of enhanced location information, the FCC has sought comment on the "technical feasibility" of enhanced location for text-to-911. The FCC noted that "using device-specific location appears to be technically feasible, given CSRIC's remark that handset-based location technology, 'using cLBS methods, is currently being used by at least one U.S. CDMA carrier for network deployments supporting SMS text-to-9-1-1.'"[10] Consequently, the FCC believes that an "enhanced location requirement … premised upon the delivery of best available location, using any available location technology or combination of technologies, strikes a balance that promotes our important public safety objectives, while being practicable and reasonable within these potential limitations."[11]

The *Third Further Notice* referred to comments previously filed by TruePosition and another public safety vendor for the proposition that "some form of enhanced location information by CMRS providers is technically feasible in the near term."[12] The FCC referenced TruePosition's comments for the proposition that existing network-based U-TDOA location capabilities could be used to deliver location information with "relatively minor development effort" for text to 911.[13] The FCC also noted TruePosition's assertion that although "[t]he solutions produced by the voluntary Carrier-NENA-APCO agreement, and the J-STD-110 standard, do not currently define an interface protocol to retrieve sender/customer location information," those solutions provide a

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[9] *Id.*
[10] *Id. citing CSRIC Enhanced Location Report* at 18.
[11] *Id.* ¶ 87 at 39.
[12] *Id.* ¶ 88 at 39.
[13] Comments of TruePosition, PS Docket Nos. 10-255 and 11-153 (filed Apr. 4, 2014) at 6 (TruePosition Second Further Notice Comments).

platform "to build a more permanent solution to the problem of identifying the location of the customer who has sent an emergency text message."[14]

In light of these and other comments filed by vendors and other public safety experts, the FCC sought comment on the technical feasibility of TruePosition's approach and whether it "offers a path forward for providing enhanced location" information.[15]

III. CSRIC ANALYSIS

A working group of the Communications Security, Reliability, and Interoperability Council (CSRIC) recently prepared its recommended best practices for public-safety answering points (PSAPs) to follow when requesting interim SMS text-to-911 service.[16] The Final Report does not endorse any of the available options for text-to-911 service—Web Service, TTY and i3 ESInet/IP interface—but it provides guidelines for initiating interim service, regardless of the PSAP's interface preference. The document also does not attempt to influence PSAPs on the timing of implementation. Included in the Final Report are recommendations such as this: "information on how to request the service; how to test and deploy the service; operational considerations before, during and after the deployment; and finally considerations related to [network] security."[17]

The scope of work for the CSRIC report did not expressly include "testing of calling device location or location accuracy."[18] The working group did offer guidance to PSAPs with respect to network security, but it also urged the FCC to work with other entities to develop broader cybersecurity policies that would protect public safety as it adopts new technologies. "In

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[14] TruePosition Second Further Notice Comments at 5.
[15] *Third Further Notice*, 14 FCC Rcd. 118, ¶ 88 at 39.
[16] *See* CSRIC Working Group 1, PSAP Requests for Service for Interim SMS Text to 911, Final Report, (May 2014) ("*CSRIC Final Report*").
[17] *Id.* at 1.
[18] *Id.* at 5.

considering the implementation of such programs, we need to understand not only the risk, but also what we can do to mitigate that risk,"[19] the group wrote in its final report.

IV. ENHANCED LOCATION IS FEASIBLE AND SHOULD BE TECHNOLOGY NEUTRAL

As TruePosition noted in its previous Comments in this rulemaking proceeding,[20] "it is imperative for the FCC to adopt regulations that allow consumers to contact 911 emergency services with the use of Commercial Mobile Radio Service ('CMRS') and Over-the-Top ('OTT') text messaging services."[21] In its *Further Notice*, the Commission acknowledged that 7 of 10 cell phone users use text messaging, and 91 percent of smart phone users actively text.[22] With the increase in the use of text messaging as a primary means of communication, there is a public expectation that text messaging can routinely be used to contact emergency services. For the deaf and hard of hearing community and for those individuals with speech disabilities, which include 48 million people and 7.5 million people in the United States, respectively, text-to-911 is not only a matter of convenience it is a matter of necessity.[23]

TruePosition's location technology uses Uplink Time Difference of Arrival ("U-TDOA"), a network-based technology, to determine accurate location information that can be provided to specific PSAPs when a wireless user sends a text message. TruePosition has the capability and the desire to help every CMRS and OTT text messaging service provider in the Unites States meet the FCC's December 31, 2014 deadline for implementation or text-to-911 capability, as well as

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[19] *Id.* at 18.
[20] *See* TruePosition Comments, April 4, 2014, In the Matter of Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications, PS Docket No. 11-153 and PS Docket No. 10-255, *Policy Statement and Second Further Notice of Proposed Rulemaking* (Rel. Jan. 31, 2014) ("*Second FNPRM*").
[21] *Id.* at 2.
[22] *Third Further Notice*, 14 FCC Rcd. 118, ¶ 12 at 7.
[23] *Id.* at ¶ 13 at 7.

meeting the longer-term goal of location accuracy.[24] The cost of achieving the text-to-911 standards should be manageable and would in any event pale in comparison to the consequences of failing to steadfastly provide this critical public safety service.

Using existing E911 location capabilities, with minor modifications to their existing infrastructure, PSAPs and CMRS service providers can implement a standard Location query to be initiated by manual or automatic procedures, to locate local CMRS subscribers sending emergency text messages. This would address a significant portion of SMS to 911 cases. Roaming cases would require additional but still modest efforts to introduce existing standard functionalities (e.g., Roaming Location Protocol by OMA). "Over the Top" ("OTT") text messaging services would require OTT providers to have access to a Mobile Positioning Center service. In particular, existing network-based U-TDOA location capabilities can be used to locate a device by the transmission of an SMS receive acknowledgement of either the response SMS from the PSAP, or a "silent" SMS sent to the device for the specific purpose of locating it. By contrast, "User Plane" approaches would require a wireless data connection through the CMRS, which will either be subscribed to or enabled by the user, or the device may access an un-related Wi-Fi service at the time the emergency occurs.

Whether through the use of a network-based, handset-based or other technology solution the FCC's final rules should be technology neutral to encourage multiple vendors to create practical solutions for text-to-911 location requirements. The FCC's *Second Further Notice of Proposed Rulemaking* states that a "technology-neutral approach provides platform-independent norms for all stakeholders, based on high-level functional standards set by the relevant

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[24] *See id.* ¶ 2 at 3.

stakeholders in industry and the public safety community."[25] In that spirit, TruePosition has stated that the "FCC's role should be to provide objective standards toward which carriers, equipment manufacturers, OTT service providers and vendors design and implement text-to-911 solutions."[26]

Although based on currently available test results, the most viable technology to implement text-to-911 to date has been so-called "coarse location" (cell ID and cell sector), the FCC should nevertheless remain open to using other technologies to deliver text messages to PSAPs. TruePosition does not concur with CSRIC's assertion that the Commission should "refrain from wireless E9-1-1 Phase II-like mandates for SMS text to 9-1-1 service and instead encourage further development and implementation of more robust…solutions."[27] Rather, failing to make location accuracy for text-to-911 a regulatory priority will likely lead to a reduction in the amount of time that the wireless industry devotes to developing Enhanced Location technology and that carriers devote to making sure that all of their customers will have Enhanced Location capabilities for text-to-911.

The Commission should proceed to adopt rules requiring covered text providers to obtain location information sufficient to route text messages to the appropriate PSAP, acknowledging that "to wait for the capability to support more granular location data—rather than adopting a coarse location requirement now—would delay the implementation of text-to-911."[28] With the FCC's regulatory initiative as incentive, technology will soon be available that will allow the FCC to adopt more stringent enhanced location information for text-to-911. By promulgating technology-

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[25] Facilitating the Deployment of Text-to-911 & Other Next Generation 911 Applications Framework for Next Generation 911 Deployment, PS Docket Nos. 10-255 and 11-153, *Second Further Notice of Proposed Rulemaking*, 29 FCC Rcd. 1547 at ¶ 15.
[26] TruePosition Second Further Notice Comments (Apr. 4) at 3.
[27] *Second Report and Order* ¶ 58 at 29.
[28] *Id*. at ¶ 59 at 29-30.

neutral regulations, the FCC will allow text messaging service providers, industry stakeholders, and the public safety community to work together to develop the optimal solutions for providers and customers.

V. A TWO-YEAR TIME FRAME FOR ENHANCED LOCATION IS ATTAINABLE

As the world's leading manufacturer of geo-location technologies, TruePosition believes that "Phase II-like" location information will be attainable for text-to-911 within two years. The same technology that allows voice to 911 location accuracy will soon provide text-to-911 location accuracy. In fact, TruePosition is aware of two technologies that are currently capable of allowing CMRS providers to send Phase-II-quality location information to PSAPs. First, existing network-based U-TDOA location capabilities can be used to locate a device by the transmission of an SMS receive acknowledgement of either the response SMS from the PSAP or a "silent" SMS sent to the device as a location tool. In addition, "User Plane" approaches would require a wireless data connection through CMRS, which would either be subscribed to or enabled by the user, or the device would access an un-related Wi-Fi service at the time of the emergency.

In addition to the technology available to CMRS providers, OTT providers should soon be able to provide an Enhanced Location to PSAPs with a limited amount of technological development. In accordance with currently available standards for commercial location-based services, an Interconnected Text provider that identifies a message as addressed to 911 could collaborate with the serving CMRS provider and use coarse location to determine the subscriber's location with Phase II accuracy, allowing the provider to meet the same standards proposed for handset-based location accuracy.[29] Indeed, just like a mobile voice user, the text message to 911

[29] *See* Wireless E911 Location Accuracy Requirements, *Third Further Notice of Proposed Rulemaking*, PS Docket No. 07-114, 29 FCC Rcd. 2374 (2014).

would be processed by the Short Message Service Center, and then sent to the Text Control Center ("TCC"). It would use coarse location from the Location Server to send the location to the correct PSAP.

Although the FCC has identified coarse location technology as the most efficient technology for text-to-911 available now, TruePosition has stated in the past that the best contender for a location accuracy solution for text-to-911 would be Mobile-Terminated Location Request ("MTLR"). MTLR "wakes up" an idle mobile phone just long enough to allow the phone to interact with the network so that a U-TDOA location can be provided. For this technology to work properly, either the TCC or the PSAP will need a mechanism to request the location produced by the Gateway Mobile Location Center ("GMLC"). GMLC is a platform in the wireless network that manages location requests and delivery. Although software developments are required to make MLTR work for OTT text-to-911, the technology will soon be available.

As TruePosition has previously stated, just as the first step toward providing accurate voice locations from indoors was the FCC's indoor E911 location accuracy proposal, the same is true for text-to-911 location accuracy. Wireless service providers have no commercial incentives to deploy enhanced location technology without regulatory initiatives. In accordance with Phase II location standards, CMRS text messaging service providers should be required to locate an emergency text message within 50 meters for 67 percent of calls and 250 meters for 90 percent of calls. By implementing these standards sooner than later, the FCC will leave little room for service providers to delay the adoption of critical, public safety oriented technology.

VI. CONCLUSION

Bringing text-to-911 capabilities and accurate location information to the public is a critical public safety concern, particularly for those who are deaf and hard of hearing or have speech-

related disabilities. TruePosition supports the FCC's effort to ensure that all people have access to critical text-to-911 services in time of distress. Through the deployment of currently available technologies, Enhanced Location information for text-to-911 should be attainable in the next two years.

At the same time, the FCC should maintain a neutral stance in identifying technology that can effectively deliver text-to-911 services and location. By allowing industry stakeholders and the public safety community to collaborate in developing a solution, there will be flexibility in deploying the best technology to suit each CMRS and OTT text messaging service.

TruePosition stands ready to work with every CMRS and OTT messaging service provider to develop an Enhance Location service that will meet their text-to-911needs. TruePosition supports the FCC's long-term goal of adopting standards that will ultimately afford the same location accuracy for text messaging to 911 as the FCC has proposed for voice-based 911 emergency calls.

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on this 16th day of October, 2014, a true and correct copy of the foregoing

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