

Colorado Task Force on 911 Oversight, Outage Reporting, and Reliability

Testimony

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Introduction

Speaker Hullinghorst, Majority Leader Scheffel, and members of the Task Force, thank you for this opportunity to discuss our work at the Federal Communications Commission to ensure the resiliency and reliability of the Colorado's 911 system as it transitions to Next Generation 911 (NG911).

In 1999, Congress established 911 as the nationwide emergency number and called for a 911 system that would use the best technology available to deliver emergency assistance. And through the concerted hard work of Federal, state, Tribal and local stakeholders, we have achieved much in pursuit of Congress's vision. 911 is available virtually everywhere in the nation, and thousands of dedicated professionals handle over 240 million calls a year.

Unfortunately, despite many life-saving advances in public safety, Congress's vision that the 911 system would harness the best technology is at risk of not being realized 16 years later. The Nation's 911 system is at increased risk due to retirement of aging communications infrastructure and public safety's inability to keep pace with investment in new technology.

As this Task Force and Colorado's 911 professionals well know, the solution is accelerated deployment of NG911. NG911 systems, which rely on IP-supported architecture rather than traditional circuit-switched time division multiplexing (TDM) architecture, introduce promising new capabilities, such as more flexible call routing, improved location determination, and the ability to provide PSAPs with a greater range of information, such as video and images. Further, NG11 systems are a critical part of the full realization of FirstNet, the dedicated first responders' public safety broadband network, which will provide first responders with access to broadband data, including photos, video, and other data originating from NG911 systems.

Next Generation 911 presents federal and state 911 authorities with a range of new challenges, which are not just technical and operational, but also require careful consideration of oversight and governance of the systems and their multiple and integrated participants. The FCC is doing what it can to facilitate NG911 transition, but state and local authorities play a central role, and they need more assistance. As FCC Chairman Tom Wheeler has stated, targeted near-term Congressional action to create national NG911 enablers, such as a unified GIS-centric mapping capability, PSAP access to dedicated cybersecurity facilities, and core Emergency Services IP Network funding mechanisms, would help state and local authorities achieve nationwide deployment more quickly and uniformly, thereby reducing risks and long-term costs.

Let me emphasize at the outset that I am not here to opine on what specific decisions Colorado should make. These are many options available, and the state is ultimately in the best position to choose among them based on the needs of its citizens. But it is important that the state play an active

role in the planning, deployment, and governance of the NG911 transitions. The risk of state inaction is that NG911 will be introduced within the state in a piecemeal fashion, with disappointing results. Modernizing the nation's 911 system will take work from many stakeholders, none more important than those working at the state level to deliver their 911 emergency systems into the 21st Century.

Federal and State Roles in Oversight of the 911 System

Governance of legacy 911 is shared between the state, local, and federal levels, allowing for a range of localized approaches to achieving nationwide objectives of ubiquitous and reliable 911 service. The federal government plays a significant role in 911 and NG911, but its role is primarily focused on supporting and coordinating state and local transition efforts and in some instances targeting federal resources to components of NG911 architecture that are uniquely suited to development at the national level.

State public safety authorities have historically played a critical role in the support and oversight of their 911 systems. The local structure and provision of 911 service by PSAPs is typically a state law matter, with some states further delegating aspects of 911 governance to the local level. In addition, many states regulate the provision of 911 service by incumbent carriers under tariff regulations issued by the state public utility or public service commission. Responsibility for establishing and designating PSAPs or appropriate default answering points, purchasing customer premises equipment, retaining and training PSAP personnel, purchasing 911 network services, and implementing a cost recovery mechanism to fund all of the foregoing, among other things, falls squarely on the shoulders of states and localities.

In our view, the importance of state leadership does not diminish with the transition to NG911. Indeed, Congress has clearly recognized the important role that States and localities play by directing the Commission to “encourage and support efforts by States” to improve 911 systems and technology. In our 2013 report to Congress on NG911, we stated that local and state public safety authorities should retain their primary responsibility for the deployment and configuration of NG911 services. Make no mistake: early engagement at the state level will be the key to successful NG911 implementation. The success of state-level governance is illustrated by examples of states that have established 911 boards or other oversight bodies to advance the transition to NG911 in a coherent manner, such as the Vermont Enhanced 911 Board, which has been instrumental in providing statewide oversight and direction in the transition to NG911 in Vermont.

State Models for Next Generation 911 Implementation

State and local 911 authorities have operated legacy 911 systems in relatively independent and isolated operational environments. NG911 represents a significant change in planning roles and responsibilities. Decisions that could have been made at the local level for legacy 911 require broader coordination and governance among local and state stakeholders. The Originating Service Environment (OSE) of NG911 includes IP call set-up, location determination, validation and delivery to ESInets across a region or state. The NG911 architecture will require many 911 authorities to begin evolving a vision of collaboration as they develop new models of 911 service delivery.

The NG911 transition presents policy-makers and implementers with a wide range of difficult decisions. Colorado's choices will be driven by a combination of technology and funding considerations that demand a sound understanding of the systems and processes that will need to be put in place to effect responsible change. The evolution to NG911 technology presents potentially even greater challenges since it is not merely a linear progression, but a paradigm shift.

I would also like to direct your attention to the work of the Task Force on Optimal PSAP Architecture (Task Force), an expert advisory panel that the Commission established in 2015, which has developed recommendations on how PSAPs can optimize their cybersecurity, network implementation and operations, and resource allocation and funding as they migrate to NG911. DHS as well as the Department of Justice and the Department of Transportation were members of and supported this Task Force, as were many state and local 911 leaders. The Consolidated Final Report and Recommendations (Report) of the Task Force, issued this past January, provides detailed guidance and recommendations that could help accelerate Colorado's transition to NG911. The full text of the Report is available on the FCC's website at https://transition.fcc.gov/pshs/911/TFOPA/TFOPA_FINALReport_012916.pdf, and it provides a valuable blueprint for some of the key actions that are needed to put the NG911 transition back on track, including:

- Guidance for bringing the latest in technological innovation into the PSAP, while ensuring that the new architecture will be cost-effective, reliable, and resilient. In particular, Working Group 2 of the Task Force recognized several advantages that NG911 could provide in dealing with mass emergency situations, including active shooter crises. For instance, NG911 will be able to provide multiple circuits for alternative routing of 911 calls to a back-up location and enable centralized call taking centers to transfer 911 calls to designated PSAPs when faced with an overflow of emergency calls. Mutual assistance between jurisdictions will become routine in the NG911 environment;
- Methods to effectively and efficiently protect PSAPs against the real and expanding threat of cyber-attack as they transition from the circuit-switched world to the IP world. The Task Force shows how cybersecurity in the NG911 environment needs to be addressed by PSAPs collectively rather than individually; and
- Recommendations for further study of innovative funding models to enable state and local authorities to pay for the NG911 transition while also preventing scarce 911 funds from being diverted to other programs.

The Role of the FCC and States in Oversight of Outage Reporting

Finally, let me address the issue of 911 outages, which is an issue of great importance to us at the national level as it is to you at the state level. As I stated earlier, the FCC has a fundamental statutory responsibility to promote the safety of life and property through the use of wire and radio communications. In light of this congressional mandate, ensuring the resilience of the nation's 911 system is a core value and public policy imperative.

To reduce the risk of 911 outages during natural disasters, the Commission requires service providers that aggregate and route 911 calls to PSAPs in each jurisdiction to take responsible measures to provide reliable service, as evidenced by an annual certification that they have implemented specified

best practices or reasonable alternative measures. Note, however, that these rules only apply to the transport of 911 traffic from the service providers into the PSAP or ESINet. The handling of 911 traffic within the PSAP or ESINet is a state and local responsibility.

The Commission also monitors the reliability of communications networks through outage reporting by communications providers of major communications disruptions. Data gleaned from these reports have allowed us to detect adverse outage trends, monitor and assist carriers' service restoration in times of crisis, communicate with affected third parties, such as public safety officials and state regulators, and, post-restoration, facilitate discussions and efforts that lead to industry-wide network improvements and standard-setting. In addition, when an outage potentially affects a PSAP or other "911 special facility," our rules require certain communications providers to notify affected PSAPs of the outages.

Since we established our Part 4 outage reporting rules over a decade ago, communications technology and infrastructure have rapidly changed. These changes are transforming communications networks generally, and in particular are driving 911 service to a much more data-rich "NG911" capability. In May of 2016, therefore, the Commission took steps to keep up with these trends by enhancing the information we receive on outages. The revised rules now provide us with better awareness of communication disruptions impacting major transport facilities, such as OC3 circuits, decrease reporting windows, and update methods to calculate the number of users "potentially affected" in an outage. In addition, the rules now find that a "loss of communications" to a PSAP occurs when there is a network malfunction or higher-level issue that significantly degrades or prevents 911 calls from being completed to PSAPs, including when 80 percent or more of a provider's trunks serving a PSAP become disabled.

Significantly, the Commission concluded that direct access to NORS by our state and federal partners is in the public interest. It directed the Public Safety and Homeland Security Bureau to study issues related to security and confidentiality of sensitive information and develop recommendations for the successful implementation of our information sharing proposals. We intend to work with our state and local partners to develop improved information-sharing consistent with these principles.

Looking forward, in a companion Further Notice of Proposed Rulemaking, the Commission has proposed to update its Part 4 outage reporting requirements to address more comprehensively the increasingly essential element in our nation's communications networks: broadband. In doing so, we seek to ensure that the Commission's outage reporting system keeps pace with technological change, the increased risk of cyber outages as well as outages caused by other factors, and the impact of evolving consumer preferences.

Together, these rules and proposals reflect the principle that reliable 911 service must be available to all Americans, at all times and through a broad range of technologies, and that service providers must provide timely notification when 911 outages occur. Each of these rules serves an important function in promoting seamless, ubiquitous, and reliable 911 service nationwide.

At the same time, our actions on outage reporting at the Federal level do not preclude the possibility of states asserting their own authority in this area. Indeed, the Commission has recognized that states play an essential role in ensuring that there are no "seams" in our collective oversight of the 911 system. In its November 2014 Policy Statement on 911 governance, the Commission stated that its

policy is to encourage and support efforts by states and localities to ensure the reliability of end-to-end emergency communications infrastructure and programs, including seamless, ubiquitous, reliable 911 service. As IP-based 911 service providers transition to architectures that extend beyond the boundaries of any state and implement network changes that may affect quality of service on a regional or national scale, consistent and collaborative governance is not just good governance, but essential to maintaining the vital public benefits of 911. Together with our state and local partners, the Commission's Policy Statement affirms the public safety imperative to oversee each of the increasingly complex component pieces of the nation's 911 infrastructure, and to ensure that service providers within our respective jurisdictions are held fully accountable for providing reliable 911 service to all Americans.

Conclusion

In closing, a successful NG911 implementation in Colorado will be founded on state leadership, coordination, and oversight. Effective oversight, however, is data driven, therefore, Colorado should avail itself of its authority to monitor all of the participants in the NG911 ecosystem and to draw from local expertise and operational experience. Whenever possible, Colorado further needs to advocate for and draw expertise and capability from NG911 national enablers in the areas of cybersecurity, GIS, and funding. Although there isn't one model to follow for NG911 implementation, there are a set of required elements. The FCC's PSAP Task Force has provided a ready blueprint for action, and I encourage you and Colorado's state and local decision makers to consider closely their recommendations. Thank you again for the opportunity to address the Task Force.