

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of

Wireless E911 Location Accuracy
Requirements

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PS Docket No. 07-114

REPLY COMMENTS OF AT&T

AT&T Services, Inc., on behalf of itself and its affiliates (collectively, “AT&T”), submits these reply comments in response to the Federal Communications Commission’s (“FCC” or “Commission”) *Fourth Further Notice of Proposed Rulemaking* seeking comment on a proposed vertical (“z-axis”) metric of plus or minus three meters relative to the handset.¹

I. INTRODUCTION

AT&T supports the Commission’s goal of improving location accuracy for wireless 911 calls through establishment of a z-axis location metric. While AT&T is in favor of the Commission’s 3-meter standard, challenges remain with technology development and deployment. Currently all known methods for calculating a z-axis estimate involve handset software and there are no network-only solutions. Accordingly, successful implementation of the new metric will depend heavily on the involvement of original equipment manufacturers (“OEMs”) and operating system (“OS”) providers, which will need to develop and incorporate the new z-axis technologies into their handsets. Given this reality, the Commission should

¹ *Wireless E911 Location Accuracy Requirements*, Fourth Further Notice of Proposed Rulemaking, PS Docket No. 07-114, FCC 19-20 (Mar. 18, 2019) (“*FNPRM*”).

consider using an incremental approach for the z-axis metric until the market has identified a scalable solution that can consistently deliver floor level information.

While most public safety commenters supported 3-meters as the appropriate z-axis metric,² some suggested provision of the actual floor number or use of dispatchable location information would be more useful for first responders.³ Given the variances in building structural characteristics and terrain, AT&T continues to believe that imposition of a floor level data requirement is infeasible at this time. Use of dispatchable location information also introduces implementation obstacles. Device-based solutions are emerging that may advance the evolution to dispatchable location and evolve for commercial reasons. While AT&T and other carriers anticipate leveraging these solutions, these technologies are still developing and not available for commercial use. Accordingly, the Commission should proceed with adoption of a metric that is technologically feasible and provides actionable information for first responders.⁴

² Comments of APCO International, PS Docket No. 07-114 (filed May 20, 2019);

³ See, e.g. Comments of the Texas 9-1-1 Entities, PS Docket No. 07-114 at 2-3 (filed May 20, 2019); Comments of the International Association of Fire Chiefs *et al*, PS Docket No. 07-114 at 2-3 (filed May 20, 2019); Comments of the International Association of Fire Fighters, PS Docket No. 07-114 at 3 (filed May 20, 2019).

⁴ Any z-axis metric should require vertical location information to be delivered as Height Above Ellipsoid (“HAE”). Although AT&T initially called for z-axis location information to be delivered as Mean Sea Level, we now agree with commenters that the appropriate metric should be HAE as it more accurately represents the shape of the earth. Comments of AT&T, PS Docket No. 07-114 at 3 (filed May 20, 2019) (“AT&T Comments”). Commenters support delivery of z-axis information as HAE. See, e.g. Comments of NENA, PS Docket No. 07-114 at 2 (filed May 20, 2019) (“NENA Comments”); Comments of NextNav, PS Docket No. 07-114 at 9-10 (filed May 20, 2019) (“NextNav Comments”); Comments of the Alliance for Telecommunications Industry Solutions, PS Docket No. 07-114 at 4 (filed May 20, 2019). This data will help ensure that public safety answering points can convert location information to the format that best suits their needs.

II. THE COMMISSION SHOULD CONSIDER A PHASED-IN APPROACH FOR DELIVERY OF Z-AXIS INFORMATION.

AT&T fully supports public safety and appreciates the need for a 3-meter z-axis metric to aid first responders in determining the appropriate floor for emergency response. But as the current record reflects, solutions meeting the proposed metric are not available, scalable, and ready for action.⁵ Given the open questions about generation of actionable z-axis data, the best way to speed the availability of this data may be through adoption of a phased-in approach. As noted by a commenter, the “perfect should not be the enemy of the good”⁶—provision of z-axis location data meeting a more relaxed standard would still greatly reduce the time needed to search for an emergency caller and may save lives.

To establish z-axis parameters that are both meaningful and achievable, the Commission could use an incremental approach directed toward ultimately achieving floor level reporting. As Google suggests, the Commission could start with a more relaxed metric, “with a timetable for increasingly demanding z-axis call coverage and/or geographic coverage requirements.”⁷ A phased-in approach would also offer the most flexibility for ongoing development of solutions. This incremental approach to compliance will allow the commercial location services market to develop and enable wireless carriers to meet the compliance benchmarks while concurrently addressing public safety’s location accuracy needs.

⁵ Indeed, only one handset manufacturer and OS vendor (Google) submitted comments on the *FNPRM*.

⁶ Comments of the Boulder Regional Emergency Telephone Service Authority, PS Docket No. 07-114 at 1 (filed May 17, 2019) (“BRETSA Comments”).

⁷ Comments of Google LLC, PS Docket No. 07-114 at 9 (filed May 20, 2019).

III. THE RECORD REFLECTS THAT NEITHER PROVISION OF SPECIFIC FLOOR LEVEL NOR DISPATCHABLE LOCATION IS CURRENTLY FEASIBLE.

The record reflects that provision of specific floor level is not currently achievable and dispatchable location requires further development and full implementation. While potentially available in the future, the delivery of actual floor level information to first responders is currently infeasible and should not be required. As NextNav noted, such a requirement “would add even more variables and inconsistency to the indoor location reporting process.”⁸ Building characteristics and terrain vary greatly, even across a single city, and floor numbering is not always applied in a consistent manner.⁹ Indeed, use of current floor level information “may result in the introduction of avoidable errors” and thus delay or impede an emergency response.¹⁰ As commenters noted, first responders are more familiar with the terrain and structures in their jurisdictions and are in the best position to use the z-axis data to identify emergency caller location within a given structure.¹¹ Thus, the Commission should not require delivery of floor level z-axis information at this time.

In parallel with this proceeding, the wireless industry has been leading the development of the National Emergency Address Database (“NEAD”), which will enhance wireless carriers’ ability to provide emergency call centers with dispatchable location for 911 callers. But building the NEAD is proving to be extremely challenging without support and contribution from other

⁸ NextNav Comments at 11.

⁹ *Id.*

¹⁰ NENA Comments at 5-6.

¹¹ *See, e.g.* BRETSA Comments at 8 (“One would not expect the required information to be readily available to wireless providers. Terrain databases may not account for grading that occurred during building construction.”); AT&T Comments at 3.

access point owners.¹² Handset support for the NEAD-based dispatchable location solutions has also been an implementation challenge.¹³ While work on NEAD is on-going, we expect other opportunities for provision of z-axis data to arise using device-based solutions.

The fastest and most geographically efficient way to deploy floor level data may be through a device-based approach such as Google's Android Emergency Location Service¹⁴ or Apple's delivery of Hybridized Emergency Location data.¹⁵ Device-based solutions such as these would also be tied to commercial location-based services and improvements could be delivered as soon as the technology evolves. Deployment of device-based solutions would also be driven by market forces and consumer desires for such services, which may spur innovation.¹⁶ AT&T will continue to support work toward enhancement of 911 location accuracy, using the most technologically feasible and effective approaches. Handset solutions likely will have a role in AT&T's multifaceted approach.

¹² For example, some cable companies have raised concerns about contributing data to the NEAD. *See, e.g.* Notice of *Ex Parte* from Catherine Bohigian, Charter Communications, to Marlene H. Dortch, FCC, PS Docket No. 07-114, GN Docket No. 18-22 (May 24, 2019). *See also* NENA Comments at 22-23.

¹³ *See* Notice of *Ex Parte* from Matthew Gerst, CTIA, to Marlene H. Dortch, FCC, PS Docket No. 07-114 at 2 (May 14, 2019).

¹⁴ Google, Press Release, *Expanding Emergency Location Service in Android to the U.S.*, <https://www.blog.google/products/android/expanding-emergency-location-service-android-us/> (Sept. 19, 2018).

¹⁵ Apple, Press Release, *Apple's iOS 12 Securely and Automatically Shares Emergency Location with 911*, <https://www.apple.com/newsroom/2018/06/apple-ios-12-securely-and-automatically-shares-emergency-location-with-911/> (June 18, 2018).

¹⁶ *See* Comments of T-Mobile, PS Docket No. 07-114 at 8 (filed May 20, 2019) (explaining that device-based technologies will continue to evolve and remain state-of-the-art indefinitely as there are commercial incentives to be market leaders in location technologies).

IV. CONCLUSION

AT&T applauds the Commission's ongoing efforts to improve 911 location accuracy and supports establishment of a 3-meter z-axis location metric. Proven solutions that meet this metric are not currently available, and thus the Commission should consider a phased-in approach for implementation, which will allow market innovation to continue while also providing first responders with actionable information in the near term. In addition, the Commission should not require provision of floor level information, which currently is not feasible, or dispatchable location, which requires further development and implementation. Finally, device-based solutions show promise in advancing the evolution to dispatchable location. AT&T anticipates leveraging these technologies, but additional development is needed.

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