

**FINAL REPORT
OF TFOPA WORKING GROUP 3**

**Task Force on Optimal Public Safety Answering Point
Architecture (TFOPA)**

**Working Group 3: Optimal Resource Allocation
September 28, 2015**

**Chair: Philip B. Jones, Commissioner
Washington Utilities and Transportation Commission
(WUTC)**

Preface

The Task Force on Optimal PSAP Architecture (TFOPA) is a federal advisory committee chartered to provide recommendations to the Federal Communications Commission (FCC) regarding actions that Public Safety Answering Points (PSAPs) can take to optimize their security, operations, and funding as they migrate to Next Generation 911 (NG911).

The Chair of the TFOPA is Steve Souder, Director, Department of Public Safety Communications, Fairfax County. The TFOPA has three Working Groups:

Working Group 1: Optimal Approach to Cybersecurity for PSAPs, Chair: Jay English, Association of Public-Safety Communications Officials;

Working Group 2: Optimal Approach to NG911 Architecture Implementation by PSAPs, Chair: David Holl, National Association of State 911 Administrators (State of PA); and

Working Group 3: Optimal Approach to Next-Generation 911 Resource Allocation for PSAPs, Chair: Philip Jones, Washington State Utilities and Transportation Commission.

Under the Charter, Working Group 3 was responsible for creating this report covering an “Optimal Approach to Next-Generation 911 Resource Allocation for PSAPs.” This report and its recommendations should not be attributed to or deemed endorsed by the organizations that nominated members for service. All Working Group 3 participants acted in their personal capacities, or in some instances, as a representative of an organization or association involved in 911 issues. As such, the analysis and recommendations contained in this Report represents consensus views among our members, and reflects the give and take in reaching agreement on our final recommendations. I was nominated to serve on TFOPA by the President of the National Association of Regulatory Utility Commissioners (NARUC). However, the views expressed here are my own acting pursuant to my prerogative as an individual commissioner of the Washington Utilities and Transportation Commission and do not necessarily express the views of NARUC, which is governed by the resolutions it adopts.

I want to thank all members of the TFOPA Workgroup 3 for their hard work and research on this report. They are listed in Appendix A of this document. Our collective efforts reflect consensus of a "volunteer" effort by both the Chair and all 15 members of WG3.

Commissioner Philip B. Jones

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I. Introduction

Our nation's 911 system for emergency communications constitutes a remarkable achievement over the past half century. It was constructed from the bottom up through the efforts of local, county and state officials in collaboration with telecommunications carriers and public safety entities. The system is grounded on an extensive "911 ecosystem" of skilled professionals at Public Safety Answering Points (PSAPs) that receive mostly voice calls and dispatch field responders to emergency conditions and events. This 911 ecosystem spawned a variety of systems, equipment, and service providers throughout the supply chain to support the existing 911 system, which is based on legacy circuit-switching. This legacy 911 system is now also actively addressing the challenging transition to a fully capable Internet Protocol-based service called Next Generation 911 (NG911). Moreover, it has created a "911 brand" that consumers instinctively understand and use during emergencies to save lives and property.

In fact, about 240 million calls to 911 call centers or PSAP's are made annually, or a staggering 658,000 calls per day, according to recent statistics from the National Emergency Number Association (NENA). Our 911 system is a success story of technological innovation that reflects substantial industry and government collaboration. The inherently local nature of the service is evidenced by the approximately 6,000 PSAP's deployed across the country and subject to county, municipal or regional jurisdictions. While many of these centers serve large metropolitan areas or large counties, many, are smaller or secondary offices with a small number of staff that rely primarily on the equipment and services offered by larger PSAPs. It has also provided for the education and training of thousands of locally based call takers and dispatchers – sometimes called "Telecommunicators" – who staff PSAPs on a 24/7 basis. A critical mass of people across the country are passionate supporters of a reliable and secure 911 system that ensures public safety, whether they work at PSAP's, state agencies, telecommunications carriers, vendors, the FCC and other federal agencies.

Most importantly to our nation's citizens, the 911 system has saved countless lives and avoided millions in property damage. These systems are a classic example of a "public good" from the lens of both economics and political science. It is a public good in that 911 services provide comprehensive emergency services broadly for all citizens in distress, and those demands cannot be excluded from society. Also, competitive markets are not well suited to provide such services broadly to all who request them. Without question, 911 systems provide a crucial benefit to all of society, yet the governance and funding of the 911 system pose a challenge. Unfortunately, current methods of recovering the costs of 911 systems across multiple jurisdictions are a complex hodgepodge of approaches. Existing fee collection mechanisms are arguably outmoded. Many contend they must be updated to be more equitable, consistent, and sustainable.

Because the provision of 911 services has always been at the county or state levels, the primary funding responsibility rests with local governments. Federal agencies act as important facilitators, especially the Federal Communications Commission's (FCC's) Bureau of Public Safety and Homeland Security and the Department of Transportation (DOT)-National Highway Traffic Safety Administration's (NHTSA's) National 911 Program. In coordination with state and local governments, these federal agencies play a vital role enhancing situational awareness across jurisdictions, providing targeted grant funding to PSAPs, and promoting an integrated "national vision" for NG911.

Existing fee collection systems unquestionably are under increasing strains. At the same time, many policy makers at both the federal, state and local levels are aggressively pressing to deploy NG911 systems. Some argue that current funding mechanisms are too complex and inconsistently applied across both (i) jurisdictions and (ii) the services capable of connecting callers to the 911 system. State continue to face challenges in fitting emerging services into existing funding mechanisms. Pre-paid wireless subscriptions, pre-paid wireless cards, Voice over the Internet Protocol (VOIP) technologies (nomadic, and fixed), and OTT (over the top) Internet data services have all raised such challenges. These new technologies and service allows some carriers to gain a competitive edge by avoiding paying an equitable share of 911 support. Such gaps in fee collection have forced some members of the 911 community to engage in extensive legislative battles and litigation with those non-contributing carriers whose customers still rely on the 911 system. With the advent of these new technologies, current approaches that simply assess fees on end use device or access lines, administered largely by traditional carriers, may no longer be sufficient. Today, revenues from 911 fees imposed on wireline services continue to decrease as more households, approximately 45%, cut the cord and shift to wireless-only voice service.

Working Group 3 shares the view of many in the public safety community that *any* technology or services capable of accessing the 911 system should contribute its fair share to operate the legacy 911 systems and also to assist in the build-out of NG911 networks.

Other funding challenges have emerged. Some states continue to repurpose 911 fees to other “public safety purposes” or to the states’ general revenue funds, both of which are inefficient and inconsistent with a State’s prescription of a dedicated 911 fee. Such “diversions” are not easy to quantify without a consensus view on what actually constitutes a diversion/unrelated expenditure. But, it is clear, under any reasonable interpretation of state laws and rules that such diversions have occurred in the recent past given by state Legislatures and continue to occur in a number of states today. State and local 911 authorities and legislatures use a wide array of budgeting practices to both collect and authorize 911 expenditures. The legislative practice of sweeping unfunded balances of 911-related accounts, especially those intended to fund NG911 system infrastructure generally occurs quietly without much public scrutiny.

Unfortunately, such practices have delayed plans in several states to meet the deployment schedule for the transition to an NG911 system. Public safety agencies already face a period of funding dual 911 systems; the legacy circuit-switched systems based on Time Division Multiplexing as well as the new IP-based systems based on Emergency Services Internet Protocol Networks, or ESInets.. These diversions of designated 911 funds will necessarily prolong any transition. This is inefficient and costly. In addition, if these trends continue, our nation may miss a unique opportunity to capitalize on the convergence of technological capabilities inherent in an IP-based architecture and system. Such capabilities have not existed in the legacy 911 networks and systems, and if the transition to NG911 is not managed and funded properly, our nation’s citizens may not receive the maximum benefits from our emergency communication system. Moreover, diversions could cause gaps between the two systems that could result in unnecessary deaths or injuries or property loss, not to mention the increasing possibility of cyber intrusions or other threats that affect the reliability of 911 systems.

In short, the nation’s system of 911 fee collection and expenditures is at risk. In many parts of the country, the trend lines are not encouraging. In fact, they have gotten worse over the past few budget cycles in many jurisdictions. Technologically-based “arbitrage” should not be an excuse for either consumers or providers of modern communication services to avoid paying a fair share to support NG 911 systems. The 911 community should not have to engage in inefficient

legal, regulatory or statutory efforts to ensure all providers that access 911 also contribute equitably to fund the service. This report is a wake-up call to policy-makers at all levels to understand the challenges, to consider certain 911 policy principles, and to propose sustainable and technology-neutral funding solutions. The report also provides a framework for the next generation of 911 practitioners at the local and state level for fees and optimal resource allocation. The 911 community must be more proactive educating policymakers to provide a sustainable funding means for an accelerated build-out of NG911 systems. Anything less is a huge disservice to all citizens and future generations who understandably expect reliable 911 service from all modern communication technologies.

II. Executive Summary

Working Group 3 has studied and analyzed a number of studies related to NG911 and fee and resource allocation issues. We list those studies in Appendix C, and realize they may not capture all relevant studies on 911 fees and resource allocation in the last decade or so. Working Group 3 paid particular attention to the description and analysis of various funding models included in the recent study on potential funding models by NASNA (National Association of State 911 Administrators). Our task was not to assess and/or criticize these reports in detail, but instead reference them in context as we developed our analysis and preferences in a very short period of time. Efforts to reform such funding systems are not easy and potentially involve several layers of government jurisdictions including over 6,000 primary PSAPs, 50 state governments and the District of Columbia, Tribal authorities, and others. This report provides a menu of options for policy makers at all levels with recommendations to facilitate the transition to NG911 services with sustainable funding. We begin with an Executive Summary of our analysis with the key findings, followed by a more detailed analysis of the priority funding alternatives for which we recommend state and local governments give serious consideration.

A. 911 Policy Statement:

After substantial discussion, the Working Group adopted the following overarching policy statement which is consistent with a 2015 NASNA study.¹ Working Group 3 recommends that the 911 community, across all states and PSAP jurisdictions, use the principles outlined in this short statement, along with the more detailed principles outlined, *infra*, in any discussions with policy makers.

Nine-one-one funding must be predictable, stable, and dedicated only for that purpose. A 911 fee shall be assessed monthly in a competitively neutral manner on all technologies utilized to place a 911 emergency request for assistance to a public safety answering point through an emergency communications network. Such fee can include a traditional fee on an access line or communications device in a subscription, an amount in a pre-paid wireless plan, or going forward, assessed on a unit of upstream bandwidth of an internet access network provider.

¹ Id.

B. Working Group Recommendations

1. Effective Statewide Planning and Coordination:

Based on a review of previous studies on funding 911, it appears that a cohesive, strong statewide 911 planning and coordinating mechanism is necessary in all states to facilitate the timely and efficient deployment of NG911 networks. Many jurisdictions have a statewide 911 coordinating body. Other states have strong and effective regional authorities in larger metropolitan areas. But some have neither. While PSAPs fundamentally remain a local emergency communications entity within county and local governments, statewide coordinating mechanisms should play an increasingly important role in all aspects of the build-out and operations of NG911 systems. Those state level coordinating mechanisms should have responsibility for long-range planning and in-state coordination, including developing an optimal architecture for the entire state, establishing minimum service standards, and providing for training and workforce development. One clear benefit of statewide coordination is the prospect of city and regional authorities combining at least for purposes of obtaining volume and term discounts on services and equipment.

PSAPs will continue to be the operators of the 911 systems with the critical local knowledge, and will provide the call takers and dispatchers with most of the NG911 equipment on site as well as training in its use. State law must provide a sound foundation for such a coordination mechanism, and the resulting mechanisms must be more visible and accountable. Moreover, the 911 community must develop more effective ways to engage key state decision-makers, including the Governor, chief information officer, budget office, revenue department, and public utility commission, as well as key state legislators and staff responsible for emergency communications.

2. Enhanced Data Quality and Reporting:

The quality and accuracy of 911 data at all levels of government can be improved. Better and complete data on all aspects of 911 funding will facilitate federal and state efforts to set appropriate and sustainable levels of funding for this critical public service. Currently, the accuracy and quality of data submitted to the FCC for incorporation into the agency's annual report to Congress, required by the Net 911 Act,² is deficient. State and regional 911 authorities must work with PSAPs to improve the accuracy of the data submitted to the FCC. Moreover, we specifically recommend that (i) a third party auditor review the data submitted to the FCC before its Net 911 Report is submitted to Congress, and (ii) third party auditing should be considered by each State as new contributor technologies/services/entities are identified, e.g., retailers for point of sale collection of 911 fees for pre-paid wireless plans and IP-enabled devices that use 911 services. Such audits should consider as a foundational matter the need to develop a consensus around key terms used in such an audit.

3. Continued Cooperative Federalism:

The concept of "cooperative federalism" must be the foundation governing the transition of existing 911 networks to NG911. Statutory authority over 911 exists at both the state and

² *New and Emerging Technologies (NET) 911 Improvement Act of 2008*, Public Law 110-283 (January 3, 2008), (Net 911 Act) online at: <http://www.gpo.gov/fdsys/pkg/BILLS-110hr3403enr/pdf/BILLS-110hr3403enr.pdf>.

regional levels and in certain regulatory environments the FCC maintains jurisdiction. Nine-one-one calls which necessarily almost always begin and terminate within a State/jurisdiction are *by definition* clearly both intrastate and subject to State oversight.³ State statutes convey authority to officials to direct oversight and operation of public safety funding, deployment, and assure the responsiveness of such systems. Federal agencies, such as the FCC, DOT/NHTSA, Department of Homeland Security, Department of Justice and others, have interests in assisting in the efficient and cost-effective deployment of NG911 systems nationwide. They also have, in varying degrees, limited statutory authority to address certain issues or encourage certain policies. Government at all levels should engage in sustained substantive dialogue to develop additional mechanisms to promote NG911 deployment. This “big tent” approach necessarily includes disparate views and may be challenging to coordinate. But, at a minimum, the FCC should maintain its efforts to establish a long-term vision for a viable and secure NG911 network, while increasing efforts to facilitate meaningful discussions among all levels of government in order to address inconsistencies in architecture and operations among the PSAPs and states, and other jurisdictional tensions inherent in this evolving paradigm.

4. State/Regional Control of PSAP Operations and NG 911 Transition:

The TFOPA consists of three Working Groups. Working Groups 1 and 2 are working on cybersecurity issues and the optimal PSAP architecture. Working Group 3 will review other working groups’ recommendations when complete. However, the Chairs of each working group have coordinated as much as possible. Based on that coordination, Working Group 3 endorses other groups’ efforts to (i) develop a state-level cost-effective, efficient architecture for NG911, and (ii) to enhance measures to protect the emergency infrastructure against cyber intrusions. We also endorse the NG911 system architecture developed to date. NG911 systems require that shared services networked across multiple PSAPs meet a series of well-defined conventional criteria.

However, such criteria should be established by a state or regional governing body and include decision analysis, cost effectiveness, budgetary constraints and priorities, accountability, and a well-defined governance structure, subject to external audits and contractual obligations. Indeed, it is crucial that PSAP and first responder operational decisions remain at the local level. This is discussed in more detail in the Section on Effective Statewide Planning and Coordination later in the report.

5. PSAP Consolidation:

The Task Force was asked to examine prospects for greater PSAP consolidation, either within state boundaries or perhaps nationally. Consolidation is currently occurring on an organic basis. This trend towards PSAP consolidations, where it is practicable, and results in efficiency gains, is accelerating as more IP-enabled architecture is deployed and services are shared. However, as outlined in the previous section, there are technical, logistic, and jurisdictional challenges with any consolidation – particularly those that would occur across state boundaries. Under a cooperative federalism paradigm, state and local government authorities maintain primary jurisdiction over 911-services. Moreover, PSAP consolidation does not necessarily translate into

³ See, e.g., the definition of “interstate services” at 47 U.S.C. §153(28) which specifically excludes from that definition: “wire or radio communication *between points in the same State*, Territory, or possession of the United States, or the District of Columbia, *through anyplace outside thereof*. .” Note the application of the provisions of Chapter 5 is limited by 47 U.S.C. § 152(a) to such “interstate” services and specifically excludes, as noted in 47 U.S.C. § 152(b), “charges, classifications, practices, services, facilities, or regulations *for or in connection with* intrastate communication service by wire or radio of any carrier.”

increased efficiencies or cost savings.⁴ Therefore, Working Group 3 believes that focusing only on PSAP consolidation is neither constructive nor within the exclusive scope of our Working Group. Instead, we have chosen to focus more on which funding mechanisms offer the best approach going forward in light of the policy principles mentioned above. The recommendations in this report, as a whole, provide a more constructive path forward that is both appropriately respectful of state and local government prerogatives and legally sustainable.

6. Potential New 911 Funding Mechanisms:

Working Group 3 examined five potential funding options for state and local governments with a bias towards approaches that are technologically neutral and sustainable. The results are summarized below. It is important to stress that our report presents a menu of options for the state or local government to consider when creating a longer-term approach for funding NG911 systems; it is not meant to be a federal mandate or a requirement. No funding system is perfect and adjustments will be needed for any revised funding approach, which will likely include several different funding sources. Any revision of State funding mechanisms will require some time to change current State laws and will involve a transition of several years.

- a. **Approach:** *Continued reliance on the current 911 funding model supplemented by a new “network connection” fee based on upstream bandwidth levels and assessed on any carrier or broadband provider that provides Internet access to retail customers.*

Response: We believe this funding method is sustainable as well as technologically and competitively neutral. It could be assessed on network providers that provide internet access, based on upstream bandwidth, and may be assessed on a smaller number of such carriers or network providers. The details of the funding mechanism are critical, and several adjustments are needed to make this approach equitable and legally sustainable. We recommend that further detailed study of this mechanism, and its necessary adjustments and assumptions, be carried out by a new joint state-local-federal advisory committee.

- b. **Approach:** *Continued reliance on the current model including efforts to secure funding from pre-paid wireless services in all states. Based on our review of the limited data available, it appears 14 states have not resolved the need to collect 911 fees on prepaid wireless plans at retail point-of-sale.*

Response: Addressing prepaid wireless plans is a crucial part of assuring sustainable and technologically/competitively neutral 911 funding. 37 States have resolved the need to assess 911 on such plans after significant legislative efforts and/or litigation. However, the remaining states still need to resolve these issues. Working Group 3 encourages non-conforming states to resolve this “funding gap” as quickly as possible through state legislation. Also, due to the non-monthly purchase pattern of pre-paid

⁴ See, e.g., the discussion under part [4] above and the April 21, 2015 Comments of Boulder Regional Emergency Telephone Service Authority, at 2, online at: <http://apps.fcc.gov/ecfs/comment/view?id=60001029718> (“Consolidation of PSAPs...will interfere with the effective provision of emergency response.”)

customers, actual collections of 911 fees at point-of-sale on these plans may not be equitable at current levels. States utilizing State Comptrollers see improved performance in fee remittance and collections. As more data on actual collections is developed by state entities, and compared to forecasted collection for this class of customers, this issue will need more scrutiny. As above, we recommend that the FCC should refer a more detailed examination of this to the joint ad advisory committee.

- c. **Approach:** *Migrate 911 funding towards state universal service fee assessments. Currently, only Vermont assesses 911 fees as part of the overall funding of universal service requirements. About 22 states have some form of state-based universal service funding. At the federal level, the basis of contributions for the federal universal service program has been referred to the Joint Federal State Board on Universal Service and its report on recommended changes to the existing contribution methodology is under review and expected soon.*

Response: Working Group 3 concluded this is not a viable option because of the current bifurcation in how existing State universal service funds operate, and the fact that most state universal service and 911 programs are managed separately.

- d. **Approach:** *Integrate NG 911 funding into state sales and use taxes. About 45 states have some form of sales and use tax. However, such taxes could not be subject to the Federal proscription against diversion of 911 fees. This approach would likely reflect the problems associated with current commingling of 911 fees with general fund revenues, and face problems characteristic of state appropriations procedures.*

Response: We find less merit in this approach than did the 2015 NASNA study for several reasons. Historically advancements in 911 were not funded by general revenue due to higher competing budget priorities, and a specialized fee concept was developed to provide dedicated funding. There is established precedent for 911 and NG911 fees to be collected separately and maintained in separate funds, outside almost all State's general fund. If combined as this approach would require, the current diversion of 911 fees will expand due to state budgetary pressures, especially among the various state agencies with some connection to "public safety" – however tenuous. Moreover, the political obstacles to enactment of a sales and use tax enacted, *de novo*, in 5 states would be enormous in the current fiscal environment. Indeed, some states require voter approval of new taxes, surcharges, or fee increases. Others require a super-majority (two-thirds) vote of the Legislatures to approve such fees.

- e. **Approach:** *Consider incorporation of 911 funding into state insurance fees. Each state has some jurisdiction over insurance rates and policies. Some argue that health, fire, and casualty insurance policies also have a natural nexus to emergency communications. In fact, the Blue Ribbon Panel on 911 Funding recommended consideration of attaching a 911 fee to health insurance policies.*

Response: Working Group 3 did not give serious consideration to this approach because of concerns about feasibility and the gulf between jurisdictions with respect to 911, public safety, and insurance.

7. Enhance Education and Outreach:

Studies of 911 fees and NG911 deployment should be developed with a strong emphasis towards implementation and execution. In particular, a much more integrated, intensive approach toward outreach and education must be developed for the 911 community. These efforts should be directed toward key state decision-makers that do not generally work directly within the 911 ecosystem. Some industry stakeholders and trade associations have already developed programs to highlight the importance of 911, *e.g.*, the National Conference of State Legislatures' program and database for tracking state 911 actions. However, current efforts are not sufficient to assure timely deployment of NG911. More can be done. The FCC, led by the Bureau for PS/HS, NASNA, NARUC, NENA, APCO, DOT/NHTSA, along with state and local public safety stakeholders need to develop a coordinated plan to educate these decision-makers.

8. Creation of a Local State Government Advisory Committee on 911:

Federal/State advisory committees have been established to address a variety of issues. One possibility is to convene a Local State Government Advisory committee to focus solely Next Generation 911 issues. The goals of such a committee would include the development of messaging points and information for local, state and federal entities to understand NG911, funding and policy recommendations and more. Moreover, within the authority of the Commission, the committee could examine in more depth, with an eye toward effective implementation, some of the recommendations in the report of Working Group 3, including the network connection fee, the alleged under-recovery of forecasted revenues from pre-paid wireless plans, how to enhance the quality and analysis of the data submitted to the FCC and then to Congress pursuant to the Net911 Act, and other issues.

III. Guiding Policy Principles for any State funding Mechanism:

As NENA's 2007 *Funding 911 Into the Next Generation* accurately points out, NG911 will reflect an ecosystem comprised of shared networks, databases and application environments fostering both traditional and new types of 911 costs that must be funded.⁵ In the new ecosystem, traditional stakeholders in the 911 community will work together in new and innovative ways, generating a more complex service setting that calls for the sharing of costs and financial obligations. As a matter of principle, 911 funding mechanisms should be:

- **Predictable and stable;**

This is necessary to support budgetary planning as migration to NG911 will occur over several years and involve capital intensive projects. Revenue streams must be predictable and stable to support essential financial and budgetary planning;

⁵ NENA, *Funding 911 in to the Next Generation: An Overview of NG911 Funding Model Options for Consideration* (March 2007).

- **Based on a consumer's ability to request emergency services;**

Funding 911 service should be directed to the potential end user that such service is intended to benefit. Such a "user fee" should be based on the use of any communication service that supports requests for emergency services.

- **Reasonable, equitable and non-discriminatory;**

Nine-one-one fees assessed on end-users should be set at a reasonable rate, equitably applied and nondiscriminatory based on non-recurring and recurring costs to deploy 911 services as required by State law.

- **Assessed on all services that can access NG 911 systems;**

This is the complement to the second principle outlined above. Nine-one-one fees should be applied to any communications service with the capability of reaching 911 public safety agencies to a request emergency services response.

- **Technologically and competitively neutral;**

Nine-one-one funding policy should support a technologically and competitively neutral service environment, and provide 911 agencies an opportunity to deploy and upgrade 911 technologies as advancements are made. Such funding mechanisms should also be flexible enough to accommodate the evolution of communication technologies.

- **Designed to assure fees can only be used to support 911 systems;**

As a communications user fee, funding should be dedicated to the provisioning, maintenance and upgrade of emergency communication systems as defined by state statute and related state and local rules and policies. All revenues collected should be dedicated specifically for such purposes, and not diverted to other uses. Nine-one-one funds should be collected and deposited in special purpose dedicated fund/accounts held outside the legislative appropriations process and not subject to restrictions beyond the scope of the authorizing 911 legislation. Language should also be considered that prohibits the diversion of 911 funds for purposes beyond the scope of the legislation.

- **Designed to assure fair and equitable allocation of the funds collected to provide service to those that pay the fees;**

Distribution of 911 fees should be allocated to authorized 911 stakeholders based on the relative share of cost and be distributed in a fair, consistent and equitable manner.

- **Designed to assure the revenues collected are sufficient to address transitional, provisioning and ongoing operational costs;**

Migrating to NG911 will involve transitional, provisioning and operational costs. Any funding mechanism must be sufficient to support all three types of costs,

including a combination of legacy and emerging NG911 costs during the initial stages of transition. The funding of ongoing operational costs must allow for the replacement of capital equipment and upgrades to 911 systems.

- **Clearly identified and accountable;**

Nine-one-one fees billed to end user/devices should be identified separately as a “911 Emergency Services User Fee” on consumer/user bills. Service Providers billing 911 fees should be subject to audit to ensure proper billing and remittance of the 911 fee. Nine-one-one agencies should be subject to audit.

- **Clear enough to avoid complicating the intergovernmental and sharing environment they support.**

Nine-one-one funding mechanisms shouldn't overly burden local government, and should allow for flexibility in the planning, deployment and operations of 911 systems, including intergovernmental and shared service environments.

IV. Previous Studies

Many organizations have produced useful papers on the transition to NG911. Some specifically address funding and governance issues. While studies by the FCC⁶ and the DOT⁷ have focused on the cost of nationwide NG911 deployment, estimating the cost to range between \$2.86 billion and \$9 billion depending upon the chosen deployment architecture, other studies specifically address funding and governance issues. White papers authored by the National 911 Program of DOT/NHTSA, the FCC, NENA, NASNA, academic institutions, and others form the foundation of this report. Many are referenced in Appendix C. Among these, the papers authored by the National 911 Program, NENA, and NASNA have been especially instructive. The March 2013 report of the National 911 Program, *Blue Ribbon Panel on 911 Funding: Current State of 911 Funding and Oversight*, provided the most recent relevant data and analysis. That paper's focus on possible NG911 funding mechanisms 911 and the complex issues of governance and oversight provided useful background for Working Group 3's discussions. NASNA's "*Four Potential Sustainable Funding Models for NG 911*" was especially useful. A draft was provided to the Working Group by NASNA leadership early in this process. NASNA approved the final version in June 2015. The paper's prioritization of the most attractive funding models was useful guidance. This study provides a summary of the pros and cons of different funding models, and highlights some challenges with implementation of any funding model. Composed of state agency officials, NASNA is both knowledgeable and sensitive to the political and economic realities of their respective government agencies. Although we differ slightly with our analysis of the various models (e.g., on the likelihood of moving forward with the sales and use tax option), this report's recommendations are largely consistent with this NASNA study.

⁶ "FCC Whitepaper: A Next Generation 911 Cost Study: A Basis for Public Funding Essential to Bringing a Nationwide Next Generation 911 Network to America's Communications Users and First Responders", September 2011, at https://apps.fcc.gov/edocs_public/attachmatch/DOC-309744A1.pdf

⁷ U.S. Department of Transportation, Intelligent Transportation Systems, "Next Generation 9-1-1 System Initiative: Final Analysis of Cost, Value, and Risk," March 8, 2009, pp 57-58 and 62-64, at http://www.its.dot.gov/ng911/pdf/USDOT_NG911_4-A2_FINAL_FinalCostValueRiskAnalysis_v1-0.pdf.

We also referred extensively to the “Net 911 Reports” drafted by the FCC’s PSHSB staff and submitted each year to Congress. The most recent report was submitted December 31, 2014 and covers calendar year 2013. That report framed the questions assigned to this Working Group. In response, this report notes the quality and accuracy of certain data submitted by the PSAPs, 911 authorities, and states to the FCC needs to be improved and makes several recommendations. This task should be a joint responsibility of the FCC and the state and local governments responsible for 911. An external audit would assist in ensuring the completeness and accuracy of this information.

NENA has also done a number of studies on NG911 related issues, including the 2007 study on funding options cited earlier. NENA leadership and staff have been actively involved in all aspects of the NG911 architecture, governance, and funding issues, and have several staff on this Task Force. The Working Group also found useful studies published by NENA, not specifically related to funding mechanisms, but addressing NG911 related issues, including the March, 2010 study titled *Next Generation 911 Transition Policy Implementation Handbook: A Guide for Identifying and Implementing Policies to Enable NG 911*.

Also, during the course of our deliberations, i-CERT (Industry Council for Emergency Response Technologies) published a useful study by experts at Texas A&M University. Although the paper’s sampling size of jurisdictions was pretty small and its analysis was broad, some of its conclusions were relevant to the financial challenge of transitioning from legacy facilities to an all-IP network. For example, it pointed out the insufficiency of capital to fund both the capital and operational needs of the NG911 systems, while at the same time operating and adequately maintaining basic 911 services through the legacy TDM systems. We also found the work that East Carolina University College of Business, Bureau of Business Research, to be useful in our deliberations, and specifically the work that it performed for the North Carolina 911 Board.

We also examined several State bills introduced and debated during our deliberations. It is challenging to stay abreast of state legislative efforts, and we recognize the diligent efforts of associations like NCSL (National Conference of State Legislatures) and the National 911 Program to keep policy makers up-to-date on emerging legislation. During this process, the Pennsylvania legislature enacted, and the Governor signed into law a 911 governance and funding bill that, among others, set a consistent statewide 911 fee regardless of the technology used to provide the affected services. This is the right approach. Several other states, including for example, Texas, Indiana, Illinois, and Oregon, have addressed other complex issues involved in statewide and local government institutional oversight and funding. While the Working Group lacked resources and sufficient time to follow all of these legislative efforts, we appreciate the efforts of interested groups in those states to move the agenda forward. Those efforts demonstrate that NG 911 funding mechanisms are not static. State legislatures and executive branch officials will continue to address these issues.

This report is focused specifically on implementation and execution of our recommendations rather than the broad analysis presented in the various cited reports. We hope these recommendations will not “sit on a shelf” while evolving communications technologies continue to overtake the ability of state funding mechanisms to keep pace. Our recommendations are directed at policymakers who do not operate in the “911 ecosystem” on a daily basis, and have competing demands for their time and attention. Although no one can predict what technology will prevail in the next five to ten years, the 911 community must be more proactive in trying to anticipate these trends and developing a 911 funding mechanism that is sustainable and competitively neutral.

V. Diversion of Funding

Seven years ago, Congress asked for regular updates on potential “diversion of funding” when it passed the Net 911 Act. We reviewed several recent reports the FCC submitted to Congress. These reports provide useful information and analysis, as well as a framework by which states and local governments can engage with the FCC on 911 issues. Still, the quality of data and analysis in these state reports submitted needs improvement.

The Working Group diligently attempted to ascertain the budgetary contexts and causes of “diversions” in the six states, and one Territory cited in the December 2014 FCC Report to Congress. However, it is very difficult to get full and accurate information on the reasons for such “diversions.” State legislative processes are opaque and always state-specific. Some of these diversions have occurred for several budget cycles. Unlike the federal government, most state must balance its operating budget and all have faced a difficult budget environment because of the recession. What we could discover follows:

California: The California Office of Emergency Services is aware of the Legislature’s decision to appropriate a certain amount of funding to CAL FIRE for its use in fire protection and prevention, including dispatching crews to affected fire response areas. It appears this diversion was the result of a decision of the relevant legislative committee in a budgetary environment where resources are scarce and the needs are great.

Illinois: As noted in the Net 911 Report, Illinois is a “wireless only” collection state with no 911 fees assessed on the traditional wireline access lines. This “diversion” appears to be a long-standing practice in Illinois approved by the Legislature. The Illinois Commerce Commission (ICC) has authority over the Public Utility Fund and the Wireless Carrier Reimbursement Fund, but doesn’t have the authority to transfer money from one to the other – only the Legislature can do that. For several years, as fund balances accumulated that could not be spent during a fiscal year, the Legislature passed bills that would transfer unfunded balances (from the wireless 911 fees) to both the General Fund and to the Public Utility Fund. It appears a bill recently passed the Legislature that removed any role for the ICC on wireless 911 fees, but we have yet to review the law. .

New Jersey: We were not able to contact anyone with direct knowledge of the alleged 911 fee diversion from legitimate 911 and NG911 purposes, to other related public safety areas such as Homeland Security and the State Patrol. Again, this appears to be the action of the relevant legislative committees to set certain priorities among the 911 community and PSAPs, relative to the needs of other state public safety agencies.

New York: We were not able to contact anyone with direct knowledge of the alleged 911 fee diversion. The New York Public Service Commission has little direct oversight of these activities. Again, the decisions for diverting a certain amount of 911 fees appear to be made in a non-public way by the leadership of key committees and the legislature, and through the office of the Governor and key agencies related to public safety.

Puerto Rico: We were not able to contact anyone with direct knowledge of the alleged 911 fee diversion, either in the legislative body or in the Executive Branch.

Rhode Island: As a historical and long-standing practice, the bulk of the \$1.00 per access line surcharge has been deposited in the state’s General Fund. Then the Legislature makes the allocations in the operating budget to the relevant departments for public safety and emergency communications. There are 5 relevant public laws in Rhode Island, passed by the Legislature and signed by the Governor, that govern this process during the budgeting and appropriations cycle. The Rhode Island commission has no authority over either the E911 surcharge or the approval of expenditures from such fees.

Washington State: According to state 911 officials, for state fiscal year (one year) 2014, the State E911 Fund expended \$21,957,199 in support of activities related to 911 operations. Of this, \$12,917,443 was expended to support the Statewide NG911 Network, state contracted 911 training resources, and the E911 Advisory Committee. However, the following activities not directly related to E911 were also funded from the 911 fees: \$10,842,000 for the operations of the Washington Military Department responsible for administering the statewide 911 activities, and \$3,480,000 for the Washington State Patrol. In the FY 15-17 operating budget that just passed the Legislature and was signed into law by the Governor, such funding for non-911 activities were approved at a similar rate to the previous biennium. We did not directly contact the legislative leadership on these expenditures, but several have expressed an aversion to “dedicated funds” (not only 911 funds but other segregated funds as well), and strongly support such fees flowing directly to the General Fund.

Some of the listed practices have been utilized for several years and have considerable inertia. However, such practices are not consistent with the goal of building out an NG911 architecture and system while maintaining the legacy 911 system. But, State law and practice must remain as the primary authority on State budgetary issues – given that states generally by law must balance their operating budgets and make difficult choices among competing priorities for scarce revenues. An overly narrow focus on “state diversions” is not particularly constructive as we make the transition to a fully capable national NG911 system.

Instead, these issues must be challenged and addressed on a state-by-state basis based on the recommendations in this Report. There should be more transparency regarding the ultimate decisions about 911 fee revenues that Legislators and Executive Branch officials make regarding the priorities among important projects in a difficult budgetary environment. A strong education and outreach effort to those policy makers is needed, rooted in a strong partnership among federal, state, and local government agencies along with PSAP’s in all jurisdictions.

VI. Potential Role of Federal Grants

The role of key federal government agencies, as stated earlier, is vital in several areas – including to help promote a “national vision” for NG911 system, addressing the “seams issues” that cross state boundaries, providing additional oversight for any national carriers not explicitly regulated by a state (or subject to state control through contractual relations with State jurisdictional providers), and creating a sustained, credible partnership with statewide and county/municipal officials. But there is one obvious area where the federal government can play a more familiar role – targeted funding to deploy new technologies.

- A. Rural Utilities Service (RUS):** The Working Group reached out to officials at the RUS to consult about potential appropriations to assist with NG911 deployments. Even if appropriations were to be provided, the actual potential and effectiveness

of a loan program for NG911 is unclear. RUS has funded electric and telecommunications capital expenditures in rural areas in the past, and it has authority to assist with public safety issues. Neither legacy nor 911 has been an active component of any RUS program.

- B. Department of Justice (DOJ):** Again, the Working Group assessed the possibility of appropriations through a DOJ process to assist in the build-out of NG911 systems at state and county levels. But it seems unlikely. It would obviously help, if DOJ's programs could be revised to designate local/state 911 authorities as eligible entities for public safety grants.
- C. FCC:** The Commission, of course, is primarily a regulatory agency, and generally lacks discretionary grant funding like those residing at RUS or DOJ. Moreover, for a variety of reasons, the FCC's budgetary environment has tightened recently with the Appropriations Committees in the House and Senate⁸. Our report properly focuses on potential funding alternatives to existing 911 fee mechanisms in the state and counties for both ongoing operations and maintenance, as well as capital. But we also recognize that potential federal funding could act as an "accelerant" with matching state funds to speed up significantly the pace of NG911 deployments.
- D.** More specifically, in a recent speech before an APCO conference, Chairman Tom Wheeler⁹ set the stage for what could possibly be a significant step forward for NG911 deployment. As our Report points out as well, the Chairman noted that maintaining two 911 systems in a longer transition period is a costly endeavor for States and PSAPs around the country already strapped for sufficient revenues just to operate the current networks. The Chairman is calling on Congress to be a partner with States, PSAP's and the 911 ecosystem to facilitate a more rapid transition by: a) establish matching funds to help PSAP's migrate to efficient NG911 ESI-Nets and shared platforms; b) direct the FCC to assist states in developing effective audit tools to ensure appropriate collections and expenditure of 911 fees, and prevent the diversion of such revenue for non-911 purposes; c) establish a national maps database to ensure that every PSAP has access to the latest and most accurate data, and urge their use in PSAP operations; and d) incent the development and use of shared Security Operations Centers supporting multiple PSAP's through a shared services approach toward cybersecurity.
- E.** Working Group 3 notes that much of the Chairman's recommendations are already being explored by Working Groups 1 and 2, and that we have already addressed the diversion and enhanced quality of data issues. Hence we believe that his proposals are clearly consistent with at least the recommendations of Working Group 3, and likely those of the full TFOPA. The Chairman deserves great credit for opening the door for a dialogue, and for seeking to establish a collaborative approach with Congress in this area that sorely needs attention and collaborative action by the Congress, the FCC, and other federal agencies.

⁸ <http://www.appropriations.senate.gov/>

⁹ Remarks of FCC Chairman Tom Wheeler 08192015 as prepared for delivery 'Embracing Change for Public Safety Communications' APCO Conference, Washington, DC.

- [1] **Spectrum auctions:** *The Commission may wish to seek legislative authority to divert some percentage of the revenues from the incentive auction for broadcasting spectrum scheduled for March, 2016 to grants for NG 911 deployment. In future auctions of spectrum, Congress should ensure that revenues in excess of the scored amount be allocated to Next Generation 911 deployment through the 911 Office. The total amount proposed for NG911 may be in the range of 2.86 billion, as cited previously. To receive Federal auction revenues for NG911 deployment, states should be required to contribute a portion of the cost through a matching grant.*
- [2] **Universal service/Connect America Fund (CAF):** *For the past few years, the FCC has significantly restructured the traditional federal USF support mechanisms from legacy systems, both wireline and wireless, to a mechanisms that support higher-speed broadband deployments in high-cost areas through the country, mainly in rural areas. The FCC is in the process of resolving issues associated with CAF Phase 2 both for price-cap carriers and traditional rate-of-return (ROR) carriers. Given the strong broadband focus in the recent restructuring of the federal USF program, the FCC should consider whether it would be appropriate and how to allocate a modest amount of funding to NG pilot programs.*
- [3] **Schools and Libraries Fund:** *Congress created the schools and libraries fund to ensure that classrooms have broadband internet connectivity. Congress should allow the FCC to expand the Schools and Libraries Fund to include broadband connectivity to 911 centers.*

F. National Highway Traffic Safety Administration (NHTSA): We also considered the incentives and disincentives (some term this the “carrot and stick”) associated with NHTSA grants for NG 911 funding. In general, any federal approach solely oriented on disincentives is not constructive. Penalizing a particular PSAP in a state that has “diverted” 911 fees for other purposes, as listed in the Net 911 Report, is not helpful to either the PSAP or the cause of accelerating NG911 deployments. The PSAP in that state undoubtedly had nothing to do with the explicit decision to divert 911 fees to other purposes. In fact, such a PSAP most likely advocated before the Legislature/Governor’s office fighting such diversions.

The NHTSA approach should be revised and not copied by other federal programs. A more balanced approach will not only respect the concept of cooperative federalism, but will stay focused on the ultimate goal of accelerating NG deployments. Federal agencies should remain firm in their approach toward the States that *repeatedly* decide to divert 911 fees or sweep unfunded balances for other purposes, and there should ultimately be consequences for *repeated* diversions. The following is one possible approach.

Early Warning Mechanism: Annually, the FCC, together with NHTSA and other federal agencies, could review changes in state laws, and appropriations, that relate to the 911 funding and NG911 deployments. This is required under the Net 911 Act. But, some sort of “early warning mechanism” should be developed by the Commission and federal agencies, or through a Federal-State Advisory Committee on 911 described below, to track more effectively state legislation and activities affecting 911.

New Federal State Advisory Committee on 911: The FCC should charter a Local State Government Advisory Committee on 911 to, among other things, assess the alleged “diversions” and “sweeps of unfunded balances” of 911 fees by either Governors’ Offices (through their official submittal of budgets), or key Legislative Committees and the consequences on NG911 deployment.

Informal Discussions: In early stages, the federal agency staff will communicate informally with the relevant 911 authorities in each state to gauge how serious these legislative changes are. The Commission should impress on their state counterparts that there may be consequences if they proceed.

Formal Letter: At some point, if such actions are judged to be likely, the process will be escalated to the level of the Secretary’s or Chairman’s Office in each agency. A letter will be prepared for the signatures of the following agency heads: Secretaries of DOT, DOC, USDA, and the FCC Chair. The letter will be addressed jointly to the Governor of the affected states, and the relevant Committee Chairs in the Legislature responsible for 911 fees and expenditures. The essential content of the letter is to request the state to stop diverting or sweeping of 911 funds. Copies of such letters will be provided to the Chair of the Senate Commerce Committee, and the Chair of the House Energy and Commerce Committee, to whom the Net 911 Act Reports are submitted.

Impact on Federal Funding: The state authorities will be put on notice that if such diversions or “sweeps” occur repeatedly (say twice for States with a biennial budget cycle), there will be consequences from the federal government. One potential consequence could be a loss of federal funding for certain projects, such as highway or other transportation infrastructure projects under the control of US DOT, located in that state either on a dollar-for-dollar basis.

Response: A reasonable period, 90 days or more, should be provided to the state to provide a response, although it cannot be federally required.

At the same time, the Working Group believes that the federal agencies should be working cooperatively with the states, counties, and localities through a federal grant program administered by NHTSA, the Local State Government Advisory Committee on 911, and other activities and programs. Many activities are already established and ongoing. Those should be enhanced and continued. However, transparency is an essential part of proper governance, especially for the collection and expenditures of 911 fees. If this mechanism helps bring better transparency to state diversions.

VII. Effective State and Regional Coordination

A strong and integrated statewide and regional planning and coordination mechanism is essential for the successful deployment of NG911 systems. Some states have established, either by statute or by rule, a cohesive state coordinating body, usually within an Emergency Management or communications department or office of information technologies, to coordinate the requirements, architecture, and build-out of NG911 systems. States that have a cohesive State 911 Administrator function have usually been vested with the authority to develop budgets and administer expenditures to the PSAP’s, usually with some type of consultative or advisory committee with the PSAPs and 911 authorities as key stakeholders. Other states have developed

effective statewide planning and coordination mechanisms involving key 9-1-1 stakeholders throughout their state.

But, quite a number of state have established neither an effective statewide 911 planning authority, nor cohesive regional planning authorities for their key metropolitan areas. This is not an acceptable paradigm to accelerate the deployment of NG911 systems across the country. While there is no one-size-fits-all model, it is clear that state, regional, and local authorities need to pay close attention to these issues and develop mechanisms to increase such coordination. In particular, such authorities need to be focused intently on some of the following processes and outcomes:

- *Long-term planning that support NG911 deployments;*
- *Establishing minimum standards for such systems for the entire state;*
- *Developing the optimal architecture for the state, based on ESInet concepts developed to date, and the recommendations of Working Group 2;*
- *Using the concept of shared services among the primary and secondary PSAPs in the state, to the extent possible;*
- *Developing consistent programs for workforce development and training throughout the state; and*
- *Ensuring that PSAP's and regional bodies develop the appropriate governance and budget accountability mechanisms within each state/regional 911 authority.*

The Working Group discussed various state institutional models that, while not entirely similar, appear to achieve most of the objectives outlined above. We list several state models below as examples of alternate approaches to achieve common goals:

Minnesota: This state has a strong regional body, the Metropolitan Emergency Services Board (MESB), to oversee the 911 system, public safety radio system, and EMS in the metropolitan area of Minneapolis-St. Paul. The Board consists of commissioners from the counties of Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Washington, and a council member from the city of Minneapolis. Over the years, the MESB has consistently achieved its objectives and worked cooperatively with other PSAPs and state agencies. In addition, the Statewide Emergency Communications Board (SECB) oversees issues related to 911 services, radio communication systems, and other public safety issues on a statewide basis. The SECB has a NG911 Committee which has overseen the development of a statewide plan for NG911 deployment, standards, and the build-out throughout the state. Together with other PSAPs located in less densely populated areas of Minnesota, the SECB has been able to work together with the relevant agencies to carry out these functions for NG911 in a collaborative way.

North Dakota: This state has taken a different approach by negotiating a Joint Powers Agreement with the North Dakota Association of Counties (NDACo), which carries out the statewide planning and coordination of NG911. The North Dakota Legislature established a statewide coordinating committee for this goal of statewide NG911 deployment, called the Emergency Services Communications Coordinating Committee (ESCCC). This Committee is also charged with recommending changes to the operating standards for emergency services communications, and developing guidelines regarding the allowable uses of the fee revenue collected for 911 systems. Based on these guidelines, NDACo is responsible for carrying out these approved guidelines and plans, and achieving a timely deployment of NG911. NDACo has an NG911 Program Manager on staff to

coordinate with the ESCCC and other stakeholders in the state. This entity has previously successfully managed the implementation of Phase II wireless service throughout the state, and states that it will use a similar planning model for the building out of NG911 equipment and services throughout the state.

Texas: This large and diverse state has developed a three-pronged approach to institutions governing the operations and maintenance of 911 systems, and the deployment of NG911 architecture in Texas. First, there are 25 Emergency Communication Districts (ECDs) operating under Chapter 772 of the Texas Health and Safety Code. These operate largely in large, metropolitan areas and serve 62% of the state's population. Second, there are 27 Home-Rule-City-based Municipal Emergency Communication Districts (MECDs) managed as part of ongoing city services. Third, there are 23 Regional Planning Commissions (RPCs) that operate within the Commission on State Emergency Communications (CSEC) pursuant to Chapter 771 of the Code, outside of the areas of the previous two groups and largely in rural areas. The three groups of 9-1-1 authorities have a long history of working collaboratively through mechanisms like the Texas 9-1-1 Alliance, the Municipal Emergency Communication Districts Association, and the Texas Commission on State Emergency Communications.

Alabama: Alabama 911 planning and implementation is achieved through a hybrid model of state and local government authorities. Legislative structured, 911 funding is shared between the local 911 Emergency Communication Districts (ECDs) and the state 911 Program Office. While the statewide office plays a valuable role in advancing 911 and NG911 in the state, the local ECDs carry a large role on the planning and implementation of 911 systems. On October 1, 2013, the fee structure in Alabama was modified by legislation to provide a single, monthly statewide fee on each active voice communication service connection that is technically capable of accessing a PSAP (prior to this, the fees were collected locally by the ECDs from fees assessed to wireline subscribers only, at a rate voted on by citizens in the county, complemented by a \$0.70 per connection fee according to a distribution formula based on population). Currently, the statewide fee is set at a flat rate of \$1.75 per connection monthly, and is collected by the State 911 Program Office. Then this Office disperses such collected revenues to the 88 existing ECDs, based on a designated amount.

As new funding mechanisms are developed to fund both existing systems and NG911 deployments, Working Group 3 believes, as general matters, policymakers should continue to adhere to the historical construct to maintain operational decision-making at the local level, and to avoid one-size-fits-all solutions. Certain operational efficiencies are certainly possible with greater scale and scope, and the concept of shared services among the PSAPs for cybersecurity and other functions certainly makes sense. Working Groups 1 and 2 are exploring these concepts in much greater detail. Yet it is worth offering some additional context as to why state and local control of 911 systems is critical.

PSAP operations, including call-taking and dispatch, are integrated into the operations of the first responder agencies they dispatch. The business rules of the PSAP and first responder agencies must be consistent and integrated. PSAP call-takers must be familiar with the area they dispatch, to assist in locating callers, and to better appreciate the circumstances of the emergency a call concerns. Familiarity with specific locations and individuals, which are the source or cause of frequent 911 calls, allows the dispatcher to better determine the appropriate response, prepare first responders for the incident to which they are responding, and assist First Responders.

Local officials are in the best position to appreciate the unique characteristics of their jurisdictions and agencies, and develop appropriate business rules and operational practices and procedures for first responder agencies and PSAPs. Responsibility for development of business and operational rules and operational decisions is best left with local officials with the best understanding and appreciation of the local factors impacting these policies, rules, practices and decisions.

VIII. Concerns over dual system funding in transition

Working Group 3 notes and agrees with the concerns raised in the recent i-CERT Report about the likely lack of funding both to provide new capital for NG911 deployment while simultaneously funding legacy operational costs during the transition. Specifically, the issue of concern is that PSAP's will have to pay the current ongoing operational and support costs associated with the existing legacy system, as well as fund the additional capital and operating costs incurred for the deployment of the new NG9-1-1 solution until a complete cutover to the NG9-1-1 solution is achieved and the legacy solution is de-commissioned. In effect, as NENA and other groups have previously stated, the transition period between legacy and NG9-1-1 represents a period of increased, not lower, funding requirements. Indeed, the cost savings expected from the rollout of NG911 will only be obtained by 911 planning agencies that have the ability to sustain the "double costs" of the transition era until the legacy system is de-commissioned and only NG technologies remain in use. The longer the transition timeframe is for a PSAP, the greater the costs will be that will be incurred as a result of this necessary and inevitable overlap of the costs of the two systems. The dual, and sometimes duplicative costs, will constrain the rollout of NG9-1-1, and in some cases, have a potentially terminal impact in jurisdictions that simply don't have the funds to pay for two systems. Lack of adequate 911 funding to sustain the migration from legacy to NG9-1-1 will slow the overall transition time to fully functioning NG911 technologies.

While a sound transition plan to NG9-1-1 does in fact require a methodical migration strategy, State and federal policy officials can play a critical role with expediting these plans by encouraging and facilitating a sound and methodical migration strategy. In this report, Working Group 3 sets forth both the overall policy principles and well as principles for more effective state and local coordination on such strategies. In addition, we suggest that Congress may wish to consider providing certain sources of federal funding to accelerate such as a transition. While the Working Group has not reached consensus, we do believe that the policymakers at all levels need to engage seriously in a targeted discussion about a date by which nationwide adoption of NG911 will be achieved. More specifically, although we realize that it is not legally enforceable, we recommend to the state and local governments that they reach a consensus soon on a targeted date, for example 2024, by which national deployment of NG911 would be completed. Such an objective would assume some sort of targeted federal grant program, with conditions, cited above, reducing or eliminating the number of states that divert 911 fees for other purposes, and other recommendations in this report. In short, such a policy would target not only a date as a national objective, but would be a collaborative and coordinated effort from the ground up with local and state governments.

One example may help illustrate both the complexity and importance of this need to shorten the transition period. One area where the problematic nature of the dual costs can be seen is with respect to the existing connections to the legacy Selective Router(s) serving a PSAP service area. During the transition to NG911, PSAP's will likely incur both the ongoing cost of current connectivity to the Selective Router(s) supporting the legacy 911 service, while at the

same time paying the IP connectivity costs for the NG9-1-1 solution that is being deployed. Actual duality and magnitude of the Selective Router costs will vary depending on what the policy and regulatory framework is within each state, and by the 911 service providers billing policies. However, the opportunity for potentially onerous, “double billing” is clearly seen in this one example. Without proper resources, 911 planning entities needing to advance their public safety systems will be left paralyzed.

IX. Possible Funding Alternatives

Working Group 3 believes that greater efforts must be made to consider alternative funding models as the transition to NG911 quickens. For decades 911 has been dependent on fees placed on landline telephone subscriber bills, then with fees on post-paid wireless subscribers and in some states, fees on pre-paid wireless subscribers. As more consumers cut the wireline “cord,” moving to wireless-only households, 911 fees have in some cases dropped significantly. Still, there are states that do not have a pre-paid wireless 911 fees.

Working Group 3 had a very short time schedule in which to examine the funding alternatives, develop its analysis, and make its recommendation. It also is the first working group among the three working groups to complete its work, and therefore did not have the full benefit of the analysis of the PSAP Architecture and Cybersecurity Working Groups. Therefore, it was not possible to integrate our work on funding alternatives more holistically with the results of their analysis, although that will be possible later. It was not possible to run detailed case studies or scenarios, with certain assumptions for architecture and security, and discuss the preferred funding scenario for those cases. Instead, we chose to focus on the highest priority issues in funding today, both the gaps and the prospects going forward in an all-IP network system, and to develop recommendations at a high level.

Moreover, as stated earlier in the Executive Summary section, we stress that this a menu of options for all policymakers at the state and local government levels to consider, as well as federal agencies and others in the 911 ecosystem. This is not meant to be a requirement at either the federal, state, or local level. Instead, we urge serious consideration of these proposals, and our analysis that led to our recommendations. Many details and adjustments remain to be discussed and resolved, if such mechanisms are to be adopted by state and local governments. As stated earlier, no system will be perfect, adjustments will have to be made, and transitions by nature are always somewhat complex and messy. The joint advisory committee, or LSAG, will be asked, at a minimum, to take up some of these detailed issues and discuss them. Another alternative would be for the TFOPA itself to examine these issues in more granular detail over the next year since it has approximately another year left in its term. That is a decision for the FCC. But, what follows is our discussion of approaches that the Working Group believes deserve serious consideration as priorities for funding mechanisms that may alleviate some of the stresses of the current funding while being consistent with our policy principles.

A. Network Connection Fee Approach:

1. Background:

Working Group 3 recommends the consideration of a transition to a “network connection fee” which would assess 911 fees on connections to the facilities-based communications providers over whose facilities voice telephony and other communications with a PSAP can be initiated. The intent is to treat equally all facilities-based network connection providers on whom 911 fee collection and remittance can be practically enforced. Also, such a fee would treat equally providers of non-facilities-based communications capabilities provided over those network connections (including capabilities provided by the facilities-based providers) on which no fee would be assessed. This recognizes the developing distinction between the interdependent markets for network connections (to the PSTN and the Internet), and for voice telephony and other outgoing or upstream communication capabilities over bandwidth.

IP-enabled broadband and CMRS IP-enabled data services (“IP-enabled services”) are supplied by providers who have invested in physical plant within a state and local jurisdiction necessary to supply the service, whether twisted pair, coaxial cable, fiber, or the interconnected towers and antennas of a wireless system. These IP-enabled services provide a connection to the public internet, and through gateways to the PSTN, which can be used by independently provided telephony and other communications services. That is, VoIP service can be provided by the IP-enabled services provider (“Facilities-based Provider) or by third parties with no physical facilities in the state or the country (“Non-Facilities-based VoIP Provider”). The Facilities-based Provider is readily identifiable and its 911 fee obligations on its VoIP service offerings are practically enforceable by virtue of its having physical facilities in the jurisdiction, while it is more difficult to even identify Independent VoIP Providers lacking any facilities within the jurisdiction. The VoIP customer base is also spread among a larger number of providers, increasing the costs of enforcing 911 fee obligations even if the VoIP providers can be identified. It is not a surprise, then, that the public safety community reports that 911 fees appear to be reliably remitted by facilities-based providers, while Independent VoIP Providers supplying service in some jurisdictions are often not even known.¹⁰

Today, 911 fees are established to provide the revenue required for a 911 Authority to meet the costs of providing 911 service, or some defined subset of those costs. If some end users of communications services subject to the 911 fee are not paying a 911 fee, either because they subscribe from a Non-Facilities based Independent VOIP provider or purchase prepaid minutes from vendors which do not collect and remit the 911 fee, then other consumers paying the 911 fee must bear the resulting shortfall in the 911 Authority’s revenue requirement. In a sense, this is a classic free rider problem in which certain market participants have the ability to benefit from the public good of ubiquitous emergency communications systems for society at large, but not pay an equitable share of the costs.

Independent VOIP providers and Independent Retailers not collecting and remitting 911 fees typically enjoy a price advantage in marketing their services compared to facilities-

¹⁰ Gateway providers can identify VoIP providers terminating traffic within a jurisdiction, but cannot necessarily identify VoIP providers with traffic originating within a jurisdiction.

based VOIP providers since those providers reliably collect and remit 911 fees. Rational end users will respond to this price advantage by taking service from the Independent VoIP Providers and Independent Retailers, decreasing the pool of users across which the cost of 911 service can be spread, and increasing the amount of 911 fees which must be assessed on the facilities-based VoIP providers and prepaid service providers. Nine-one-one fee reforms must be implemented in response to the changing structure of telecommunications services and markets, to make these programs sustainable.¹¹

2. Foundation for an equitable 911 fee on IP services:

In today's dynamic communications ecosystem, the following three factors support a migration to a network connection fee model for IP-enabled services in order to ensure our of our key principles – sustainability::

- a. The vast majority of communications services that can be used to contact a PSAP continue to require a network connection located within the state and/or local jurisdiction.¹² Assessment of 911 fees on the network connection over which the communications services will be provided will capture fees from every user of a communications service on similar terms and conditions.
- b. The reliable remittance of 911 fees on VoIP services supplied by facilities-based providers but not by some independent VoIP providers creates a situation in which the terms of market competition are not equal. Independent VoIP Providers gain an advantage by not collecting and remitting 911 fees, creating the free-rider and escalating-fee cycle discussed above. The impracticality

¹¹ Working Group 3 received substantive comments in the last week from two members both of the WG3 and the Full Task Force that were broad in scope and recommended that “the network connection fee should not be recommended.” These appear to coming primarily from industry-related groups. WG3 members have reviewed these comments after we received them, and discussed them as a group. We have rejected these proposed edits for several reasons, although we wish to recognize the right of every member to be heard in the process to date. First, WG3 members believe that there will be ample opportunities for such views – either on the upstream bandwidth component of a network connection fee, or on certain aspects of pre-paid wireless services – to be heard in the overall TFOPA process going forward. Indeed, following the expected adoption of the final TFOPA Report with an integrated document on November 5th, we fully expect the FCC to put it out officially for public comment, at which point i-CERT and other industry groups, and any others, can offer comments to the FCC. Second, WG3 was careful to put forward this option as one of several important options for consideration, and we are not recommending this as the exclusive option. Third, as we state in the Report, we recognize that this is a relatively new option with several complexities and features that need to be explored further in more detail. Indeed, we recommend that the joint advisory committee, the LSAG, should take this up as a first order of business. Finally, we note that these concerns and proposed edits are substantial in nature and scope, and were received at the last phase of our deliberations. WG3 members believe that such concerns were raised earlier in our deliberative process, and there were ample opportunities to explore in more detail earlier in our process. However, as stated in the Report, WG3 had a very short timeframe in which to decide which funding alternatives deserve more consideration and vetting, and we propose to defer these more detailed discussions to the LSAG process led by government officials involved in 911 from the local and state government levels, and the FCC.

¹² Satellite-delivered services which might be used to contact a PSAP require specialized equipment, are expensive, require a service agreement and have relatively small number of users, and as a result may permit effective implementation of a fee program.

of enforcing current 911 fee programs with respect to over-the-top VoIP Providers will also impede any reform intended at improving fee collection from service providers. We believe that imposing 911 fees on the network connection over which VoIP or other communications services are provided may well create more equal, competitively neutral market conditions for facilities-based providers of VoIP and other facilities-based services. Under this revised approach that no provider of VoIP or other voice or data services provisioned over the same network connection would be subject to the 911 fee.

- c. In addition, this network connection fee will impose equal terms and conditions among all network service providers, including traditional wireline, wireless and broadband providers. Working Group 3 believes this satisfies the principle of technological and competitive neutrality, cited above. Each competing network connection (network access) provider will collect and remit 911 fees for connections over which their customers can originate communications to a PSAP. No facilities-based provider would enjoy a price advantage by virtue of application or enforcement of 911 fees because all providers of physical connections to the PSTN or public Internet would be responsible for collection and remittance such fees, which would be an enforceable obligation pursuant to state law.

There is a substantially smaller number of facilities-based network-connection providers and potential network connection providers, than over-the-top VoIP and other service providers. This is a result of the vast difference in the investment required to deploy a telecommunications network as compared to the cost of developing and providing non-facilities based VoIP applications and/or services. We also anticipate a continuing trend of VOIP and other communications functionalities being incorporated in cross-platform applications, including gaming, productivity and social media applications, and even of new operating systems for traditional computing devices. Such integrated cross-platform applications not only increase utility but also increased tracking of user information permitting developing of additional revenue streams from highly targeted advertising. As this mechanism is implemented over time, the Working Group believes such a fee collection system should become more effective and simpler both from a revenue collection and auditing standpoint due to the smaller number of entities assessed.

Finally, questions may arise regarding the legal aspects of the imposition of such a fee for 911 purposes given the likely continuation of the Internet Tax Freedom Act (ITFA), whose continuance is now pending in Congress. These recommendations are clearly consistent with the express text of the ITFA, and specifically with the safe harbor provisions for 911 and E911 services provided in Section 1107(b) of this Act. To be clear, there is no question that any funding mechanism for 911 services fits squarely within the current exemption. However, Congress could clarify the current text to discourage inefficient/wasteful litigation on this point. Text to discourage even the most litigious is provided in Appendix B.

3. Details of a capacity-sensitive fee

In most or all states, legislation will be required to implement a connection-base fee. Public safety entities and service providers should participate in the development of the legislation to ensure that such a fee mechanism meet the policy principles enunciated above, especially that of technologically and competitively neutral (or equal treatment for equal services). The suggested components and details of a capacity-sensitive fee discussed below are intended to set forth an overall outline for further discussion and deliberation. Additional refinements of a network connection fee program appropriate to an individual state will likely be necessary.

The overall construct for such a fee collection system can be broken down as follows. A 911 fee would be collected and remitted by local exchange carriers on each active access line over which an end user could currently initiate a call to 911. A line over which DSL service was being provided would not be deemed an access line, and would be assessed a 911 fee as a broadband service, as discussed below. In the context of a residence or a business with multiple active access lines, a fee would be collected for each active access line, pursuant to state law and rules. In the case of trunk lines, a fee would be collected for each access line derived from the trunk.

CMRS services are personal communications services, with each account user having a separate device and, in many states, being charged by the CMRS provider for wireless access for each device. If a family or business account has multiple users and devices, the CMRS provider assesses a charge for each device on either a monthly basis for postpaid services, or at the point of sale (POS) for prepaid services in the 37 states where authorized. This is consistent with current practice. Under existing 911 fee programs in many states, a separate 911 fee is assessed on each CMRS device, and not separately for (i) CMRS voice access and (ii) wireless data plan (broadband) access over which VoIP calls might be made, using the same device

Under a connection-based fee program, a single surcharge per account-user device would continue to apply. In the event a CMRS provider were to introduce a service featuring a high-bandwidth broadband service to a wireless access point for use by multiple devices, a single surcharge per account-user device would apply whether the user subscribes to voice, data, or both services, but would apply to the network connection rather than the voice or other service the CMRS supplies using the network connection. The fee would be assessed on a unit of upstream bandwidth. However, it would be duplicative for a state to charge a fee on both a per device basis, and a connection fee basis for a broadband connection serving multiple CMRS devices should such services be offered in the future.

IP-based broadband service provides a unique challenge for a connection-based 911 fee Program. IP-based broadband service is used to access the public Internet, and would be subject to 911 fees under a connection-based 911 fee program, just as consumers may subscribe to a traditional telephone access line subject to a 911 fee for dial-up access to the Internet (according to data from Pew Research, about 3 percent of Americans still have dial-up Internet access compared to about 70 percent who have broadband internet access). The challenge posed by broadband service for 911 fee assessment is that for a residential consumer it provides bandwidth many times that available with dial-up access or for a single VoIP connection. However, in a business context, a broadband service may serve an IP-PBX at the business customer premises. It is for such uses that a state would have to

develop an assessment method for 911 fee on a broadband connection per unit of upstream bandwidth. This would resemble in some respects the way in which legacy exchange telephone trunks have been assessed 911 fees for the number of access lines which could be derived from that trunk. However, the ability to combine different types of traffic over broadband facilities means that a portion of the bandwidth could alternatively be used for workstation access to file servers and databases and other services, which are not capable of communications with a PSAP. A potential approach for assessing such commercial and high bandwidth users is described below.

The bandwidth or data rate of a broadband connection will determine the number of VoIP connections or other communications streams which can be simultaneously transmitted. While multiple physical access lines must be deployed to enable multiple simultaneous telephone calls with wireline telephone service, the number of simultaneous telephone calls which may be placed using an IP-based broadband connection will be determined by the bandwidth of that connection. The amount of bandwidth for which a given commercial broadband customer may subscribe may be driven primarily or in part by VoIP call capacity requirements. For other commercial and for residential customers, bandwidth requirements may instead be driven by a need or interest to transmit video or other data, including video streaming and online gaming in the consumer market; rather than for simultaneous VoIP calling capacity.

Broadband service is often sold with a minimum capacity and state and federal standards for basic broadband access have varied from 3 Mbps downstream and 1 Mbps upstream (3 down/1 up, in Mbps), to 4 down/1 up, in Mbps, and 10 down/1 up, in Mbps; with 1 Mbps being the standard minimum upstream capacity even though a single VoIP connection may require as little as 56-64 Kbps. Actual data rates may vary from nominal data rates, as some broadband providers over-subscribe transmission and routing facilities, or as the number of users sharing common facilities varies by time of day. Broadband service may be “synchronous” in terms of having the same upstream and downstream data rates, even though most users require far less upstream bandwidth in ordinary use. The issue presented is thus the appropriate 911 fee to assess on broadband service, and the appropriate adjustments to be made where high bandwidth customers use the bandwidth for other than VoIP services, or synchronous bandwidths provided far exceed upstream use of the connection. It is important to note that this proposal only addresses upstream bandwidth, which would be used to place a VoIP call or transmit another communication to a PSAP.¹³ We should also note that application of the 911 fee to broadband connections, based upon upstream bandwidth, would also capture 911 fees for nomadic VoIP services.

There are several ways in which states may elect to apply the 911 fee to broadband service to account for different upstream bandwidths, and differences between nominal and actual data rates provided:

¹³ Proposals have been made to assess a 911 fee per each user device capable of communicating with a PSAP, or per each communications service which can be used (over a broadband or wireless data connection) to contact a PSAP. However, determination of the devices a user may have or services a user may have installed on an Internet capable device would not be cost effective or reliable, and may not be fully within the control of a user as Internet capable communications applications may be bundled with a growing number of products, devices and application suites. However, assessment of a 911 fee on network connections including wireless and broadband connections would necessarily cover all applications, devices and formats (*e.g.*, text, voice, video) capable of using those connections.

1. Assess a 911 Fee per derived-VoIP channel/connection, by dividing the nominal bandwidth¹⁴ of the connection in Kbps by “64,” representing the presumed bandwidth per VoIP connection, and multiplying by the 911 fee.¹⁵
2. Adopt a presumed number of VoIP connections per 1 Mbps of upstream bandwidth, such as 10 connections, on which the 911 fee will be assessed.
3. Because the general minimum upstream bandwidth considered necessary for basic broadband service is 1Mbps, regardless of actual bandwidth required or used by a particular provider, assess a single 911 fee per 1 Mbps of bandwidth. Alternatively, a single 911 fee might be charged for broadband service with upstream bandwidths of 1 Mbps (or per 1 Mbps of bandwidth up to 2 Mbps or some other value of bandwidth); in recognition that 1 Mbps is a minimum bandwidth but subscription to higher bandwidths are likely demand-based. Another methodology for the large number of broadband connections to residential units would be to conduct a study of the average size of households in the state, and if it is 2.5 persons assess three 911 fees for upstream bandwidths of 1 Mbps or less; if it is 3.5 persons, assess four 911 fees for upstream bandwidths of 1 Mbps or less.
4. For commercial and other high upstream-bandwidth users, 911 fees might be presumptively applied pursuant to options 1 or 2 above, absent a showing by the user that the broadband service is using some portion of the bandwidth for purposes other than VoIP or other communications service connections to the public Internet and/or PSTN which could be used to communicate with a PSAP. Examples would include where (i) a point-to-point broadband service was not connected to the Internet or PSTN, (ii) a broadband service was not connected to an IP-based PBX through which all telephone service was provided, (iii) a user could provide traffic studies or other evidence acceptable under the 911 fee Program adopted by the state to indicate the portion of the upstream bandwidth typically used for VoIP calling/telephony, or the maximum bandwidth user systems are configured to use for such purposes. A state may require that the user-showing be signed under penalty of perjury and filed with the applicable 911 Authority as well as the provider, or may simply allow the provider to enter the appropriate number of 911 fees to be charged the customer in its billing system, subject to audit.¹⁶

¹⁴ We recommend using nominal bandwidth because (i) the cost of determining actual bandwidth and considering variations in actual bandwidth by time-of-day and higher “burst rates” would outweigh the benefits, and (ii) to the extent use of nominal bandwidth has market impacts, service providers will be incentivized to more accurately disclose actual bandwidths provided.

¹⁵ A TDM call requires only 4 – 8 Kbps per connection. However, TDM is being displaced by VoIP due to the economic advantages and application integration advantages of VoIP. Manufacturers are phasing out TDM and sales of replacement TDM PBXs are negligible compared with VoIP. A state could elect to assess a 911 fee per derived TDM voice connection, apply the presumptive VoIP derived lines inasmuch as the avoidance of 911 fees will not overcome the market advantages of VoIP and utilizing multiple presumptions may not be cost-effective, or base the fees on actual simultaneous call capabilities.

¹⁶ Edge Providers and other Internet content providers broadband connections to the Internet would not be subject to 911 fees where they are used to provide content and not for initiation of VoIP sessions or other calls-for-service to PSAPs.

B. Potential path forward for prepaid wireless plans

1. Background

For prepaid wireless service plan sold at point-of-sale (POS), the unity between the service provider and the billing and collections provider has been severed. That is, a customer pays in advance for a quantity of minutes of voice communications/text messages to use on the customer's wireless device, separate from purchase of the device. The quantities of minutes can be purchased from the prepaid service provider, or from any of thousands of Internet and brick and mortar retailers ("Independent Retailers"). In the vast majority of states in which 911 fees are assessed on prepaid service, the 911 fees are required to be collected at the point-of-sale ("POS 911 fees") through the retailer, submitting to the state Department of Revenue.

Similar to VoIP service discussed above, 911 The 911 community reports that it appears the wireless service providers and large retailers reliably collect and remit POS 911 fees. With that portion of prepaid minutes sold by thousands of smaller retailers and Internet retailers spread across the number of outlets involved, the cost of enforcing collection from any individual retail outlet will often exceed the benefit, and enforcement may also be impractical for Internet vendors located outside a jurisdiction. The 911 Community reports that annual 911 fees paid by users of prepaid wireless services do not equal those paid by users of postpaid services,¹⁷ and that prepaid surcharge 911 fees fall far short of the amount which should be received given the quantity of prepaid minutes sold and used. Collection authorities may not even know which independent retail outlets sell prepaid minutes to "recharge" prepaid services. On the other hand, the wireless industry alleges that some of this variance can be attributed to the non-monthly purchasing pattern for prepaid users, juxtaposed with the by-month revenue requirements and planning requirements required by 911 Authorities.

2. Short-term solution

As with wireless service in general, transition to a network connection-based 911 fee Program will have little impact on collection and remittance prepaid wireless services, at least in the short term. A surcharge will continue to be assessed on the purchase of prepaid minutes enabling a user to connect to and use the wireless network.

The difficulty presented by prepaid wireless with collection and remittance of 911 fees is the large number of Independent Retailers (retail outlets which are not owned and operated by the prepaid service providers) which sell prepaid minutes, and the fact that the incremental 911 fees which should be collected and remitted by each of these entities frequently makes enforcement uneconomic. The sales of prepaid minutes by Independent Retailers that do not collect 911 fees, may undercut sales of prepaid minutes by Prepaid Service Providers. The wholesale prices of prepaid minutes necessarily includes a profit margin for the Prepaid Service Providers, and the wide availability of prepaid minutes

¹⁷ Some states establish the amount of 911 fees on prepaid service with the intent of producing the same total annual 911 fees for the average prepaid service account as for postpaid service. Other states establish the 911 fee on prepaid service to produce the same relative fee as compared with the amount of the 911 fee assessed on the average monthly use and charge for postpaid service.

through such Independent Retailers may be more important to the prepaid business model than the additional margin. Prepaid Service Providers do not have knowledge as to which, if any, of their wholesale Independent Retail customers do not collect or remit 911 surcharges, and therefore, do not have the ability to or economic incentive to discipline bad acting Independent Retailers. In addition, state collection authorities have no independent knowledge of, or audit capability of, the Independent Retailers selling prepaid minutes, nor the volumes of their sales.

The POS 911 fee system has been established in 37 states. Therefore, in the short-term, the Working Group urges the remaining states to enact legislation as quickly as possible in order to enable the collection of adequate 911 fees from pre-paid plans. A POS 911 fee system has been considered necessary because of the difficulty of collection and remittance of prepaid surcharges by the Prepaid Service Provider at the wholesale level when each state may establish a different surcharge amount and distribution methodology. It is the collection of and remittance of the surcharge at the POS by Independent Retailers which is unreliable and uneconomic to enforce.

3. Longer-term solutions

The development and implementation of a more effective, reliable and equitable fee collection system for prepaid service would appear to require collaboration and coordination among the states. At a minimum, the additional information cited above from both prepaid service providers and collection authorities would provide a foundation for such coordination. Such longer-term coordination and collaboration, and the sharing of confidential information subject to non-disclosure provisions, will require additional time and efforts. Working Group 3 simply did not have sufficient time, resources, and capabilities to collect such information with the appropriate safeguards and analyze it properly in the context of this Report. Therefore, we recommend the joint advisory committee, or LSAG, take up these issues in a timely way and examine both the data and arguments for this issue, and make recommendations to the 911 authorities at the state and local level.

4. Alleged under-recovery of Pre-paid Wireless Plan Fees

The Working Group has received credible evidence suggesting an under-recovery of 911 fees through the prepaid wireless plan providers¹⁸. Nationally, such under-recovery is alleged to be in the amount of \$276 million across the states that have prepaid wireless 911 fees, compared to what would be expected in 911 fee revenues under traditional post-paid wireless subscriptions where the 911 fee is listed as a line item on the consumer's bill. However, the Working Group has also been advised that the wireless industry has not been able to thoroughly vet this study, including its underlying assumptions and sources of data. Accordingly, we believe that these issues should be taken up immediately by the joint advisory committee, or LSAG.

Moreover, members of the Working Group expressed concerns over the amount of administrative fees collected both by the state departments of revenue and by the independent retailers who collect this fee at point-of-sale. Some members of the Working

¹⁸ "Prepaid-Still Short-Changing 911" working paper, author Joseph Barrows, State 911 Coordinator and Executive Director of SMRS Board, State of Kentucky, September 2015.

Group expressed concern that the POS 911 fee for pre-paid wireless plans is being collected inconsistently and is not uniform across all carriers. The Working Group believes that such analyses are legitimate and need to be taken seriously in order for adequate fees to be remitted to PSAPs throughout the country on a comparable basis as post-paid wireless plan subscribers. Some carriers allege that this under-recovery may primarily be attributable to the failure to accurately forecast for the variance in purchasing patterns between pre-paid and post-paid communications by wireless customers. However, due the brevity of our deliberations and the lack of adequate time to verify these allegations, the Working Group believes it is more appropriate to refer these issues for timely and detailed examination by the Local State Government Advisory Committee we recommend below in Section 10.

X. Education and Outreach

The 911 community needs to adopt a more systematic and disciplined way of reaching out to the decision-makers and policymakers that decide the public policies and specifically the state budgets around the country. As stated throughout this Report, this recommendation should be viewed within the complex environment of state laws, practices, and the budget-making policies in each of the state Legislatures and Governors' Offices. Overly simplistic solutions and approaches should be avoided. At the same time, the Working Group believes that this is an urgent time to engage in a more active dialogue on these issues, and correct some of these practices to accelerate the deployment of NG911 systems.

The creation of a Local State Government Advisory Committee on 911, described below, is an important element of such an effort. To create a sustainable, technology neutral fee structure, a sustained organizational effort between the FCC and federal agencies, states, and PSAPs must be encouraged. In addition, ensuring that accurate information on state and local budget practices is collected, audited, and analyzed in the proper way is another vital part of this effort. Transparency of information, of course, is an essential part of good governance at any level. The Working Group has concluded, however, that putting this principle in to practice in such a complex area across multiple jurisdictions requires more efforts, including the possible use of outside auditors to confirm the accuracy of such data and information before its submittal to Congress.

The key actors in this education and outreach effort will be the governmental agencies involved in managing and overseeing the 911 system, namely the FCC (specifically the PSHS Bureau), members of NENA, NASNA, NARUC, and APCO. These constitute the three layers of governmental jurisdiction over the national 911 system, and recognize both the inherently local nature of 911 call taking and dispatching while at the same time understanding the benefits of more uniform NG911 system architectures and technology. Each of the trade associations is a members-oriented organization with policies and priorities driven from the bottom up through its membership. Therefore, such organizations are the optimal means for an enhanced outreach and education effort.

Key leaders and organizations should be identified to help educate and inform policy makers at all levels of government the need for NG911 and the benefit it provides their constituents. The goal is to enable these organizations to step forward and address issues, such as funding, associated with deploying NG911. Some states prohibit state and local government employees from lobbying their state officials, while others do not have such restrictions. Time and resources are not overly abundant, and must be husbanded and targeted carefully toward key decision-makers. A key group of such leaders should be identified for educational efforts about NG911 and its funding. The perceptions and views among Legislators, for example, may not

change overnight since many of the state policies and practices have been in place for some time. Nonetheless, many existing funding models are proving to be insufficient due, in part, to the advances in technologies. Thus, policy makers responsible for 911 should be the best informed about the needs associated with the deployment of NG911.

Each of the associations involved in 911 issues – NASNA, NARUC, NENA and APCO as and others – have several regular meetings throughout the year. These are ideal venues where 911 issues are discussed and debated. These discussions are already occurring within these organizations and awareness is being raised on the 911 fee and resource allocation issues, as evidenced by the recent summer meeting of NARUC in New York City, and the summer meeting of NENA and related meeting of NASNA in Denver. While these discussions are important within the “911 ecosystem”, more efforts need to be targeted on associations and thought leaders outside of this ecosystem.

Such an education and outreach efforts needs to be focused on some of the following associations and groups:

Governors: There are various organizations representing the Office of Governors, but we believe the best place to start is the National Governors Association’s Center for Best Practices. It has been active in cybersecurity policies of the states recently, highlighting the importance of state fusion centers, and therefore, the overall report of TFOPA should be of interest. This education and outreach effort must be a non-partisan effort, but it would also be useful to reach out to the Democratic and Republican Governors Associations as well, since they also hold meetings each year. In addition, the regional meetings of the Governors should be considered as appropriate venues to engage in a dialogue on these issues.

Legislatures: Again, there are various groups that represent legislative bodies throughout the country, and the meetings of these associations should also be considered for targeted outreach activities on NG911. As stated earlier, NCSL (National Conference of State Legislatures) has followed the 911 and Enhanced 911 activities and legislation across the states for several years, and therefore would have an interest in hearing about the analysis and recommendations in this Report. The CSG (Council of State Governments) also should be considered since both it, and its regional affiliates, hold meetings several times a year, and have an interest in technology and homeland security/public safety policies. Finally, again recognizing that this effort should be non-partisan, we believe this key leadership group should reach out to ALEC (American Legislative Exchange Council) as well, since they have a Task Force on communications and technology that has followed these policies for several years, and organize a large annual meeting and other conferences throughout the year.

In addition, we believe that the state Chief Information Officers (CIO’s) and the state Attorneys-General should be included in the education and outreach activities, since they do play an important role in communications and technology policies in the state. They are represented nationally by the trade associations of the NASCIO (National Association of State CIOs) and the NAAG (National Association of Attorneys General), which are represented with offices in Washington, D.C. and can be contacted. Finally, we believe the interests of consumers, or the residential and small commercial users of communications services, should not be neglected in these activities, which are represented nationally by the National Association of State Utility Consumer Advocates, or NASUCA.

In addition to the focus on the above national associations, education and outreach activities should focus on certain states and regions. While we have argued that a single-minded focus on the “diversion states” is misplaced and that the budgetary issues are much more complex, we agree that the leadership group for outreach needs to engage with the states listed in the most recent Net 911 Report who have reallocated 9-1-1 fees for non-911 specific purposes. If there were a Local State Government Advisory Committee on 911, hopefully it could lay the groundwork for such a dialogue in those states. Another priority group of states for such a dialogue would be those with limited or no statewide or regional 911 planning or coordination authority, as described above. Such a statewide body is a critical element in ensuring a comprehensive build-out of NG911 systems. There are a number of “hybrid” states, a number of states with authority over wireless services only, but also a number of states where most of the authorities for planning and deployment rest with the PSAPs at the county level. In some states, the statewide 911 authority has little authority over the fee mechanism, the expenditures, and the planning for NG911. Again, the emphasis here should be on establishing the grounds for a constructive dialogue about the unique needs of NG911 architecture and deployment, the need for sustained long-term planning at a statewide level, and the other factors mentioned above. A partnership is required between the state and county if this is to be a successful effort, especially given that new legislation will undoubtedly be required in order to adopt the network connection fee mechanism and other recommendations in this Report. Unity of effort will be critical to passing such legislation.

XI. Local State Government Advisory Committee on 911 (LSAG)

Finally, the Working Group, as mentioned previously, believes that the creation of a Federal-State Advisory Committee on 911 is essential to carrying out some of the recommendations in this Report. In fact, the creation of such a joint consultative mechanism by the Commission is long overdue. This Report marks a call for action for both the 911 community and for the larger group of decision-makers and policymakers in the states and counties around the country. To create an environment for sustained long-term planning and deal with the complexities of fee mechanisms and governance structures, an advisory committee is a useful vehicle to encourage more visibility to these issues. We also urge the Commission to make such an advisory committee permanent, in order to allow a core group of 911 experts to deliberate; if not permanent, allow Members to be appointed from a diverse group of 911 experts throughout the country on a rolling, multiple-year basis.

While the Working Group has not discussed the membership and mechanics of such an advisory committee in detail, we offer the following suggestions for the Committee which would operate under the auspices of the FCC and be subject to federal advisory committee rules, or FACA. The committee should be composed of a relatively small group of representatives of government agencies involved in 911 issues such as NASNA, NARUC, the FCC, county organizations and other state organizations. There should be a contributing role for other participants in the “911 ecosystem”, which should include representatives from NENA, APCO, i-CERT, 911 experts from trade and industry associations, a range of equipment vendors, service and data base providers, and other groups associated with NG911 architecture and deployment. In a general sense, such as LSAG would be quite similar to the current structure and membership of the TFOPA, but would seek its primary membership from governmental officials involved in 911 at the local, state, and federal levels.

A first order of business for the 911 LSAG could be to oversee the quality of data and analysis submitted by the states for the Net 911 Report to be submitted to Congress. Some external review of this information would help ensure the information is correct and reported accurately.

Another priority item for discussion would be the structure of the pre-paid wireless plan 911 fees, and assessing in more detail the allegations that such plans are significantly “under-collecting.” The advisory committee could also flesh out more details of the proposed network connection fee on upstream bandwidth, cited earlier and make recommendations on any adjustments or fine-tuning of this fee mechanism. In addition, the scope of the responsibilities of this advisory committee should not be limited solely to NG911 deployment issues, but should include other policy and funding related issues for 911 that pose common challenges to state and local governments where a federal role would be constructive.

This advisory committee, however, should not involve itself in issues related to the daily operations and maintenance of the PSAPs, including engineering issues related to PSAP architecture/ESInets, “gaps” in governance and accountability raised in the FCC’s NPRM, and to major 911 outages and any enforcement actions or state adjudications related to specific carriers. State 911 Administrators, State Commissions, and PSAP’s and county governments are established for these purposes, and procedures under existing laws and rules adequately address these issues. Instead, the focus of the advisory committee should be on higher level, policy-related issues that relate to existing fee mechanisms, ensuring the accuracy of information submitted to the FCC and to Congress, and deliberating on targeted policies and issues that are common to most state and local jurisdictions.

Such an advisory committee also could provide a regular means through which government officials could communicate in a more efficient and focused way with external stakeholders in selected States as described in the education and outreach section above. . Together with the other recommendations in this Report, we believe this offers a comprehensive, sensible path forward to achieve our common goals of ensuring a robust emergency communications system and continuing to save the lives of many Americans.

XII. CONCLUSION

The Working Group respectfully offers the forgoing as a way to stimulate a broader conversation at the Commission, and especially with the staff and leadership of the PSHS Bureau. Ultimately, it is the Commission’s decision whether to move forward with any of the other recommendations in this Report.

Appendix A

Task Force on Optimal Public Safety Answering Point Architecture (TFOPA) Work Group 3 Members		
Name	Organization	Title
Chair- Philip Jones	WUTC	Commissioner
Members:		
Adams, John	FCC	Attorney Advisor
Beaton, Rebecca	WUTC	Infrastructure Analyst
Benkert, Joseph	Boulder Reg. Emergency Tele Svc Authority	Attorney
Boyd, Mary	Intrado Inc.	Vice President - External Affairs
English, Jay	APCO International	Director, Comm. Center and 911 Services
Farnsworth, Jody	NARUC	Legislative Assistant
Felty, Lt. Tracy	Saline County, Illinois	Saline County E-911 Director
Flaherty, Laurie	NHTSA	Coordinator, National 911 Program
Fletcher, Mark	AVAYA	Chief Architect - Public Safety Solutions
Fontes, Brian	NENA	CEO
Goerke, Jim	Texas 911 Alliance	CEO
Haas, William	T-Mobile	Senior Corporate Counsel, Legal Affairs
Hatch, Larry	Washington Co 911	Assistant Director
Heaps, Joe	NIJ/DOJ	Program Manager
Holl, David	NASNA	Deputy Director for Operations
Hopkins, M. Teresa	Navajo Nation Telecom Reg. Commission	Executive Director
Jackson, Jason	Alabama 911 Board	Executive Director
Jaskulski, Gerald	Dept. of Home Land Security	Technology Policy Section
Littlewood, Chris	St. Petersburg College - Public Safety	Instructional Technology Coordinator
Petty, Sean	iCERT	Senior Technology Specialist, Mission Critical Part
Ramsay, Brad	NARUC	General Counsel, Policy Shop Supervisor
Rockwell, Cheri Lynn	Tracy Police Department	Supervisor
Sawicki, Dan	Motorola Solutions	Dir of Applications, Product Strategy/NG911 Sol
Souder, Steve	Fairfax County, Virginia	Director Dept. of 911 / Public Safety Comm.
Wahlberg, Dana	Minnesota Dept. of Public Safety	911 Program Manager
Witteck, Jeff	Airbus DS Communications	Chief Strategic Officer
Wong, Karen	CA Office of Emergency Services	Assistant Director

Appendix B: Internet Tax Freedom Act

The assessment of a 9-1-1 fee on the broadband (or wireless broadband) network connections over which VoIP service is provided is bound to attract wasteful litigation over whether such fees are preserved by the Internet Tax Freedom Act, 47 U.S.C. §151 (note) (“ITFA”). The ITFA prohibits (i) taxes on Internet access, and (ii) multiple or discriminatory taxes on electronic commerce. ITFA §1101(a). A carrier might choose to argue that a 911 fee on broadband service over which Internet access, and VoIP and other services permitting communication with a PSAP, are provided, in spite of the reservation protecting such fees, should be deemed a tax on Internet access or discriminatory tax on electronic commerce, and prohibited.

The ITFA expired in November of 2014, but was extended through December 11, 2014, and has subsequently been extended through October 1, 2015. House Bill HR 235, the *Permanent Internet Tax Freedom Act*, passed the House and is awaiting action in the Senate. If the ITFA is amended to extend the Act or make it permanent, such amendment should include changes to prevent waste of federal, state and ratepayer resources in frivolous lawsuits challenging the lawfulness of 911 fees assessed on network connections. This approach has the virtue of eliminating distortions caused by competing services that access 911 services not contributing an equitable share of the costs of such services. Collection of 911 fees from non-facilities based providers of VoIP services is unreliable and difficult to enforce, resulting in (i) marketplace distortions for VoIP services, (ii) unreliable funding for 9-1-1 services, and (iii) free riders (consumers to whom the service is available who fail to pay their fair share of the cost of the service, forcing their neighbors to pay more than their fair share of the cost of the service).

- (1) A Broadband Network Connection May Be Deemed “Internet Access” and/or “Electronic Commerce.”

As pertinent here, the ITFA defines that “Internet access”:

- (a) means a service that enables users to connect to the Internet to access content, information, or other services offered over the Internet;
- (b) includes the purchase, use or sale of telecommunications by a provider of a service described in subparagraph (A) to the extent such telecommunications are purchased, used or sold.
 - (i) to provide such service; or
 - (ii) to otherwise enable users to access content, information or other services offered over the Internet;

ITFA §1105(5).

“Electronic commerce” is defined, in pertinent part, as “any transaction conducted over the Internet or through Internet access, comprising the sale, lease, license, offer, or delivery of... services..., whether or not for consideration, and includes the provision of Internet access.” ITFA §1105. Thus, a broadband network connection, or broadband service over which voice or other communications services permitting a user to communicate with a PSAP could be considered Internet access and electronic commerce.

(2) A 9-1-1 Fee on Network Connections Should Not Be Deemed A “Tax.”

The ITFA defines “tax,” in pertinent part, as “any charge imposed by any governmental entity for the purpose of generating revenues for governmental purposes, *and is not a fee imposed for a specific privilege, service, or benefit conferred...*” ITFA §1105(8) (*emphasis added*). A 9-1-1 fee is imposed for the specific governmentally-provided 9-1-1 Service, which enables a user of voice, text and eventually other telecommunications services provisioned over the network connections, to connect and communicate with the PSAP serving the user by entering a single ubiquitous telephone short code or address, no matter where the user is located. The unique service provided is the ability of the user to enter a single telephone short code or address and have their call or message automatically routed to the PSAP which can dispatch First Responders to their location. Thus, a 9-1-1 fee should not be deemed a tax for purposes of the ITFA.

If the 9-1-1 fee is not deemed a tax, then we need not reach the issue of whether it could be considered a *discriminatory* tax, as defined by ITFA §1105(2)(A). However, as proposed, state 9-1-1 fee Reform legislation and or regulations would impose a 9-1-1 fee on (i) the active access line connections of local exchange carriers, (ii) wireless access connections of wireless providers, and (iii) broadband connections of broadband providers, per unit of outbound/upstream calling capacity (subject to adjustment where minimum upstream bandwidth offerings can reasonably be presumed to exceed actual outbound communications usage). Thus, a 9-1-1 fee on Internet access would not exceed the rate of the 9-1-1 fee imposed on providers of similar services (network connections or access services permitting electronic communications with a PSAP), and would not constitute a discriminatory tax. Indeed, the purpose of the assessing a 9-1-1 fee on network connections, including broadband connections, is the difficulty of even identifying non-facilities based VoIP providers supplying service in any area, and that multiple VoIP and other messaging providers supplying access to 9-1-1 service could use the same broadband connection, and it would be unfair to charge a user for using multiple alternative communications services over the same connection. The purpose is thus to correct discriminatory impacts.

(3) ITFA Exception for 9-1-1 Fees.

Section 1107(b) of the ITFA provides:

(b) 911 and e-911 services. -- Nothing in this Act [this note] shall prevent the imposition or collection, *on a service used for access to 911 or E-911 services*, of any fee or charge specifically designated or presented as dedicated by a State or political subdivision thereof for the support of 911 or E-911 services if no portion of the revenue derived from such fee or charge is obligated or expended for any purpose other than support of 911 or E-911 services.

Emphasis added.

This provision exempts 9-1-1 fees from the prohibition on taxes on Internet access and discriminatory taxes on electronic commerce. However, the highlighted language exempts 9-1-1 fees “on a service used for access to 9-1-1 or E9-1-1 services.” The term “9-1-1 or E9-1-1 services” would appear to mean the 9-1-1 service provided by a governmental entity to route 9-1-1 calls to the PSAP with jurisdiction and authority to dispatch First Responders to the caller’s location. The question, then, is whether a “service used to access” this governmental service would be limited to a VoIP service, or would include the network connection over which the VoIP service was provided. To resolve any uncertainty, we would recommend that if the ITFA is amended by the

Permanent Internet Tax Freedom Act or otherwise, Section 1107(b) of the ITFA should *also* be amended to provide:

(b) 911 and e-911 services. --Nothing in this Act [this note] shall prevent the imposition or collection, on a network connection (including Internet access) or service used for access to 911 or E-911 services, of any fee or charge specifically designated or presented as dedicated by a State or political subdivision thereof for the support of 911 or E-911 services, if provided that:

- (i) the fee or charge is reasonably intended to be equivalent to a fee or charge on other network connections or services used for access to 911 or E-911 service;
- (ii) if the fee or charge is imposed on a network connection, a fee for support of 911 or E-911 service shall not be charged on any service provided over such network connection by which an individual may directly access 911 or E-911 service; and
- (iii) no portion of the revenue derived from such fee or charge is obligated or expended for any purpose other than support of 911 or E-911 services.

Appendix C: Previous Studies and Analyses

1. National Association of 911 Administrators (NASNA), June 2015, “**Four Potential Sustainable Funding Models for NG 9-1-1.**” Pub. Evelyn Bailey Consulting, LLC (EBC).
2. National 911 Office (911.gov), December 2013, “**Blue Ribbon Panel on 911 Funding, Report to the National 911 Program**”, Washington D.C., Pub. Department of Transportation.
3. National 911 Office (911.gov), March 2013, “**National 911 Program, Current State of 911 Funding and Oversight**”, Washington D.C., Pub. Department of Transportation.
4. East Carolina University (ECU), College of Business, 2014, “**Federalism in the Financing of 911**”, Greenville, North Carolina, Pub. Bureau of Business Research.
5. Public Safety and Homeland Security, Federal Communications Commission, December 31, 2013, “**Sixth Annual Report to Congress on State Collection and Distribution of 911 and Enhanced 911 Fees and Charges**”, Washington D.C., Pub. FCC.
6. National Emergency Numbering Association (NENA), March 2010, “**Next Generation 911 Transition Policy Implementation Handbook**”, Washington D.C., Pub. NENA.
7. National Emergency Numbering Association (NENA), March 2007, “**Funding 911 the Next Generation**”, Washington D.C., Pub. NENA.
8. Dr. Walt Magnussen, 2014, “**The Status of NG911 Deployment in the United States**”, iCERT Industry Council for Emergency Response Technologies, Pub. Texas A&M University.
9. East Carolina University (ECU), College of Business, Bureau of Business Research, 2013, “**Next Generation 911: When technology drives public policy**”, Management Information Systems, Volume 4, Raleigh, N.C., Pub. International Journal Business Continuity and Risk Management.
10. North Carolina 911 Board, January 6, 2010, “**A report on findings and recommendations on 911 costs and funding models for the North Carolina 911 system**”, Raleigh, N.C., Pub. North Carolina Board.
11. James Holloway and Elaine Seeman, 2012, “**How non-voice access technology is driving the creation of federal and state NG911 service and IP enabled communications network policies**”, Temple Journal of Science, technology, and environmental law, Philadelphia, PA, Pub. Temple University Beasley School of Law.
12. North Carolina 911 Board, February 2013, “**Biennial Report to the Governor Joint Legislative Commission on governmental operations, revenue laws study committee**”, Raleigh, N.C., Pub. North Carolina Board.

13. National Conference of State Legislatures, 2014 “**Funding and Governance for 911 for the National Conference of State Legislatures,**” Washington D.C., Pub. NCSL.
14. The Wireless Association (CTIA), 2014, “**Prepaid Point of Sales Status**”, Washington D.C., Pub. CTIA.
15. Federal Communications Commission, 2012, “**Report to Congress on State Collection and Distribution of 911 and Enhanced 911 Fees and Charges**”, Washington D.C., Pub. FCC.
16. Public Safety and Homeland Security Bureau, Federal Communications Commission, 2011, “**White paper: A Next Generation Cost Study, A Basis for Bringing Nationwide Next Generation 911 Networks to America’s Communications Users and First Responders**”, Washington D.C., Pub. FCC.
17. Federal Communications Commission, 2012, “**Report to Congress on State Collection and Distribution of 911 and Enhanced 911 Fees and Charges**”, Washington D.C., Pub. FCC.
18. National 911 Office (911.gov), March 2013, “**National 911 Program, Current State of 911 Funding and Oversight**”, Washington D.C., Pub. Department of Transportation.