

ORIGINAL

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

ORIGINAL
RECEIVED
JUL 2 1999
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Revision of the Commission's Rules)
to Ensure Compatibility with)
Enhanced 911 Emergency Calling Systems)
)
Wireless E911 Phase II Automatic)
Location Identification Requirements)

CC Docket No. 94-102

DA 99-1049

REPLY COMMENTS OF SNAPTRACK, INC.

Paul H. White
Vice President & Corporate Counsel
SnapTrack, Inc.
4040 Moorpark Avenue
San Jose, CA 95117
408.556.0400

Glenn B. Manishin
Christy C. Kunin
Blumenfeld & Cohen—Technology Law Group
1615 M Street, N.W., Suite 700
Washington, D.C. 20036
202.955.6300

Ruth M. Milkman
The Lawler Group
1909 K Street, N.W., Suite 820
Washington, D.C. 20006
202.777.7700

Counsel for SnapTrack, Inc.

Dated: July 2, 1999

No. of Copies rec'd 0710
List ABCDE

SUMMARY

The public interest in rapid deployment of accurate wireless location capability is unquestioned. The only question for the Commission is whether that goal can be best advanced by continuing to permit only a network solution for wireless E911 Automatic Location Information or by allowing carriers to utilize the additional option of a handset-based ALI system.

The clear weight of the comments in the record — including carriers, public safety, vendors and consumers — supports the need for ALI alternatives to the network solutions that are compelled by the “flash cut” nature of the Commission’s current Phase II rules. Yet a relatively small handful of network technology vendors continue to claim, without substantiation, that network solutions are technically superior and that rule changes are inappropriate because ALI-capable handsets are not yet “commercially” available. The reality is that network vendors have failed to document their location accuracy claims and ignore the fact that *no wireless location technology, including all the network approaches, is yet commercially deployed*. More importantly, network proponents base their comparison on the false proposition that under the current Phase II rules, network ALI technologies will be ubiquitously implemented on October 1, 2001. That simply is not the case.

In examining the public interest consequences of guidelines permitting handset solutions, the Commission must remain mindful that the financial, cost recovery and system integration requirements of Phase II mean that ALI capabilities will be phased in over time, regardless of the technology selected by carriers. Moreover, making an option available by means of a rule clarification or modification does not *compel* any carrier, PSAP or wireless consumer to adopt a handset-based ALI approach. Under the standards outlined in the *Public Notice*, the ultimate arbiter of ALI technology choices will be the marketplace. If network proponents are correct

that handset-based technologies cannot be commercially deployed, then handset-based technologies will not be commercially available, any waivers or rule changes will be moot, and network technologies will prevail in the marketplace. Whether or not that scenario (or the opposite) comes to pass, however, should be a decision for competition and not the Commission. Only by clarifying the Phase II rules can the Commission permit competition, rather than regulation, to make these important technology selections.

Of more relevance are the comments of NENA, which is worried that granting the additional option of handset-based ALI solutions will delay implementation of Phase II. While these concerns are plainly heartfelt, they appear to be based on a misunderstanding of the impact of the present rule on actual ALI deployment. The reality is that, even under current Section 20.18(e), there is by no means any assurance that network technologies can be or will be deployed by the October 2001 deadline; indeed, there is considerable evidence that, like Phase I, wireless 911 calls will not be located within 125 meters by October 2001 in many parts of the country.

It is this concern that prompted another major public safety organization, APCO, to endorse the option of handset solutions for wireless ALI. And the virtually uniform support for a rule modification among wireless service providers is a clear indication that carriers believe the choice of handset-based technologies will make the rapid deployment of ALI more feasible.

The Commission should not decide this matter by attempting to determine which ALI technology is “best.” As TruePosition finally conceded at the June 28 Technical Roundtable, there are “areas where every location technology has weaknesses.” Network overlay technologies do not work with CDMA and have not been publicly demonstrated for TDMA wireless systems. Handset solutions fail to cover some individuals in the near term, but network solutions fail to cover wireless callers in rural areas where triangulation is impossible and will not locate

any callers if they are too expensive or difficult to deploy and maintain. Thus, the refutation of the assertion that “all” phones receive the benefits of ALI in a network-based system is the harsh reality that *no* phones receive the benefits of ALI in a system that lacks the network technology itself. Cost recovery is the Achilles’ heel of network-based ALI technologies because its proponents ignore the crucial question of who is going to pay for their systems in order to mount their spurious claims to total coverage and “100%” yield.

In short, if the Commission desires to make its 1997 commitment not to “endorse or mandate any particular ALI technology or approach” into a reality, it must clarify its Phase II rules to accommodate the choice of handset-based ALI systems. And the Commission must do so promptly, because otherwise it will lose any realistic chance of accelerating ALI deployment. Even now, the January 2001 date suggested in the SnapTrack and APCO proposals and the *Public Notice* for initial ALI-equipped handset deployment may be unachievable. The single most important factor delaying commercial production of ALI-enabled handsets and the implementation of handset-based ALI technologies is resolution of the Section 20.18 issues that the Commission first raised in its December 1997 *Reconsideration Order*.

TABLE OF CONTENTS

	<u>Page</u>
SUMMARY	i
INTRODUCTION	1
DISCUSSION	4
I. HANDSET-BASED LOCATION TECHNOLOGIES ARE IN THE PUBLIC INTEREST AND WILL OFFER ACCELERATED, LOWER-COST DEPLOYMENT OF ALI CAPABILITIES THAN NETWORK-BASED ALI APPROACHES.....	4
A. Modifying the Phase II Rules To Permit Handset-Based Technologies Will Accelerate ALI Deployment	6
B. Without Changes To the Commission’s Rules, Phase II ALI Deployment Is Likely To Be Delayed Significantly	8
II. COVERAGE “GAPS” EXIST FOR ALL ALI SOLUTIONS AND SHOULD NOT FORESTALL COMMISSION ACTION TO FOSTER HANDSET ALTERNATIVES	10
III. THE RECORD SUPPORTS REVISIONS OF THE COMMISSION’S RULES FOR ACCURACY COMPLIANCE MEASUREMENT	12
IV. THE COMMISSION MUST DECIDE THIS MATTER PROMPTLY	13
CONCLUSION	14

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

In the Matter of)	
)	
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems)	CC Docket No. 94-102
)	
Wireless E911 Phase II Automatic Location Identification Requirements)	DA 99-1049
)	

To: Chief, Wireless Telecommunications Bureau

REPLY COMMENTS OF SNAPTRACK, INC.

SnapTrack, Inc., by its attorneys, respectfully submits these reply comments in response to the Bureau's *Public Notice*¹ request for "targeted comment" on handset-based technologies for wireless E911 Phase II Automatic Location Identification ("ALI") requirements.

INTRODUCTION

There is no debate over the public interest standard the Commission should apply in considering whether to allow a handset-based system by which wireless carriers can meet the Phase II ALI requirements.² The public interest in rapid deployment of accurate ALI capability is unquestioned. The only question for the Commission, then, is whether that goal can be best advanced by continuing to permit only a network solution or by allowing the additional option of a handset-based ALI system.

The clear weight of the comments in the record — including carriers, public safety, vendors and consumers — supports the need for ALI alternatives to the network solutions that are

¹ Public Notice, DA 99-1049 (rel. June 1, 1999)("Public Notice").

² 47 C.F.R. § 20.18(e).

compelled by the “flash cut” nature of the Commission’s current Phase II rules.³ Yet a relatively small handful of network technology vendors continue to claim, without substantiation, that network solutions are technically superior and that rule changes are inappropriate because ALI-capable handsets are not yet “commercially” available.⁴

The reality is that network vendors have failed to document their location accuracy claims and obscure the fact that *no wireless location technology, including all the network approaches, is yet commercially deployed*. It is misguided to suggest that network technologies are any more “developed” than handset technologies. As the Commission’s June 28 Technical Roundtable established clearly, network technologies have far to go before they can serve anywhere close to all wireless systems (*e.g.*, CDMA), all wireless subscribers (*e.g.*, rural callers) or all wireless calls with decent accuracy (*e.g.*, multipath interference).⁵ More importantly, however, network proponents base their comparison on the false proposition that under the current Phase II rules, network ALI technologies will be ubiquitously deployed on October 1, 2001. That simply is not the case.

In examining the public interest consequences of guidelines permitting handset solutions, the Commission must remain mindful that under whatever technical approach is chosen, the fi-

³ Aerial Comments at 2; AirTouch Comments at 7; ALLTEL Comments at 3; Ameritech Comments at 2,3; APCO Comments at 1; Ericsson Comments at 2; IDC Comments at 24; GTE Comments at 3; Motorola Comments at 3; Nortel Comments at 4; PrimeCo Comments at 1; TechnoCom Comments at 1-2; Sprint PCS Comments at 9; US West Wireless at 4; AT&T Comments at 4. “*If our rules were applied literally, no one, no carrier, no system using a handset-based approach could satisfy our requirements*. Not because we wanted to rule it out, because we wrote the rules in a way without that in mind.” SnapTrack Comments at 2-3 (quoting House Telecommunications Subcommittee testimony of Bureau Chief Thomas Sugrue)(emphasis supplied).

⁴ TruePosition Comments at 2; KSI Comments at 9-12; MetroCom Comments at 2; Omnipoint Comments at 3; Radix Comments at 3-4; US Wireless Comments at 4-6.

⁵ TruePosition’s grandstanding assertion that its system can locate “every” analog and TDMA wireless phone in the country is patently false. TruePosition Comments at 10. TruePosition’s technology is being tested in only two isolated areas (portions of Houston and Pennsylvania/New Jersey) and only works with analog A-block carriers operating at 800 MHz. Even then, as Houston Cellular reported publicly, the TruePosition system provided unacceptably poor performance because “[t]he test currently only locates customers on our analog network while the majority of Houston Cellular’s customers are using digital technology; again leaving us unable to locate the vast

nancial and cost recovery consequences⁶ and system integration requirements of Phase II mean that ALI capabilities will be phased in over time. As SnapTrack explained in its opening comments:

Whether as a result of cost recovery difficulties or technical limitations, it is by now clear that there will not be a simultaneous, nationwide “turn-up” of network-based ALI systems on October 1, 2001. In reality, existing Section 20.18(e) will therefore be implemented with a phase-in, as different wireless systems in different geographic regions are brought “online” over time. Thus, the phased-in approach being considered for handset-based ALI solutions is merely a different form of phase-in to ALI compliance. It is a difference of degree, not of kind, which under both the SnapTrack and APCO proposals would result in a significantly faster start to this compliance phase-in.

SnapTrack Comments at 9-10.

We think that in deciding whether handset-based ALI technologies will be permitted, the Commission should keep in mind that the choice is not binary and that, under any approach and any technology, there may unfortunately still be some calls that are not located. The relevant inquiry is whether allowing handset-based technologies as an alternative provides opportunities for minimizing these circumstances that are not available from network technologies alone. From that perspective — leaving aside the rhetoric of network vendors seeking to protect a regulatory monopoly created when the Phase II rules were first fashioned — the comments provide overwhelming proof that handset-based ALI alternatives are in the public interest because they offer carriers, Public Safety Answering Points (“PSAPs”) and consumers choices for improved ALI performance that are unavailable from all terrestrial, network-based technologies. Handset-based

majority of emergency calls.” Open Letter from Houston Cellular at 1 (May 19, 1999)(attached as Exhibit B to the SnapTrack June 1 ex parte); SnapTrack Comments at 13.

⁶ This may especially be true for network-based technology if, as appears to be the case, the cost of network-based technology will be multiplied by the number of carriers serving a particular area, since each of up to eight carriers will need to deploy the technology throughout their own networks.

solutions offer greater accuracy, greater reliability and greater coverage, at a lower cost to consumers and society as a whole.⁷

Finally, making an option available does not *compel* any carrier, PSAP or wireless consumer to adopt a handset-based ALI approach. Under the standards outlined in the *Public Notice*, the ultimate arbiter of ALI technology choices will be the marketplace. If network proponents are correct that handset-based technologies cannot be commercially deployed, then handset-based technologies will not be commercially available, any waivers or rule clarification will be moot, and network technologies will prevail in the marketplace. Whether or not that scenario (or the opposite) comes to pass, however, should be a decision for competition and not the Commission. Only by reworking Section 20.18 can the Commission permit competition, rather than regulation, to make these important technology selections. Indeed, if they are correct in their dire predictions for handset-based ALI, network proponents have nothing at all to fear from such a modification.

DISCUSSION

I. HANDSET-BASED LOCATION TECHNOLOGIES ARE IN THE PUBLIC INTEREST AND WILL OFFER ACCELERATED, LOWER-COST DEPLOYMENT OF ALI CAPABILITIES THAN NETWORK-BASED ALI APPROACHES

Only a handful of comments opposed Commission action to allow handset solutions.⁸

The makers of network-based ALI technologies would obviously prefer that the Commission not act to do away with the limitations of the current rules, which provide them with an automatic regulatorily-protected marketplace. Of more relevance, however, are the comments of some

⁷ *E.g.*, Ameritech Comments at 5; IDC Comments at 21-22; Motorola Comments at 4; Sprint Comments at 1; WCA Comments at 2.

⁸ KSI Comments at 4; MetroCom Comments at 2; Omnipoint Comments at 3; TruePosition Comments at 17-18.

public safety organizations, principally NENA,⁹ which are worried that granting the additional option of handset-based ALI solutions will delay implementation of Phase II by carriers. NENA believes that “the public safety costs and benefits are fundamentally better addressed if wireless location is deployed no later than 2001, as opposed to deployment many years later.”¹⁰

While these concerns are plainly heartfelt, they appear to be based on a misunderstanding of what a rule modification would accomplish and of the likely impact of the current rule on actual ALI deployment.¹¹ The reality is that, even under current Section 20.18, there is by no means any assurance that network technologies can be or will be deployed by the October 2001 deadline, and much evidence that, like Phase I, wireless 911 calls will not be located within 125 meters by October 2001 in many parts of the country. Conversely, the record is uncontradicted that permitting the handset option can accelerate ALI deployment and provide cost, accuracy and yield alternatives not available from network systems.¹² In the real world of Phase II compliance, NENA’s fears are thus misplaced because they start from assumptions as to network overlay ALI deployment that are unrealistic.¹³

⁹ NENA Comments at 6-7; TX-ACSEC Comments at 4.

¹⁰ NENA Comments at 7.

¹¹ See SnapTrack Comments at 11-13, 15; see ALLTEL Comments at 3 (handset solutions offer the most promise based upon greater accuracy and market demand); APCO Comments at 2-3, 4 (handset solutions provide increased accuracy at a lower cost on a schedule equivalent to network solutions); AT&T Comments at 4; AirTouch Comments at 4; Ericsson Comments at 2; IDC Comments at 21-22; Motorola Comments at 5; Nortel Comments at 4; Sprint PCS Comments at 1; US West Wireless Comments at 2.

¹² SnapTrack Comments at 13; see Sprint Comments at 1 (handset solutions offer increased coverage, greater accuracy and lower cost); ALLTEL Comments at 3 (handset solutions offer greater accuracy); APCO Comments at 2-3, 4; Ameritech Comments at 5; IDC Comments at 21-22; Motorola Comments at 4; WCA Comments at 2.

¹³ In earlier comments in this proceeding, APCO and NENA were both skeptical of a waiver or rule change permitting handset approaches. By May, APCO decided the waiver/rule change option was necessary, likely because it became convinced that network solutions will not be widely available by October 1, 2001. SnapTrack believes the record shows that APCO was right in changing its assumptions.

A. Modifying the Phase II Rules To Permit Handset-Based Technologies Will Accelerate ALI Deployment

Almost every carrier and equipment manufacturer filing in response to the *Public Notice* or participating in the June 28 Technology Roundtable indicated a strong desire to permit handset-based Phase II ALI.¹⁴ GTE, for instance, commented that “permitting carriers to select from a competitive mix of location technologies will ensure the public receives the most effective and accurate system possible . . . in the most expeditious and effective manner.”¹⁵ Even AT&T, soon slated to acquire a significant equity interest in TruePosition, recommended that “[t]o provide consumers with the most reliable and cost effective solution, the Bureau should adopt standards that allow carriers to consider the widest possible range of technological solutions, including a handset-based solution.”¹⁶ While support for a rule modification does not mean that carriers are committed (or required) to deploy handset-based technologies, this virtually uniform carrier support for technologically neutral rules is an indication that carriers believe such a choice will make the deployment of ALI more feasible and more competitive, benefiting both consumers and public safety.

SnapTrack agrees. The record shows that a handset solution, deployed beginning in early 2001 and relying only on expected handset growth and turnover, will locate more people more quickly than any reasonable projection of deployment for network-based systems. AirTouch, for instance, has provided handset turnover statistics showing that 90% of today’s so-called “legacy” handsets will be replaced within five years with ALI-capable phones.¹⁷ Sprint, as a newer car-

¹⁴ Aerial Comments at 2; AirTouch Comments at 7; ALLTEL Comments at 3; Ameritech Comments at 2,3; APCO Comments at 1; Ericsson Comments at 2; IDC Comments at 24; GTE Comments at 3; Motorola Comments at 3; Nortel Comments at 4; PrimeCo Comments at 1; TechnoCom Comments at 1-2; Sprint PCS Comments at 9; US West Wireless at 4; AT&T Comments at 4.

¹⁵ GTE Comments at 8.

¹⁶ AT&T Comments at 4.

¹⁷ AirTouch Comments at 11.

rier, is even more optimistic: “if GPS-capable handsets are introduced in the market by January 2001 . . . most consumers will make new purchase decisions in the ordinary course before January 2004.”¹⁸ As AirTouch explained, “[w]ith regard to industry and internal forecasts, in the case of ALI-capable digital handsets, initial deployment is expected to be particularly rapid, because the next generation of digital handsets to hit the market in the 2001/2002 time frame will offer new advanced service and feature options, including data capabilities, which are expected to be extremely highly desired by consumers.”¹⁹

Equally important, handsets can locate wireless callers well before network approaches because (1) there is no need to “build out” an entire MSA or wireless serving area before ALI capabilities can be turned up, and (2) the SnapTrack and APCO proposals both would require carriers adopting a handset approach to begin deploying ALI-capable handsets well before the current October 2001 deadline. As IDC makes clear, handset solutions require significantly less in terms of structural “build out,” as the handset itself is basically the only necessary component;²⁰ handset-based ALI technologies require only trivial network software modifications for deployment system-wide. “Unlike network-based ALI systems, which once requested by a PSAP are activated at substantial expense on a specific date system-wide, handsets begin providing ALI data the very moment a consumer has an ALI-capable phone.”²¹ The economic consequences of this difference are substantial. As Sprint PCS concluded, “a GPS handset approach

¹⁸ Sprint Comments at 5.

¹⁹ AirTouch Comments at 11. TruePosition’s handset turnover argument — which seems to be based on the absurd premise that subscribers change handsets only when they change carriers— ignores the marketing fact that decreasing size and new features of digital phones are steadily accelerating handset turnover. See TruePosition Comments at 6.

²⁰ IDC Comments at 9. As SiRF noted at the June 28 Technical Roundtable, “infrastructure changes are always longer and more costly than upgrading the handset.”

²¹ SnapTrack Comments at 11-12.

. . . appears to provide, both in the near and longer terms, a superior and more cost-effective solution when compared with network-based alternatives.”²²

B. Without Changes To the Commission’s Rules, Phase II ALI Deployment Is Likely To Be Delayed Significantly

There is little legitimate debate that, without changes in the existing rules, most wireless E911 calls will not have Phase II location information available by October 2001.²³ The history of the Phase I deadline — which has passed with widespread non-compliance due to continued dispute over cost recovery, the lack of requisite PSAP requests, and unsolved wireless/wireline technical issues — illustrates the substantial hurdles facing deployment of any ALI technology. As APCO notes, “[u]nder the current rules, very few wireless users are likely to have Phase II capability by October 1, 2001, the original target date. The reasons for this are many, and include the costs for both PSAPs and wireless carriers, technical problems, local exchange carrier impediments, and the prerequisite that states have cost recovery mechanisms in place.”²⁴ The record in this docket confirms projections that the network-based solutions envisioned by the Commission in adopting Section 20.18 “are so costly and inefficient” that they will likely not be widely (if at all) deployed by the current 2001 deadline.²⁵ Nortel likewise observed at the

²² Sprint PCS Comments at 3. AT&T Wireless also pointed out at the Technical Roundtable that operating and maintaining a network overlay in the real-world environment is a very complicated and costly proposition. As AT&T explained, network systems are “a totally independent radio network overlay,” with no automated maintenance available, thus further increasing operational costs for carriers.

²³ APCO Comments at 2; SnapTrack Comments at 12; AirTouch Comments at 4; BellSouth Comments at 5; CTIA Comments at 3; US West Wireless Comments at 3.

²⁴ APCO Comments at 2. While NENA disagrees with APCO’s recommendation, NENA cannot contend that its PSAP members have a cost recovery mechanism in place and are ready to request carrier ALI implementation in October 2001. Those circumstances, both of which are preconditions to ALI deployment, are not present today.

²⁵ WCA Comments at 2 (record “clearly shows that handset solutions present a more accurate, less expensive means of ALI than the network based solutions”).

Technical Roundtable that system modifications for network-based ALI technologies will likely not be completed by what it termed the “event horizon” of October 2001.²⁶

The moralist posturing of network vendors is transparent and inaccurate. TruePosition and others argue that persons lacking the financial means to upgrade their phones will be denied access to a critical life-saving service.²⁷ They offer no economic or market research for this contention, which is inconsistent with the long-standing market trend of steadily lower (*e.g.*, now just \$1 for analog and less than \$100 for digital) retail handset prices. Network proponents also avoid the implications of their own approach; those municipalities, counties and states that cannot afford to upgrade public safety networks will likewise lack access to this critical life-saving service. Further, once these more expensive upgrades are made, the costs will be passed on to wireless subscribers, and those very customers who network vendors claim could not “afford” handset costs will be faced with higher wireless service bills, with some dropping service.

The difference is far more than a matter of degree. Handset solutions may fail to cover some individuals, but network solutions fail to cover entire license areas.²⁸ Thus, the refutation of the assertion that “all” phones receive the benefits of ALI in a network-based system is the harsh reality that *no* phones receive the benefits of ALI in a system that lacks the network technology itself.²⁹ Cost recovery is the Achilles’ heel of network-based ALI technologies because

²⁶ As Nortel also stated, yield and accuracy can always be improved with enough money, but that is *not* true of network-based technologies for “evolving” wireless networks, as on straight-line cell deployment across highways, where triangulation is not possible. SigmaOne, KSI and others responded that newer network-based approaches can locate wireless calls using just one or two cell sites. As noted in Section II, these technical claims by network vendors have not been corroborated with any public data or submissions in this docket to the Commission.

²⁷ TruePosition at 3; US Wireless Comments at 7; Omnipoint Communications Comments at 3.

²⁸ The implications of the argument become more clear at the scene of an accident. In a network-based environment, it is quite possible that ALI service will be completely inaccessible owing to cost-recovery and other problems. In contrast, a handset option injects into the situation the potential for at least one person at the scene of an accident to be ALI -equipped.

²⁹ US Wireless Comments at 7. Even where a network system can be completed by October 2001, moreover, zoning prohibitions will restrict the effectiveness of network solutions by precluding the construction of additional base stations or “auxilliary” ALI receivers, as Omnipoint emphasized at the Technical Roundtable.

its proponents ignore the crucial question of who is going to pay for their systems in order to mount their spurious claims to total coverage and “100%” yield.³⁰

II. COVERAGE “GAPS” EXIST FOR ALL ALI SOLUTIONS AND SHOULD NOT FORESTALL COMMISSION ACTION TO FOSTER HANDSET ALTERNATIVES

The opening comments confirm SnapTrack’s view that the coverage “gaps” associated with either network or handset ALI solutions should not determine whether those competing technologies should be available to carriers for Phase II compliance.³¹ For instance, as to rural areas, “triangulation methodologies, which generally are required for network-based solutions, may not be feasible in many rural markets.”³² Similarly, the June 28 Roundtable confirmed that network technologies are not compatible with CDMA systems. Indeed, Ericsson, which has not produced a CDMA handset, stated that “for CDMA we would actually prefer a handset solution.”³³ In contrast, the coverage gaps for roamers without ALI capable handsets will be limited and transitional.³⁴ As AirTouch noted, for instance, “if the promise of a handset-based solution to Phase II ALI deployment is realized, then the roamer issue should not be significant.”³⁵

³⁰ TruePosition’s Executive Vice President Lou Stilp claimed at the June 28 Technical Forum that TruePosition’s network-based system locates “100% of all calls” placed in its service area. That directly contradicts the State of New Jersey report on the TruePosition trial, however, in which the government concluded that the TruePosition “system works most accurately when it can measure signals from a variety of local receivers surrounding a transmitting telephone; ideally like an eight-pointed star. In far too many instances, there were only two or three “points of a star’ close enough to receive signals, and these were not evenly spread around the telephone on the points of a compass.” Div. of State Police, Dept. of Law & Public Safety, State of New Jersey, “Report on the New Jersey Wireless Enhanced 9-1-1 System Trial January 22 to April 30, 1997: The First 100 Days,” at 24 (1997).

³¹ SnapTrack Comments at 10.

³² Rural Cellular Association Comments at 2.

³³ Technical Roundtable Audiotape 3:35:39. Reliable industry estimates project that by year-end 2001, there will be 30 million CDMA subscribers, fully 25% of the projected 120 million wireless users nationwide. DLJ, “The Global Wireless Communications Industry,” at 58 (Summer 1999).

³⁴ AirTouch Comments at 16-17; IDC Comments at 12; Sprint PCS comments at 5.

³⁵ AirTouch Comments at 16-17.

Unfortunately, while the providers of network solutions have made grandiose claims about the state of development of their technologies, they have failed to put comprehensive performance data into the record in this proceeding. It also appears they have been unwilling to display their performance data broadly to telecommunications manufacturers or carriers. For instance, AirTouch noted at the June 28 Technical Roundtable that no network ALI vendor had responded to its RFI (modeled on a CDMA Development Group document fashioned for a total urban/rural environment) seeking information on network solutions for ALI.

Notwithstanding the lack of information about their solutions, several providers of network-based solutions contend that the Commission should not permit handset ALI approaches because GPS-based handset technology is “immature,” “unproven” and “unavailable.”³⁶ To the contrary, as the opening comments and Technical Roundtable demonstrated, handset-based alternatives are not only viable, but would be welcomed by many carriers. “There is growing evidence that a handset-based solution based on global position satellite technology may provide a superior solution to the ALI requirement when compared to network-based solutions.”³⁷

Moreover, as we now know from the Roundtable, *all* location technologies are “immature” in that commercially available network solutions have yet to be deployed. Whether AOA, TOA, A-GPS or other location approach, all vendors are still working to improve accuracy, lower costs and overcome technical limitations associated with their technologies.³⁸ As TruePosition’s Executive Vice President conceded at the Roundtable, there are “areas where

³⁶ US Wireless Comments at 4, 7; TruePosition Comments at 2; KSI Comments at 3.

³⁷ Sprint PCS Comments at 1.

³⁸ Nokia, “the world’s largest GSM infrastructure manufacturer, [has] looked very carefully at the prices of the TOA and EOTD methods, and we believe, looking at the hardware and software required, that EOTD is less costly.” Technical Roundtable Audiotape 3:56:30.

every location technology has weaknesses.”³⁹ Ultimately, if ALI handsets are never proven commercially viable, then carriers will not choose to deploy them. Likewise, the absence of sufficient manufactured volume of the expensive hardware required by network-based alternatives may impede the commercial viability of those technologies. These risks should be weighed by carriers that are actively seeking Phase II compliance solutions, however, not the Commission. As the December 1997 *Reconsideration Order* affirmed, the Phase II rules were not intended to and should not dictate technology choices for wireless carriers.⁴⁰

III. THE RECORD SUPPORTS REVISIONS OF THE COMMISSION’S RULES FOR ACCURACY COMPLIANCE MEASUREMENT

The vast majority of comments addressing the accuracy measurement issue raised in the *Public Notice* support revision of the current 125 RMS standard. While several comments argued for retention of the current statistical methodology, those taking this position cannot come to grips with the fact that RMS substantially exaggerates the impact of non-fixes or “outliers,” as the WEIAD coalition has emphasized.⁴¹ As Motorola cogently pointed out at the Technology Roundtable, no location system will produce 100% yield.

Thus, the few comments suggesting retention of RMS do not adequately address the issues associated with this statistical measure and appear to be based on a preference for a compliance standard that is more accepting of their ALI approach. The solution, as the non-partisan

³⁹ In response to questions concerning how its technology deals with spectrally efficient wireless systems, which reduce power where a handset is close to a cell site, TruePosition stated that in the absence of a Phase II fix, it would “rely on Phase I data as an alternative.” This is remarkable because TruePosition and other network proponents have also asserted that with respect to handset roamers, specifically roamers without ALI-equipped handsets roaming in a system using a handset-based ALI approach, reliance on Phase I location as a “backstop” should be impermissible.

⁴⁰ *Revision to the Commission’s Rules to Ensure Compatibility With Enhanced 911 Emergency Calling Systems*, Memorandum Opinion and Order on Reconsideration, CC Docket No. 94-102, 12 FCC Rcd. 2265, ¶ 124 (1997)(“Reconsideration Order”).

⁴¹ Letter to Magalie Roman Salas, FCC, from James R. Hobson, Wireless E9-1-1 Implementation Ad Hoc (“WEIAD”), CC Docket No 94-102, at 3 (Nov. 25, 1998).

WEIAD coalition has argued, is to replace the RMS standards with something else — whether CEP or a simple 67% criterion — that is both reliable and technically neutral.

IV. THE COMMISSION MUST DECIDE THIS MATTER PROMPTLY

The most important issue facing the Commission today — indeed, one that transcends any of the public policy questions raised by the *Public Notice* — is purely pragmatic. Unless the Commission acts promptly, it will lose any realistic chance of accelerating ALI deployment. Even now, the January 2001 date suggested in the SnapTrack and APCO proposals and the *Public Notice* may be unachievable.

As SnapTrack advised in its opening comments and Qualcomm confirmed at the Technical Roundtable, “[m]anufacturers are poised to produce ALI-capable phones; to set these wheels in motion, the industry merely awaits a definitive signal from the Commission that Phase II compliance can be achieved with handset technologies.”⁴² This conclusion was directly corroborated at the June 28 Technical Roundtable, where Motorola, an industry leader in handset production, stated that the earliest it could now produce an ALI-capable handset in commercial volumes is the first quarter of 2001. If the Commission acts by the end of the summer, it is possible that manufacturers will be able to meet an early 2001 deadline. Any additional delay, however, means that commercial production of ALI-capable handsets will be delayed even further.

Ironically, this is the one aspect of “delay” raised in this proceeding that is correct. The single most important factor delaying commercial production of ALI-enabled handsets and the implementation of handset-based ALI technologies is resolution of the Section 20.18 issues that the Commission raised in its December 1997 *Reconsideration Order*. The time is past for the

⁴² SnapTrack Comments at 7-8.

Commission to act.⁴³ Delay in resolving these issues, in a very real sense, promotes the very technology bias that the *Reconsideration Order* sought to avoid because, until the Commission acts, no carrier or PSAP can proceed with a handset-based ALI solution consistent with the existing Phase II rules.⁴⁴ As Motorola concluded, “[w]ith an expeditious resolution of these matters, the wireless industry will be able to promote a standards-based approach to ALI, with open, interoperable interfaces between all handset and network entities.”⁴⁵

⁴³ As CTIA explained in its still-pending February 1998 reconsideration petition, “[i]n the absence of more specific regulatory guidance governing the transition to Phase II, handset-based technology could be unnecessarily discouraged.” Petition for Reconsideration and Clarification of the Cellular Telecommunications Industry Association, CC Docket No. 94-102, RM-8143, at 23 (Feb. 17, 1998). CTIA suggested limiting Phase II obligations to new handsets or the adoption of “specific policies and guidelines to add certainty to the waiver process.” *Id.* at 24. Those policies and guidelines are the anticipated product of the current *Public Notice* comment proceeding.

⁴⁴ *Reconsideration Order* ¶ 124 (Commission has “not endorsed or mandated any particular ALI technology or approach” and did not “intend that the implementation deadline, the accuracy standard or other rules” would “unreasonably hamper the development of the best and most efficient ALI systems”).

⁴⁵ Motorola Comments at 3.

CONCLUSION

For all the reasons set forth herein and in SnapTrack's opening comments, the Commission should expeditiously provide carriers with the option of deploying handset-based ALI solutions for Phase II E911 compliance.

Respectfully submitted,

SNAPTRACK, INC.

By: 

Glenn B. Manishin
Christy C. Kunin
Blumenfeld & Cohen—Technology Law Group
1615 M Street, N.W., Suite 700
Washington, D.C. 20036
202.955.6300

Paul H. White
Vice President & Corporate Counsel
SnapTrack, Inc.
4040 Moorpark Avenue
San Jose, CA 95117
408.556.0400

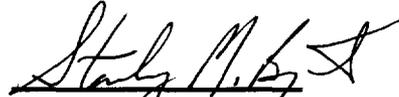
Ruth M. Milkman
The Lawler Group
1909 K Street, N.W., Suite 820
Washington, D.C. 20006
202.777.7700

Dated: July 2, 1999

Counsel for SnapTrack, Inc.

CERTIFICATE OF SERVICE

I, Stanley M. Bryant, do hereby certify that on this 2nd day of July, 1999, that I have served a copy of the foregoing document via * messenger and U.S. Mail, postage pre-paid to the following:


Stanley M. Bryant

*Ari Fitzgerald

Legal Advisor to Chairman Kennard
Federal Communications Commission
445 12th Street, S.W., Room 8-B201N
Washington, D.C. 20554

*Helgi Walker

Legal Advisor to Commissioner
Harold Furchtgott-Roth
Federal Communications Commission
445 12th Street, S.W., Room 8-A302B
Washington, D.C. 20554

*Peter Tenhula

Legal Advisor to
Commissioner Michael Powell
Federal Communications Commission
445 12th Street, S.W., Room 8-A204F
Washington, D.C. 20554

*Nancy Boocker, Chief

Policy and Planning Division
Federal Communications Commission
445 12th Street, S.W., Room 3C-133
Washington, D.C. 20554

*James Schlichting, Deputy Chief

Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, S.W., Room 3C-207
Washington, D.C. 20554

*Dan Conners

Legal Advisor to Commissioner Susan Ness
Federal Communications Commission
445 12th Street, S.W., Room 8-B115C
Washington, D.C. 20554

*Karen Gulick

Legal Advisor to Commissioner Gloria Tristani
Federal Communications Commission
445 12th Street, S.W., Room 8-C302F
Washington, D.C. 20554

*Larry Strickling

Chief, Common Carrier Bureau
Federal Communications Commission
445 12th Street, S.W., Room 5C-450
Washington, D.C. 20554

*Thomas Sugrue, Chief

Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, S.W., Room 3C-207
Washington, D.C. 20554

*Mindy Littell

Policy Division
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, S.W., Room 3-B103
Washington, D.C. 20554

*ITS
Federal Communications Commission
445 12th Street, S.W., Room CY-B400
Washington, D.C. 20554

Douglass I. Brandon
Vice President - External Affairs
AT&T Wireless Services, Inc.
1150 Connecticut Avenue, N.W.
Washington, D.C. 20036

Julia Kane
U S West, Inc.
1020 19th Street, N.W., Suite 700
Washington, D.C. 20036

Mark C. Del Bianco
Linda G. Coffin
Skadden, Arps, Slate, Meagher
& Flom LLP
1440 New York Avenue, N.W.
Washington, D.C. 20005-2111

John Derr, Manager
Technical & Regulatory Affairs
Wireless Communications Division,
Telecommunications Industry Affairs
2500 Wilson Boulevard, Suite 300
Arlington, VA 22201

Robert B. Kelly
Kelly A. Quinn
Squire, Sanders & Dempsey L.L.P.
1201 Pennsylvania Avenue, N.W.
Washington, D.C. 20044

Michael F. Altschul
Vice President, General Counsel
1250 Connecticut Avenue, N.W.
Suite 800
Washington, D.C. 20036

*Dan Grosh
Wireless Telecommunications Bureau
Federal Communications Commission
445 12th Street, S.W., Room 3-A221
Washington, D.C. 20554

Pamela J. Riley
David A. Gross
Airtouch Communications, Inc.
1818 N Street, N.W.
Washington, D.C. 20036

Antoinette Cook Bush
Jay L. Birnbaum
Skadden, Arps, Slate, Meagher
& Flom LLP
1440 New York Avenue, N.W.
Washington, D.C. 20005-2111

William B. Barfield
Jim O. Llewellyn
BellSouth Corporation
1155 Peachtree Street, NE, Suite 1800
Atlanta, GA 30309-2641

Anthi Poulos
Attorney at Law
9124 Bells Mill Road
Potomac, Maryland 20854

Jonathan M. Chambers
Vice President, Sprint PCS
1801 K Street, N.W., Suite M112
Washington, D.C. 20006

Mary McDermott
Todd B. Lantor
Personal Communications Industry
Association
500 Montgomery Street, Suite 700
Alexandria, VA 22314-1561

Lars-Goran Larsson, Director
Telecom Policy & Regulations
Ericsson Inc.
1634 I Street, N.W.
6th Floor
Washington, D.C. 20006

Mary E. Broomer
Assistant Director
Telecommunications Strategy and Regulation
Motorola, Inc.
1350 I Street, N.W.
Washington, D.C. 20005

Carl Hilliard
Wireless Consumer Alliance, Inc.
1246 Stratford Court
Del Mar, CA 92014

Sylvia Lesse
Marc E. Greenstein
Kraskin, Lesse & Cosson, LLP
2120 L Street, N.W., Suite 520
Washington, D.C. 20037

E. Ashton Johnston
Piper & Marbury L.L.P.
1200 19th Street, N.W.
Washington, D.C. 20036

Caressa D. Bennet
Kenneth C. Johnson
Bennet & Bennet, PLLC
100 Vermont Avenue, N.W. 10th Floor
Washington, D.C. 20005

Michel Fattouche, Ph.D., P.Eng.
President
CELL-LOC Inc.
204, 12 Manning Close N.E.
Calgary Alberta T2TE 7N6
Canada

Angela Wu
Ater Wynne LLP
Suite 5450
601 Union Street
Seattle, WA 98101-2327

W. Mark Adams, Esq.
Executive Director
National Emergency Number Association
491 Cheshire Road
Sunbury, Ohio 43074

Brian T. O' Connor, Esq.
Vice President - External Affairs
Latrice Kirkland, Esq.
Aerial Communications, Inc.
8410 West Bryn Mawr, Suite 1100
Chicago, IL 60631

Paul Brunato, Director,
Corporate Communications
U.S. Wireless Corporation
2303 Camino Ramon, Suite 200
San Ramon, CA 94583

Frank Michael Panek, Esq.
Ameritech
4H84
200 W. Ameritech Center Dr.
Hoffman Estates, IL 60196

Glenn S. Rabin
ALLTEL
601 Pennsylvania Avenue, N.W., Suite 720
Washington, D.C. 20004

Khaled Dessouky, Ph.D.
Vice President and Chief Technical Officer
TechnoCom Corporation
16133 Ventura Boulevard, Suite 500
Encino, CA 91436

Richard A. Muscat
The Gonzalez Law Firm, P.C.
One Westlake Plaza
1705 South Capital of Texas Highway
Suite 100
Austin, TX 78746

Andre J. Lachance
GTE SERVICE CORPORATION
1850 M Street, N.W.
Washington, D.C. 20036

Marlys R. Davis
E911 Program Manager
King County E911 Program Office
7300 Perimeter Road South, Room 128
Seattle, WA 98108-3848

Robert M. Gurs
WILKES, ARTIS, HEDRICK & LANE,
CHARTERED
1666 K Street, N.W. #1100
Washington, D.C. 20006

William L. Roughton, Jr.
Associate General Counsel
PrimeCo Personal Communications, L.P.
601 13th Street, N.W.
Suite 320 South
Washington, D.C. 20005

Stephen L. Goodman
William F. Maher, Jr.
Halprin, Temple, Goodman & Maher
555 12th Street, N.W.
Suite 950, North Tower
Washington, D.C. 20004

Richard L. Johnson, Ph.D. P.E.
Institute of Science
Southwest Research Institute
6220 Culebra Road
San Antonio, Texas 78228-0510