



9-1-1 Industry Alliance Summary of 2008 Report on the Health of the Emergency Communications Network

Summary compiled by 9-1-1 Industry Alliance and may not reflect those of the Report's authors

Who is the 9-1-1 Industry Alliance?

The 9-1-1 Industry Alliance ("9IA") was established in December 2005 by a group of prominent leaders within the public safety industry. The vision of the organization's founders is that 9IA will play an important role as the voice of industry companies on major public policy issues, and that the expertise of industry leaders can assist public policymakers and government emergency communications professionals in making complex choices regarding advanced 9-1-1 alternatives in the years ahead.

Finding Experts to Evaluate 9-1-1 Communications

In March 2007, 9IA engaged ColoComm Group, LLC to analyze the state of 9-1-1 services in the United States. 9IA selected ColoComm to conduct an independent evaluation of the state of 9-1-1-related technology, governance, and funding issues. ColoComm's team of experts include Dale Hatfield, former chief of the Office of Engineering and Technology at the FCC, as well as Phil Weiser and Brad Bernthal, both professors in the telecommunications field at the University of Colorado Law School and the Interdisciplinary Telecommunications Program. These co-authors were encouraged to both survey a variety of professionals in the field and to provide their own perspective concerning 9-1-1 issues. Consequently, this report relies on and pulls together the insights and information gleaned from a series of first person interviews with governmental and industry players, a review of relevant literature and reports, and an analysis of relevant statutes and regulations.

Summary of findings

1. Consumer technology has surpassed that of the 9-1-1 system.
2. 9-1-1 funding is collected from consumers for 9-1-1 purposes, yet too often such funds are diverted to other general purpose uses by the government.
3. The sufficiency of today's 9-1-1 funding models is uncertain despite heightened public need for more advanced 9-1-1 capabilities.
4. State leadership in legislating, budgeting, planning and building a next generation network is required.



1. Consumer technology has surpassed that of the 9-1-1 system

Today, consumers are armed with a wide array of technology devices that are wireless, mobile and offer more than just voice calls.¹ The public's expectation is that if the 40-year-old 9-1-1 network could locate a stationary pay phone or home wired telephone, this same service should be available for wireless and VoIP devices. Today's 9-1-1 systems cannot guarantee that consumers will be located in an emergency and many of the dispatch centers across the country still do not have the technology to know a caller's location when they call, even though wireless handset and wireless carriers have already installed much of this costly technology.

If the primary form of communication to 9-1-1 was going to continue to be based on landline-based telephones and pay phones, there would be no need for change. The 40-year-old network would be able to adequately and reliably handle these requests as it has for decades. Notably, however, the forefathers of the 9-1-1 network never expected a mobile phone, vehicles (i.e.: OnStar), mobile phone video cameras or automated computer alarm systems to have the ability to communicate over the 9-1-1 network.

As seen during the tragic Virginia Tech incident, many students expected that they could text message the 9-1-1 dispatch center with vital information only to find out that the 9-1-1 network does not support text messaging, photos or multimedia messages. The youth of today increasingly use text messaging to communicate and rely less and less upon wired telephones. It is widely agreed that extending 9-1-1 services to newer communication methods would have a significant, positive impact on emergency response.

Off the shelf commercial technology is available to handle these new forms of communication, eliminating the need for new technology to be developed. It is our recommendation that state governments put plans in place to transition from the traditional analog network to a digital (preferably IP) network² to handle these new forms of communication. Additionally, we recommend that a capital savings campaign be created at the state level to fund the upgrade.

2. 9-1-1 funding is collected from consumers for 9-1-1 purposes yet too often diverted to other general purpose uses by the government

It is our recommendation that an agency in each state be assigned the role of collecting 9-1-1 surcharges for all devices that access the 9-1-1 network. Today, states have varied methods for remitting the surcharges the public pays into the 9-1-1 fund from county boards, public utilities, sheriff departments, etc. Each agency has different priorities for these funds, and in many cases there is no "accountability" for their use.

¹ Pg. 30 - "Today's wireless devices are, in many cases, an "electronic swiss army knife." In particular, these small digital devices have powerful processor and storage capabilities and are capable of creating and handling not only voice communications, but also text, data, image, and video signals and combinations of them (multimedia) as well."

² Pg. 39 - "The Case for a Next Generation Architecture for 9-1-1"

As part of each state agency's role, we recommend an audit process to ensure the funds are being used solely to cover what the public is paying for: 9-1-1³. If not used for 9-1-1, a public record should be available to provide an accounting of why 9-1-1 funds were diverted and what the money was used for.

On balance, it is our belief that a single state agency⁴ is better prepared and funded than a highly fragmented approach to 9-1-1 governance (in some cases, including as many as 200 separate entities in a state) to save and plan for a capital upgrade to the current analog system. As counties compete today for limited funding, "bigger picture" planning that is necessary for major upgrades to a state's entire infrastructure is often overlooked. In many cases, only more densely populated counties have the latest technologies, a dynamic which fails to serve the rest of the county's citizens. Often, the citizens of the better-funded county travel outside their county boundaries not knowing that the 9-1-1 service is deficient in that jurisdiction.

3. The sufficiency of today's 9-1-1 funding models is uncertain despite heightened public need for more advanced 9-1-1 capabilities.

For the most part, the 9-1-1 network was funded using land line phone surcharges. As the public increasingly uses mobile and VoIP phones, new funding mechanisms are needed to pay for equipment and services needed to answer those 9-1-1 calls. Many consumers are opting to not even have a land line-based phone and are relying on a mobile phone as their primary form of telephonic communication. This is most prevalent among young adults. As the report found, in some cases funding is significantly decreasing⁵ while 9-1-1 call volumes from mobile phones have doubled or tripled.

Moreover, prevailing funding approaches are generally insufficient to facilitate necessary capital upgrades to the current analog 9-1-1 system. Absent change, jurisdictions will find it difficult to plan and pay for transition to a next generation network. This budgeting crisis must be resolved. across many jurisdictions in the country.

We recommend utilizing a state-legislated (and audited) surcharge model that is fair across all new devices⁷. As people disconnect land line-based phones, the "new device" phone surcharge will be equal to the land based surcharge thus ensuring that funding will not be impacted and that 9-1-1 can plan and budget accordingly.

³ Pg. 67 - "Diversion of 9-1-1 funds is so common that it has its own name: raiding. A well documented parade of "horribles" underscores that 9-1-1 funds are often seized for purposes that have little or nothing to do with the services for which 9-1-1 funds are being charged.

⁴ Pg. 46 - "The Importance of an Empowered Oversight Body"

⁵ pg. 57 - "the shortfalls in funding levels needed to sustain *existing* 9-1-1 systems were most pronounced in rural areas, high mobile phone volume locations, and jurisdictions which rely heavily on wireline surcharges"

⁷ pg. 75 - "This reflects that mobile telephony is problematic for existing surcharge models: mobility partitions the location from which a call is made from the address where a surcharge is collected. This is important for high-mobile call volume jurisdictions because traditional surcharge models do not provide for contributions from 9-1-1 callers who live outside their jurisdiction."

4. State leadership in legislating, budgeting, planning and building a next generation network is required

The “patchwork” of jurisdictions across the United States today, in some cases, encourages “hoarding” of funds for local needs or causes competition for funding among jurisdictions even though 9-1-1 emergencies no longer just happen in the local jurisdiction where funds are collected.

Again, we recommend an empowered, state-legislated agency⁸ authorized to collect, budget and plan for a next generation 9-1-1 network that will serve the public today and in the future.

⁸ pg. 47 – “The mandate for state bodies to oversee the operation of a 9-1-1 system would represent a marked departure from the status quo.”