

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

In the Matter of)
)
Wireless E911 Location Accuracy) PS Docket No. 07-114
Requirements)
)

COMMENTS OF MOBILE FUTURE

Mobile Future¹ submits the following comments in response to the Public Safety and Homeland Security Bureau’s Public Notice² seeking comment on the “Roadmap for Improving E911 Location Accuracy” (“Roadmap”)³ filed by the Association of Public-Safety Communications Officials (“APCO”), the National Emergency Number Association (“NENA”), and AT&T, Sprint, T-Mobile and Verizon. Improving the accuracy of 911 location information is a goal shared by all consumers, the Commission, the wireless industry, and the public safety community. To help achieve that goal, the Roadmap leverages wireless innovation and billions of dollars in existing and planned investments in location based service solutions. The

¹ Mobile Future is an association of cutting-edge technology and communications companies and a diverse group of non-profit organizations, working to support an environment which encourages investment and innovation in the dynamic wireless sector.

² *Public Safety and Homeland Security Bureau Seeks Comment on Indoor Location Accuracy “Roadmap”*, Public Notice, DA 14-1680 (rel. Nov. 20, 2014).

³ Letter from John Wright, APCO International, Charles W. McKee, Sprint, Joan Marsh, AT&T Services, Inc., Kathleen O’Brien Ham, T-Mobile USA, Christy Williams, NENA-The 9-1-1 Association, Kathleen Grillo, Verizon, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket No. 07-114 (filed Nov. 18, 2014) (Roadmap Cover Letter), Attachment A, “Roadmap for Improving E911 Location Accuracy” (“Roadmap”).

Commission’s location accuracy rules should enable first responders to reach individuals in need – but those rules also must reflect the constantly evolving state of technology. The Roadmap puts the public safety community and industry on a path to fulfill both of these objectives. Therefore, the Commission should adopt the Roadmap in lieu of its previously proposed indoor accuracy requirements.⁴

I. The Roadmap Is Consistent with Core Commission Goals

A. All Stakeholders Recognize the Importance of Indoor Location Information

All stakeholders share the Commission’s goal of ensuring that PSAPs “have the ability to accurately identify the location of wireless 911 callers regardless of whether the caller is located indoors or outdoors.”⁵ The delivery of more accurate indoor location information to public safety in emergency situations can help save lives because it affects the ability of first responders to reach the scene. And future technologies developed under the Roadmap will be able to communicate accurate location information to dispatchers when persons in need of assistance can’t provide their location.

To that end, the wireless industry has been proactively working to develop new, more accurate location technologies. Wireless carriers have explored the use of multi-constellation (GNSS) and Observed Time Difference of Arrival (“OTDOA”) technologies to improve indoor

⁴ *Wireless E911 Location Accuracy Requirements*, Third Further Notice of Proposed Rulemaking, 29 FCC Rcd 2374 (2014) (“NPRM”).

⁵ NPRM ¶ 1.

location accuracy.⁶ The wireless industry also has actively participated in the Commission's Communications Security, Reliability, and Interoperability Council's ("CSRIC") 9-1-1 location accuracy efforts, including participation in test beds designed to evaluate location technologies.⁷

The Roadmap is yet another step toward improving location accuracy and will lead to the implementation of new technologies that will improve public safety for all, including individuals with disabilities. As various associations representing the hard of hearing community have noted, "improved location identification technology has the ability to dramatically increase the effectiveness of 9-1-1 for individuals with disabilities, including those who are deaf or hard of hearing."⁸ The wireless industry commits in the Roadmap to significant investment in and testing of technologies that will improve indoor location accuracy as described below.⁹

⁶ See Comments of CTIA-The Wireless Association, PS Docket No. 07-114, at 2 (dated May 12, 2014); Comments of Verizon and Verizon Wireless, PS Docket No. 07-114, at 6 (dated Sept. 25, 2013); Letter from Nneka Chiazor, Verizon, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket No. 07-114, at 1 (filed Dec. 19, 2013); Letter from Joseph Marx, Assistant Vice President, AT&T Services, Inc. to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket No. 07-114, at 6 (filed Jan. 31, 2014); Comments of T-Mobile USA, Inc., PS Docket No. 07-114 at 33 (filed Sept. 25, 2013); *accord* Comments of T-Mobile USA, Inc., PS Docket No. 07-114, at 9 (dated Jan. 19, 2011).

⁷ AT&T, Sprint Nextel Corporation, T-Mobile USA, Inc., and Verizon, are participating in CSRIC IV and/or participated in CSRIC III. See Communications Security, Reliability & Interoperability Council Members (As of December 2, 2014), *available at* http://transition.fcc.gov/bureaus/pshs/advisory/csr4/CSRIC_Membership_120214.pdf (members of CSRIC IV); Communications Security, Reliability & Interoperability Council Members (As of Jan. 31, 2013), <http://transition.fcc.gov/bureaus/pshs/advisory/csr3/List%20of%20CSRIC%20Members.pdf> (members of CSRIC III). See also CSRIC III, Working Group 3, Indoor Location Test Bed Report at 8 (Mar. 14, 2013), *available at* http://transition.fcc.gov/bureaus/pshs/advisory/csr3/CSRIC_III_WG3_Report_March_%202013_ILTestBedReport.pdf.

⁸ Comments of Telecommunications for the Deaf and Hard of Hearing, Inc., et al., PS Docket No. 07-114, at 1 (dated May 12, 2014).

⁹ See *infra* Section II.

B. The Ultimate Objective for Indoor Accuracy Is a Dispatchable Address and the Roadmap Works Toward that Goal

In the most recent NPRM, the Commission acknowledged that “[t]he proposed requirements for horizontal location within 50 meters and z-axis information within 3 meters could still result in building misidentification, and are insufficiently granular to provide room or apartment-level location.”¹⁰ The Commission thus recognized that public safety “would be best served through the delivery of a dispatchable address.”¹¹

The record supports the Commission’s conclusion regarding the importance of a dispatchable address.¹² According to APCO, the “ultimate goal” for indoor accuracy “must be the provision of a ‘dispatchable address.’”¹³ This conclusion was echoed both by others in the public safety community and by wireless carriers.¹⁴

The Roadmap establishes a clear path toward the delivery of a dispatchable address to PSAPs in the event of 911 calls placed indoors from wireless devices. It describes carrier

¹⁰ *Id.*

¹¹ NPRM ¶ 117. A “dispatchable address” is “is the civic address of the calling party plus additional information such as floor, suite, apartment or similar information that may be needed to adequately identify the location of the calling party.” Roadmap at 1.

¹² *See, e.g.*, Comments of the APCO, PS Docket No. 07-114, at 3 (dated May 12, 2014); Reply Comments of AT&T Services, Inc., PS Docket No. 07-114, at 1-2 (dated July 14, 2014) (“The goal should be to facilitate the delivery of a dispatchable address that is on par with the MSAG address provided by wireline POTS today.”) (“AT&T Reply Comments”); Comments of National Association of State EMS Officials, et al., PS Docket No. 07-114, at 3 (dated May 12, 2014) (“there is no substitute for an actual address”); Comments of Texas 9-1-1 Entities, PS Docket No. 07-114, at 2 (dated May 12, 2014) (naming a validated dispatchable address displayed to the call-taker at the PSAP as the “gold standard”); Letter from Nneka Chiazor, Verizon, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket No. 07-114, at 1 (filed Nov. 10, 2014) (“dispatchable address solutions should be the principal focus of industry and public safety”) (“Verizon Letter”).

¹³ APCO Comments at 3.

¹⁴ *See, e.g.*, AT&T Reply Comments at 1-2 (dated July 14, 2014); National Association of State EMS Officials Comments at 3; Texas 9-1-1 Entities Comments at 2; Verizon Letter at 1.

commitments to (i) establish a test bed,¹⁵ (ii) standardized processes for the determination and delivery of of dispatchable location information,¹⁶ (iii) improve both horizontal and vertical location accuracy,¹⁷ and (iv) assess progress via reported metrics.¹⁸ These tangible steps will improve 911 connectivity for all wireless users. The Roadmap leverages commercial technology, allowing both the public safety community and consumers to benefit from the latest innovations.

C. The Commission Has Emphasized the Importance of Consensus Agreements, Such as the Roadmap, as Compared to Regulation

The Roadmap has only recently become part of the public record and Mobile Future commends the Commission for seeking comment so that organizations have a chance to examine its context and evaluate the differences between the proposed rules and the more granular approach set forth in the Roadmap – the provision of an actionable, dispatchable address that will help consumers.

Previous statements by the Commission have placed great value on consensus agreements. Chairman Wheeler has spoken of the “regulatory see-saw” and a preference for relying on multi-stakeholder solutions in lieu of regulations. According to the Chairman, “[i]f

¹⁵ Roadmap at 3.

¹⁶ *Id.* at 4-6.

¹⁷ *Id.* at 7.

¹⁸ *Id.* at 8-9, 11-12.

industry and the 911 community can craft consensus-based solutions that address [911] issues, the FCC need only ensure regulatory clarity and uniform application to all providers.”¹⁹

Consistent with this approach, the NPRM explicitly “invit[ed] relevant stakeholders – including public safety and industry – to propose a consensus approach” to improve the accuracy of location information for 911 calls placed indoors.²⁰ The Roadmap is just such an approach. The Roadmap brings together the wireless industry and two of the largest and most respected public safety organizations, APCO and NENA, and proposes demonstrable *and* enforceable commitments. The Commission should adopt the Roadmap approach, and should only move forward with regulations if the Roadmap proves ineffective.²¹

II. The Roadmap Provides a Vehicle to Cure Problems Identified in the Record Regarding Indoor Accuracy Requirements

The Roadmap provides a path forward to overcome the challenges associated with rules that mandate more accurate 911 indoor location information without any consideration of the state of existing and impeding technological developments. The record demonstrates that no technology currently exists that can satisfy the rules proposed in the NPRM.²² Current testing

¹⁹ Statement of Chairman Tom Wheeler, *Facilitating the Deployment of Text-to-911 and Other Next Generation 911 Applications; Framework for Next Generation 911 Deployment*, Policy Statement and Second Further Notice of Proposed Rulemaking, 29 FCC Rcd 1547, 1589 (2014).

²⁰ NPRM ¶ 26.

²¹ Statement of Chairman Tom Wheeler, *Improving 911 Reliability; Reliability and Continuity of Communications Networks, Including Broadband Technologies*, Report and Order, 28 FCC Rcd 17476, 17551 (2013) (stating that “if voluntary solutions don’t work, we must be willing to pivot rapidly to a regulatory response”). In this regard, there is no evidence that the Roadmap will be ineffective. All major stakeholders support the proposal and concerns about its effectiveness are rooted in a lack of familiarity with the approach. As the Roadmap gets implemented, these concerns should dissipate.

²² See Reply Comments of Verizon and Verizon Wireless, PS Docket 07-144, at 5-11 (dated July 14, 2014) (reviewing the ongoing development and current challenges of location technologies suggested by

approaches also do not always stimulate real-world conditions.²³ For example, current testing sometimes requires manufacturers to use prototype devices.²⁴ Results from the limited testing done do not support a conclusion that the Commission's proposed accuracy requirements are achievable in all scenarios.

The Roadmap provides a means to address this defect. It provides a vehicle for testing and improving indoor location accuracy through the creation of a test bed that better reflects how all different types of Americans – using different devices – call for help. The Roadmap also requires carriers to collect and report data to APCO and NENA so that all parties can assess the effectiveness of various location technologies.²⁵ Importantly, the reporting is based on live calls. This is truly revolutionary since previous location accuracy compliance was evaluated via test calls. Real world reporting based on live calls will better identify trends in improvements in location accuracy.

TruePostion, NextNav, and Polaris) (“Verizon Reply Comments”). *See also* AT&T Reply Comments at 3-4 (noting the aspirational claims, rather than evidence, presented by location service vendors).

²³ Verizon Reply Comments at 5.

²⁴ AT&T Reply Comments at 3.

²⁵ Roadmap at 8.

III. Conclusion

For the reasons set forth above, the Commission should adopt the Roadmap; it is the most efficient way to bring improved 911 indoor location accuracy to benefit all Americans.

Respectfully submitted,

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