

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Location-Based Routing) PS Docket No. 18-64
For Wireless 911 Calls)

COMMENTS OF APCO INTERNATIONAL

The Association of Public-Safety Communications Officials-International, Inc. (APCO)¹ submits the following comments in response to the Commission’s Notice of Inquiry in the above-captioned proceeding.² The Commission seeks comment on how to prevent the misrouting of wireless 9-1-1 calls, and thus possibly decrease emergency response times, through the implementation of location-based routing solutions.³

Misrouting 9-1-1 calls can be detrimental to public safety, introducing delays to emergency response and the potential for information to be lost through the call transfer. APCO appreciates the Commission’s attention to the prospect of location-based routing to address this problem. The related CSRIC V Report provided a helpful overview of several options for location-based routing and the considerations involved, and this NOI should help to construct a more detailed record.

Here, APCO addresses the relationship between misrouting of 9-1-1 calls and the lack of interoperability in 9-1-1 systems, the need to thoroughly evaluate technologies used for 9-1-1

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 30,000 members, primarily consisting of state and local government employees who manage and operate public safety communications systems – including 9-1-1 Public Safety Answering Points (PSAPs), dispatch centers, emergency operations centers, radio networks, and information technology – for law enforcement, fire, emergency medical, and other public safety agencies.

² In the Matter of Location-Based Routing For Wireless 911 Calls, PS Docket No. 18-64, *Notice of Inquiry*, FCC 18-32 (rel. Mar. 23, 2018) (“NOI”).

³ *Id.* at para. 3.

routing and location, and additional considerations to approaches offering location-based routing opportunities.

I. The Impacts of Misrouted 9-1-1 Calls Can Be Significant and Are Exacerbated by the Lack of Interoperability

The Commission seeks comment on the number of wireless 9-1-1 calls that are misrouted yearly and its impact on public safety.⁴ APCO would welcome additional data but anticipates that precisely quantifying the scope of the problem will be difficult. PSAPs may have different policies and capabilities for transferring as well as tracking misrouted calls. Additionally, the dynamic nature of wireless networks can mean that even two 9-1-1 calls made from the same location could route to different PSAPs because one call might route based off of the nearest tower while the other call might connect through a different tower or cell sector that has been set up to route to a different PSAP based on pre-established boundaries. The frequency of misroutes likely varies greatly across PSAPs. Likewise, the severity of the impact of a misroute can vary significantly by call and by PSAP. Most PSAPs have protocols in place to handle misrouted calls and transfer them as expeditiously as possible. However, the delays in response can mean the difference between life and death.

The problems created by misrouted 9-1-1 calls are made worse by the fact that – despite the sophistication of modern communications technology – even basic call transfers (regardless of the reason to transfer a call) are not necessarily possible. There are still instances where PSAPs have to manually call each other to convey the information about an emergency. This holds true both for misroutes and for other incidents that would benefit from seamless voice and data sharing between PSAPs, such as calls for mutual aid. Even when PSAPs are able to transfer the voice portion of a 9-1-1 call, they often cannot include basic ANI and ALI, let alone data

⁴ *Id.* at para. 17.

contained in the computer-aided dispatch (CAD) system. Put simply, PSAPs lack seamless interoperability, even at this very basic level.⁵

Unfortunately, early-adopter deployments of NG9-1-1 components such as ESInets have shown that the introduction of IP-based technology alone is not solving the interoperability problem. Policymakers, industry partners, and 9-1-1 authorities must recognize and work to resolve this problem. Adherence to open, non-proprietary standards will facilitate seamless interoperability and help PSAPs address a host of operational issues, including misroutes. Thus, working from a shared vision of seamless interoperability for NG9-1-1 is essential.⁶

II. New Technologies Must be Closely Evaluated for Accuracy, Reliability, and Security

The Commission seeks comment on the CSRIC Report's recommendations about several location-based routing solutions.⁷ APCO generally supports the Report's recommendations. In particular, APCO agrees with the recommendations that the Commission should take steps to ensure that any location estimates considered for routing 9-1-1 calls are accurate, and support the independent testing and analysis of new location technologies that promise significantly increased accuracy and speed. PSAPs are all too often approached by companies promising solutions, without feasible methods to verify the claims or hold the providers accountable.⁸ The

⁵ With seamless interoperability, PSAPs will be able to receive emergency calls and related data from the public, then process and share the emergency calls and related data with other PSAPs and responders in the field, regardless of jurisdiction, device, software, or service provider, etc., and without costly after-the-fact integrations or specialized interfaces.

⁶ APCO supports an approach to NG9-1-1 that dispenses with proprietary and fragmented approaches and instead employs modern, cost-effective, and flexible technological solutions based upon the open architecture and interoperable nature of available IP-based, broadband technologies. Much like the wireless industry has achieved interoperability across devices, networks, etc., NG9-1-1 must achieve seamless interoperability regardless of jurisdictional boundaries and what equipment vendor or network provider the PSAP chooses.

⁷ NOI at para. 16.

⁸ As a related issue, APCO, CTIA, and NENA recently filed a joint letter regarding smartphone applications and supplemental data solutions for 9-1-1. *See* Ex Parte Letter of APCO, CTIA, and NENA, RM-11780, PS Docket No. 07-114 (filed Apr. 4, 2018) (concerning the need for reasonable notice of tests or trials impacting live 9-1-1 calls and disclosure of testing methodology). Some solutions require unsecured (or not yet proven to be secure) connections outside of the 9-1-1 network, including over the open Internet. Public safety telecommunicators may have to monitor additional screens for separate proprietary systems or software, which is the exact opposite direction

Commission should exercise the full extent of its authority to ensure that any entity involved in creating, routing, delivering, or otherwise processing 9-1-1 calls is held to the highest standard of accountability.

APCO and others have been involved with efforts to test and analyze technology pursuant to the Commission's 2015 Order on wireless 9-1-1 location accuracy that may offer useful lessons to improve call routing. For example, the National Emergency Address Database (NEAD), which is intended to enable wireless service providers to deliver a dispatchable location for 9-1-1 calls, will be tested in an independent test bed.

Relatedly, the Commission asks whether the NEAD will be capable of being leveraged to obtain a caller's location for the purpose of routing a 9-1-1 call.⁹ APCO would urge caution on prematurely considering the use of the NEAD for routing purposes. While the NEAD holds great promise for achieving a dispatchable location solution for wireless 9-1-1 calls, particularly inside buildings, it remains in development. At this point, efforts concerning the NEAD should therefore remain focused on its intended purpose.

III. Location-Based Routing Implicates a Host of Broader Issues

For some 9-1-1 calls, technology may exist today that would permit routing based on a relatively accurate location, and quickly enough to avoid delaying the delivery of the call. Yet there are a host of additional issues that should be considered. The Commission is right to inquire about how routing capabilities might differ for legacy and NG9-1-1 operations.¹⁰ It is important to avoid assumptions about network architectures and standards that define NG9-1-1.¹¹

we need to take for modernizing 9-1-1. There are also unaddressed security and privacy concerns about what these solution providers do with the 9-1-1 call data they obtain.

⁹ NOI at para. 27.

¹⁰ *Id.* at para. 33.

¹¹ For example, the NOI states that "in a NG911 system, PSAPs control the network, databases, and policies that determine how to route a 911 call to the appropriate PSAP." Para. 32. PSAPs may take different approaches to the

Any improvement along the path to full implementation of NG9-1-1 should be based upon a flexible, neutral approach that keeps pace with improvements to location and routing technology.

Finally, the Commission asks what role, if any, it should play in the creation or implementation of standards or practices for location-based routing.¹² Standards are best handled by industry standards bodies. As a general matter, the introduction of new technology and architectural approaches will make it increasingly difficult for 9-1-1 authorities and service providers to be clear on their respective responsibilities for allocating costs.¹³ Accordingly, the Commission can provide much-needed support by continuing to offer clarification and ensuring that PSAPs do not bear costs that the Commission's rules would otherwise allocate to service providers.

IV. Conclusion

Improving the routing of 9-1-1 calls is a worthwhile endeavor. APCO looks forward to reviewing the record established in this proceeding and contributing further. In the interim, APCO hopes to work with the Commission to address other challenges impacting the 9-1-1 community.¹⁴

network, databases, and policies that determine how to route a 9-1-1 call, for example by procuring a managed service rather than maintaining their own systems.

¹² *Id.* at para. 35.

¹³ Consider, for example, the Commission's Order allowing wireless carriers to transition to Real-Time Text (RTT) in lieu of TTY. The Commission required wireless service providers to ensure that RTT is backward compatible with TTY technology so that wireless RTT users can place and receive calls to and from the residual base of TTY users, including "legacy" PSAPs. There was confusion about whether requiring carriers to support transcoding gateways to allow TTY users to reach RTT-enabled PSAPs and RTT users to reach legacy PSAPs shifted certain burdens traditionally borne by PSAPs. The Commission rightly clarified that wireless carriers are required to support such gateways to ensure that 9-1-1 calls are delivered to PSAPs via the relevant selective router and, at the same time, support TTY (Baudot) media, Automatic Number Identification (ANI), and Automatic Location Identification (ALI), as these are all elements that carriers have been required to provide when transmitting TTYs under section 20.18 of the rules. In the Matter of Transition from TTY to Real-Time Text Technology, Petition for Rulemaking to Update the Commission's Rules for Access to Support the Transition from TTY to Real-Time Text Technology, and Petition for Waiver of Rules Requiring Support of TTY Technology, CG Docket No. 16-145, GN Docket No. 15-178, *Report and Order and Further Notice of Proposed Rulemaking*, FCC 16-169, para. 46 (rel. Dec. 16, 2016).

¹⁴ For example, there remains a related problem plaguing PSAPs that the Commission can more immediately address: non-emergency and harassing 9-1-1 calls originating from non-service-initialized (NSI) handsets. APCO

Respectfully submitted,

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has advocated that the Commission end the call-forwarding rule and prohibit calls to 9-1-1 from NSI devices, calling on carriers to provide better options for users who remain dependent on NSI devices as their sole means to reach 9-1-1. *See* Ex Parte Letter of APCO, PS Docket No. 08-51 (filed Apr. 15, 2016); Ex Parte Letter of APCO, PS Docket No. 08-51 (filed Mar. 31, 2016); Ex Parte Letter of APCO, PS Docket No. 08-51 (filed Jan. 19, 2016); Reply Comments of APCO, PS Docket No. 08-51 (filed Jul. 6, 2015); Comments of APCO, PS Docket No. 08-51 (filed Jun. 5, 2015); Comments of APCO, PS Docket No. 08-51 (filed May 16, 2013).