

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

In the Matter of

Wireless E911 Location Accuracy
Requirements

PS Docket No. 07-114

**REPLY COMMENTS OF
T-MOBILE USA, INC., RURAL CELLULAR ASSOCIATION AND
THE RURAL TELECOMMUNICATIONS GROUP, INC.**

T-Mobile USA, Inc. (“T-Mobile”), Rural Cellular Association (“RCA”) and the Rural Telecommunications Group, Inc. (“RTG”) hereby reply to comments filed in response to the Commission’s Public Notice of November 6, 2009.¹ The comments confirm that T-Mobile's, RCA's and RTG's recommended approach – to focus on carriers' transition to 3G services through an A-GPS mandate for all 3G handsets manufactured in or imported into the United States as the means to improve accuracy for network-based carriers – is the best path forward. None of the comments demonstrates that there has been any technological development with respect to estimating accurate location in *rural* areas that will avoid the need to implement A-GPS or otherwise require a change out of existing handsets. The two location technology vendors that commented, Polaris Wireless and S5 Wireless, both focused on the potential for their technologies to improve

¹ Public Notice, *Public Safety and Homeland Security Bureau Seeks to Refresh the Record Regarding Service Rules for Wireless Enhanced 911 Phase II Location Accuracy and Reliability*, PS Docket No. 07-114, DA 09-2397 (rel. November 6, 2009).

urban estimates without specifically addressing the feasibility or performance of their technologies in rural areas. Not surprisingly, AT&T remains the only GSM carrier that claims to be able to meet its proposal (and even they say that it cannot be done with existing technologies). Moreover, no commenters refute the need to address the concerns of smaller rural carriers with respect to the existing standards, as well as Verizon Wireless' proposed standards. These aspects of the T-Mobile/RCA/RTG comments should also be adopted.

I. T-Mobile, RCA and RTG's Proposal to Mandate A-GPS 3G Handsets is the Only Technically Feasible Path for Network-Based Carriers.

T-Mobile, RCA and RTG proposed improving E911 location accuracy by imposing a mandate for all 3G handsets manufactured in or imported into the United States after a date certain to be A-GPS-capable, backed up by a requirement that carriers enable their networks to handle and provide to PSAPs GPS-based location data from an A-GPS-capable handset, regardless of whether the network is a 2G or a 3G network.² No other commenters propose a technically feasible path to improve location accuracy in the "hard-to-estimate" rural areas, such as those areas with limited cell site density, "string-of-pearls" cell site configurations and cell sites on the edges of coverage areas.

Advocates of county-level transitional benchmarks fail to grapple with both the basic engineering realities and the arbitrariness of establishing a complex system of exemptions that presumes that all carriers have a similar mix of "hard-to-estimate" and "easy-to-estimate" areas -- when that is clearly not the case.

² Comments of T-Mobile USA, Inc., Rural Cellular Association, and the Rural Telecommunications Group, Inc., PS Docket No. 07-114 at 4, 6-10 (filed November 20, 2009) ("T-Mobile/RCA/RTG Comments").

T-Mobile's, RCA's and RTG's proposal is simple. By requiring that all 3G handsets manufactured in or imported into the United States after a date certain be A-GPS capable, the T-Mobile/RCA/RTG proposal yokes the transition to A-GPS to each carrier's deployment of 3G services – which carriers have an independent business incentive to pursue rapidly (as many are already doing). By mandating that carriers also enable their networks to pass A-GPS location data to PSAPs in the 2G portions of their networks, the proposal ensures that A-GPS location estimates will be sent to PSAPs even in areas in which the network is still 2G but the consumer has an A-GPS 3G-capable handset. This proposal will be easier to enforce than any of the alternative proposals, and it will not require the Commission to establish exemptions for an arbitrary percentage of counties or arbitrarily require one carrier to comply in a particular county because of its mix of "hard-to-estimate" and "easy-to-estimate" counties while exempting another carrier with a different mix. Moreover, the Commission cannot simply decree a county-level accuracy standard: "the bar against arbitrary and capricious decision-making" "ma[kes] necessary" inquiries into the "technical and economic feasibility" of such a standard.³

Notably, not even AT&T argues that its proposal is technically feasible for carriers other than AT&T. In fact, AT&T once again tells the Commission that its proposed benchmarks "cannot be met solely in reliance on technology that is available today."⁴ AT&T says that its proposal "reflect[s] an optimistic assessment of the speed with which carriers will be able to develop and deploy new technologies to achieve that

³ *Nuvio Corp. v. FCC*, 473 F.3d 302, 303 (D.C. Cir. 2006).

⁴ Comments of AT&T Inc., PS Docket No. 07-114, at 2 (filed November 20, 2009) ("AT&T Comments").

goal."⁵ But AT&T nowhere specifies the basis for its "optimistic assessment." Without some basis, AT&T's optimism provides no rational anchor for a set of location accuracy standards and benchmarks, particularly in light of the engineering declarations submitted by T-Mobile cataloging the ways in which a proposal that may be technically feasible for AT&T will not be feasible for other carriers.⁶ AT&T wholly ignores these declarations when it asserts "there have been no subsequent developments that would counsel against the adoption" of its proposals. Yet, lack of affirmative evidence of technical feasibility is an intervening development that the Commission is required by the Administrative Procedure Act to consider.

To the contrary, GCI reinforces that the Commission should have significant doubts about the technical feasibility -- and thus the legal sustainability -- of AT&T's proposal for network-based carriers. GCI graphically highlights the difficulties that smaller carriers face in implementing a county-level accuracy standard, especially when they do not have the same proportion of "easy to estimate" areas to offset the "hard to estimate" areas like AT&T. As GCI points out, "rigid adherence to metrics insensitive to the service characteristics for such [low-density, rural] areas could have the perverse result of stifling deployments to areas most in need of wireless infrastructure investment."⁷

Nor do the comments of S5 Wireless and Polaris Wireless show that the AT&T proposal is technically feasible. Polaris focuses on the potential for its technology to

⁵ *Id.*

⁶ *See* Declaration of John F. Pottle and Ryan N. Jensen, PS Docket No. 07-114, at 6-22 (filed December 8, 2008) ("Pottle/Jensen Declaration").

⁷ Comments of GCI Communications Corp., PS Docket No. 07-114, at 1 (filed November 20, 2009).

increase accuracy in *urban* environments, not the rural areas where network-based carriers face the greatest challenges today.⁸ With respect to “rural and sparse environments,” last December Polaris told the FCC that the AT&T proposal does not “in any substantive manner address the key obstacles and technical feasibility issues faced by rural and regional carriers, and by national carrier T-Mobile USA, Inc.”⁹ Polaris explained, “Essentially all other network-based E911 Phase II carriers using GSM technology are in vastly different situations compared to AT&T, and their deployment scenarios differ dramatically from that reflected in” the AT&T Proposal.¹⁰

S5 promotes the virtues of its technology, but entirely fails to address either its performance or the practicalities of its implementation in rural settings. Indeed, although S5 now opposes the (overly optimistic) benchmarks that T-Mobile and RCA proposed last year that were premised on the time needed to implement A-GPS in subscriber handsets,¹¹ S5 nowhere acknowledges or informs the Commission that it would be necessary for network-based carriers to change out their handset base in order to implement S5's solution -- subjecting the S5 approach to even greater handset change-out delays than A-GPS as A-GPS change-outs have already begun. Nor does S5 mention that last year it promoted its technology as a part of a hybrid solution with A-GPS.¹²

"Hard-to-estimate" areas are an engineering reality that cannot be ignored, or wished away based on unspecified and unidentified promises of technological progress,

⁸ See Comments of Polaris Wireless, Inc., PS Docket No. 07-114, at 2 (filed November 20, 2009).

⁹ Letter of Michele Farquhar and Mark Brennan, Counsel to Polaris Wireless, PS Docket No. 07-114 at 1-2 (filed December 11, 2008).

¹⁰ *Id.* at 4.

¹¹ Comments of S5 Wireless, Inc., PS Docket No. 07-114, at 3-4 (filed November 20, 2009).

¹² *Id.* at 1-2.

for which there is no basis in the record. As Sprint cautioned, "The Commission must carefully consider the adoption of new rules to avoid the 'cart before the horse' scenario where carriers are expected to implement technological solutions that have yet to be invented or made widely available to carriers."¹³ As CTIA states, "it is critical that the Commission engage in a thorough cost-benefit analysis of any newly proposed regulation, and that compliance with any new rules adopted be technically and economically feasible."¹⁴ Indeed, infeasible rules could be counterproductive by forcing carriers to discontinue service in some areas, as T-Mobile has said it may have to do.¹⁵ T-Mobile, RCA and RTG agree with CTIA and TCS that any new rules must be data-driven, including a benefit-cost analysis.¹⁶

The record continues to reflect that migration to A-GPS will be necessary to improve accuracy in "hard-to-estimate" rural areas, even if that technology may eventually be supplemented by other solutions for other environments (as those solutions are proven and standardized). The record shows no technically and economically feasible way to improve location accuracy in these rural areas without migrating to A-GPS and that A-GPS is not likely to be an available solution for 2G GSM handsets. The best and least arbitrary way to improve accuracy in the "hard-to-estimate" rural areas is to require that all 3G handsets manufactured in or imported into the United States after a date certain be A-GPS-capable, and to ensure that carriers enable their entire network

¹³ Comments of Sprint Nextel Corporation, PS Docket No. 07-114, at 4 (filed November 20, 2009).

¹⁴ Comments of CTIA—The Wireless Association, PS Docket No. 07-114, at 3-4 (filed November 20, 2009) ("CTIA Comments"); *See also* Updated Comments of Telecommunication Systems, Inc., PS Docket No. 07-114, at 2 (filed November 20, 2009) ("Comments of Telecommunications Systems, Inc.").

¹⁵ *T-Mobile/RCA/RTG Comments* at 20.

¹⁶ *CTIA Comments* at 3-4; *Comments of Telecommunication Systems, Inc.* at 2.

(including 2G portions) to handle A-GPS position estimates from 3G A-GPS-capable handsets.

II. No Commenter Refutes the Need for Other Small Carrier Relief.

No commenters refute the need for further changes to existing and proposed rules to address the concerns of small carriers. As T-Mobile, RCA and RTG pointed out in their opening comments, for some smaller carriers with limited service areas, existing technologies and network deployments cannot meet the existing accuracy standards, even on a network-wide basis.¹⁷ Unlike larger carriers, small carriers lack sufficient “easier-to-estimate” environments within their network area to offset the “hard-to-estimate” areas.¹⁸ Nor have these smaller carriers had a handset-based A-GPS solution available for 2G.¹⁹ For them, compliance with the existing standards even on a network-wide basis is not technically or economically feasible. The Commission needs to address this engineering reality. Accordingly, the Commission should permit rural carriers who operate 2G GSM networks to operate, notwithstanding their inability to meet the applicable accuracy standards on a network-wide basis, so long as they certified to the PSAPs within their network service area that they have taken all reasonable steps, using existing technology and network sites, to provide location estimates within the FCC’s standards and that it was not technically feasible to provide such estimates.

Similarly, as RCA pointed out in its reply comments last fall -- and as T-Mobile, RCA and RTG reiterated in their opening comments -- the proposed outdoor location accuracy standards by Verizon Wireless and public safety groups are not technically

¹⁷ *T-Mobile/RCA/RTG Comments*, at 18-19.

¹⁸ *Id.* at 19.

¹⁹ *Id.*

feasible and reasonably achievable by the Tier II and Tier III carriers that RCA and RTG represent.²⁰ No proponent of the Verizon Wireless proposal addresses these concerns or T-Mobile/RCA/RTG's proposed solutions. It would be arbitrary and capricious, as well as a violation of the Regulatory Flexibility Act, to fail to address these concerns or to set them aside without a rational basis.

III. Conclusion.

T-Mobile, RCA and RTG applaud the Commission and Bureau for updating the record and taking a fresh look at this proceeding. Carriers are moving to deploy 3G networks and handsets for their own business reasons. GSM carriers are migrating to A-GPS as their E911 location solution as part of their deployment of 3G services. A wider range of A-GPS-capable 3G handsets are now making their way onto the market, although at a more limited pace for smaller carriers. 3G is an engine that can power an orderly transition from network-based E911 solutions to A-GPS.

Rather than continuing to attempt to devise a complex series of compliance benchmarks – all of which are problematic and which the comments confirm continue to be technically infeasible for some set of carriers – the Commission should instead take a much simpler approach to the same end – focusing on ensuring that all 3G handsets manufactured or imported for sale in the U.S. are A-GPS capable. Thus, regardless of how the handset market develops, carriers will migrate to A-GPS capable handsets coincident with their migration to 3G. The Commission could also require carriers to ensure that A-GPS locations can be delivered from an A-GPS-capable handset whether

²⁰ Reply Comments of the Rural Cellular Association, PS Docket No. 07-114, at 2-3 (filed October 14, 2008); Comments of the Rural Telecommunications Group, Inc., PS Docket No. 07-114, at 2 (filed October 14, 2008).

that handset is operating on a 2G or 3G portion of a carrier's network. These two rules would be easier to enforce than all proposed alternatives, would improve location accuracy as fast as carriers sell 3G handsets, and would in no way preclude the development of other location solutions. None of the comments establish any other technically and economically feasible alternative for rural, "hard-to-estimate" areas.

In addition, the Commission should address the specific impact of the existing and proposed rules on small, rural carriers. For some rural 2G carriers, it is technically and economically infeasible to meet the current requirements even on a network-wide basis, due to the lack of A-GPS-capable handsets for 2G, and thus the Commission should permit those carriers lawfully to operate, provided that they have taken all economically reasonable steps to meet such standards. In addition, if Verizon Wireless' proposed standards for handset-based carriers are to be applied to other carriers employing handset-based location accuracy solutions, they must be modified so as to be technically and economically feasible for all carriers, with a reasonable waiver process. The location accuracy standards proposed by Verizon Wireless and public safety groups are simply not technically and economically feasible for RCA's and RTG's Tier II and Tier III member carriers, and may pose problems for other carriers as well.

Respectfully submitted,

/s/

Todd B. Lantor
**LUKAS, NACE, GUTIERREZ & SACHS,
CHARTERED**
8300 Greensboro Drive
Suite 1200
McLean, VA 22102
(703) 584-8678

Counsel to Rural Cellular Association

Caressa D. Bennet
Michael R. Bennet
BENNET & BENNET, PLLC
4350 East West Highway, Suite 201
Bethesda, MD 20814
(202) 371-1500

*Counsel to The Rural Telecommunications
Group, Inc*

John T. Nakahata
WILTSHIRE & GRANNIS, LLP
1200 Eighteenth Street, NW Suite 1200
Washington, DC 20036
(202) 730-1300

Counsel to T-Mobile USA, Inc.

Thomas J. Sugrue
Kathleen O'Brien Ham
Sara F. Leibman
Jim Nixon
T-MOBILE USA, INC.
401 9th Street, NW, Suite 550
Washington, DC 20004
(202) 654-5900

Date: December 4, 2009