APCO International

Association of Public-Safety Communications Officials-International, Inc.

Comments on the

American Recovery and Reinvestment Act Broadband Initiatives

of the National Telecommunications and Information Administration and the Rural Utilities Service

Docket No. 090309298–9299–01

The Association of Public-Safety Communications Officials (APCO) International
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Table of Contents

Executive Summary

The Association of Public-Safety Communications Officials (APCO) International strongly supports the purpose of the Broadband Technology Opportunities Program ("BTOP") to improve access to, and use, of broadband service by public safety agencies, but we are concerned that grants maybe awarded to programs that are not able to meet the mission critical needs of nation's first responders. Grant applicants should be required to demonstrate how their systems could meet the mobility, security and reliability needs of first responders. Public safety agencies cannot and will not be able to depend on systems based on consumer standards.

The National Telecommunications and Information Administration (NTIA) and the Rural Utlities Service (RUS) should take all steps necessary to ensure that networks are being deployed in underserved and unserved areas are at the very least able to meet the mission critical needs of the public safety agencies in that community. Systems also need to be interoperable with other local, state, and federal programs to ensure connectivity during large-scale incidents that require coordination of multiple jurisdictions and authorities.

We strongly urge NTIA and RUS to ensure that grant applicant demonstrate partnership with local, state and non-profit organizations to coordinate the deployment of broadband networks in unserved and underserved areas. NTIA and RUS should strongly consider the role non-profit intermediaries could play in managing projects, as well.

Before defining what an "underserved" and "unserved" area is, NTIA and RUS should establish the criteria of what a well-served area is. Areas that are not able to meet the majority of the criteria are, by default, underserved. Areas that meet none of the criteria are unserved. For the purposes of public safety agencies, we strongly believe that any area that is not able to provide high-speed mobile broadband services to meet mission-critical needs of first responders is underserved.

We are very concerned that while there are many areas around the country that offer consumers high speed wireline broadband connections, the services that are offered to public safety agencies are often very limited and are not reliable enough to meet the mission-critical needs of first responders.

We strongly believe that the speed for broadband needs to be at least 1.5 mbps to 3.0 mbps. These speeds need to be constant and cannot fluctuate as the number of users increase. Too often, the speed a broadband provider advertises is the maximum speed the network can provide and the actual speed a consumer will get could be quite less depending on the time they are on the network. The NTIA, RUS, and FCC needs to set the standards for broadband speeds at the minimum sustainable speed and not the maximum capable speed.[1]

We also strongly believe that NTIA and RUS should require that public safety agencies would have priority access on the networks as authorized for mission-critical operations.[2]

NTIA and RUS have a tremendous task ahead to develop the information highway of the century. Proper construction of the highway will require considerable thought to ensure the safety of our citizens. NTIA and RUS should not overlook the direct correlation between safe communities and the ability to promote sound economic development. At the core of any economic development is the ability of communities to protect and serve their citizens. Too often, communities that cannot ensure the safety of their citizens suffer because businesses are not willing to invest in an unsafe community. Reinvestment in America's safety is the cornerstone of our economic recovery.[3]

APCO International looks forward to working with NTIA and RUS to make sure BTOP grants protect and serve the community and drive economic recovery and innovation.

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[1] Huang, N. D. (2006, June 29), From California Division of Ratepayer Advocates: http://www.dra.ca.gov/NR/rdonlyres/FE0B3B92-095C-4780-BEA7-AD00F5422815/0/Opening_Comments.pdf

[2] FCC, Public Safety/Private Partnership: http://www.fcc.gov/pshs/public-safety-spectrum/700-MHz/partnership.html

[3] U. S. Senator Mark R. Warner (2009, March 6). From http://warner.senate.gov/public/?p=PressReleases&ContentRecord_id=c427b174-1fb8-47c6-822d-c5e6926b4722&ContentType_id=0956c5f0-ef7c-478d-95e7-f339e775babf

Introduction

The Association of Public-Safety Communications Officials (APCO) International was established in 1935. Today, it is the nation's largest public safety communications organization serving the needs of more than 100,000 professionals in the public safety communications industry by providing dispatcher training and certification, radio frequency coordination, radio engineering and licensing service, technical and operational assistance for communications centers, and membership and networking opportunities.

The following comments are in response to the Request for Information ("RFI") released on March 12, 2009 by NTIA and RUS- to establish the BTOP.[4] (Docket No. 090309298-9299-01)

The Purposes of the Grant Program

APCO International strongly supports the five primary purposes of the BTOP grant program.[5] It is important that NTIA appropriately weigh each priority to ensure funds are equally distributed. At the very least, we believe that twenty percent of the funds should go to programs that would provide mobile broadband connectivity to public safety agencies and first responders.

[4] Section 6001 of the American Recovery and Reinvestment Act of 2009 (Recovery Act) requires the National Telecommunications and Information Administration (NTIA) to establish the Broadband Technology Opportunities Program (BTOP). The Recovery Act further establishes authority for the Rural Utilities Service (RUS) to make grants and loans for the deployment and construction of broadband systems.

[5] Sec. 6001(b) states that the purposes of the program are to—

(1) provide access to broadband service to consumers residing in unserved areas of the United States;
(2) provide improved access to broadband service to consumers residing in underserved areas of the United States;
(3) provide broadband education, awareness, training, access, equipment, and support to—
(A) schools, libraries, medical and healthcare providers, community colleges, and other institutions of higher education, and other community support organizations and entities to facilitate greater use of broadband service by or through these organizations;
(B) organizations and agencies that provide outreach, access, equipment, and support services to facilitate greater use of broadband service by low-income, unemployed, aged, and otherwise vulnerable populations; and (C) job-creating strategic facilities located within a State-designated economic zone, Economic Development District designated by the Department of Commerce, Renewal Community or Empowerment Zone designated by the Department of Housing and Urban Development, or Enterprise Community designated by the Department of Agriculture;
(4) improve access to, and use, of broadband service by public safety agencies; and
(5) stimulate the demand for broadband, economic growth, and job creation.

Some studies suggest that high numbers of mortgage foreclosures and recent downturns in the economy will affect increases in crime rates. Local public safety agencies need immediate access to information and broadband technologies to make their communities safer for economic development.

All applicants should address at the very least, how they will stimulate the demand for broadband, economic growth and job creation and improve broadband access to consumers, businesses, emergency services, schools, libraries and social service providers in unserved and underserved areas of the country.

APCO International believes that BTOP should be able to leverage not only the other broadband-related activities of the Recovery Act but also activities of the Federal Communications Commission (FCC) to foster the development of a public safety broadband network in the 700-MHz and the 4.9-MHz band.[6] It is extremely important that all activities of the federal government to improve access to broadband networks across all parts of the country are well coordinated.

The Role of the States

APCO International believes that the success of the BTOP program depends on the partnerships between local and state governments and applicants. Broadband infrastructure projects will need the assistance of state and local governments to expedite approvals, build upon existing infrastructure and reduce cost. NTIA should require applicants to provide letters of endorsement from local and state authorities for any proposed project in their jurisdiction. Projects that do not receive endorsements or approval from state and local jurisdictions will not succeed. Projects that receive and endorsements from state and local jurisdictions should receive priority for funding.

All projects should be required to provide detailed reports (as determined by NTIA) on the progress to accomplish the goals of the project.

[6] *See* Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06-229, Third Further Notice of Proposed Rulemaking, http://fjallfoss.fcc.gov/edocs_public/attachmatch/FCC-08-230A1.pdf) and Amendment of Part 90 of the Commission's Rules, Report and Order and Further Notice of Proposed Rulemaking, WP Docket No. 07-100, http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-29A1.pdf

Eligible Grant Recipients

APCO International believes that NTIA should require all other entities, including broadband service or infrastructure providers, to address how they will partner with entities in section 6001(e)(1)(A) or (B) of the American Recovery and Reinvestment Act of 2009 (ARRA) to accomplish the goals of the project. This is especially critical for projects that involve access to the broadband network by public safety agencies. We strongly believe that projects requiring coordination with public safety agencies will require direct assistance of non-profit intermediaries to assist in project management.

Establishing Selection Criteria for Grant Awards

APCO International believes NTIA should consider the following criteria in awarding grants that would affect public safety agencies access to broadband networks funded by the BTOP. The weight of each criterion is 10 points for a total of 100 points.

1. Broadband speed is critical for any public safety application. In determining the viable speed of the broadband network, it is important to consider peek times, network congestion and priority access. Network speeds can fluctuate considerably depending on the service area and the types of applications that run on the network. While some networks are able to provide peek speeds of 3.0 mbps to 6.0 mbps, it is important to evaluate if these speeds are sustainable during times of network congestion. Networks that experience constant interruption in the transmission of data can cause considerable harm to public safety applications, especially applications that provide video or voice communications services. It is also important that the network speeds for upstream and downstream transmission are capable of providing two-way voice and video communications for public safety agencies without delay or interruption. We believe the following scale should be used when weighing the speed for the network:

    a. 200k up to 768k 1 pt
    b. 768k to 1.5mbps 3 pt
    c. 1.5mbps to 3.0mbps 5 pt

d. 3.0mbps to 6.0 mbps 8 pt
e. 6.0mbps and above 10 pt

The applicant must be able to show 98 percent reliability in sustaining the speed at all times regardless of the number of users on the network and the types of applications transmitted.

2. The viable service area of the network will play a large role in how public safety agencies will be able to use the broadband services.[7] Emergency incidents can occur anywhere at any time. Large-scale incidents such as hurricanes, tornados, earthquakes and other natural disasters require coordination of multiple state and local jurisdiction to mitigate. Incidents, such as terrorist actions, also require the networks to be able to connect to federal law enforcement resources. Networks that only provide services to small geographic areas, like cities and towns, will be insufficient to meet the needs of public safety agencies. That is why APCO International believes that regional broadband networks should receive a higher score when weighing grant applications.

a. City Wide 1 pt
b. County 3 pt
c. Regional (multi jurisdictional) 5 pt
d. State Wide 8 pt
e. Multi State 10 pt

It is also important that the applicant is able to provide network coverage to 99 percent of the service area in which they are looking to deploy their system. Dead spots within a network could result in disastrous outcomes during mission-critical operations.

3. Security is another critical issue for public safety applications on any broadband network. There is a growing concern that many of the nation's networks are extremely vulnerable to cyber attacks that will cripple a network within seconds. Public safety applications, especially for local, state and federal law enforcement, require a high level of security.

[7] *See Comments of* APCO (November 3, 2008), Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06-229, Third Further Notice of Proposed Rulemaking, http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520183810

Network providers should be required to demonstrate how their systems are going to be able confront security issues to protect the transmission of critical information. Applications that demonstrate the highest level of security should receive points in determining grant and loan awards. The total value for network security is 10 points.

4. Not all public safety jurisdictions will require everything a broadband services provider has to offer. Networks should be scalable to provide the necessary services requested by a public safety agency at reasonably lower costs. Applicants should be able to address how their networks will be scalable to meet the needs of the public safety agencies, hospitals, schools, libraries, consumers and businesses. The applicant should also be able to address how they will accommodate increased demand on the network without sacrificing speed or quality of service as the number of users increase. Applicants should also address how they will mitigate different types of programs that require additional bandwidth to ensure quality of service is not impacted. The total value for network scalability is 10 points.
5. For more than 30 years, public safety has been trying find solutions to make their current communications systems more interoperable. The biggest challenge to this effort has been the deployment of proprietary systems and otherwise incompatible operations (e.g., on different radio frequency bands) by more than 60,000 public safety agencies around the country. In recent years, we have seen where the lack interoperable systems resulting in disastrous outcomes. As our nation's public safety agencies migrate their systems to use new technologies, it is critical that these technologies are interoperable and are built on industry standards that allow for low-cost off-the-shelf systems to be deployed. This important lesson should not be overlooked when BTOP money is being used to deploy broadband networks across the country. Applicants should address how their system will be interoperable with other broadband networks and applications to provide seamless connectivity for any device used to connect on to the network (as long as the device meets industry standards).

Applicants should work with public safety organizations to identify viable partnership opportunities that can benefit both the commercial and public safety interests. The total value for network interoperability is 10 points.

6. Mobility is the most important factor in awarding grants that will provide broadband services to public safety agencies. Mobility goes beyond the concept of wireless networks. Mobility for public safety means being able to access the broadband network while traveling at speeds of 70 to 100 mph without loss of connectivity or interruptions of service throughout the service region.

   As noted before, incidents can occur anywhere at any time and require the coordination of multiple emergency services to mitigate the incident. Networks that require a first responder to plug into an access point or travel to a hot spot to gain access to a broadband network will not meet the needs for mission-critical operations. Applications that look to provide services to public safety agencies and are able to meet the mobility needs of the first responders should receive additional points. The total weight for mobility is 10 points.

7. Safe communities are the corner stone of revitalizing the economy and promoting job creation. The ability of public safety agencies to make communities safer is becoming more dependent on their ability to access broadband networks. With the convergence of communications technologies that provide multi-mode applications, including voice, video and data, synergy- increases synergy to promote applications that will allow for greater access for a variety of community-based services.

   "Access" means more than the ability to connect to a broadband network. "Access" means that the network is able to provide public safety agencies with the necessary security and reliability they need to get the job done. Public safety agencies and hospitals have a greater need for additional resources on the network then the average consumer. NTIA and RUS needs to take into consideration what resources the applicant is able to provide to meet the access needs of public safety agencies and emergency service providers, such as hospitals.

This is why APCO International believes that applicants who are able to meet the access needs of public safety agencies should receive a higher sore on the selective criteria.

a.	Public Safety Agencies	2 pt
b.	Hospitals	2 pt
c.	Schools	1 pt
d.	Libraries	1 pt
e.	Local Government	1 pt
f.	Community Development and Non-profit Services	1 pt
g.	Businesses	1 pt
h.	Consumers	1 pt

8. Applicants should be able to demonstrate how their networks will be able to accommodate the need to provide service priority to public safety agencies and first responders during emergency incidents that require additional network resources. Priority access is worth 10 points.
9. During this time of economic downturn, many local governments are looking to cut back on expenses, including those associated with public safety agencies. It is vital that applicants are able to demonstrate how affordable their systems will be for individual users. Applicants that demonstrate their networks will have a lower user cost without sacrificing the quality of the service needed by public safety should receive a higher score on NTIA's selective criteria. We believe the selective criteria matrix for the grant programs should favor applications that provide low-cost access to broadband networks for community services such as law enforcement, fire, emergency medical services, emergency management, hospitals, schools- and libraries. These services play a vital role in protecting the community and providing the necessary environment for sustained economic growth. Subscriber fees are worth 10 points.
10. The coverage and reliability/availability specifications for a network are by far the most important specification for ensuring service delivery to the users, and the most significant cost drivers of the system. When defining how to assess and/or test the system's reliability, it is entirely appropriate to consider functional aspects of system performance such as

redundancies achieved through high levels of site overlap in the determination of overall system reliability/availability. However, the weight given to networks that cover large geographic areas should also include overall assessment of system reliability. In other words, the computation of network reliability should consider what percentage of the network capacity is available, weighted by average traffic load, as well as by what percentage of the network is available, weighted by the areas served. Without this consideration, there is reduced incentive for the applicant to maintain high availability of remote sites that serve limited average traffic loads, yet serve a critical need in times of emergency. The network specifications must be sufficient to provide a high level of coverage and reliability to meet public safety requirements in most circumstances.[8] Network reliability and redundancy is worth10 points.

Grant Mechanics

APCO International recognizes that NTIA and RUS have a considerable challenge to award grants and loans efficiently and expeditiously. We recommend that NTIA and RUS enlist the services of experts in field of network and communications technologies to evaluate all applications to ensure they meet the final selection criteria. Experts should include individuals from local and state governments (including state and local CIOs), non-profit organizations, academia, public safety agencies, telecommunications industry, technology infusion centers and standards setting organizations.

One of the most important functions in awarding grants by NTIA is the role of non-profit intermediary's ability to manage and facilitate the deployment of broadband networks. Intermediaries can provide the level of expertise for support to enhance the technical and administrative capabilities of network providers, This support includes the capacity to facilitate consolidated planning, as well as planning and assistance for efforts that help ensure community-wide participation in assessing area needs,

[8] Reliability is usually measured in terms of percentages, e.g., four nines (99.99%) means outage time is .01%, and usually translated into seconds or minutes per year.

consulting broadly within the community, cooperatively planning for the use of available resources in a comprehensive and holistic manner, and assisting in evaluating performance under these community efforts and in linking plans with neighboring communities in order to foster regional planning. The role of the intermediaries could greatly reduce costs and project build-out time.[9]

Many of these projects, especially those involving public safety agencies, may require additional financial resources than the amounts provided solely by the grant award. The applicant should be able to leverage the grant award in BTOP to secure additional funding for the projects as needed. It is unlikely the grant award will cover all the costs associated with deploying a broadband network.

Broadband Mapping

The basic broadband map should include current broadband availability and speed by state and political subdivision thereof. The broadband map should also include a measure of actual broadband usage by various types of consumers, including public safety agencies, hospitals, schools, libraries, local governments, businesses, and the public. The map should highlight disparities in broadband adoptions by the various the types of consumer. The broadband map should identify the average per-user cost for the broadband service in relation to the speed and quality of the service. The map should indicate where networks are interoperable and provide robust ubiquitous access to the service through multitude of equipments and technologies. The maps should also identify if the networks are wireless, wireline, fiber optic, cable or DSL. If the networks are wireless, - the map should identify the spectrum band on which the network is operating and what technology is used to provide access to the networks.

Financial Contributions by Grant Applicants

NTIA should avoid placing a 20-percent matching requirement on grant applications that look to deploy broadband services for public safety agencies. In this time of economic downturn, many states

[9] Rural Community Development Initiative (RCDI) – USDA, http://www.awcnet.org/magnetmail/GrantAlert/2007-07-30.htm

and local governments do not have the budgets needed to meet the 20-percent requirement. However, local governments and public safety agencies do have access to considerable resources that could reduce the overall cost of building out a network.[10] By collaborating, applicants could leverage existing resources to deploy broadband networks faster and cheaper. NTIA should heavily consider how an applicant is going to partner with state and local governments and public safety agencies to determine if the applicant should receive more than 80-percent of the project cost.

Timely Completion of Proposals

NTIA and RUS have already taken several good measures to establish and expeditiously award grants by the end of fiscal year 2010 by conducting roundtable discussions on a variety of issues concerning the BTOP grant program. However, we are concerned that applicants may only have a very short window of opportunity to apply for the grants. Broadband deployment is very complicated and requires considerable coordination between providers, local and state governments, public safety agencies and other organizations to effectively plan and manage the projects. Applications that are rushed could lack the necessary agreements that will be required to deploy a network in many jurisdictions across the country. NTIA and RUS should consider an extended application time to ensure the applicants have sufficient time to determine the partnerships needed to deploy a successful broadband network.

To complete projects within two years, NTIA must require the applicant to provide timelines, milestones, and letters of agreement with partners.

Coordination with USDA's Broadband Grant Program

NTIA and RUS need to work closely together to monitor the progress of projects funded through both programs. The grants and loans should not establish competing programs that limit interoperability and create proprietary networks.

[10] Examples include rights of way, transmission towers, etc…

Definitions

To determine what is underserved, NTIA must first define what a well-served area is. Areas that are not able to meet the criteria of a well-served area, by default are an underserved. APCO International recommends that NTIA should take into consideration the following conditions in determining well-served areas:

1. The area has at least three or more wireless and wireline broadband service providers that offer comparable services.
2. Speeds offered by the broadband service providers are at least 1.5 mbps to 3.0 mbps.
3. The networks provide low-cost access to public safety agencies, hospitals, schools, libraries, local government services, community development and non-profit services, businesses- and consumers.
4. The networks are interoperable and can be accessed using over-the-counter hardware and applications.
5. Networks offer a variety of access capabilities, especially mobility.
6. Networks cover at least 98 percent of the geographic area for the region.
7. Networks are reliable and redundant enough for use by local, state and federal law enforcement and emergency services during large-scale incidents.
8. Networks are scalable to handle high levels of traffic and provide priority access to public safety when needed and as authorized.
9. Networks are capable of providing simultaneous voice, video and data services with at least 98 percent reliability.
10. Networks are adaptable to new technologies and are capable of meeting increasing demands by the consumers.

By default, underserved geographic areas are those areas that are not able to meet most of these or any other criteria established by NTIA, RUS and the FCC. Geographic areas that are not able to meet any of the criteria are unserved.

To meet the mission-critical needs of law enforcement, fire and emergency services the definition of a broadband should include:

> "a secure high-speed, mobile network that is capable providing priority access to local, state and federal officials to transmit real-

> time two-way voice, video, and data communications as needed and as authorized at sustained speeds greater than 1.5 mbps with 98 percent reliability."

Secure communities are the foundation for economic recovery. Above all other issues, we believe that the measure of success for the BTOP is how the grants will improve the security and safety of the public for next 20 years. Our nation's economy will recover, but, if we do not take this opportunity to improve our nation's public safety communications systems, the safety of our citizens will continue to be at risk for years to come.

It is vital to reduce the cost of equipment and keep the retail price low. Non-proprietary and open source standards should be required for the build out of broadband networks.

Other Issues

APCO International is concerned that the NTIA might impose Programmatic Environmental Assessment (PEA) conditions for the BTOP grants that can be used for building public safety communications networks, which are similar to the PEA conditions that NTIA is looking to impose on the Public Safety Interoperable Grant Program (PSIC). We urge NTIA to avoid adding additional PEA conditions to awarding BTOP grant.

On March 23, 2009, APCO International filed comments in the matter of Final Programmatic Environmental Assessment and Draft Finding of No Significant Impact (FONSI) for the Public Safety Interoperable Grant Program (Docket No. 090210159-9160-01). APCO is concerned that NTIA's PEA and FONSI would lead to multiple, inconsistent, and unnecessarily onerous environmental assessment (EA) obligations for PSIC grantees. The grants will allow public safety agencies to deploy new interoperable communications capabilities in communities across the nation. In most cases, that will necessarily involve obtaining or modifying licenses granted by the Federal Communications Commission. Those licenses are for radio transmission towers for which the FCC already has a well-established process

for NEPA compliance, including programmatic agreements that simplify and streamline the process for some facilities.[11]

As an initial matter, APCO questions NTIA's approach to the PSIC grants and NEPA. While the PSIC grants have a common goal of promoting interoperability, the grants do not specify a particular nationwide interoperable network or "program." Rather, grants are provided to public safety agencies for their local deployments of radio systems. To the extent those systems invoke NEPA, it would generally be as a result of FCC-licensed facilities that are already subject to NEPA compliance. Therefore, NTIA should not require PSIC grantees to submit a separate EA where the facility in question is already subject to FCC licensing. At minimum, NTIA guidelines should incorporate by reference the FCC's guidelines to avoid duplication and inconsistency.

NTIA's proposal would force PSIC grantees to satisfy two separate and inconsistent sets of NEPA compliance guidelines. Grantees would need to review carefully both the NTIA and FCC guidelines to determine the need for and content of an EA. Moreover, the far more onerous NTIA guidelines would often require preparation and submission of detailed environmental assessments and environmental impact statements where the well-established FCC guidelines would not. Many years of experience have led the FCC to formulate programmatic agreements and procedures that streamline NEPA compliance for certain facilities. There is no need for NTIA to replicate existing efforts.

Conclusion

APCO International recognizes that NTIA and RUS are under a considerable time constraint to begin to administer the BTOP. We urge NTIA and RUS to take the necessary steps to ensure the grant criteria places a strong emphasis on how applicants will be able to meet the goal of providing the necessary mobile broadband connection to our first responders.

[11] http://wireless.fcc.gov/siting/environment_compliance.html

APCO International and its members look forward to working with NTIA and RUS to ensure economic recovery includes reinvestment in our police, fire and emergency communications systems to make our communities safer.

Respectfully submitted,

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