



Leaders in Public Safety Communications®

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Re: Notice of *Ex Parte*, PS Docket No. 07-114

The undersigned write to report on a telephone conversation held on November 15 between Jeff Cohen and Travis Litman, Chief of Staff to Commissioner Rosenworcel. Mr. Cohen began by reiterating that APCO's fundamental issue with the draft z-axis Order is that the Commission can and should do better in imposing requirements on wireless carriers to improve public safety.

Mr. Cohen then discussed a November 14 *ex parte* letter from NextNav, LLC.¹ NextNav attempted to minimize APCO's concern that the draft z-axis Order will not provide meaningful improvements to 9-1-1 location accuracy. Below, APCO rebuts NextNav's statements with the intent of continuing to encourage the Commission to resolve the problems with the draft Order.

NextNav attempts to discount the advocacy of 9-1-1 professionals from major metropolitan areas who have asked the Commission to require wireless carriers to include a floor level with the vertical information provided with 9-1-1 calls, stating that "Very few of these professionals, however, work in a major metropolitan area, most hailing from suburban or rural communities where vertical location information is less important."²

- 9-1-1 directors have filed from New York City, DC, New Orleans, Tarrant County (which includes Fort Worth, TX), the Denver metro area, the Seattle metro area, Bay County (which includes Panama City, FL), Richmond, VA, Raleigh, NC, and several other areas. The expert opinions of these professionals, as well as 9-1-1 directors from outside the nation's largest metropolitan areas, should be given the greatest

¹ See Letter from Bruce A. Olcott, NextNav LLC, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket 07-114 (Nov. 14, 2019) ("NextNav Letter").

² *Id.* at 1.

deference about what's needed for 9-1-1. They have pointed out that even the largest departments in the country do not have the resources to operationalize a raw vertical estimate in terms of HAE by creating and maintaining indoor maps for the buildings in their jurisdictions, nor should they be expected to do so. They have also cautioned the Commission against assuming that first responders in the field will have devices capable of matching altitude measurements to those received from 9-1-1 callers. The Commission's own neglect to take the views of 9-1-1 professionals into account would reveal a troubling failure to develop 9-1-1 location accuracy requirements that ensure the wireless carriers solve a 9-1-1 problem.

NextNav disagrees with APCO's concern that the draft Order fails to ensure that the degree of accuracy defined by the z-axis metric will translate to real-world performance. NextNav points out that the Commission's rules already require carriers to validate technology through the test bed process and that the draft Order would require carriers to provide confidence and uncertainty (C/U) data for z-axis information.³

- APCO has pointed out several reasons that the metric will not translate to real-world performance, none of which are addressed by the test bed or C/U requirements.⁴ Fundamentally, the Commission's rules do not explicitly require carriers to provide z-axis information for a specific percentage of 9-1-1 calls. Carriers would arguably be able to comply with the vertical accuracy requirements by deploying z-axis technology consistent with the z-axis metric, which could simply mean becoming NextNav's customers, but without actually ensuring z-axis information is delivered to ECCs.

NextNav disagrees with APCO's concern that device OEMs and OS providers might not allow changes to devices that are necessary for achieving the location accuracy demonstrated by NextNav and Polaris in the test bed. NextNav argues that modifying the Commission's proposed definition of a z-axis capable handset to indicate that it must be able to both generate and report z-axis information to PSAPs is sufficient.⁵

- NextNav is wrong. This change to the definition of z-axis capable handsets does not ensure that the performance demonstrated in the test bed will translate to real-world performance. Device OEMs and OS providers could prevent third parties like NextNav and Polaris from achieving real-world performance that is consistent with performance in the test bed, and nonetheless carriers would arguably still be able to comply with the Commission's rules. Further, modifying the definition of z-axis capable handsets in this way would actually make matters worse because the z-axis requirements would apply to fewer handsets and therefore protect fewer consumers.⁶

NextNav continues to argue that no technologies exist that could produce an estimated floor label.⁷

³ *Id.* pp. 1-2.

⁴ See Letter from Jeffrey S. Cohen, Chief Counsel, APCO International, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket 07-114, pp. 2-3 (Oct. 25, 2019) (noting, among other things, that the accuracy standard set by the proposed z-axis metric does not take into account additional error injected by having responders attempt to match an altitude measurement, it's unclear how the Commission's rules will be enforced, and carriers are not required to ensure there are real-world improvements to location accuracy).

⁵ NextNav Letter at 2.

⁶ APCO continues to have concerns with how the Commission's z-axis requirements will be enforced, particularly with regard to which handsets are covered and how carriers will certify compliance when relying upon a z-axis technology that is not usable by all the "z-axis capable" handsets in use by their customers.

⁷ NextNav Letter pp. 2-3.

- Like the draft Order, NextNav seems to be inappropriately framing the issue of whether providing z-axis information with a floor label is technically feasible. There's a difference between being able to convert a z-axis elevation to a floor label – which requires resources that do not exist – and being able to provide z-axis information that includes a floor label – which is possible today. The z-axis metric is about vertical location information that serves as an alternative to dispatchable location for identifying the floor level of the caller. The Commission should, therefore, establish a z-axis metric that requires carriers to provide a floor level.

NextNav disagrees with APCO's concern that adoption of a 3 meter metric would effectively mandate that wireless carriers employ the technologies of one of the two vendors that have been demonstrated to be compliant with this requirement and that such action would fail to incentivize the continued development of other technologies. NextNav suggests that additional technologies will be available after being tested in the test bed and that the Commission's draft FNPRM sufficiently addresses these issues.⁸

- The draft Order takes 9-1-1 down the wrong path. As Google recently pointed out, revising the nature of the z-axis metric by allowing provision of a floor label rather than a measurement of HAE “would promote technological neutrality, acknowledging that no single technology is currently appropriate for designation by government as the preferred long-term solution, and that further private sector research is encouraged.”⁹ Further, we cannot rely upon the FNPRM to resolve immediate or long-term concerns with the z-axis metric, given that the timing and outcome of the proceeding are uncertain.

NextNav concedes that the draft Order would leave public safety worse off than the Commission's original 2014 proposal but argues that “the only constructive approach is to immediately adopt the 3 meter metric proposal that is currently supported by the record and seek improvements going forward.”¹⁰

- APCO preferred an alternative to the 2014 proposal for many of the same reasons that the draft Order is unacceptable. The z-axis metric adopted by the Commission will determine whether the rules result in actionable location information for 9-1-1. Many of APCO's concerns with operationalizing z-axis information would be addressed if, at a minimum, the Commission's Order requires that an estimated floor level be included as part of the z-axis information provided to ECCs and ensures that the accuracy requirements defined in the metric translate to real-world performance.

NextNav disagrees with APCO's position that the Commission's 9-1-1 location accuracy rules should be focused on solving a 9-1-1 problem, not a responder location problem. NextNav argues that the Commission has a statutory obligation to protect the lives of emergency first responders.¹¹

- The Commission's 9-1-1 location accuracy requirements should be driven by what's best for 9-1-1.

NextNav attempts to dismiss APCO's concern that the test bed results might not be representative of real-world conditions by pointing out that CTIA and AT&T have offered tentative support for a 3 meter metric.¹²

⁸ *Id.* at 3.

⁹ Letter from Megan Anne Stull, Counsel to Google LLC, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket 07-114, at 3 (Nov. 8, 2019).

¹⁰ NextNav Letter at 4.

¹¹ *Id.* at 4.

¹² *Id.* at 5.

- CTIA and the carriers have not retracted the concerns with scalability and real-world performance articulated in the CTIA z-axis test bed report. Moreover, CTIA has cautioned the Commission that the carriers are unsure whether the proposed 3 meter metric will be achievable by 2021.¹³

The Commission can and should do better. The information being provided pursuant to the z-axis requirements should be substantially more actionable than the uncompensated barometric pressure data that carriers have been required to provide since 2018. Carriers were required to provide uncompensated barometric pressure data with 9-1-1 calls based on the expectation that, prior to receiving better location information that would subsequently be defined by a z-axis metric, responders would at least be able to use their own devices to match uncompensated barometric pressure measurements from 9-1-1 callers.¹⁴ The Commission has an opportunity to adopt a z-axis metric that sets a reasonable path for providing what's needed for public safety professionals and the public they serve. Requiring z-axis information to include an estimated floor is an essential, achievable step that aligns with the bigger-picture changes to the rules that are needed for getting carriers back on track to providing meaningful improvements to 9-1-1 location accuracy.

Pursuant to Section 1.1206 of the Commission's rules, this letter is being filed electronically with your office.

Respectfully submitted,

APCO INTERNATIONAL

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¹³ See Letter from Matthew Gerst, Vice President of Regulatory Affairs, CTIA, to Marlene H. Dortch, Secretary, Federal Communications Commission, PS Docket No. 07-114, pp. 1-2 (Nov. 5, 2019).

¹⁴ See Wireless E911 Location Accuracy Requirements, Fourth Report and Order, 30 FCC Rcd 1259 (2015), para. 115.