

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

<i>In the Matter of</i>)	
Wireless E911 Location Accuracy Requirements)	PS Docket No. 07-114
)	
E911 Requirements for IP-Enabled Service Providers)	WC Docket No. 05-196
)	

REPLY COMMENTS OF TRUEPOSITION, INC.

True Position, Inc., submits these Reply Comments to the Commission’s *Further Notice of Proposed Rulemaking and Notice of Inquiry* addressing wireless location accuracy requirements.¹ TruePosition is a leading provider of wireless location solutions and technology. Its Uplink Time Difference of Arrival (“U-TDOA”) system is the principal network based location technology deployed in the United States.

The comments present a path to improve significantly location accuracy information via a hybrid Network/A-GPS model. Combining these technologies’ strengths and updating the testing protocol to include indoor environments will enhance citizen reliance on credible wireless location capability. Meaningful improvements are possible now and will mean greater speed, precision and reliability to emergency response. TruePosition urges the Commission to act expeditiously.

The comments recap the record addressing location accuracy technologies. Two technologies, Uplink-Time-Difference of Arrival (U-TDOA) and Assisted Global Positioning System (A-GPS) are prominent. Network and handset based technologies each have particular

¹ In the Matter of Wireless E911 Location Accuracy Requirements, PS Docket No. 07-114 and E911 Requirements for IP-Enabled Service Providers, WC Docket No. 05-196, *Further Notice of Proposed Rulemaking and Notice of Inquiry*, FCC 10-177 (September 23, 2010).

merits.² U-TDOA provides accurate location estimates for calls placed within buildings and calls placed out of doors in urban and suburban locations. It is challenged in rural areas. A-GPS performs well where there is an unobstructed view of satellites and in some indoor areas such as wood frame houses. It does not perform reliably where the view of the sky is significantly obstructed, such as in dense urban areas or in areas inside buildings made of concrete, steel and glass.³

There is general consensus that these prevailing technologies are integrated by major carriers⁴ and that a hybrid A-GPS and Network model can emerge to provide meaningful improvements.⁵ The comments confirm that these technologies are quite complementary: one working well in environments where the other is challenged, and vice-versa. Using these two technologies leverages the strengths of two vibrant solutions while providing meaningful improvements in locating an emergency in a cost efficient way.

Assertions that carriers are transitioning to an all GPS environment are misplaced.⁶ As noted, three nationwide carriers point to the viability of A-GPS and network technology as the source of improvements. The inability of the GPS signal to penetrate several common environments from where calls are made is also well documented. An A-GPS only environment would set back location accuracy. Nor is it correct that network technology U-TDOA encompasses inordinate investment.⁷ Nationwide carrier deployments of U-TDOA indicate otherwise.

² Comments of AT&T at 6.

³ Comments of the Association of Public Safety Communications Officials International (APCO) at 3, Comments of Verizon and Verizon Wireless at 4-5, Comments of Sprint Nextel at 5, Comments of TruePosition at 8-12, *contra*, Comments of T-Mobile at pages 7-12 .

⁴ Comments of Verizon and Verizon Wireless at 2, Comments of AT&T at 7, Comments of Sprint Nextel at 4-5, Comments of Polaris at 2-6, *contra*, Comments of T-Mobile at 7.

⁵ Comments of APCO at 3.

⁶ Comments of T-Mobile at 5, Comments of Alliance for Telecommunications Industry Standards at 4.

⁷ Comments of T-Mobile at 12 .

Pleas that the Commission should not update its testing protocols to reflect modern use should be rejected.⁸ Testing performance in locations from which most calls are made, both indoors and outdoors, is critical to assisting emergency response and improving accuracy. Indoor testing is essential to obtain a reasonable picture of the accuracy information being delivered to the 911 Center. As more citizens rely exclusively on wireless devices, the number of wireless 9-1-1 calls from inside apartments, single-family homes, offices, retail establishments, transportation facilities, and other indoor locations continues to grow dramatically.⁹

There are complexities related to indoor testing. TruePosition believes that a reasonable balance encompassing methodology, logistics and cost can be obtained by a separate indoor protocol.¹⁰ TruePosition's experience is that indoor testing is an integral element of effective carrier deployment and network maintenance. TruePosition has conducted comprehensive testing, including obtaining access, in cooperation with 911 Centers, other emergency response agencies and property owners.

Testing must replicate reality. It must keep pace with consumer expectation and emergency response requirements. Absence of an indoor testing requirement ignores the purpose of the Commission's rules: assisting emergency service in locating an incident in an environment where the citizen has a reasonable expectation of being located.

Recognizing the inherent challenges of indoor location, and consistent with other comments on the topic,¹¹ TruePosition recommends adoption of a separate accuracy standard

⁸ Comments of AT&T at 11, Comments of T-Mobile at 21-23 , Comments of Sprint Nextel at 6-7, Comments of QUALCOMM at 14.

⁹ Comments of APCO at 4. Comments of the National Emergency Number Association (NENA) at 8-9.

¹⁰ Comments of TruePosition at 24-26.

¹¹ Comments of Verizon and Verizon Wireless at 2, 4-5.

for indoor locations consistent with that applicable to Network technologies. This approach eliminates the need to establish, and update, the appropriate mix of indoor and outdoor calls.

With the deployment of a Hybrid approach described in our previous filing,¹² a requirement to meet the Network accuracy standard indoors at the 67th and 90th percentile in PSAPS/ Counties covering at least 90% of the US population is achievable with technologies available today. In most indoor environments, the achievable accuracy will be largely based on the Network-based portion of the Hybrid solution, because A-GPS yield is quite poor in these environments. The requirement to meet these accuracy levels in counties covering 90% of the US population allows for the exclusion of some rural indoor environments, for which no economic technological solution exists today.

While the technology exists today to meet these requirements, implementation and integration efforts require accommodation. Based on TruePosition's deployment experience and the status of carrier hand-set rollout, we think a transition to this indoor standard, including an appropriate testing protocol, can be completed expeditiously; well within the intermediate milestones specified in the current *Order*.¹³

Calls for delay must be rejected. Advocating that the *FNPRM* be studied further by an industry advisory council¹⁴ or that action be pursued only after the 8 year transition of the new County/PSAP metric be completed;¹⁵ must confront reality. The need to improve emergency response and meet citizen expectation now must prevail. The record indicates a clear path to improvements for the Commission to embrace.

¹² Comments of TruePosition at 19-22.

¹³ In the Matter of Wireless E911 Location Accuracy Requirements, *Second Report and Order*, PS Docket No. 07-114, FCC 10-176 (September 23, 2010).

¹⁴ Comments of Verizon and Verizon Wireless at 7, Comments of Sprint Nextel at 3, Comments of AT&T at 5, Comments of CTIA at 1, 4-8, Comments of Telecommunications Industry Association at 3 and 10.

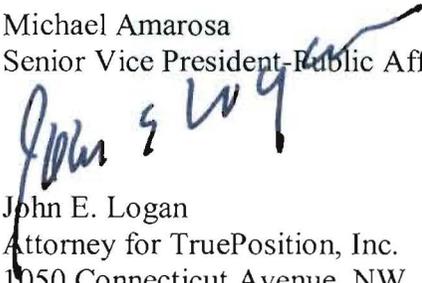
¹⁵ Comments of Alliance for Telecommunications Industry Standards at 3-4.

Location accuracy should align with the advances associated with modern communications and assist the citizen facing an emergency and the public safety agency dispatched to help. TruePosition urges the Commission to act now to make meaningful improvements to emergency response and establish the tenor for the broadband environment.¹⁶ These improvements are inextricably linked to Commission action.

Respectfully submitted,

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¹⁶ Contentions that the LTE location accuracy capability must evolve solely from a consensus-based, standards-driven solution, Comments of Alliance for Telecommunications Industry Standard at 6, belies TruePosition's experience with global specification processes; Commission review and action are critical. Comments of TruePosition at 27-31. Additionally, advocacy that the Commission should adopt an Intellectual Property Right Policy with regard to emergency response technology, Comments of Telecommunications Services, Inc. at 9-12, is outside the scope of this proceeding.