

Wireless E9-1-1 Costs: Limited or Limiting

By Ernest E. Ricci, ENP

The winds of change have slowed the stampede-like movement toward implementing Enhanced 9-1-1 wireless standards throughout most of the country, and we can't blame El Nino for this one! Not that public safety emergency services providers are not in agreement that wireless carriers are not eager to offer the ultimate lifesaving potential of enhanced wireless features. What is being questioned is what has become clear to the customer since the dust settled: we're not going to get much bang for our big bucks. For plus or minus \$50,000 per cell site, automatic location identification standards are relatively low, and we don't even know exactly what we are buying into equipment-wise, except that the estimated costs are staggering—no, prohibitive.

Enhanced wireless 9-1-1 access costs, which were forecast to be "limited" costs, have become limiting costs. Those costs are not insignificant when weighed against the outcome of delayed emergency response. Why? Because wireless ALI specifications are sufficiently imprecise that emergency response in many cases will not be timely.

ALI effectiveness vis-à-vis ALI costs are at issue. Unless and until wireless ALI specifications are able to more closely replicate the level of precision associated with wireline calls, and costs for equipment are significantly lowered, wireless access costs will continue to receive and deserve close scrutiny. After all, wireless ALI is only required to be reliable in 67 percent of the cases reported, and in those cases, the caller's location will only be accurate to within 125 meters (410 feet). Compare that to wireline ALI where the caller location and calling party number accuracy rate is consistently close to perfect. Now compare the costs.

Although the analogy is arguably faulty because the two systems are technologically diverse, the subscriber population, which will support the cost for both systems, will make the comparison. At this point in time, the wireless subscriber population, by and large, is not fully aware of the costs involved, particularly costs for Phrase II implementation. They are impressed with the convenience and versatility of the wireless instrument, but they have yet to feel the impact of the costs required to provide enhanced 9-1-1 wireless features.

While some 9-1-1 jurisdictions are proceeding to implement Phase I wireless features, some local exchange carriers have not yet developed the technical components required for tandem offices to pass on 20 digits of wireless information to the PSAPs. Many PSAPs have not yet legislated a funding mechanism. As a result, waivers of the FCC's April 1, 1998, Phase I implementation have been issued. If you are facing an implementation delay for this reason, take advantage of the delay, slow down, and look at the price tag that awaits you at the Phase II level.

The 1998 election year may have been a fortuitous occurrence. Elected officials who are accountable to the ratepayers are not anxious to provide political ammunition to their would-be successors by carte blanche approval of wireless implementation costs, which will deliver less than optimum ALI data. Elected officials are questioning costs: Are subscribers really willing to implement wireless E9-1-1 at any price? Are they willing to pay an additional \$X.XX per month for wireless location technology? Are

they beginning informed that the wireless standards for automatic location are not comparable to the wireline standards they are paying for today?

I have read the results of polls which indicate that subscribers are willing to pay \$1.50 more per month for wireless E9-1-1. I wonder who conducted those polls, or better yet, who financed those polls. Were they of national import? I question the results because I'm not getting the same affirmative feedback. But then, I may not have posed the question(s) in the same form; certainly not to the same people. They say New England makes for a tough proving ground.

I see the enhancement of wireless services in order to provide ALI to public safety answering points both as a necessary emergency communication feature of the wireless carrier, and a wireless carrier promotional tool. The wireless industry will profit considerably from the upgrades that public safety agencies have asked the Federal Communications Commission to require. The irony is that because public safety agencies requested wireless upgrades, which the wireless industry would have self-imposed, *public safety answering points* were made responsible for the associated costs.

PSAPs should not have to support the cost for any upgrade, which converts to profits for wireless carriers, directly or indirectly.

To argue that PSAPs have established a past practice by supporting wireline 9-1-1 start-up costs is not necessarily sound, is certainly disproportionate, and is not universally applicable. In some cases, wiring carriers were ordered by the governing Public Utilities Commission (PUC) to absorb those costs out of so-called "excessive earnings." The result was that the wiring carrier in many circumstances paid for the personnel and operations costs associated with service delivery, including the payment of monthly recurring costs to the carrier for maintaining the network.

I'm not advocating that wireless carriers should pick up the total costs associated with wireless enhanced features implementation. I am saying that PSAP directors should take a step back and look at the whole picture: the end does not justify the means. The combination of patchwork solutions rushed into by a narrow implementation timetable have hampered rather than spurred the wireless implementation program. The ALI product will not satisfy the exorbitant costs, leaving plenty of room to negotiate. The telecommunications industry in general fully understands that their corporate survival depends upon their ability to meet public demand. Meeting that demand with quality service at minimum cost, particularly in the public safety sector, gives one company the competitive edge over its contenders. Selling the service as inexpensive is a problem when the wireless carrier must include 9-1-1 enhanced feature costs could be diverted, and just like magic, the PSAP became the customer. The customer then bills the subscriber via an alternate revenue method, or as a surcharge on the telephone bill.

When the carriers' implementation costs can be channeled through a PSAP as a surcharge, user fee, or any other name, it becomes disguised as a 9-1-1 cost. The subscriber doesn't relate the cost to the carrier, and there is another bonus—there is no incentive for the carrier to strive to lower implementation costs.

For PSAPs using the surcharge revenue method, we see the cost dichotomy demonstrated on the carriers' monthly bill. The carriers separate the "9-1-1 cost" from the rest of the monthly bill and distance themselves from the "increased costs"—of course, they later bill the PSAP for their network expenditures, which necessitated the increased costs in the first place, as though they had nothing at all to do with it.

Sure, we did the same thing years ago with the wireline carriers. We made it easy for them to absolve themselves from their 9-1-1 network costs. It may not have made much difference then, but it does now—now that we have competitive carriers. Unfair advantage converts to unjust enrichment. The telecommunications industry will argue that it makes no profit from 9-1-1 service, and perhaps it does not directly profit from providing 9-1-1 services to its subscribers, but don't be confused. The fact that they don't charge for the service comes without cost, or that they don't benefit indirectly from providing 9-1-1 service. What we, the subscribers, pay for are the network components which deliver the free call and their usage and maintenance. The indirect benefit to the carrier comes as a result of PSAP-supported 9-1-1 upgrading, which improves the quality of the carriers' network generally, and makes it inexpensive for the carrier to add incremental applications.

The PSAP, on the other hand, doesn't make a profit on the 9-1-1 call directly or indirectly. The subscribers pay for 9-1-1 personnel and the 9-1-1 operating costs associated with the delivery of the 9-1-1 emergency communications services, much like they did in the past, except that now the PSAP has to pay a much higher telephone bill, so the subscriber pays more.

It seems to me that all the players in the 9-1-1 emergency communications effort could be held more accountable to the subscribers who pay for their services if very simple changes are made in the payment responsibility and in the billing format.

The surcharge, or 9-1-1 revenue source, should pay for only those costs directly associated with the PSAPs delivery of emergency communication services. The carrier's network components which are required to deliver their subscribers 9-1-1 emergency request to the PSAP should be borne by the carrier as a cost of doing business. Those costs should be included in their monthly bill to their subscribers, and the proceeds paid to them directly by their subscribers.

Costs for usage and maintenance of the carriers' network equipment would be borne by the PSAP on a monthly recurring basis, and that bill would be paid out of the PSAP's revenue source along with the 9-1-1 operations costs. With that separation in place, the benefits of competition would accrue to the subscriber.

PSAP investments, which will, in the minimum, require payment for premise equipment upgrades, including Geographic Information Systems (GIS) development for Phase II ALI application, is certain to reach well into millions of dollars.

Understanding that, and knowing also that the subscriber will eventually pay the bills irrespective of who sends them or how the proceeds are used, should motivate all participants in the wireless E9-1-1 effort to seek to minimize costs.

Wireless carriers and the Local Exchange Carrier should explore ways and means by which Phase II costs can be significantly lowered and ALI specifications significantly improved. Sharing resources to avoid redundant equipment purchases and facilities construction, and regarding all, or part of the initial capital investment in providing Enhanced 9-1-1 wireless service as a wireless business investment could result in more than market dividends for the industry.

In the meantime, the Rhode Island Statewide PSAP has sent notice to all wireless competitive local exchange carriers, as well as to the landline local exchange carriers with whom they must interconnect, that Phase II is on hold until we can develop a Phase II implementation plan which contains specific equipment costs, including validating procedures. We think it wise to continue to build the foundation

for migration to Phase II, including components which will survive Phase I requirements, but we really are not convinced that the Rhode Island subscriber population will accept the bill for Phase II wireless upgrades only to receive ALI reliability in 67 percent of the cases reported and within 410 feet of the caller's location.

Sample of letter sent to LEC and wireless CLECs serving the Rhode Island area through the R.I. Statewide PSAP

March 4, 1998

Dear _____,

Re: Status of Phase I Implementation of FCC Order 94-102

It appears, for technical reasons, that this public safety answering point will not be able to provide Phase I E9-1-1 service by April 1. The technical reasons, for the most part, concern "connectivity" between our primary service provider, and wireless carriers. In addition, at least one equipment upgrade needs to be installed at our facility.

Further, for your information, we are developing a prototype agreement to be entered into between our agency and each respective wireless carrier. It will cover the reimbursement process for Phase I costs. Which will require an advance approval. (No Phase I costs will be reimbursed, incidentally, without a signed agreement or desire specific contractual provisions to propose for inclusion in the agreement we are drafting, please let us know immediately.)

Phase II issues lie beyond the more immediate need to implement Phase I, and prospectively entail greater implementation costs than Phase I. For that reason, and for related technical reasons, we are not committing any revenue from our present funding mechanism nor from any other public sources for Phase II implementation at this time.

At the appropriate time, we will be developing a separate Phase II agreement, and, as in Phase I implementation, we will not reimburse any Phase II costs without advance approval nor without an agreement with each carrier. IF, since our last contact with you, there have been any significant technical cost or time-line developments, please let me know immediately.

Ernest E. Ricci, ENP, is executive director of the E9-1-1 Emergency Telephone System in North Providence, Rhode Island.