

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

In the Matter of
Wireless E911 Location Accuracy
Requirements

PS Docket No. 07-114

REPLY COMMENTS OF AT&T

AT&T Services, Inc. (AT&T), on behalf of its affiliated companies, files these reply comments in response to the Commission’s Public Notice regarding the “Roadmap” agreement between APCO International (APCO), the National Emergency Number Association (NENA), Sprint, T-Mobile USA, Verizon Wireless and AT&T.^{1 2}

INTRODUCTION

In the Third FNPRM, the Commission articulated three key objectives through its proposed new indoor wireless location-accuracy rules:

*(1) make indoor location as widely available as technically and economically feasible, tracking recent improvements in location technology; (2) help CMRS providers, public safety entities, and the Commission to monitor performance and compliance; and (3) adopt rules that are technology-neutral, cost-efficient, and easy to understand and administer.*³

¹ Public Notice, PS Docket No. 07-114, DA-1680 (Bur. Rel. Nov. 20, 2014)(PN). Any initial reference to comments filed in this docket in response to this PN will be abbreviated to “Comments of [party] at [x].” Any initial reference to comments or documents filed in this docket (but not in response to this PN) or another docket will include a complete citation.

² In these comments, AT&T will describe aspects of the Roadmap generally as a way of helping readers understand the agreement. Nevertheless, AT&T’s comments are not intended to enlarge or diminish or otherwise alter the terms of that agreement. The Roadmap is the best evidence of the parties’ intent to the agreement.

³ Wireless E911 Location Accuracy Requirements, PS Docket No. 07-114, *Third Further Notice of Proposed Rulemaking*, FCC 14-13 (rel. Feb. 21, 2014) (Third FNPRM) at ¶39.

The Commission proposed some draft rules designed to address these goals, requiring carriers to meet objectives that, as CSRIC testing showed, were not technically achievable.⁴ In an effort to advance location accuracy, APCO International (APCO), the National Emergency Number Association (NENA), and the four nationwide wireless providers (AT&T Mobility, Sprint, T-Mobile USA, and Verizon Wireless—collectively “Carrier Signatories”) worked together to develop a “roadmap” agreement that provides a technically feasible path to increase location accuracy--especially indoor location accuracy—for E911 calls. Under the terms of the Roadmap, the four nationwide carriers are obligated not only to meet the Commission’s proposed 50-meter location-accuracy standard, but also to deliver to PSAPs a dispatchable address—the Commission’s stated ultimate goal for wireless location accuracy.⁵ The Roadmap, which is the result of tough negotiations between APCO and NENA, on the one hand, and the Carrier Signatories, on the other, represents the best way of providing PSAPs and first responders real-time, actionable location information for wireless E911 calls, both indoors and out.⁶

The Roadmap is widely supported by those who filed substantive comments in this docket.⁷ Those who oppose the roadmap generally fall into three groups: vendors of proposed location accuracy solutions (who typically oppose a “dispatchable address” approach because it would

⁴ The Commission proposal is: “CMRS providers would be required to provide horizontal location (x- and y-axis) information within 50 meters of the caller for 67 percent of 911 calls placed from indoor environments within two years of the effective date of adoption of rules, and for 80 percent of indoor calls within five years. CMRS providers would be required to provide vertical location (z-axis) information within 3 meters of the caller for 67 percent of indoor 911 calls within three years of the adoption of rules, and for 80 percent of calls within five years.” Third FNPRM at ¶ 3. See 47 C.F.R. § 20.18(h). But, see, e.g. *CSRIC III, Working Group 3, E9-1-1 Location Accuracy, “Indoor Location Test Bed Report,”* at 54-55 (March 14, 2013) (Test Bed Report).”

⁵ See Third FNPRM at ¶ 50.

⁶ It should be noted that AT&T is not working only on the location accuracy improvements discussed in the Roadmap. AT&T is also deploying AGNSS solutions on our UMTS network and will offer several handsets that support GLONASS. Although the Roadmap is geared to LTE, AT&T is implementing location accuracy improvements for our UMTS network as well.

⁷ See, e.g., Comments of Texas 9-1-1 Entities, Comments of the National Association of State 9-1-1 Administrators, Comments of Qualcomm, Comments of Cisco Systems, Comments of TeleCommunications Systems, Inc., Comments of Intrado, Comments of the Competitive Carrier Association, Comments of the In Location Alliance, et. al.

not require the use of their proposed solution)⁸, well-intentioned members of the public and the public safety community who ask the FCC to order improvements in indoor location accuracy within two years, more rapidly than the Roadmap (or any technically feasible solution) could provide⁹, and a group represented by Public Knowledge who believe that the dispatchable address solution in the Roadmap might threaten privacy.¹⁰

1. The Roadmap Objectives are Technically and Economically Feasible.

The heart of the Roadmap is the proposal to develop the National Emergency Address Database (NEAD) for the purpose of providing PSAPs with the gold-standard of location accuracy: dispatchable location.¹¹ The Commission has stated that “[w]e agree with commenters who assert that public safety would be best served through the delivery of a dispatchable address,” but viewed this as only a long term goal.¹² The signatories to the Roadmap are committed not only to provide dispatchable address, but to do it on a deadline.¹³ And it will be accomplished using proven technologies: Wi-Fi access points and Bluetooth Low

⁸ Comments of TruePosition, Comments of NextNav, Comments of Polaris.

⁹ See, e.g., Comments of Telecommunications for the Deaf and Hard of Hearing, Comments of International Association of Fire Chiefs, Comments of the National Association of Regulatory Utilities Commissioners, et. al. AT&T agrees with these commenters that improvements in indoor location accuracy are of critical importance and should be accomplished as soon as possible, but the record indicates that the Roadmap offers not only the most improvement in accuracy—a dispatchable address—but would accomplish improvements as quickly as (or more quickly than) any other approach that has been discussed. It would be irresponsible to merely decree that improvements must be deployed within two years without considering first whether complying with such a decree is possible. When one considers only the alternatives that are technically feasible, getting more improvement faster, which is what the Roadmap promises, is clearly the right path to take.

¹⁰ Comments of Public Knowledge, et. al., at 2-12.

¹¹ In the Roadmap, “dispatchable location” is defined as “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 4. This is the same level of wireless indoor location-accuracy information described by the Commission when writing of “dispatchable address.” See Third FNPRM at ¶ 50.

¹² See Third FNPRM at ¶ 50 (The Commission’s “long-term indoor location objective, which is the delivery of ‘dispatchable address’ information, including the caller’s building address, floor level, and suite/room number.”); at ¶ 117 (“We agree with commenters who assert that public safety would be best served through the delivery of a dispatchable address.”); at ¶ 140 (“We seek comment on how Bluetooth or Wi-Fi-enabled locks, thermostats, smoke detectors, lighted exit signs, security systems and other residential ‘smart building’ technologies could be registered with dispatchable address information and, if so, how it could be achieved.”).

¹³ See Roadmap at pp 4-6, 8.

Energy beacons together with a central database to provide automatic location information to PSAPs.¹⁴

There are a number of very brief comments from individuals and interest groups that point out that being able to locate a 911 caller is critically important, that more and more indoor 911 calls are made from wireless phones, observe that E911 wireless location accuracy data on indoor calls typically is less accurate information than the Master Street Address Guide (MSAG) validated address data provided with wireline indoor calls. AT&T agrees with all of these points. Many of these commenters, however, go on to conclude, without any discussion of the technical information in this record, that the FCC should simply impose requirements along the lines of its original proposal—to improve x and y location to 50 meters for 67 percent of all indoor calls in 2 years, and vertical information (“z axis”) within 3 meters to 67 percent of all indoor calls within three years, for example.

The rub is, despite the frequency by which the contrary has been repeated by a troubling number of commenters, the record evidence compiled by the FCC’s CSRIC does not indicate that those objectives are technically achievable within the timeframes the FCC proposed¹⁵, and they would still fall short of providing a dispatchable address. So while we agree with these commenters on the importance of indoor E911 location accuracy, we think that if they review the record carefully—and it is likely not reasonable to expect every concerned citizen who might want to advocate for E911 location accuracy to have digested the entire record of these proceedings--they would conclude, as APCO and NENA have, that the FCC’s proposed rules are an illusory choice, and that Roadmap offers a better way to improve location accuracy, one that *is* achievable.

¹⁴ See Roadmap at pp. 5-6, Comments of AT&T at 2; Comments of CTIA at 10.

¹⁵ Comments of Motorola Mobility at 2; Qualcomm at 5-6; AT&T at 6. As Commissioner Pai noted in his Separate Statement to the Third FNPRM, “Carriers cannot begin to deploy a technology solution that does not yet exist. And the public should not be led to rely on a promise that cannot be kept.”

Another group of Roadmap opponents are vendors who remain hopeful that the Commission will adopt rules obligating network providers, PSAPs, first responders, and ultimately the public, to rely on their unproven location technologies, rather than pursue a dispatchable address solution. For example, both NextNav and TruePosition call for the FCC to adopt an “x, y and z axis” solution in the 2-year timeframe the Commission originally proposed.¹⁶ Aside from the fact that the “x, y and z” technology they describe would ultimately be an inferior solution to dispatchable address, neither provider is likely to be able to deliver such a solution. First, they would have to prove that their solution works. All solutions tested by the CSRIC failed to achieve the same accuracy threshold later proposed by the FCC. Indeed, CSRIC indicated that “even the best location technologies tested have not proven the ability to consistently identify the specific building and floor, which represents the required performance to meet Public Safety’s expressed needs.”¹⁷ And, TruePosition, in stark contrast to their current bravado, opted out of CSRIC testing altogether.¹⁸ Even if their technologies were ultimately proven, however, neither could likely deploy the required network nodes within two years. Any vendor assertions to the contrary are virtually meaningless given that none of these vendors are subject to the FCC’s rules, and none could be bound by anything other than mere contractual terms.¹⁹ In addition, it would likely take at least one to two years to develop and manufacture handsets to support their proposed technology once the technology was standardized. But even if they could somehow

¹⁶ NextNav at 37; True Position at 2.

¹⁷ Test Bed Report at 54-55.

¹⁸ It should be noted that AT&T currently uses TruePosition’s U-TDOA solution, and this TP network has difficulty locating outdoor callers within *300 meters*. It is difficult to imagine how they would ever deliver on their promise to locate indoor callers within 50 meters.

¹⁹ Importantly, the FCC must reconcile the stark difference in approach that it has taken in this proceeding with the policy considerations underlying their pending 911 Governance and Accountability NPRM (FCC 14-186), where the FCC is signaling its intent to hold 911 service providers vicariously liable for the shortcomings of the third party vendors that it has chosen to perform various critical 911 functions. In this proceeding, the adoption of the FCC’s proposed accuracy requirements effectively would compel all wireless carriers to deploy the location technologies of a single vendor, despite the record evidence indicating that this vendor has yet to achieve the requisite level of accuracy in independently-administered testing. If the FCC adopts a vertical accuracy requirement largely in reliance on the claims of vendors in this docket regarding the capabilities of their proposed solutions, the Commission should first require any such vendor to post a bond or issue a letter of credit, and the vendor should be held directly liable by the FCC for any compliance failures that result. To hold carriers liable for the compliance failures of a vendor they were effectively compelled by the FCC to engage would be plainly unjust.

accomplish all of this, it would be wholly unrealistic to expect more than 300 million wireless users (or even 67% of them) to run out immediately to get new handsets with barometric pressure sensors and any other modifications that would be required to interoperate with these unproven solutions.

2. The Roadmap Plan Would Improve Location Accuracy Without Sacrificing Privacy.

A number of public interest groups, led by Public Knowledge, have expressed the concern that the dispatchable address approach proposed in the Roadmap would threaten consumer privacy. First, it should be noted that the dispatchable address solution is basically analogous to how 911 location has always been performed on the PSTN. When a caller dials 911 from inside a building with an address, a database is queried to provide the street address, including apartment number or floor, of the location associated with the device supporting the call. In the case of traditional POTS service, this information is contained in the ALI database, which includes the addresses associated with the lines connected to the real property. In the case of the NEAD, the database would include the addresses of Wi-Fi access points or Bluetooth beacons associated with the real property. In both cases, the consumer's device would interact with this address-identifiable equipment, and the address would be sent to the PSAP.

The NEAD database would be limited to access for 911 purposes and only during the processing of live 911 calls. This is part and parcel of the Roadmap agreement. Moreover, the security of the database is of the utmost importance, and it will be deployed and maintained in a secure manner. In addition, nothing in the Roadmap would change the nature of commercial location based services, nor would the presence of additional beacons for 911 purposes override privacy settings associated with commercial location based services. In short, the Roadmap would not increase any risks to consumer privacy, but it certainly would improve the accuracy of indoor location data provided to PSAPs.

3. The Roadmap Includes Near Term Improvements.

While it is true that the Roadmap is forward looking and prospective in nature, there are many Near Term improvements included in the Roadmap. First, all new VoLTE handsets include the Observed Time Difference of Arrival Capability (OTDOA), which should start yielding improvements in location accuracy once VoLTE is widely deployed. AT&T has already started deployments of VoLTE and is in the process of optimizing OTDOA in the markets where it is deployed. In addition, while the Roadmap commitment is for all VoLTE handsets to include multiple AGNSS satellite constellations²⁰, many existing 3G and 4G handsets already include both GPS and GLONASS and AT&T has started testing and deployment of the additional AGNSS capability on our 3G Network. We expect the combination of both of these capabilities to begin to show improvement of Location Accuracy in the coming year as greater number of devices are in the hands of our subscribers.

²⁰ In the first deployments, the handsets will include both the US Navstar Constellation (commonly referred to as GPS) as well as the Russian GLONASS constellation.

CONCLUSION

AT&T agrees that it is critical to improve the accuracy of E911 location information, particularly for indoor calls. The delivery of dispatchable address information to PSAPs should be the Commission's objective, and the Roadmap points the way.

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December 24, 2014