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

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

COMMENTS OF APCO INTERNATIONAL

I. INTRODUCTION

The Association of Public-Safety Communications Officials, International (APCO)[1] submits these comments in response to the Federal Communications Commission's (FCC or Commission) *Sixth Further Notice of Proposed Rulemaking* in the above-referenced proceeding.[2] APCO is grateful to the Commission for initiating this proceeding to examine ways in which we can strengthen wireless 9-1-1 location accuracy. While much has been done over the last decade to improve location accuracy – through the collective hard work of many – we welcome the opportunity to do more. Lives depend on a swift and accurate emergency response. Our nation's 9-1-1 callers, public safety telecommunicators, and first responders deserve the best possible, immediately actionable location information, leveraging all available and technically feasible means.

[1] Founded in 1935, APCO is the nation's oldest and largest organization of public safety communications professionals. APCO is a non-profit association with over 35,000 members, primarily consisting of state and local government employees who manage and operate public safety communications systems – including 9-1-1 Emergency Communications Centers (ECCs), emergency operations centers, radio networks, and information technology – for law enforcement, fire, emergency medical, and other public safety agencies.

[2] Wireless E911 Location Accuracy Requirements, *Sixth Further Notice of Proposed Rulemaking*, PS Docket No. 17-114, FCC 25-22, at para. 2 (March 28, 2025) (*Sixth Further Notice*).

II. DISCUSSION

A. Promoting the Delivery of Dispatchable 9-1-1 Location Information

APCO agrees with the Commission that our nation's Emergency Communications Centers (ECCs) require actionable location information for 9-1-1 calls. The most actionable information for first responders is "dispatchable location," i.e., the caller's street address together with in-building identification of the caller's office, apartment, or room number. As the Commission recognizes, the provision of dispatchable location is "public safety's preferred solution."[3] But it has been over ten years since the Commission embarked "on a path to providing emergency responders with a 'dispatchable location,'"[4] and as Chairman Carr observes in his separate statement in this proceeding, "there are still too many instances when first responders are not getting the actionable location information they need in emergency situations."

APCO supports the Commission's inquiry into "mechanisms to increase the number of wireless 911 calls that convey dispatchable location."[5] There are several ways in which the Commission can promote the delivery of dispatchable location information. APCO urges increased transparency around the provision of dispatchable location information, and the development of voluntary and achievable milestones based upon incremental – but steady – improvement. One approach would be to consider revisiting the existing 911 call report requirements. Presently, pursuant to section 9.10(i)(3)(ii) of the Commission's rules, Commercial Mobile Radio Service

[3] *Sixth Further Notice* at para 2.

[4] *See* Wireless E911 Location Accuracy Requirements, PS Docket No. 07-114, Fourth Report and Order, 30 FCC Rcd 1259, Statement of Commissioner Ajit Pai ("I am . . . glad that the framework we're putting in place puts us on a path to providing emergency responders with a 'dispatchable location'—that's the room, office, or suite number where the 911 caller is located. Public safety organizations have described this as the 'gold standard' for indoor location accuracy because it tells first responders exactly which door they need to knock on, or in some cases, kick in during an emergency.")

[5] *Sixth Further Notice* at paras 3, 12, and 102.

(CMRS) providers are required to file periodic reports of their aggregate live 911 call location data for each location technology used within four geographic morphologies and six representative cities.[6] These reports are shared with APCO, the National Emergency Number Association, and the National Association of State 911 Administrators in addition to the Commission.[7] While APCO believes that it remains important to continue to track the delivery of location information through periodic reporting, APCO suggests that stakeholders work together to consider whether these filing requirements might benefit from amendments to reflect evolving information needs.

One way to update these filings, for example, would be to use them as a means for CMRS providers to voluntarily establish and commit to clear milestones – based on their individual circumstances and capabilities – that increase the granularity and accuracy of 9-1-1 location information over time. Through these voluntary commitments, CMRS providers can establish realistic, achievable milestones to incrementally – but meaningfully – improve location accuracy. CMRS providers could periodically report their progress towards these milestones, including the type of location technologies used and any testing conducted to verify the accuracy of these technologies. Such reports would promote transparency and allow CMRS providers to clearly demonstrate their avowed commitment to public safety – supported by concrete data showing measurable progress in delivering 9-1-1 calls with improved accuracy – to the Commission, public safety officials, and the public.[8] Further, these reports would make clear what technical

[6] 47 CFR § 9.10(i)(3)(ii)(B)-(E).

[7] *Id.*

[8] *See* CTIA Reply to Oppositions, PS Docket No. 07-114, at 2 (filed Nov. 13, 2020) (stating that "CTIA and the nationwide wireless providers remain committed to pursuing solutions that offer dispatchable location information").

solutions are available and technically feasible for the purpose of delivering more granular location information, which would benefit those seeking additional 9-1-1 location information solutions.

Another approach the Commission can take to increase the provision of dispatchable location information is to ask all communications stakeholders – including those whose services or offerings are made possible through Commission regulatory oversight and processes (such as the Commission's equipment authorization and interference protection processes, or unlicensed spectrum authorizations, etc.) – to share in the overarching responsibility of promoting public safety. While CMRS providers who originate 9-1-1 calls should continue to bear primary responsibility for delivering 9-1-1 location information to ECCs, modern communications networks increasingly rely upon an interdependent web of systems, technologies, and applications offered by myriad service providers, manufacturers, and vendors. Often these non-CMRS providers gather and process data from multiple known location sources, such as Wi-Fi access points, cell tower locations, sensors and prominent landmarks, which can be aggregated to improve 9-1-1 location accuracy. APCO encourages the Commission to initiate a rulemaking to consider whether, and if so, how non-CMRS providers and device manufacturers can share available data with CMRS providers for the purpose of delivering 9-1-1 location information.

B. Vertical Location Should Be Provided in an Actionable Format

While APCO's aim is for the provision of dispatchable information with every 9-1-1 call, APCO recognizes this degree of specificity may not be available in every circumstance. To this end, APCO encourages the delivery of floor-level information wherever possible. APCO also supports the Commission's proposal to require vertical location expressed in "height above ground level" or AGL.[9] Currently, CMRS providers are required to provide vertical information expressed

[9] *See Sixth Further Notice* at paras 12, 16-23.

as "height above ellipsoid" or HAE. Receiving vertical location information in this way, however, can render it unusable for ECCs that do not have the resources to purchase and implement necessary conversion software. Many ECCs in the country do not have the resources to operationalize a raw vertical estimate in terms of HAE, nor should they be expected to do so.[10] Kelle Hall, an experienced public safety official with 40 years of experience in emergency communications and over 10 years of experience as Communications Manager for the Department of Public Safety for Highland Park, Texas, states it plainly: "Height above ellipsoid is not a working height for us." When APCO asked Kelle Hall if she can use the vertical information provided to her in HAE format, her response was clear and to the point: "NO." While Karl Fasold, Executive Director of Orleans Parish Communication District, told APCO they attempted to use vertical location expressed in HAE, it was only feasible because New Orleans has generally flat terrain, with much of the city at sea level. To use information expressed in HAE, however, their public safety telecommunicators relied upon sticky notes placed on their monitors reminding them to add a certain number of meters to the HAE value. Many of the sticky notes fell off as monitors were moved or replaced. Our nation's ECCs should not have to depend upon conversions or work-arounds – such as a system of sticky notes that likely will not be there when they are needed – but should receive actionable data from the start. Requiring vertical information to be expressed in AGL, rather than HAE, is a step in the right direction.

Importantly, as we progress forward in this process towards more actionable location information, APCO urges the Commission not to shift the burden of identifying a 9-1-1 caller's location onto ECCs. ECCs today feel increasingly obliged to contract with third-party vendors to interpret and supplement the location data they receive from CMRS providers to arrive at

[10] *See* APCO Notice of *Ex Parte*, PS Docket No.07-114, at 2 (filed November 19, 2019).

actionable 9-1-1 caller location information and best serve their constituents during emergencies. Public safety telecommunicators at these ECCs must monitor multiple screens, evaluating data coming in through their Computer-Aided Dispatch (CAD) system as well as tracking separate information flows from third-party data sources. This introduces delay and the potential for error. Some might argue that because certain ECCs have contracted with third-party vendors to obtain more precise information, ECCs should bear this responsibility going forward. But the fact that these ECCs have created workarounds to compensate for data they are not receiving from CMRS providers should not relieve CMRS providers from their obligation to deliver actionable location information in the first place. Further, while some ECCs may have resources to engage in these workarounds, many others do not. Access to actionable 9-1-1 location data should not depend on whether a particular ECC has sufficient resources and expertise to contract with third-party vendors. Every ECC deserves to have actionable 9-1-1 location information — and every 9-1-1 caller's life could depend on it.

C. Promoting the Delivery of "Best Available" 9-1-1 Location Information Through Any and All Technically Feasible Means

CMRS providers should have the flexibility – as well as the responsibility – to offer ECCs the best possible location information available, reflecting the full capabilities of today's communications marketplace. To this end, CMRS providers should leverage all available sources to deliver dispatchable location information – or as close to dispatchable location information as possible.[11] APCO agrees with CTIA that the Commission should pursue a technology-neutral approach and allow CMRS providers to gather data and provide dispatchable

[11] *See* APCO International *Ex Parte*, PS Docket No. 07-114, at 3 (filed Nov. 4, 2019) (stating that "[t]he Commission's rules should incentivize carriers to leverage any available resources to provide the best possible location information to 9-1-1" and "should not treat dispatchable location and z-axis technologies as mutually exclusive").

location "through any available and technically feasible means."[12] CMRS providers should validate the use of these available technologies in the 9-1-1 Location Technologies Indoor Test Bed ("Test Bed") and, provided they satisfy the Commission's location accuracy requirements, these technologies should be considered acceptable for purposes of complying with the Commission's location accuracy requirements. Incumbent in this approach is the need to work collaboratively with device manufacturers, app developers, and other vendors to obtain the best available location information. Doing so is consistent with the current trajectory, where the vast majority of location fixes are derived from device-based hybrid technology.[13]

The Commission should consider whether any amendments to its rules would be necessary to allow CMRS providers flexibility to provide the best location information available, even if it is a combination of civic address and z-axis information (in AGL). Currently, the Commission's rules present CMRS providers with a binary choice: if a CMRS provider cannot offer dispatchable location information, it must default to offering the 9-1-1 caller's x, y, and z coordinates. Yet there may be circumstances where the CMRS provider can offer better information than position coordinates but not fully dispatchable location. APCO therefore encourages the Commission to grant CMRS providers with the flexibility to share the best available aggregated location information they have, such as offering street address coupled with z-axis data rather than reverting solely to x, y, and z coordinates. While APCO's goal remains dispatchable location information, we recognize this is not always possible given current technological and other interpretive limitations. Accordingly, APCO believes it would promote

[12] *See* CTIA Comments, PS Docket No. 07-114, at 11-12 (filed February 21, 2020).

[13] As the Commission states, "According to live 911 call data reports submitted by CMRS providers, DBH technology has replaced assisted GPS (A-GPS) as the primary wireless 911 location technology and is used by CMRS providers for approximately 80% of wireless 911 calls." *See Sixth Further Notice* at para. 13.

public safety to allow evolving, interim solutions that provide the best actionable location information available. Our priority is that ECCs receive current and sufficient location information to allow them to provide emergency response to 9-1-1 callers swiftly and accurately, working with the technology we have available today, while we continue to work together towards longer-term, incremental improvements.

D. TEST BED

APCO has been part of the Test Bed process since its inception and remains committed to supporting its ongoing efforts to ensure ECCs receive operational 9-1-1 location information. The Test Bed is more important now than ever, given the emergence of new technologies and the ongoing need to validate and ensure the accuracy of existing solutions. Testing should continue in the Test Bed to ensure that accurate x, y, and z axis information is fully vetted for operational purposes.

In this regard, APCO believes that a closer look at the provision of horizontal location information is warranted. Through our ongoing outreach to ECC leaders across the country, APCO has learned that numerous 9-1-1 calls arrive at an ECC with only Phase I location information, forcing public safety telecommunicators to lose critical time refreshing their systems in search of Phase II fixes rather than dispatching help immediately. ECCs also express concern with the level of confidence and uncertainty associated with the 9-1-1 location information they receive. ECCs note there can be significant variance between automatic 9-1-1 location data and the location reported by the 9-1-1 caller directly. As a result, public safety telecommunicators must expend critical time – when every second counts – making best guesses about where to dispatch emergency serves. These issues can arise even in geographic areas where cellular coverage is robust, suggesting these issues are not necessarily due to gaps in wireless coverage.

Given the number of technical solutions currently available or emerging on the market today, APCO believes further examination of these kinds of 9-1-1 location issues in the Test Bed could yield beneficial insights. APCO welcomes the opportunity to work together with industry and public safety partners, through the existing Test Bed process, to help improve horizontal (as well as vertical) location accuracy.

Finally, APCO commends those vendors of location information technologies that have participated in the Test Bed process over the years. APCO encourages these vendors to continue to participate in the Test Bed process to validate existing capabilities as they improve or change over time. APCO also encourages those vendors who have not yet participated to do so, such that we might all benefit from technological advancements and innovation. The Test Bed should be a shared venue and resource for all location information providers to assess their technology as we progress towards the delivery of dispatchable location information.

III. CONCLUSION

APCO strongly supports the Commission's efforts to improve the accuracy of 9-1-1 location information and is grateful to the Commission for its continued commitment to promoting public safety. APCO stands ready to work collaboratively with the Commission and

all stakeholders to advance meaningful 9-1-1 location accuracy improvements that fully leverage existing technologies and take advantage of future innovations.

Respectfully submitted,

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June 6, 2025