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safety  
communications  
through  
leadership,  
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and service.



## **Association of Public Safety Communications Officials (APCO) International**

### **Seeking Sustainable Funding Solutions for Public Access to 9-1-1**

Each day hundreds of thousands of people when confronted with their own personal crisis, urgent concerns about the safety of others or seek to report suspicious events rely upon 9-1-1 for direct, immediate access to all classes of public safety/services. The public continues to have confidence in the availability and utility of 9-1-1 services across the country, despite the still isolated areas without even basic service deployment. Callers in turmoil have repeatedly applauded the outstanding efforts of the professional who make the 9-1-1 systems work, every day amidst growing challenges, over the past 37 years. (Haleyville, AL. 2/16/68)

Funding for services from Basic 9-1-1 to Enhanced 9-1-1 Wireline and Wireless is provided from a number of sources. The oldest and most common form of funding is a surcharge on wireline telephone subscribers within given service area. In many states, there is also a separate surcharge on wireless subscribers within the service area. Regrettably, neither of these models effectively provides the opportunity for other than wireline and wireless subscribers to participate in the financial support of public safety resources. The traveling public, remote VoIP service providers and others outside the service area make no contribution to the cost of maintenance of the 9-1-1 services to which they route callers. While the surcharge model had a measure of appropriateness in years past, the expansion of access to 9-1-1 services at the Public Safety Answering Point (PSAP) from other devices and technology has created a pattern of diminishing revenue amidst increased expectation of service.

Reports from Virginia, Pennsylvania, Minnesota and Tennessee offer a perspective of the impact upon 9-1-1 funding amidst expanding technology that continued reliance upon a failing funding formula can have on public safety.<sup>1</sup>

This rapidly increasing revenue shortfall is partially created by a private industry model that allows any new technology to provide connectivity to 9-1-1 services without the essential location information in an environment that is

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regulation deficient. The common argument that regulation will stifle the creative energy of new technology providers allows a permissive approach that essentially approves the lack of social responsibility. Providers of any telecommunications service have a responsibility to ensure that customers desiring the technology have access to prompt, effective delivery of emergency services amidst all classes of crisis. Proposals to allow industry to solve such problems on their own and within their self determined timetable have not produced acceptable results. Providers must ensure that every "call" to 9-1-1 is effectively routed, arrives with appropriate location data and call back number. Furthermore, the provider must be required to ensure that the service has contributed to the 9-1-1 operational costs associated with the class of service.

Both Wireless 9-1-1 service and Voice over Internet Protocol (VoIP) capable instrumentality have already created a significant impact on PSAPs across the nation.

The lack of location data from wireless callers, experiencing their own crisis, has delayed and in some cases, ultimately denied prompt emergency services to victims in need of law enforcement, fire/rescue and emergency medical services. 9-1-1 staff members at the blunt end of the service requirement, find themselves treating many such calls as "basic 9-1-1" which requires the caller to be able to adequately describe their location before any response decision can be made. Despite surcharges and protestations by wireless service providers, the costs to PSAPs for such expanded service levels are real and continuous.

In fact, many of the 70% or more of the PSAPs still not capable of receiving the location data from wireless 9-1-1 callers cite the cost of equipment upgrades, constant map reference material improvements and on going training costs as significant factors.

Callers seeking access to 9-1-1 using VoIP technologies are seemingly unaware that their call for immediate assistance in most cases does not even arrive at the PSAP as part of the enhanced 9-1-1 system. Many VoIP service providers have chosen to deliver their call via a non-emergency telephone line, often without the consent or knowledge of the appropriate 9-1-1 authority or the caller. Further, the absence of location data on these calls places the call in the category of basic 9-1-1 at best. This level of service requires the caller to accurately describe their location and/or the location of the emergency, adding precious time to the processing of the call. In some cases, the caller simply cannot connect to 9-1-1 Services or is connected to the wrong PSAP.<sup>2</sup>

These rapidly expanding and aggressively marketed technologies often bring additional capital and operational cost to the PSAP which is not adequately balanced with even static revenue streams; to say nothing of the diminishing ones for which there is evidence. The provision of emergency services is almost

exclusively a local/county function of government, yet there is little opportunity within such political subdivision classes to effectively seek regulation and cost recovery.<sup>3</sup>

In a reader poll conducted by USA Today, it was reported that the option of “wanting E911 on my VoIP phone only if it were free” was preferred with a margin of 67%. The troubling aspect of this answer supports the notion that most people believe that 9-1-1 services are free – now.

Public safety communication services must achieve relief from the research and development deliria that presupposes a free market in which every type of communication device; regardless of specific method, which seeks to access 9-1-1 services from any place at anytime can do so without evaluating the fiscal impact on the publicly funded entities. The professional associations urge, that in all cases, accompanying the development of such products/systems must be the requirement to share the PSAP costs of such offerings.

***A thorough 9-1-1 “Impact Statement” should become a routine element to obtain operational authority.***

Future 9-1-1 services are expected to be based on radically different technology and architecture than are in existence today. There are some PSAPs that may make this transition easily and comfortably; others will struggle and many will not be able to afford any changes. Absent new and consistent funding solutions, local/county executive decision-makers will be truly challenged to discard legacy systems, stranding their investment paid in most cases with public tax dollars, in favor of new and more expensive technology. The IP based PSAP of the future has benefits in a homogenous environment; however without adequate funding mechanisms, the disparity between the capability of PSAPs across the country now, will only be exacerbated by yet another layer of disparate technology.

To date, the cost of this selectively supported IP based PSAP has not yet been publicly defined or at least revealed, despite a year long effort to establish ANSI standards for its interactions. The long standing local exchange carrier as the sole source of ANI/ALI data will change; new sole source providers appear ready to replace them. Any system which limits the operational and cost options of the PSAP to a single source provider is less than appropriate.

Discussions continue about streaming video, real time data exchanges between systems as well as text messaging throughout the system. Today, there are over a dozen groups seeking to develop “the standard” xml schema for emergency messaging and still no one can articulate cost to the PSAP and the community it serves. Absent responsible technology development guidelines, the assumption must be that the local/county entities are responsible for paying

whatever it costs to maintain acceptable levels of customer service to all.

The increased public interest in and expectation of effective 9-1-1 services which is unmatched by the revenue mechanisms in place is not solely a function of technology changes however.

Since September 11th, 2001 the public has been urged to be more vigilant, reporting suspicious persons and events to 9-1-1. The extension of duty to recognize "terrorists" has moved down to local police and county sheriffs. New training materials have been prepared and circulated to these agencies; albeit without sufficient inclusion of the public safety communications component of such.<sup>4</sup>

The operational and fiscal impact of the revised expectation by citizens, that the local 9-1-1 authority can effectively manage this new information, be the primary participant in a service area alerting system, track mobile offenders and suspects from the PSAP, as well as serve as single stop, all services coordination entity with the same resources it deploys to respond to normal emergency events has not been well recognized and certainly not funded under field responder grant programs from the Department of Homeland Security.<sup>5</sup>

The survivability and sustainability of public safety communication services, including public access through 9-1-1 cannot be assumed by any political entity. There are reasonable precautions and preparations that can improve the chance to survive disasters; however each element has fiscal impact. Local/county executive decision-makers often lack the funds necessary to implement any but the most rudimentary "back-up" processes. At a recent "Telephone Service Priority Summit, convened by the FCC it was reported that only about 10% of the primary 9-1-1 circuits across the country are protected by this service, which is seen by many to be an additional 9-1-1 expense in uncertain revenue times.

Significant challenges remain ahead for 9-1-1 Managers seeking to reach even the basic level of service integrity at the local/county level amidst disaster. Each class of such challenges has a fiscal note attached, which has delayed the discussion and activity in many locations.

### ***Funding Solutions***

Existing funding models, solutions and/or formulae have been identified by APCO in advance of the first session of the Funding Forum. The participants offered a synopsis of the activity of their organizations to date.

The surcharge model is admittedly "broken" given the changes in technology and use across the country. Increases in wireline surcharges are not considered as

reliable, sustainable solution as the number of connections continues to decrease. It was noted that recent attempts to increase the wireless surcharge have been met with resistance from the wireless service providers. This has taken place even in states where the wireless service provider receives a percentage of the fund for their own expenses.

The alternative, special tax options in place today, ex: special district tax, sales tax, property tax add-on are not now likely to be acceptable. In fact, the consensus of the participants was that any reference or effort using the word "tax" would face significant adversity from elected representatives.

The issue of by whom and how new technology which exists under a variety of names today is regulated became a major topic. Clearly, the burden to prepare for connectivity to 9-1-1 services and assist in the costs thereof should be upon the developer and not the public safety communications center. As suggested by some, the revenue sources for maintenance and expansion of 9-1-1 services must become technology neutral, affording a sustainable revenue stream that reflects the complexity and diversity of the current services offered as well as those yet to become "expected".

***No provider should be exempt from the basic duty to participate in appropriate funding models. This may require that States should not be preempted from regulatory authority over emerging communications technologies that enable consumers to access 9-1-1.***

The parties agreed that a continued collaborative effort which addressed the public information element, could provide factual definition of costs versus revenue as well as describe the impact of the dysfunctional regulatory activity to date was a legitimate goal and should become the focus of future discussions.

APCO, on behalf of the front line 9-1-1 professionals serving the public everyday, will continue to aggressively move the issue forward. APCO will provide information and documentation in support of credible efforts that recognize the primary goal is enhancing public safety communication services, across the country.

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## End Notes / Examples

### 1. Impact upon 9-1-1 funding to local jurisdictions

Steve Marzolf, Virginia Information Technologies Agency Division of Public Safety Communications, Virginia:

*Reports a few localities that have reported a reduction, but is not sure of any that have done the analysis to determine if it caused by new technology, the economy, shifts in technology, etc. Specifically, the County of Richmond reported a 14% reduction in their access line count (roughly \$500K). We have had others reporting a similar reduction in their wireline revenue/access line count. We have seen only increase on the wireless side.*

Carlton B. Walls III, ENP, Project Analyst, Lancaster County-Wide Communications, Pennsylvania:

*We have learned that, for the first time, Lancaster County-Wide Communications has lost \$400,000 in wireline revenues during calendar year 2004. That information comes from our Controller's Office.*

Jim Beutelspacher, 9-1-1 Program Office, Minnesota Department of Public Safety, Minnesota:

*State and local governments are facing cost increases for 9-1-1 service due in large part to costs that we have no control over, resulting in inconsistent treatment of different voice service providers in different government jurisdictions. A truly technology neutral method of funding 9-1-1 services may be needed.*

*Minnesota 9-1-1 Office currently has an estimated 8 million dollars in outstanding debt at this time Mar.05.*

RoxAnn Brown, Director, Metro-Nashville ECC, Tennessee

*Despite an increase of \$.05/line in 2004, the wireline surcharge revenue still less than the 2002 amount.*

### 2. Cannot connect to 9-1-1

"Net-based 911 fight puts lives on line"

By Paul Davidson, USA TODAY

*Seventeen-year-old Joyce John frantically grasped the portable phone and dialed 911. Downstairs, her parents struggled with two armed robbers. "Joyce, Joyce, call the police!" her mother, Sosamma, screamed. But when she did, she heard this message: "Stop. You must dial 911 from another telephone." Joyce grabbed another phone downstairs but got the same recording. She finally banged on the door of a neighbor, who called an ambulance. By then, her parents had been shot. They survived, but their attackers fled.*

*The problem: Joyce tried to call from a phone with Internet-based technology, known as VoIP, for voice over Internet protocol. Even though the family's VoIP service provided a basic 911 feature, Joyce's father, Peter, didn't realize he had to activate it.*

*The ordeal, which happened last month in Houston, points up a challenge for Internet-based phone companies as they struggle to provide 911 services to their growing base of*

*subscribers.*

*Some VoIP providers don't offer 911 at all. More typically, those such as Vonage and AT&T offer a bare-bones 911 service that doesn't show operators a caller's number or address. And it doesn't ring on the emergency phone lines in the dispatch center. As a result, some 911 centers don't accept the calls.*

*Vonage, the No. 1 VoIP provider, has been working with states, 911 directors and local phone companies to bring free E-911 to customers. Its efforts have bogged down, though, partly over regulatory hurdles.*

### 3. Regulation and cost recovery

"Net-based 911 fight puts lives on line"  
By Paul Davidson, USA TODAY

The problem looms larger as the VoIP market swells. The number of U.S. VoIP customers is likely to rise from 750,000 to about 9 million by 2008, researcher In-Stat/MDR says. Other estimates put the migration to VoIP phones at nearly 18 million by 2008.

Another hurdle is that state officials can't require VoIP providers to offer 911 services. That's because federal regulators ruled last year that VoIP is not a traditional phone service subject to state regulation. The VoIP providers pushed for the ruling because they didn't want to be burdened by fees and other hassles that would raise their costs. But as a result, the regional Bells don't have to let VoIP services connect to their E-911 call-routing switches and databases that contain customer numbers and addresses.

### 4. Reporting of suspicious persons and events to 9-1-1

August, 2004, APCO Annual Conference  
Richard Dickson, Dept. of Homeland Security

*The Assistant Director of Services at the DHS Center for Domestic Preparedness shared a law enforcement training video to be viewed by local/county/state officers aimed at assisting them identify and detect suspicious and potentially terrorism related incidents. The video cited a database that would be accessible for names checks of suspects as well. The video had been distributed and was in use around the country. Public Safety Communications professional sat stunned as it became clear that the PSAP/Public Safety Communication Center, the essential link in all information gathering and sharing within every service area - had never seen the video before nor was the audience of any new database, which would produce a reply via the Communication Center.*

### 5. Operational and fiscal impact of local 9-1-1 authority to effectively manage this new information homeland security information

January, 2005  
San Diego, CA Local TV  
News Cast

*The newscast included a report that the Dept. of Homeland Security was launching a Truckers Awareness Program" at a taxpayer cost of 40 million dollars to assist cross country truckers identify and report via wireless phones TO 9-1-1 suspicious persons and*

*events along the national interstate highway system. Public Safety Communications and the PSAPS that would logically receive such phone calls, most of which would not include location data had never been included in the awareness of or the planned delivery of services, in such events.*

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